

**Annotated and illustrated
world checklist of
Microgastrinae parasitoid wasps
(Hymenoptera, Braconidae)**

by

Jose Fernandez-Triana, Mark R. Shaw,
Caroline Boudreault, Melanie Beaudin, Gavin R. Broad

ZooKeys 920(2) (SPECIAL ISSUE)

ANNOTATED AND ILLUSTRATED WORLD CHECKLIST OF MICROGASTRINAE PARASITOID WASPS
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First published 2020

ISBN 978-619-248-002-8 (paperback)

Pensoft Publishers

12 Prof. Georgi Zlatarski Street, 1700 Sofia, Bulgaria

Fax: +359-2-870-42-82

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www.pensoft.net

Printed in Bulgaria, April 2020

Genus *Exix* Mason, 1981

Exix Mason, 1981: 116. Gender: feminine. Type species: *Exix mexicana* Mason, 1981, by original designation.

This is a New World genus, with seven species currently described from the Nearctic and Neotropical regions and revised by Mason (1981). A few species may remain undescribed, but the genus does not seem very speciose. No host data are currently available. There are no DNA-barcode compliant sequences of this genus in BOLD, but four specimens have mini-barcodes of 110–120 bp.

***Exix bahia* Mason, 1981**

Exix bahia Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (BA).

***Exix colorados* Mason, 1981**

Exix colorados Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Exix columbica* Mason, 1981**

Exix columbica Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (BC).

***Exix itatiaia* Souza-Gessner, Bortoni & Pentead-Dias, 2016**

Exix itatiaia Souza-Gessner, Bortoni & Pentead-Dias, 2016.

Type information. Holotype female, DCBU (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (MG, RJ).

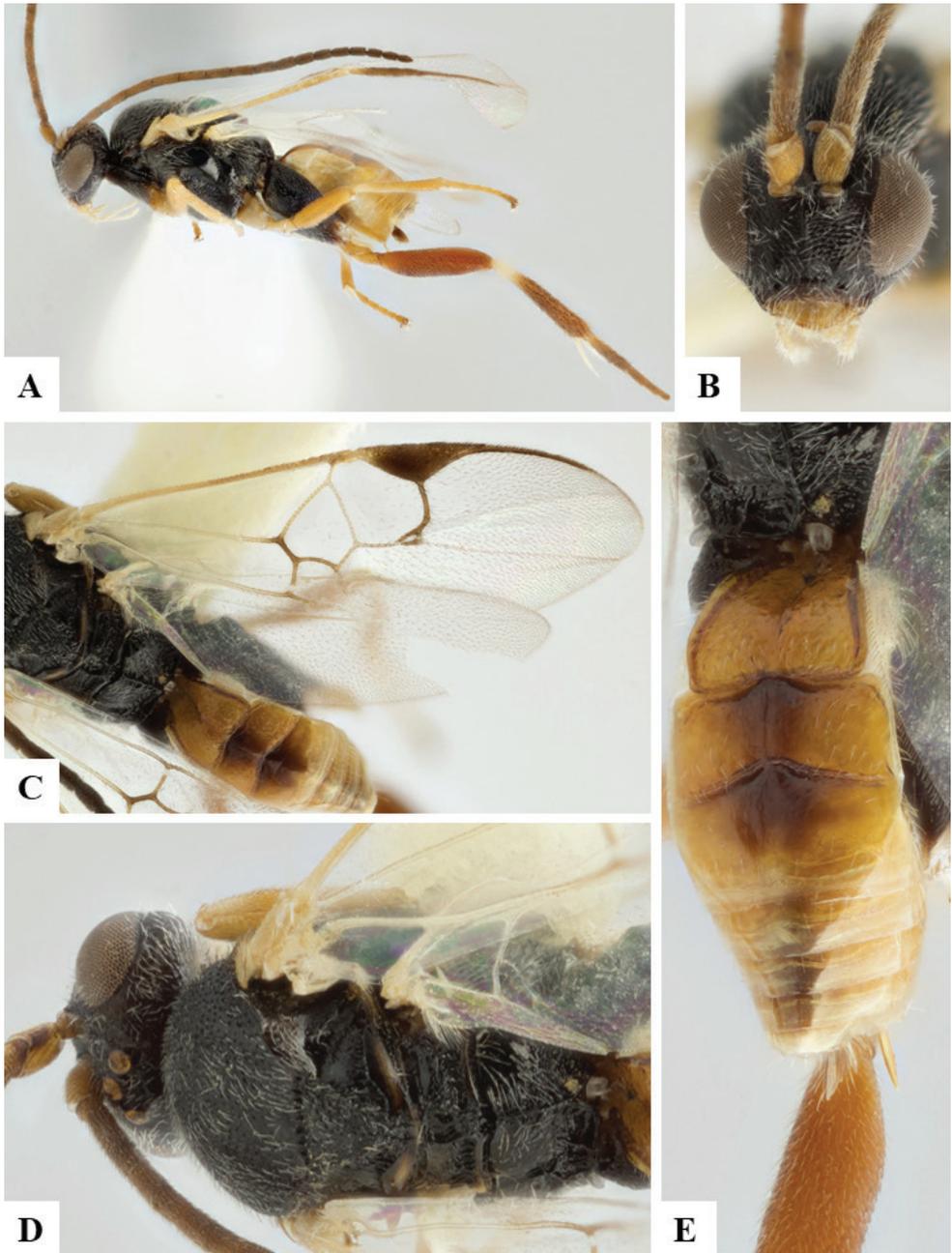


Figure 89. *Exix babia* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, laterodorsal **E** Metasoma, laterodorsal.

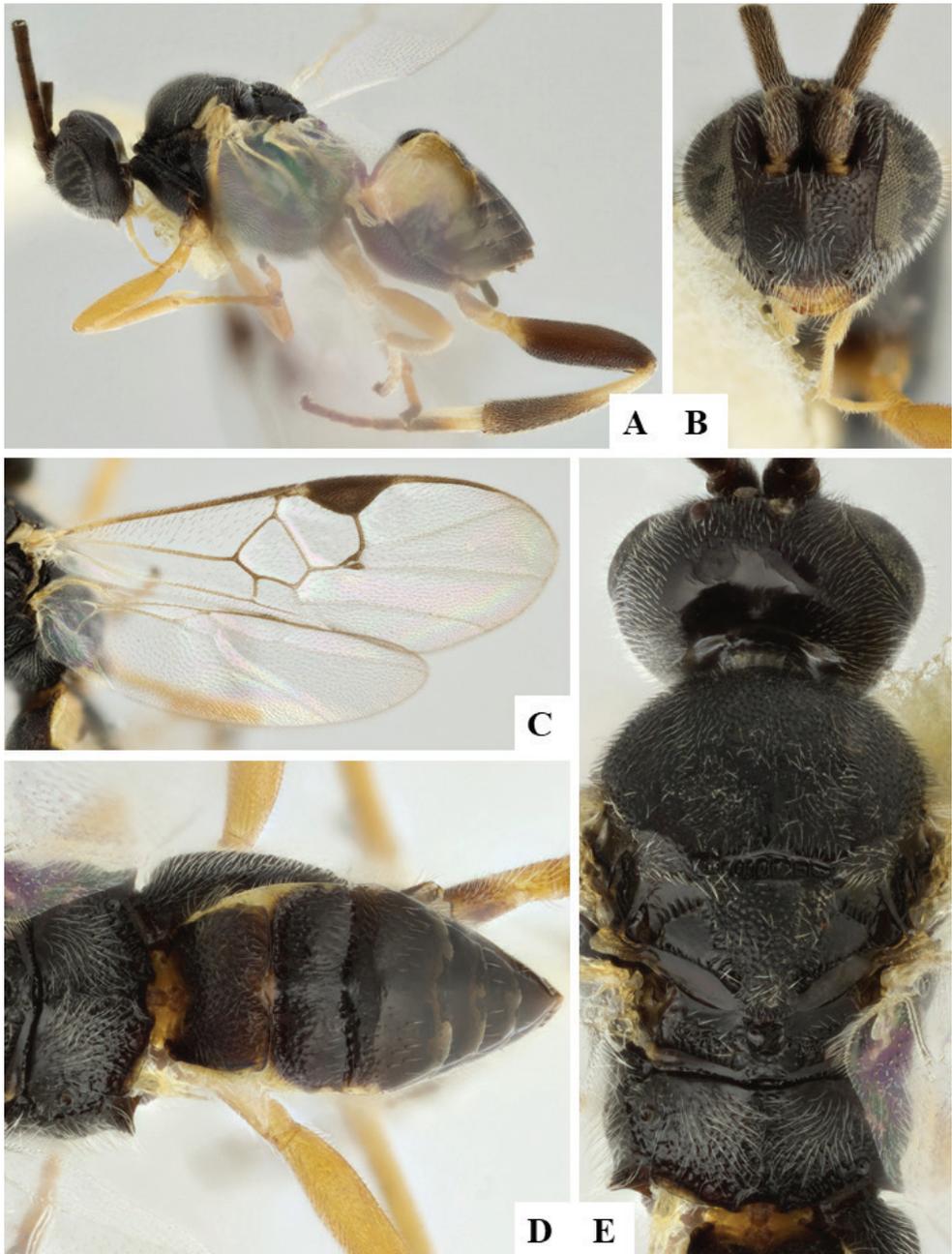


Figure 90. *Exix columbica* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal.

***Exix mexicana* Mason, 1981**

Exix mexicana Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

***Exix schunkei* (Nixon, 1965)**

Protomicroplitis schunkei Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: Peru.

***Exix tinalandica* Mason, 1981**

Exix tinalandica Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

Genus *Exoryza* Mason, 1981

Exoryza Mason, 1981: 40. Gender: feminine. Type species: *Apanteles schoenobii* Wilkinson, 1932, by original designation.

Known from 15 described species from all biogeographical regions except for Australasian (the lack of species recorded from Australasian is likely an artefact due to insufficient collecting there). All known species were dealt with in a recent revision (Fernandez-Triana et al. 2016c). The status of *Exoryza* as a valid genus separate from *Dolichogenidea* has been questioned by many authors (e.g., Valerio et al. 2004, Rouse and Gupta 2013, Fernandez-Triana et al. 2014e, 2016c), but until a comprehensive phylogenetic study of Microgastrinae is available we have decided to maintain its present status. Host data include four families of Lepidoptera: Choreutidae, Crambidae, Depressariidae and Gelechiidae; and at least one species is an important biocontrol agent of stem-boring Lepidoptera in rice fields in Asia (Fernandez-Triana et al. 2016c). There are 46 DNA-barcode compliant sequences of *Exoryza* in BOLD representing three different BINs, although one of those BINs actually contains three nominal species (see Fernandez-Triana et al. 2016c for more details).

***Exoryza asotae* (Watanabe, 1932), new combination**

Apanteles asotae Watanabe, 1932.

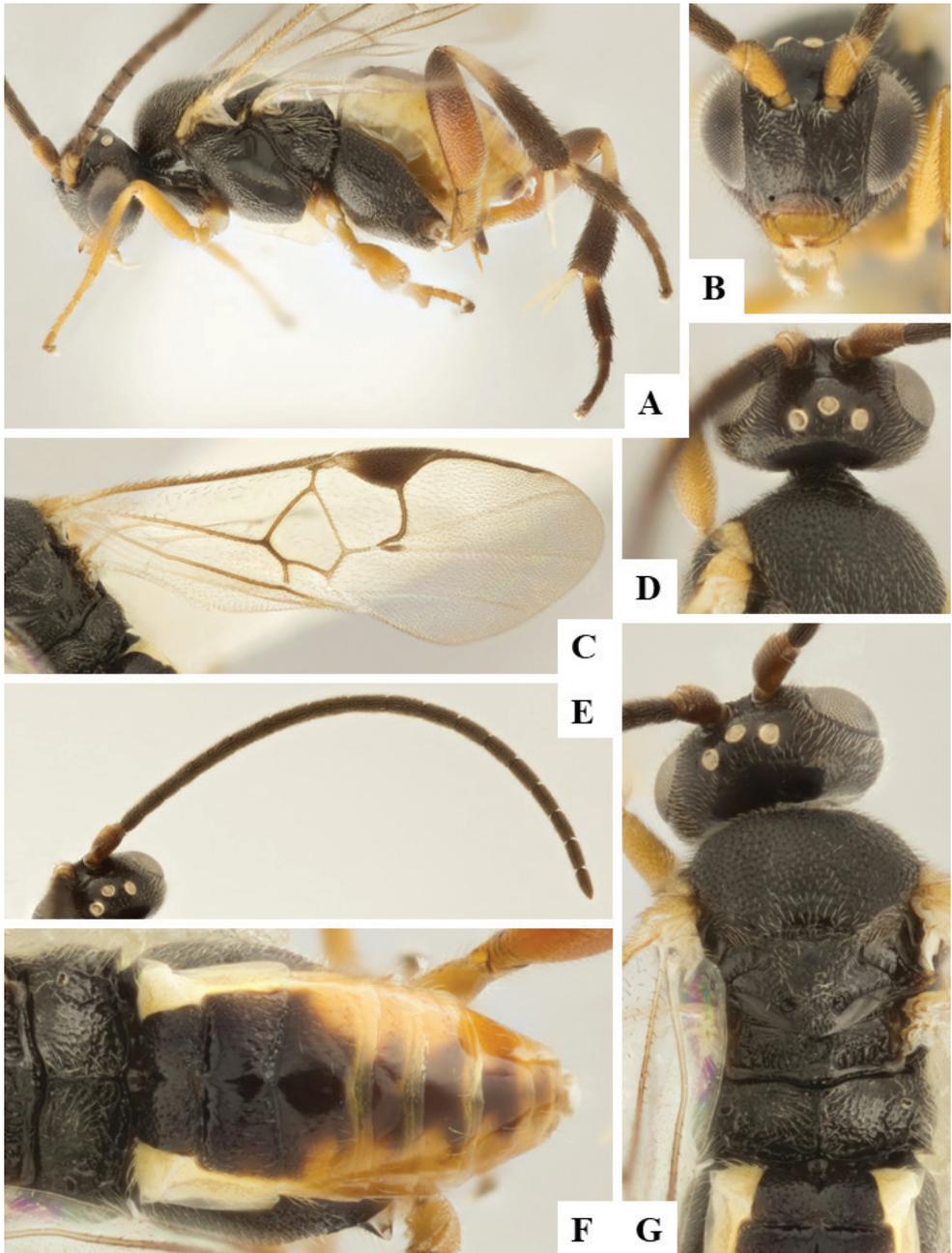


Figure 91. *Exix tinalandica* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head, dorsal **E** Antenna **F** Propodeum and metasoma, dorsal **G** Mesosoma, dorsal.

Type information. Holotype female, EIHU (examined). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (FJ, GD, TW, ZJ); **PAL:** China (HL, SC), Japan.

Notes. After examining the holotype and two paratypes (female and male) we transfer *asotae* to *Exoryza* based on the entirely setose vannal lobe and T2 with strong longitudinal striae. The species distribution in China is based in Liu et al. (2019).

***Exoryza belippicola* (Liu & You, 1988), new combination**

Apanteles belippicola Liu & You, 1988.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (SN, ZJ).

Notes. Our species concept is based on Chen and Song (2004) and Liu et al. (2019). The species is transferred to *Exoryza* based on T1–T2 strongly rugose (cf. figure 11e in Liu et al. 2019).

***Exoryza hylas* (Wilkinson, 1932), new combination**

Apanteles hylas Wilkinson, 1932.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Transferred to *Exoryza* based on the entirely setose vannal lobe and T2 with strong longitudinal striae.

***Exoryza mariabustosae* Fernandez-Triana, 2016**

Exoryza mariabustosae Fernandez-Triana, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Exoryza megagaster* (de Saeger, 1944), new combination**

Apanteles megagaster de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Based on the original description, the best generic placement would be in *Exoryza*, based on the shape and sculpture of T2.

***Exoryza minnesota* Mason, 1981**

Exoryza minnesota Mason, 1981.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON), USA (MN).

***Exoryza monocavus* Valerio & Whitfield, 2004**

Exoryza monocavus Valerio & Whitfield, 2004.

Type information. Holotype female, INBio (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Exoryza oryzae* (Walker, 1994), new combination**

Dolichogenidea oryzae Walker, 1994.

Type information. Holotype female, NHMUK (examined). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Gambia, Ivory Coast, Niger, Senegal.

Notes. Fernandez-Triana et al. (2016c) considered this species to belong to *Exoryza*, based on the available evidence (shape and sculpture of T2, as well as host data). However, they stopped short of transferring the species to that genus due to the possibility that future phylogenetic studies would find that *Exoryza* is just a synonym of *Dolichogenidea*. While that possibility still exists, in this paper we are considering *Exoryza* as a valid genus, and for the sake of consistency we are placing here all species which currently fit that genus concept.

***Exoryza reticarina* Song & Chen, 2003**

Exoryza reticarina Song & Chen, 2003.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (YN).

***Exoryza richardashleyi* Fernandez-Triana, 2016**

Exoryza richardashleyi Fernandez-Triana, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

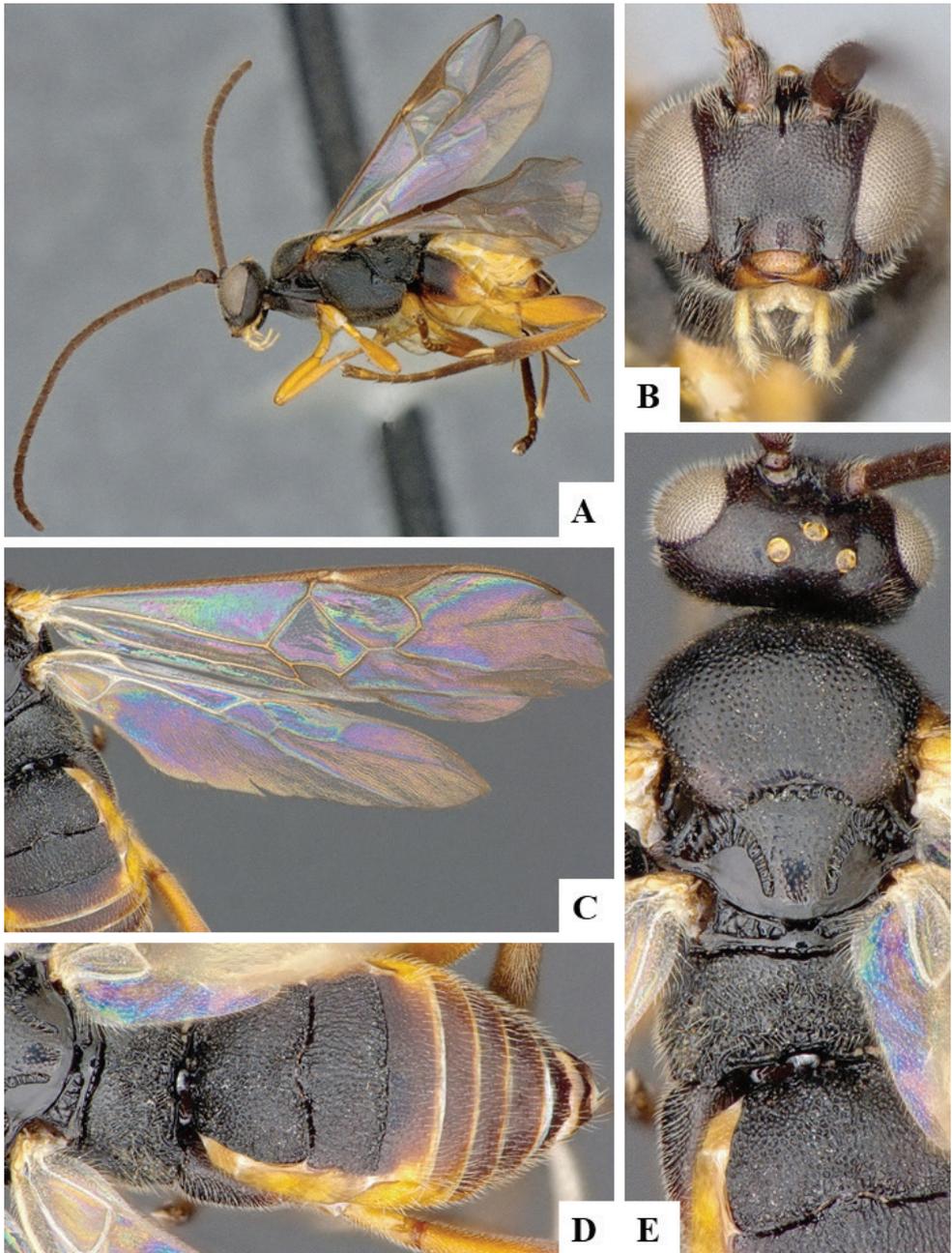


Figure 92. *Exoryza oryzae* female CNCHYM01202 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal.

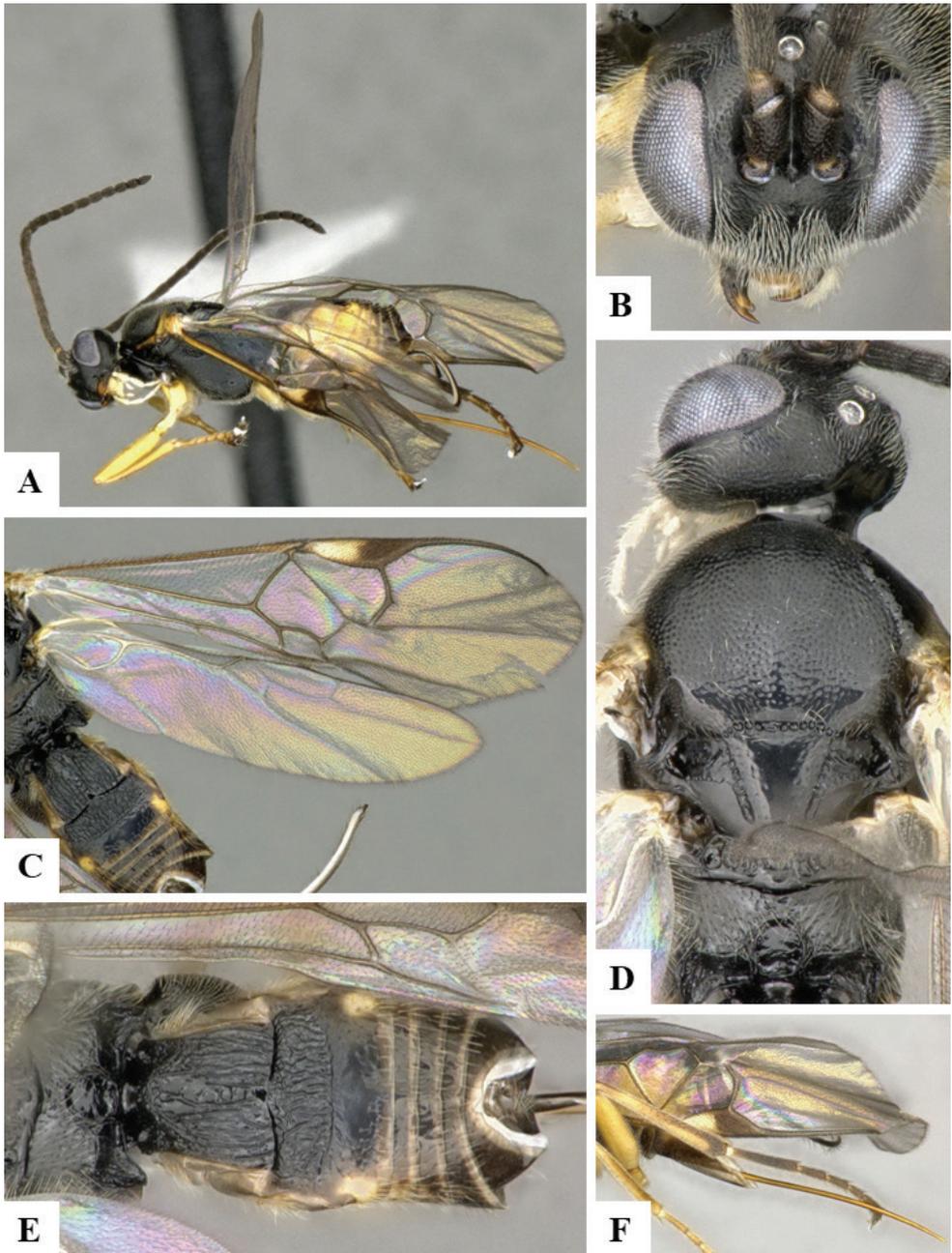


Figure 93. *Exoryza richardshleyi* female DHJPAR0031507 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor.

Geographical distribution. NEO.

NEO: Costa Rica.

***Exoryza ritaashleyae* Fernandez-Triana, 2016**

Exoryza ritaashleyae Fernandez-Triana, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Exoryza rosamatarritae* Fernandez-Triana, 2016**

Exoryza rosamatarritae Fernandez-Triana, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Exoryza safranum* Rouse & Gupta, 2013**

Exoryza safranum Rouse & Gupta, 2013.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Réunion.

Geographical distribution. AFR.

AFR: Réunion.

***Exoryza schoenobii* (Wilkinson, 1932)**

Apanteles schoenobii Wilkinson, 1932.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: Bangladesh, China (FJ, GD, GX, GZ, HI, HB, HN, JS, JX, SN, TW, YN, ZJ), India, Malaysia, Philippines, Sri Lanka, Vietnam.

***Exoryza yeimycedenoae* Fernandez-Triana, 2016**

Exoryza yeimycedenoae Fernandez-Triana, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

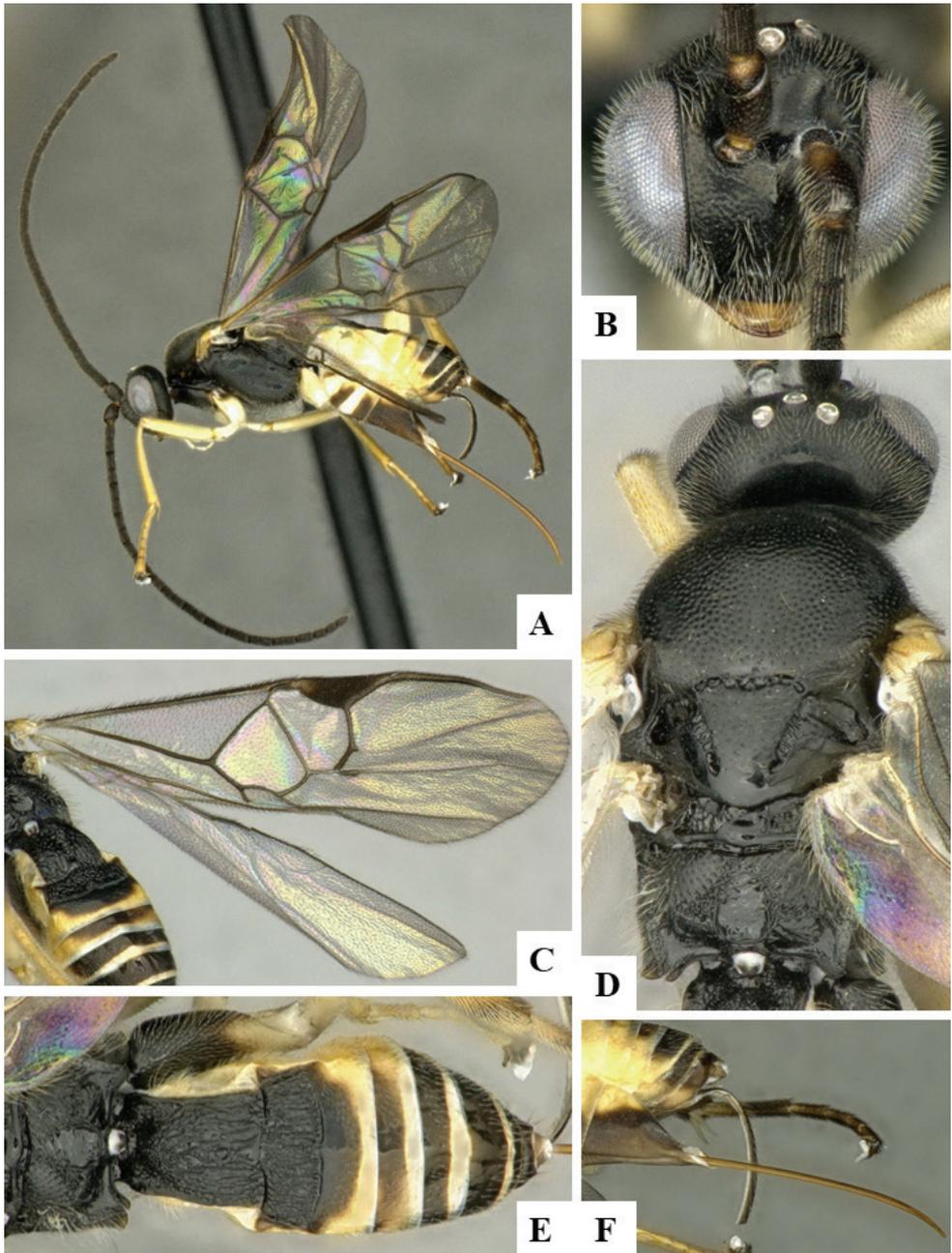


Figure 94. *Exoryza ritaashleyae* female DHJPAR0031500 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

Genus *Exulonyx* Mason, 1981

Exulonyx Mason, 1981: 33. Gender: masculine. Type species: *Apanteles camma* Nixon, 1965, by original designation.

Only known from a single, very divergent species from the Afrotropical region (Nixon 1965, Mason 1981). No host data are currently available for this genus. There are no DNA barcodes of *Exulonyx* in BOLD.

***Exulonyx camma* (Nixon, 1965)**

Apanteles camma Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Genus *Fornicia* Brullé, 1846

Fornicia Brullé, 1846: 511. Gender: feminine. Type species: *Fornicia clathrata* Brullé, 1846, by monotypy.

Odontofornicia Enderlein, 1912: 260. Type species: *Odontofornicia arata* Enderlein, 1912, by monotypy and original designation.

This is a pantropical genus with 32 species recorded from all regions except for the Holarctic. It is one of the most distinctive genera of Microgastrinae from a morphological perspective. We have seen in collections many more undescribed species. All known host records are from Limacodidae. There are 67 DNA-barcode compliant sequences of *Fornicia* in BOLD representing 19 different BINs.

***Fornicia achterbergi* Yang & Chen, 2006**

Fornicia achterbergi Yang & Chen, 2006.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

***Fornicia africana* Wilkinson, 1930**

Fornicia africana Wilkinson, 1930.

Type information. Holotype female, NHMUK (examined). Country of type locality: Zimbabwe.

Geographical distribution. AFR.

AFR: Nigeria, Zimbabwe.

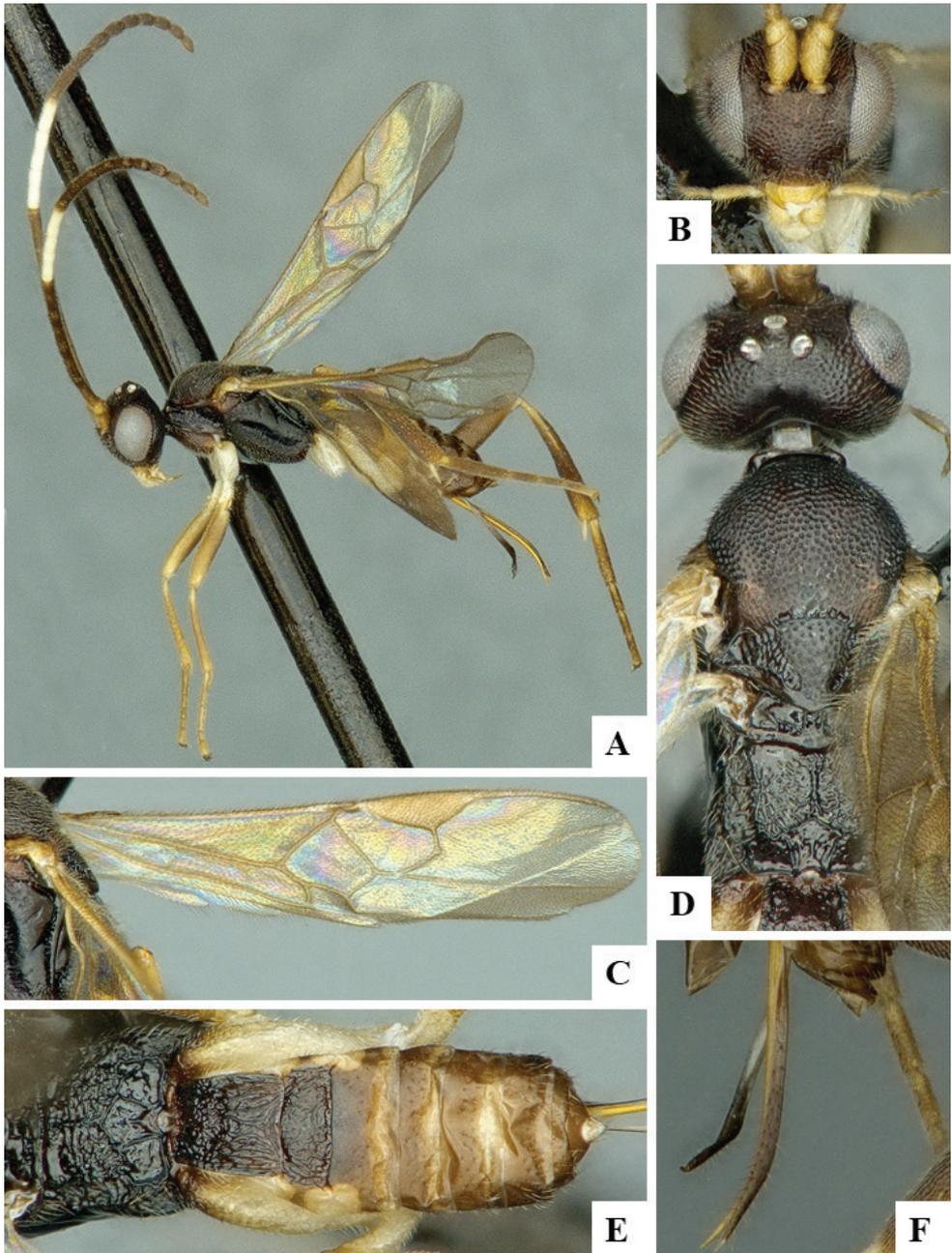


Figure 95. *Exulonyx camma* female CNCHYM01205 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

***Fornicia afrorum* de Saeger, 1942**

Fornicia afrorum de Saeger, 1942.

Type information. Holotype female, RMCA (not examined but subsequent treatment of the species checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Our species concept is based on de Saeger (1948).

***Fornicia albalata* Ma & Chen, 1994**

Fornicia albalata Ma & Chen, 1994.

Type information. Holotype male, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (SN).

Notes. Our species concept is based on Chen and Song (2004).

***Fornicia andamanensis* Sharma, 1984**

Fornicia andamanensis Sharma, 1984.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Fornicia annulipes* Ashmead, 1905**

Fornicia annulipes Ashmead, 1905.

Type information. Holotype male, USNM (examined). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. Specimen with legs and one antenna broken but within the tray that contains the holotype.

***Fornicia arata* (Enderlein, 1912)**

Odontofornicia arata Enderlein, 1912.

Type information. Holotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (GZ, SN, TW, ZJ); **PAL:** China (AH).

Notes. Our species concept is based on Watanabe (1937a) and Mason (1981).

***Fornicia balloui* Muesebeck, 1958**

Fornicia balloui Muesebeck, 1958.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Venezuela.

Geographical distribution. NEO.

NEO: French Guiana, Suriname, Venezuela.

***Fornicia borneana* (Cushman, 1929)**

Odontofornicia borneanus Cushman, 1929.

Type information. Holotype female, USNM (not examined but illustrations of the holotype examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia.

***Fornicia brachymetacarpa* Luo & You, 2006**

Fornicia brachymetacarpa Luo & You, 2006.

Type information. Holotype female, HUNAU (not examined). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HN).

***Fornicia ceylonica* Wilkinson, 1928**

Fornicia ceylonica Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: China (TW), India, Indonesia, Philippines, Sri Lanka, Thailand.

***Fornicia chalcoscelidis* Wilkinson, 1936**

Fornicia chalcoscelidis Wilkinson, 1936.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Indonesia, Malaysia.

***Fornicia clathrata* Brullé, 1846**

Fornicia clathrata Brullé, 1846.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Brazil.

Geographical distribution. NEO, OTL.

NEO: Brazil (BA, MG), Guyana, Peru, Venezuela; **OTL:** Indonesia.

Notes. Our species concept is based on Muesebeck (1958b) and Mason (1981).

***Fornicia ghesquierei* de Saeger, 1942**

Fornicia ghesquierei de Saeger, 1942.

Type information. Holotype male, RMCA (not examined but subsequent treatment of the species checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Our species concept is based on de Saeger (1948).

***Fornicia imbecilla* Chen & He, 1994**

Fornicia imbecilla Chen & He, 1994.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (ZJ).

Notes. Our species concept is based on Chen and Song (2004).

***Fornicia jarmilae* Mason, 1981**

Fornicia jarmilae Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Fornicia longiantenna* Luo & You, 2008**

Fornicia longiantenna Luo & You, 2008.

Type information. Holotype female, GUGC (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GZ).

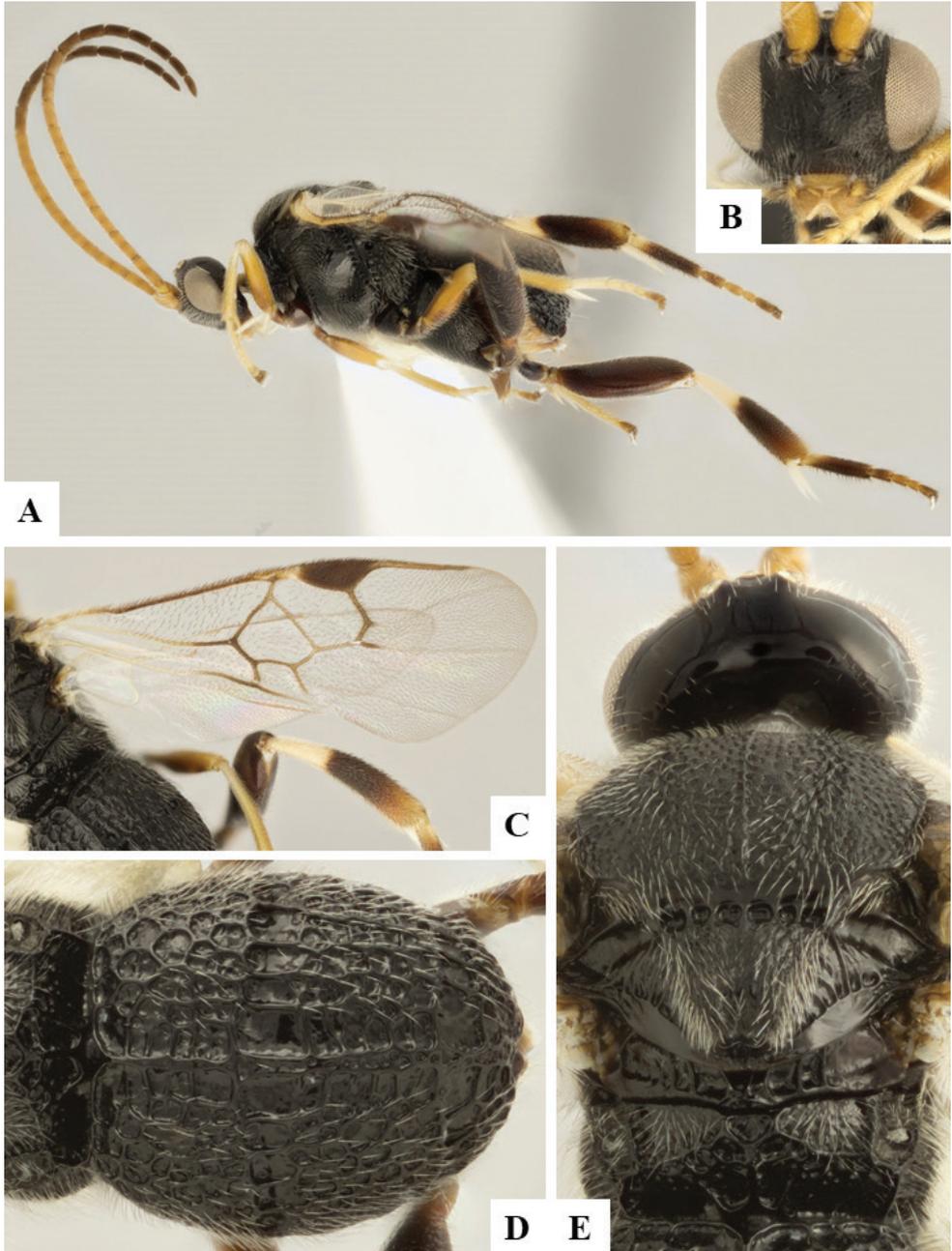


Figure 96. *Fornicia jarmilae* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Mesosoma, dorsal.

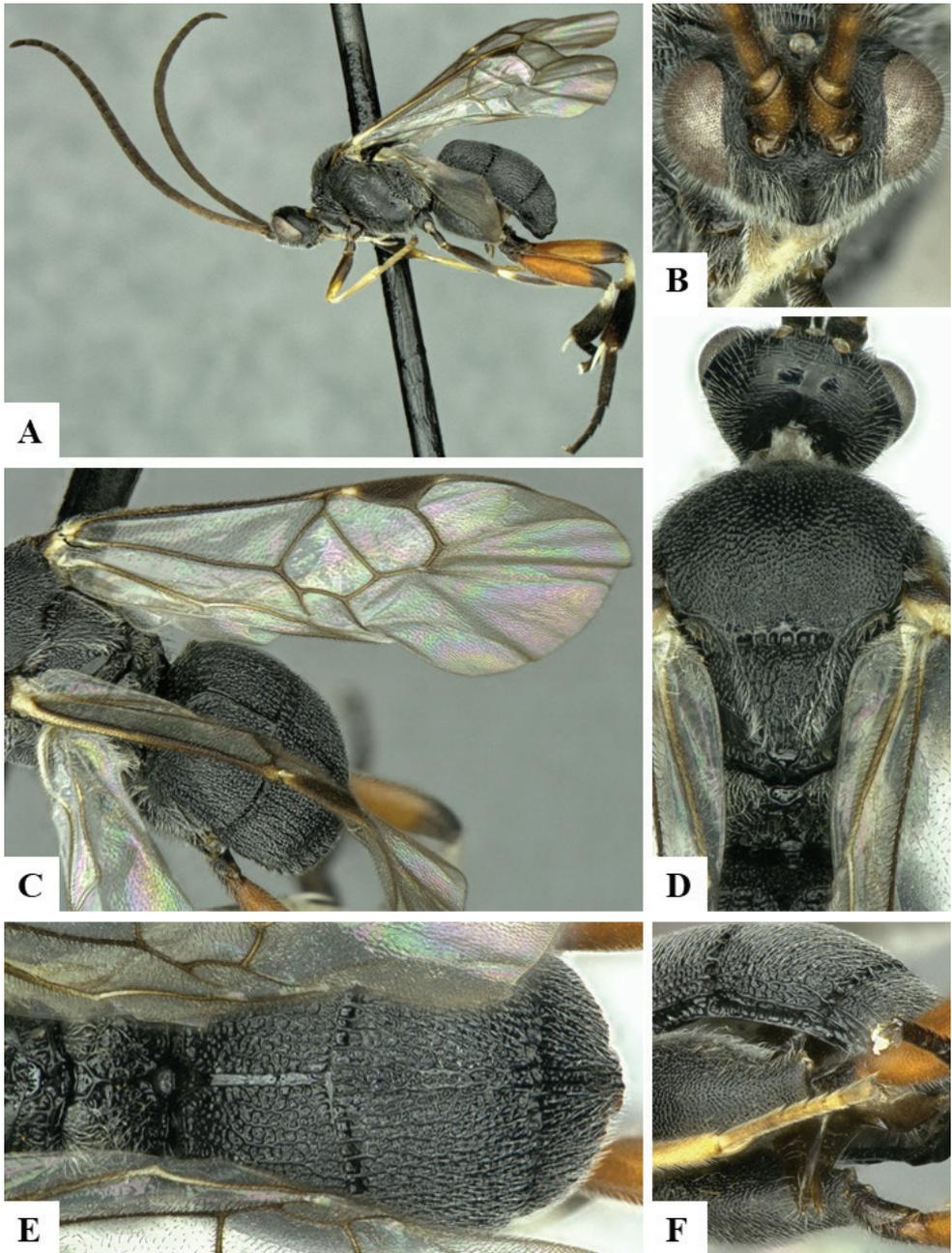


Figure 97. *Fornicia* sp. female CNCHYM01223 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

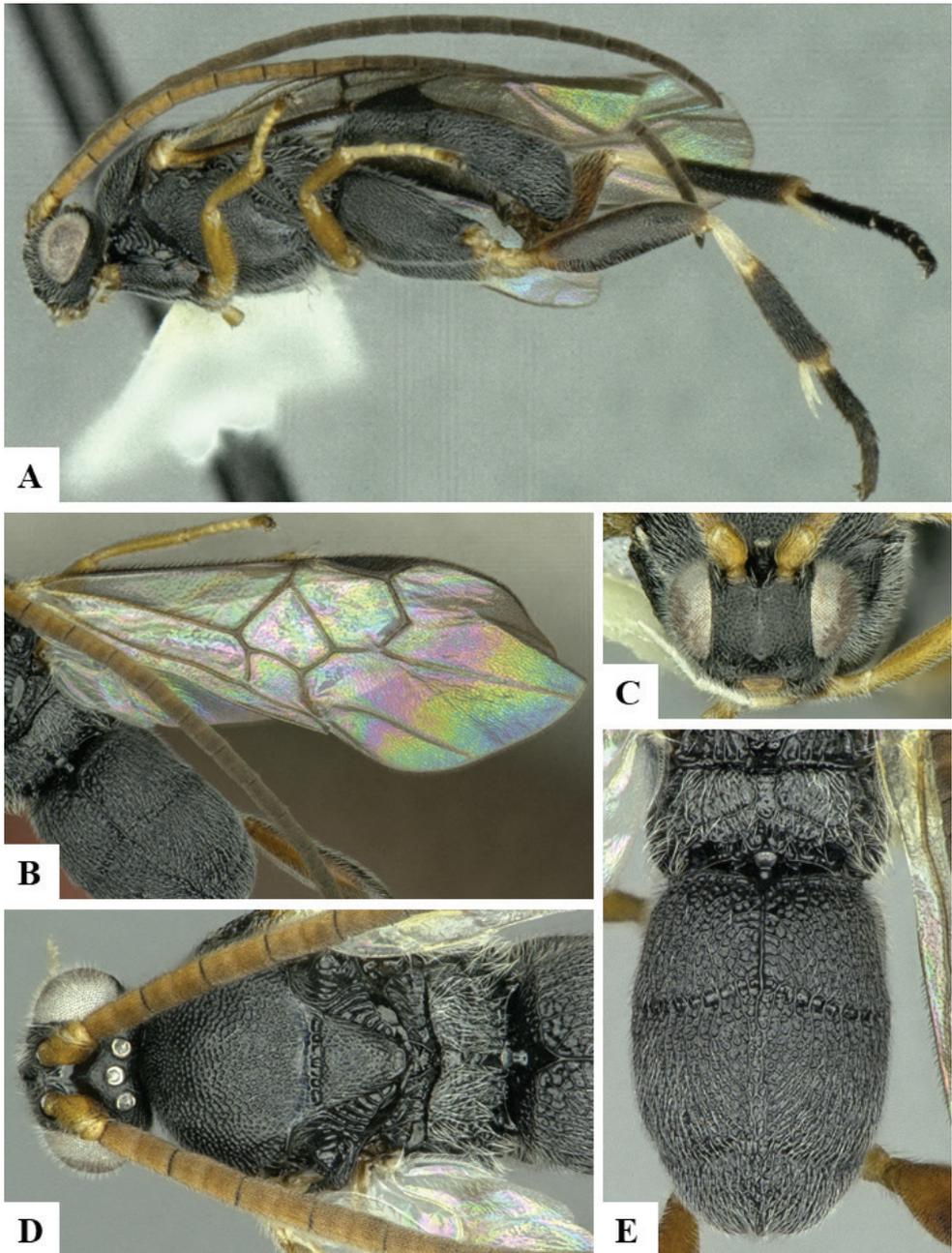


Figure 98. *Fornicia* sp. male JMIC 0049 **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

***Fornicia macistigma* Luo & You, 2006**

Fornicia macistigma Luo & You, 2006.

Type information. Holotype female, HUNAU (not examined). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HN).

***Fornicia microcephala* Granger, 1949**

Fornicia microcephala Granger, 1949.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

***Fornicia minis* He & Chen, 1994**

Fornicia minis He & Chen, 1994.

Type information. Holotype male, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (ZJ).

Notes. Our species concept is based on Chen and Song (2004).

***Fornicia moronis* (Cushman, 1929)**

Odontofornicia moronis Cushman, 1929.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. Our species concept is based on Papp (1980c).

***Fornicia muluensis* Austin, 1987**

Fornicia muluensis Austin, 1987.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Brunei, Malaysia.

***Fornicia obscuripennis* Fahringer, 1934**

Fornicia obscuripennis Fahringer, 1934.

Type information. Holotype male, NHRS (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ, GX, GZ, HN, JS, SN, TW, ZJ).

Notes. Our species concept is based on Papp (1980c).

***Fornicia penang* (Cushman, 1929)**

Odontofornicia penang Cushman, 1929.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: China (TW), Indonesia, Malaysia.

Notes. Our species concept is based on Papp (1980c). Type information from Shenefelt (1973).

***Fornicia pilosa* Cushman, 1931**

Fornicia pilosa Cushman, 1931.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Brazil (PA), Costa Rica.

Notes. Our species concept is based on Papp (1980c).

***Fornicia prominentis* Chen & He, 1994**

Fornicia prominentis Chen & He, 1994.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GX).

Notes. Our species concept is based on Chen and Song (2004).

***Fornicia rixata* Papp, 1980**

Fornicia rixata Papp, 1980.

Type information. Holotype male, HNHM (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (TW).

***Fornicia seyrigi* Granger, 1949**

Fornicia seyrigi Granger, 1949.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

***Fornicia surinamensis* Muesebeck, 1958**

Fornicia surinamensis Muesebeck, 1958.

Type information. Holotype female, USNM (examined). Country of type locality: Suriname.

Geographical distribution. NEO.

NEO: Suriname.

***Fornicia tagalog* (Cushman, 1929)**

Odontofornicia tagalog Cushman, 1929.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. Our species concept is based on Papp (1980c).

***Fornicia tergiversata* Papp, 1980**

Fornicia tergiversata Papp, 1980.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (TW).

***Fornicia thoseae* Wilkinson, 1930**

Fornicia thoseae Wilkinson, 1930.

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: Indonesia.

Genus *Gilbertnixonius* Fernandez-Triana, 2018

Gilbertnixonius Fernandez-Triana, 2018: 56. Gender: neuter. Type species: *Gilbertnixonius biem* Fernandez-Triana and Boudreault 2018, by original designation.

The only known species was recently described from the Oriental region (Fernandez-Triana and Boudreault 2018). No host data are currently available for this genus. There is one DNA-barcode compliant sequence of *Gilbertnixonius* in BOLD.

***Gilbertnixonius biem* Fernandez-Triana & Boudreault, 2018**

Gilbertnixonius biem Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, QSBG (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Thailand.

Genus *Glyptapanteles* Ashmead, 1904

Glyptapanteles Ashmead, 1904: 147. Gender: masculine. Type species: (*Glyptapanteles manilae* Ashmead, 1904) = *Apanteles ashmeadi* Wilkinson, 1928, by monotypy.

Viereck (1914: 62) correctly noted that Ashmead (1900a: 131) was intending to refer to this genus in his 1900 key in the second half of couplet 10, where *Protapanteles* is separated from another genus, the name of which is (accidentally ?) omitted, but it is clear that it would have been *Glyptapanteles*. Thus, technically Ashmead's (1900a) would be the first intention to mention the name *Glyptapanteles* in a published paper, but because the actual name never appeared there due to an omission, the first official reference to the genus must be considered Ashmead (1904b). In any case the 1900 paper did not designate any type species, so the 1904 paper is the one that matters for that purpose (as Viereck also correctly noted). *Glyptapanteles* is a cosmopolitan genus, with 307 described species known from all biogeographical regions. Many European species were revised by Nixon and Papp in several papers from the 1970s and 1980s, following earlier work by Wilkinson (1945); and a recent paper dealt with 136 Neotropical species (Arias-Penna et al. 2019), which represents almost half of all described species in the genus. Overall, the taxonomic coverage of the world species is far from complete; we have seen hundreds of undescribed species in collections, mostly from tropical areas, and it is likely that the actual richness will reach several thousand species. The concept of *Glyptapanteles* and its separation from *Protapanteles* has been controversial (e.g., Mason 1981, van Achterberg 2003, Broad et al. 2016), but we consider it as a valid genus, although future studies on Microgastrinae phylogeny may split the genus into several. More than 25 families of Lepidoptera have been recorded as hosts

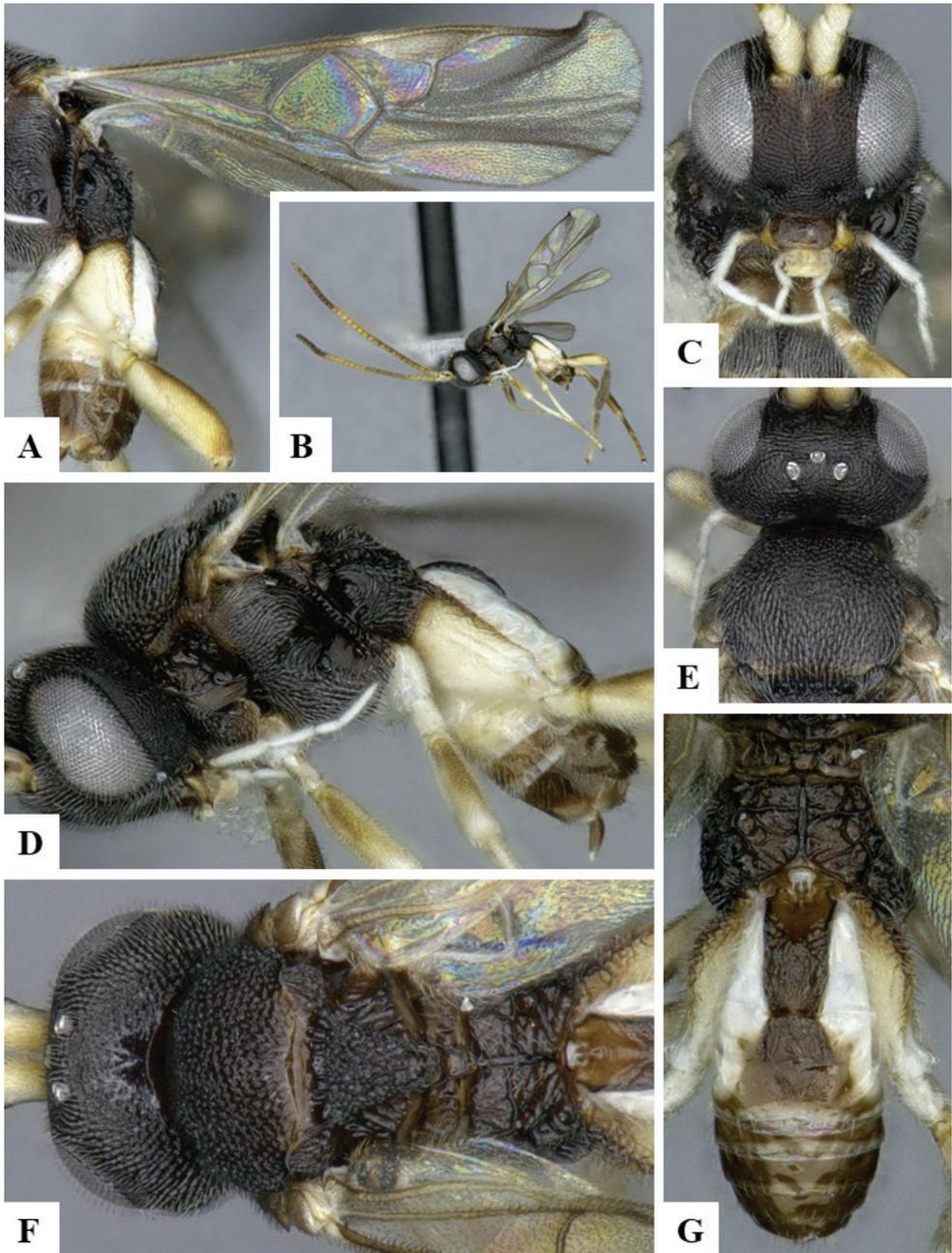


Figure 99. *Gilbertnixonius biem* female holotype **A** Fore wing **B** Habitus, lateral **C** Head, frontal **D** Head, mesosoma and metasoma, lateral **E** Head and mesosoma, dorsal **F** Mesosoma, dorsal **G** Propodeum and metasoma, dorsal.

for *Glyptapanteles*, but many records are likely to be incorrect and/or need further verification. There are almost 5,000 DNA-barcode compliant sequences of this genus in BOLD, representing 504 BINs.

***Glyptapanteles acasta* (Nixon, 1973)**

Apanteles acasta Nixon, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Bulgaria, Finland, Germany, Greece, Hungary, Poland, Russia (ALT, ZAB), Slovakia, Switzerland, Turkey, United Kingdom.

***Glyptapanteles acherontiae* (Cameron, 1907)**

Apanteles acherontiae Cameron, 1907.

Apanteles acherontiae Muesebeck, 1927 [homonym of *Apanteles acherontiae* Cameron, 1907].

Type information. Syntypes female, NHMUK (examined). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: China (FJ, HN), India, Sri Lanka.

***Glyptapanteles acraeae* (Wilkinson, 1932), lectotype designation**

Apanteles acraeae Wilkinson, 1932.

Type information. Lectotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: South Africa, Uganda.

Notes. The species was described from female and male specimens. We have examined a female specimen with a type label and code 3c.1027 in the NHMUK and are designating it here as the lectotype.

***Glyptapanteles afiamaluanus* (Fullaway, 1941)**

Apanteles afiamaluana Fullaway, 1941.

Type information. Holotype female, BPBM (not examined but subsequent treatment of the species checked). Country of type locality: Western Samoa.

Geographical distribution. AUS.

AUS: Western Samoa.

Notes. Our species concept is based on Austin and Dangerfield (1992).

***Glyptapanteles africanus* (Cameron, 1911)**

Apanteles africanus Cameron, 1911.

Apanteles beneficus Viereck, 1911.

Apanteles cameroni Brues, 1924.

Type information. Holotype female, TMSA (not examined but subsequent treatment of the species checked). Country of type locality: South Africa.

Geographical distribution. AFR, OTL.

AFR: Ghana, Kenya, Malawi, Mali, Mozambique, Nigeria, South Africa, Uganda, Zimbabwe; **OTL:** India, Pakistan.

Notes. Our species concept is based on Wilkinson (1932a), van Achterberg and Polaszek (1996), and van Achterberg and Walker (1998). We examined the type, a female specimen, of *Apanteles beneficus* (Viereck, 1911), currently a synonym of *G. africanus*.

***Glyptapanteles aggestus* (Granger, 1949), new combination**

Glyptapanteles aggestus Granger, 1949.

Type information. Syntypes female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. This species clearly is not an *Apanteles*. Based on the original description it is provisionally transferred to *Glyptapanteles* until examination of the syntype series allows a more definitive identification.

***Glyptapanteles agrotivorus* Whitfield, 2002**

Glyptapanteles agrotivorus Whitfield, 2002.

Type information. Holotype female, USNM (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

Notes. The holotype is dirty and not in good condition.

***Glyptapanteles agynus* (de Saeger, 1944), new combination**

Apanteles agynus de Saeger, 1944.

Type information. Holotype male, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description, which is the only reference available for this species, the best generic placement at present would be in *Glyptapanteles*. However, the only known specimen is a male and the description is not clear enough to rule out the genus *Distatrix*. Examination of the specimen will be needed to conclude.

***Glyptapanteles aithos* (Sharma, 1973), new combination**

Apanteles aithos Sharma, 1973.

Type information. Holotype female, IFRI (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. This species is clearly not an *Apanteles*. The original description does not provide enough information to determine the generic identity in a conclusive way but *Glyptapanteles* seems to be the best match (although *Distatrix* might be another possibility). Examination of the type series will be needed to conclude on its generic status.

***Glyptapanteles alejandrovalerioi* Arias-Penna, 2019**

Glyptapanteles alejandrovalerioi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles aletta* (Nixon, 1973)**

Apanteles aletta Nixon, 1973.

Type information. Holotype female, MZH (not examined but original description checked). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Belarus, Finland, Hungary, Korea, Slovakia, Switzerland.

***Glyptapanteles alexborisenkoi* Arias-Penna, 2019**

Glyptapanteles alexborisenkoi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles alexwildi* Arias-Penna, 2019**

Glyptapanteles alexwildi Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles aliphera* (Nixon, 1973)**

Apanteles aliphera Nixon, 1973.

Apanteles sublateralis Tobias, 1976.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Israel, Netherlands, Poland, Romania, Russia (KDA), Slovakia, Sweden, Switzerland, United Kingdom.

***Glyptapanteles alticola* (Ashmead, 1902)**

Protapanteles alticola Ashmead, 1902.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, NB), USA (AK, CA, CO, ID, NH, OR, UT).

Notes. The holotype is a male, not a female as stated by Shenefelt (1972) and Yu et al. (2012). The metasoma is separate from the head and mesosoma, but it is glued to the same point; only the right wings are present. Muesebeck (1921) mentioned a type series, which we have not seen, and also provided a brief description of the species as part of his key to '*Apanteles sensu lato*'. According to that key, Muesebeck states that the species has metafemur 'dark reddish testaceous, usually edged with blackish' and also 'stigma and veins of forewing dark brown' (Muesebeck 1921: 493). However, the holotype has yellow metafemur and the pterostigma is very pale brown. Other than that, the holotype resembles many '*Glyptapanteles*' from the northern Nearctic in colour, propodeum sculpture (which has a faint median carina on posterior 0.5), and shape and sculpture of T1–T3.

***Glyptapanteles alvarowillei* Arias-Penna, 2019**

Glyptapanteles alvarowillei Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles amenophis* (de Saeger, 1944), new combination**

Apanteles amenophis de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

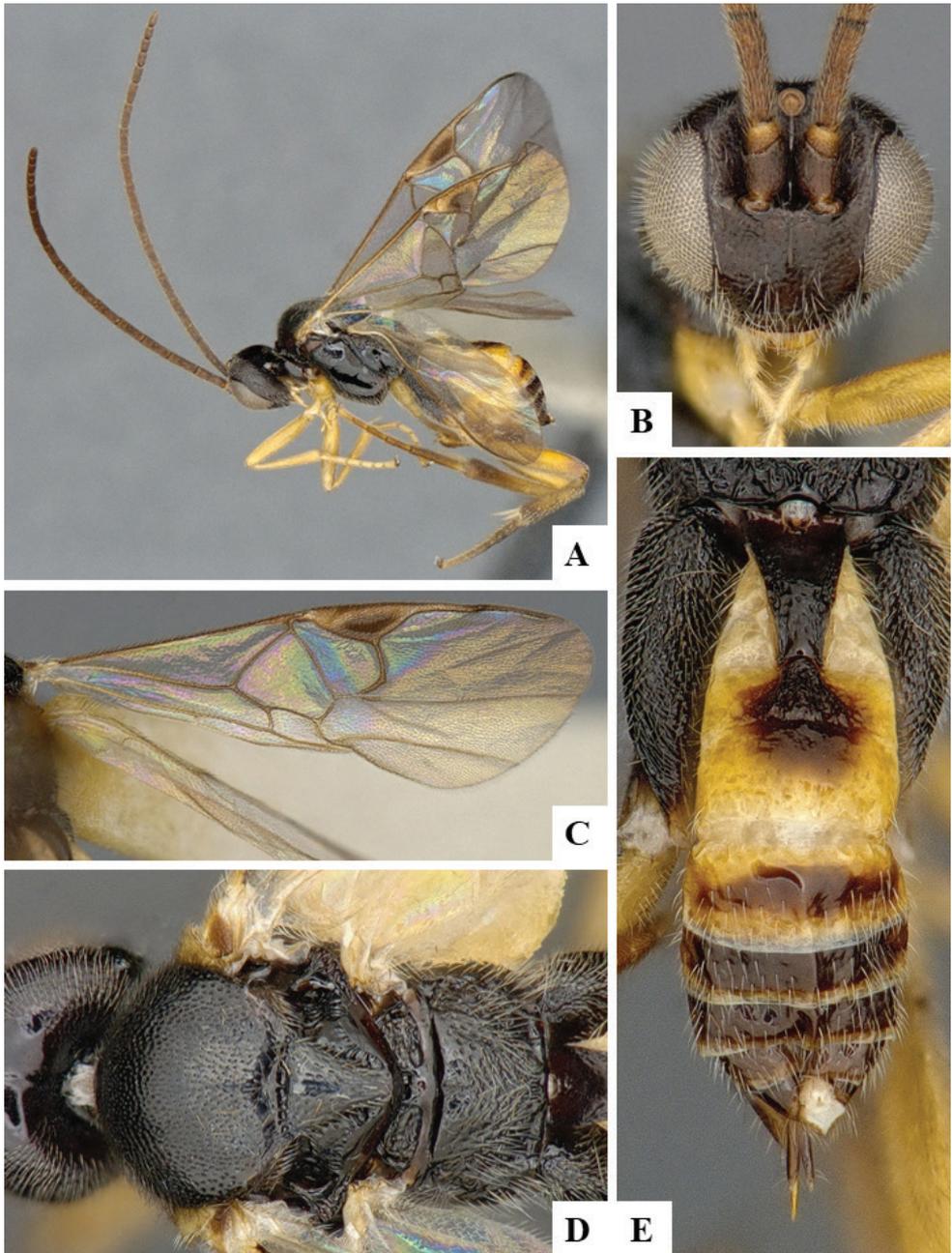


Figure 100. *Glyptapanteles aliphera* female CNCHYM01229 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Metasoma, dorsal.

AFR: Democratic Republic of Congo.

Notes. From the original description it is clear that this species does not belong in *Apanteles* (due to the short ovipositor and shape of the hypopygium). When describing it, de Saeger (1944) stated that it would come close to *Apanteles paral*

lelus (Lyle, 1971), which is currently placed within *Protapanteles*. We consider that *amenophis* is better placed within *Glyptapanteles* for the time being, but future examination of the specimens may change that.

***Glyptapanteles andrewdebeveci* Arias-Penna, 2019**

Glyptapanteles andrewdebeveci Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles andybennetti* Arias-Penna, 2019**

Glyptapanteles andybennetti Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles andydeansi* Arias-Penna, 2019**

Glyptapanteles andydeansi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles andysuarezi* Arias-Penna, 2019**

Glyptapanteles andysuarezi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles andywarreni* Arias-Penna, 2019**

Glyptapanteles andywarreni Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles ankitaguptae* Arias-Penna, 2019**

Glyptapanteles ankitaguptae Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles annettewalkerae* Arias-Penna, 2019**

Glyptapanteles annettewalkerae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles antarctiae* (Blanchard, 1935), new combination**

Apanteles antarctiae Blanchard, 1935.

Apanteles antarctiae var. *fusca* Blanchard, 1935.

Type information. Syntypes male, MACN (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

Notes. The type material belongs to the Blanchard collection, deposited in MACN. The descriptions and illustrations (scutellar disc, propodeum, T1–T2, part of fore wing, tip of antenna) provided in the original description and a following paper (Blanchard 1935, 1936), strongly suggest that this species belongs to *Glyptapanteles*. The species has the propodeum mostly smooth and without carinae (although the illustration for a male specimen shows a weakly defined median, longitudinal carina), T1 anterior half is parallel-sided while posterior half slightly narrows towards posterior margin, T2 is trapezoidal, and ovipositor sheaths are barely protruding.

***Glyptapanteles antinoe* (Nixon, 1973)**

Apanteles antinoe Nixon, 1973.

Type information. Holotype female, NHMW (not examined but original description checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria, Germany, Hungary, Turkey.

***Glyptapanteles antsirabensis* (Granger, 1949)**

Apanteles antsirabensis Granger, 1949.

Type information. Holotype female, MNHN (not examined but subsequent treatment of the species checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar, Réunion.

Notes. Our species concept is based on Rouse and Gupta (2013).

***Glyptapanteles anubis* (de Saeger, 1944), new combination**

Apanteles anubis de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. From the original description it is clear that this species does not belong to *Apanteles* (due to the short ovipositor and propodeum with median carina). When describing it, de Saeger (1944) stated that, in the Wilkinson key to African species, *anubis* would come close to *Apanteles pallidocinctus* (Gahan, 1918), which is currently placed within the genus *Distarix*. However, *anubis* should not be placed in that genus, due to having a rugose and carinated propodeum. Examination of the holotype will eventually be needed to conclude but, based on all information available in the original description (the only published source of information for this species), the best generic placement at present would be within *Glyptapanteles*.

***Glyptapanteles arcuatus* (Telenga, 1955)**

Apanteles arcuatus Telenga, 1955.

Type information. Syntypes female and male, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Germany, Russia (PRI).

Notes. Our species concept is based on Telenga (1955), Papp (1983a) and Kotenko (2007a).

***Glyptapanteles arginae* (Bhatnagar, 1950), new combination**

Apanteles arginae Bhatnagar, 1950.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Based on the original description this species is clearly not an *Apanteles*. The description of the propodeum with a faint median longitudinal carina, short

ovipositor sheaths, T1 smooth and narrowing towards apex, and T2 smooth and subtriangular shaped, all suggest that the best generic placement for this species at present would be within *Glyptapanteles*. However, examination of the holotype and paratypes may change that in the future. The year of publication of the Bhatnagar paper was until recently commonly cited as 1948 and/or 1950 (e.g., Chen and Song 2004, Yu et al. 2016), probably following Shenefelt (1972) who referred to this paper as “Bhatnagar (1948) 1950”. While the intended year for Volume X, Parts I & II of the Indian Journal of Entomology was 1948, the actual dates of publication were June 1950 (Part I) and October 1950 (Part II), as clearly shown on the cover page of the Volume, which we have checked. Because the dates of publication are the ones to be considered, and for the sake of clarity, we hereby revise the species year of description to 1950.

***Glyptapanteles argus* (de Saeger, 1944), new combination**

Apanteles argus de Saeger, 1944.

Type information. Holotype male, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. The original description states this species is very close to *A. intricatus* (de Saeger, 1944), which in turn was described as very close to several species currently placed within *Glyptapanteles*. The drawings of the original description of *A. intricatus* indeed confirm it belongs to *Glyptapanteles*, and thus *argus* is also placed in that genus.

***Glyptapanteles aristolochiae* (Wilkinson, 1928)**

Apanteles aristolochiae Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: India, Sri Lanka.

***Glyptapanteles artonae* (Rohwer, 1926)**

Apanteles artonae Rohwer, 1926.

Type information. Holotype female, USNM (examined). Country of type locality: Malaysia.

Geographical distribution. AUS, OTL.

AUS: Fiji; **OTL:** Indonesia, Malaysia.

Notes. See Austin and Dangerfield (1992) for details questioning the distribution of this species in Fiji. Yu et al. (2016) have the NHMUK as the type depository, but we have found and examined the holotype in Washington (USNM).

***Glyptapanteles ashmeadi* (Wilkinson, 1928)**

Apanteles ashmeadi Wilkinson, 1928.

Glyptapanteles manilae Ashmead, 1904 [secondary homonym of *Apanteles manilae* Ashmead, 1904].

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

***Glyptapanteles atylana* (Nixon, 1965), new combination**

Apanteles atylana Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: Indonesia.

Notes. See comments on *G. siderion* (Nixon, 1965) below for more details on the rationale to provisionally place these two species in *Glyptapanteles*.

***Glyptapanteles aucklandensis* (Cameron, 1909)**

Apanteles aucklandensis Cameron, 1909.

Type information. Holotype male, NHMUK (examined). Country of type locality: New Zealand.

Geographical distribution. AUS.

AUS: New Zealand.

***Glyptapanteles badgleyi* (Wilkinson, 1928), new combination**

Apanteles badgleyi Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. This species is placed in *Glyptapanteles* based on very short ovipositor sheaths, inflexible hypopygium, T1 narrowing towards posterior margin, and T2 subtriangular (trapezoidal).

***Glyptapanteles barneyburksi* Arias-Penna, 2019**

Glyptapanteles barneyburksi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles bataviensis* (Rohwer, 1919), new combination**

Apanteles bataviensis Rohwer, 1919.

Type information. Holotype female, USNM (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: India, Indonesia, Vietnam.

Notes. The species was transferred from *Apanteles* to *Cotesia* by Long et al. (2004). However, after examining the holotype, we find it clearly belongs to *Glyptapanteles* as it has an entirely smooth propodeum and T1 is strongly narrowing towards posterior margin.

***Glyptapanteles betogarciai* Arias-Penna, 2019**

Glyptapanteles betogarciai Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles bidentatus* (Sharma, 1972)**

Apanteles bidentatus Sharma, 1972.

Type information. Holotype male, IFRI (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Glyptapanteles billbrowni* Arias-Penna, 2019**

Glyptapanteles billbrowni Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles bimus* Papp, 1990**

Glyptapanteles bimus Papp, 1990.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Korea.

Geographical distribution. PAL.

PAL: Korea.

Notes. Our species concept is based on Papp (1990b) and Kotenko (2007a).

***Glyptapanteles bistonis* (Watanabe, 1934), new combination**

Apanteles bistonis Watanabe, 1934.

Type information. Holotype male, EIHU (examined). Country of type locality: Japan.

Geographical distribution. PAL.

PAL: Japan.

Notes. We examined the male holotype and another pin which carries a cocoon mass. This species is clearly *Glyptapanteles* (as Papp had recognized in a label he wrote in 1992, although he never published that new combination).

***Glyptapanteles bobhanneri* Arias-Penna, 2019**

Glyptapanteles bobhanneri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles bobkulai* Arias-Penna, 2019**

Glyptapanteles bobkulai Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles bobwhartoni* Arias-Penna, 2019**

Glyptapanteles bobwhartoni Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles boharti* Arias-Penna, 2019**

Glyptapanteles boharti Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles borocerae* (Granger, 1949), new combination**

Apanteles borocerae Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. This species is not *Apanteles*. Based on the original description as well as host information, the species is provisionally transferred to *Glyptapanteles* until examination of the syntype series allows a more definitive identification.

***Glyptapanteles bourquini* (Blanchard, 1936)**

Apanteles bourquini Blanchard, 1936.

Apanteles elegans Blanchard, 1936.

Type information. Holotype female, MACN (not examined but subsequent treatment of the species checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina, Brazil (RS) Chile, Ecuador, Peru, Uruguay.

Notes. The type belongs to the Blanchard collection, which we assume is deposited in the MACN. Our species concept is based on Whitfield et al. (2002a). The record from Brazil is based on Shimbori et al. (2019).

***Glyptapanteles breviscuta* Song & Chen, 2004**

Glyptapanteles breviscuta Song & Chen, 2004.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

***Glyptapanteles brianestjaquesae* Arias-Penna, 2019**

Glyptapanteles brianestjaquesae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

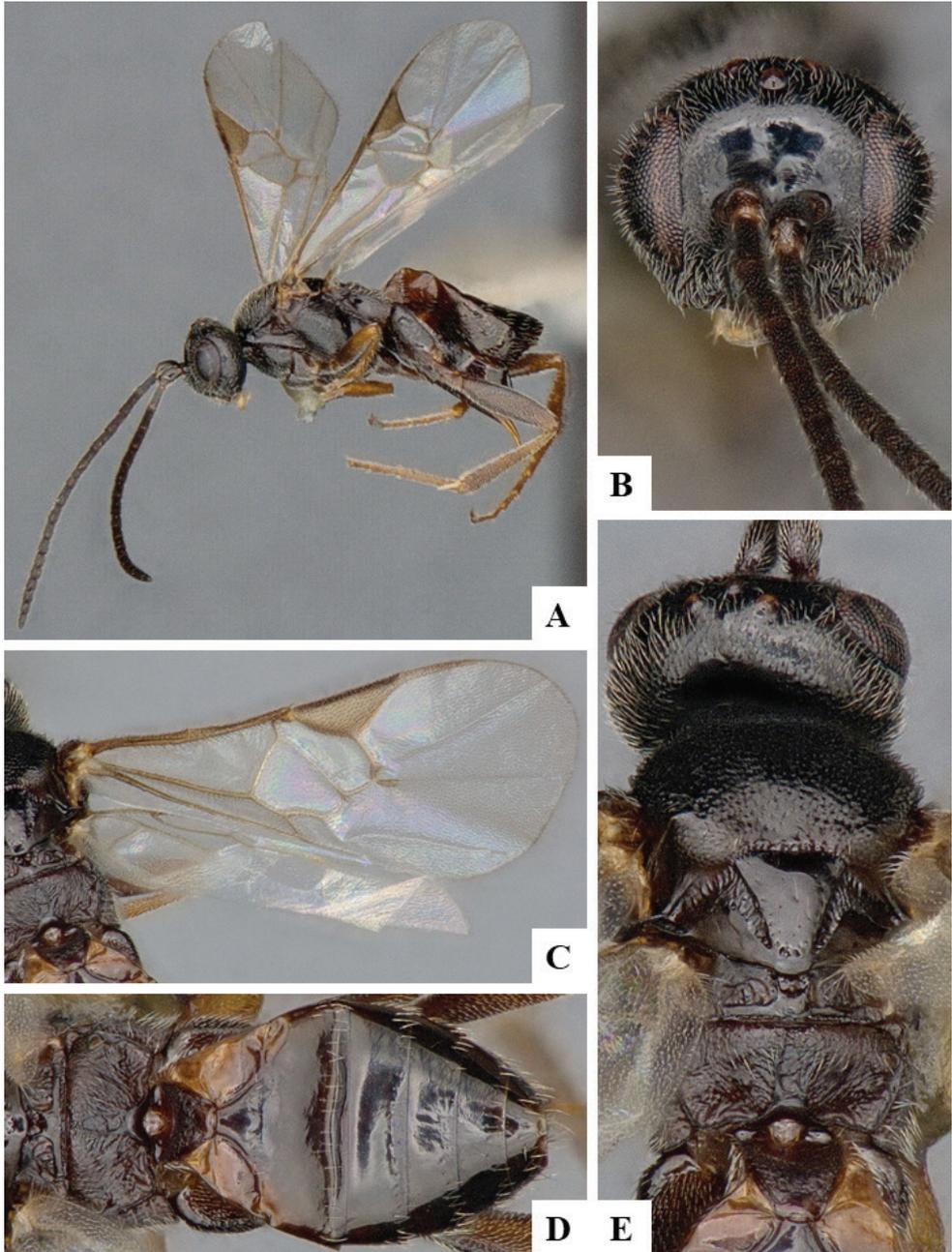


Figure 101. *Glyptapanteles bourquini* female CNCHYM01239 **A** Habitus, lateral **B** Head, frontodorsal **C** Fore wing **D** Propodeum and metasoma, dorsal **E** Mesosoma, dorsal.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles caberatae* (Muesebeck, 1956)**

Apanteles caberatae Muesebeck, 1956.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA).

Notes. Our species concept is based on Whitfield (1995a).

***Glyptapanteles cacao* (Wilkinson, 1934), new combination**

Apanteles cacao Wilkinson, 1934.

Type information. Holotype female, NHMUK (examined). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: Sri Lanka.

Notes. This species is placed in *Glyptapanteles* based on the short ovipositor sheaths, inflexible hypopygium, T1 narrowing towards posterior margin, and T2 subtriangular (trapezoidal).

***Glyptapanteles cadei* (Risbec, 1951), new combination**

Apanteles cadei Risbec, 1951.

Type information. Holotype male, depository unknown (not examined but original description checked). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Senegal.

Notes. The original description (and the included drawings of the propodeum, T1 and T2) suggests this species does not belong to *Apanteles*, and it is better placed in *Glyptapanteles* for the time being. However, the information available is not enough to conclude with absolute certainty on the generic status of the species, and study of the single male specimen will be required to clarify its status in the future.

***Glyptapanteles caffreyi* (Muesebeck, 1921)**

Apanteles caffreyi Muesebeck, 1921.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: USA (AZ); **NEO:** Mexico, Peru.

***Glyptapanteles callidus* (Haliday, 1834)**

Microgaster callidus Haliday, 1834.

Apanteles urolus Papp, 1983.

Type information. Lectotype female, NMID (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Armenia, Austria, Belgium, Bulgaria, Czech Republic, Finland, France, Georgia, Germany, Hungary, Ireland, Israel, Lithuania, Netherlands, Poland, Romania, Russia (AMU, SAK), Slovakia, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

Notes. van Achterberg (1997) reinterpreted this name and treated it only *sensu* Haliday (1834). The species called *callidus* by Nixon (1973) and Papp (1983a) are now considered to be *Glyptapanteles majalis* (Wesmael, 1837) (e.g., van Achterberg 1997, Broad et al. 2016).

***Glyptapanteles capeki* (Györfi, 1955)**

Apanteles capeki Györfi, 1955.

Type information. Holotype female, depository unknown (not examined). Country of type locality: Slovakia.

Geographical distribution. PAL.

PAL: Slovakia.

***Glyptapanteles carinachicaizae* Arias-Penna, 2019**

Glyptapanteles carinachicaizae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles carinatus* (Szépligeti, 1913)**

Apanteles carinatus Szépligeti, 1913.

Type information. Holotype male, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Tanzania.

Geographical distribution. AFR.

AFR: Tanzania.

Notes. Our species concept is based on Papp (2004).

***Glyptapanteles carlbuffakeri* Arias-Penna, 2019**

Glyptapanteles carlbuffakeri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles carlossarmientoi* Arias-Penna, 2019**

Glyptapanteles carlossarmientoi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles carlrettenmeyeri* Arias-Penna, 2019**

Glyptapanteles carlrettenmeyeri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles cassianus* (Riley, 1881)**

Apanteles cassianus Riley, 1881.

Type information. Syntypes female and male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CO, CT, IL, IA, MO, NJ, TX).

***Glyptapanteles celsoazevedoi* Arias-Penna, 2019**

Glyptapanteles celsoazevedoi Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles charlesmicheneri* Arias-Penna, 2019**

Glyptapanteles charlesmicheneri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles charlesporteri* Arias-Penna, 2019**

Glyptapanteles charlesporteri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles chidra* Rouse & Gupta, 2013**

Glyptapanteles chidra Rouse & Gupta, 2013.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Réunion.

Geographical distribution. AFR.

AFR: Réunion.

***Glyptapanteles chrisdarlingi* Arias-Penna, 2019**

Glyptapanteles chrisdarlingi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles chrisgrinteri* Arias-Penna, 2019**

Glyptapanteles chrisgrinteri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles christerhanssoni* Arias-Penna, 2019**

Glyptapanteles christerhanssoni Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles cinyras* (de Saeger, 1944), new combination**

Apanteles cinyras de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Based on the original description, the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles clanisae* Gupta, 2013**

Glyptapanteles clanisae Gupta, 2013.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Glyptapanteles claudiamartinezae* Arias-Penna, 2019**

Glyptapanteles claudiamartinezae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles colemani* (Viereck, 1912)**

Apanteles colemani Viereck, 1912.

Type information. Holotype female, USNM (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: China (GX), India, Vietnam.

***Glyptapanteles compressiventris* (Muesebeck, 1921)**

Apanteles compressiventris Muesebeck, 1921.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA, PAL.

NEA: Canada (MB, NT, NU, QC), USA (NH); **PAL:** Armenia, Azerbaijan, Croatia, Czech Republic, Finland, Germany, Hungary, Italy, Kazakhstan, Lithuania, Macedonia, Moldova, Netherlands, Romania, Russia (KAM, PRI, SAK, SPE, VOR), Serbia, Slovakia, Spain, Switzerland, Turkey, United Kingdom.

***Glyptapanteles compressus* (Muesebeck, 1919)**

Apanteles compressus Muesebeck, 1919.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (MA, NH, RI, VA, WV).

Notes. Our species concept is based on Muesebeck (1921), Mason (1981) and Whitfield (1995a).

***Glyptapanteles concinnus* (Muesebeck, 1958)**

Apanteles concinnus Muesebeck, 1958.

Apanteles concinnus Muesebeck, 1958 [primary homonym of *Apanteles concinnus* Statz, 1938].

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SP).

***Glyptapanteles corbetti* (Wilkinson, 1928)**

Apanteles corbetti Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: China (GX), Malaysia.

***Glyptapanteles corriemoreauae* Arias-Penna, 2019**

Glyptapanteles corriemoreauae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles creatonoti* (Viereck, 1912)**

Apanteles creatonoti Viereck, 1912.

Type information. Holotype female, USNM (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: Bangladesh, India, Malaysia.

***Glyptapanteles dalosoma* de Santis, 1987**

Glyptapanteles dalosoma de Santis, 1987.

Type information. Holotype female, MLP (not examined but subsequent treatment of the species checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SP).

Notes. Our species concept is based on Aquino et al. (2010).

***Glyptapanteles darjeelingensis* (Sharma & Chatterjee, 1970)**

Apanteles darjeelingensis Sharma & Chatterjee, 1970.

Type information. Holotype male, FSCA? (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description refers to the Gupta collection, which we assume to be currently deposited in the FSCA (at least the Braconidae part); however, there is also the possibility that the type of this species is deposited elsewhere.

***Glyptapanteles daveroubiki* Arias-Penna, 2019**

Glyptapanteles daveroubiki Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles daveschindeli* Arias-Penna, 2019**

Glyptapanteles daveschindeli Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles davesmithi* Arias-Penna, 2019**

Glyptapanteles davesmithi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles davidwahli* Arias-Penna, 2019**

Glyptapanteles davidwahli Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles deliasa* Austin & Dangerfield, 1992**

Glyptapanteles deliasa Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (SA).

***Glyptapanteles diegocamposi* Arias-Penna, 2019**

Glyptapanteles diegocamposi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles distatus* Papp, 1990**

Glyptapanteles distatus Papp, 1990.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Korea.

Geographical distribution. PAL.

PAL: Korea.

***Glyptapanteles donquickei* Arias-Penna, 2019**

Glyptapanteles donquickei Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles dorislagosae* Arias-Penna, 2019**

Glyptapanteles dorislagosae Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles ecuadorius* Whitfield, 2002**

Glyptapanteles ecuadorius Whitfield, 2002.

Type information. Holotype female, USNM (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

Notes. Holotype specimen is relatively dirty and not in good condition.

***Glyptapanteles edgardpalacioi* Arias-Penna, 2019**

Glyptapanteles edgardpalacioi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles edwinnarvaezi* Arias-Penna, 2019**

Glyptapanteles edwinnarvaezi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles eowilsoni* Arias-Penna, 2019**

Glyptapanteles eowilsoni Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles erictepei* Arias-Penna, 2019**

Glyptapanteles erictepei Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles eryphanidis* (Whitfield, 2011), new combination**

Protapanteles eryphanidis Whitfield, 2011.

Type information. Holotype male, USNM (not examined but original description checked). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

Notes. The original description (Greeney et al. 2011) was based on a single male, usually the more difficult sex to work with in Microgastrinae (Whitfield 1997). However, the illustrations in the original description clearly show T1 and T2 smooth, with T1 narrowing towards the posterior margin and T2 subtriangular; and the propodeum lacks a median carina and only has a few short carinulae radiating from the nucha. All of those characters suggest that the species is better placed within *Glyptapanteles* instead of *Protapanteles*, a decision we make here. More evidence, if only weak, comes from biology, something that even the authors recognized and mentioned in the paper (Greeney et al. 2011: 1087) when they acknowledged that the host family (Nymphalidae) had never been recorded for *Protapanteles* (e.g., Mason 1981, Whitfield 1997, Whitfield et al. 1999).

***Glyptapanteles eucosmae* (Wilkinson, 1929)**

Apanteles eucosmae Wilkinson, 1929.

Apanteles salensis Hedqvist, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Nigeria.

Geographical distribution. AFR, PAL.

AFR: Cape Verde, Democratic Republic of Congo, Nigeria, Senegal, Uganda, Zambia; **PAL:** China (LN), Mongolia.

***Glyptapanteles euproctisiphagus* (Ahmad, 1945), new combination**

Apanteles euproctisiphagus Ahmad, 1945.

Type information. Holotype female, INPC (not examined but subsequent treatment of the species checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Our species concept is based on Papp (1983a), who placed *euproctisiphagus* within a key comprising other *Glyptapanteles*, and also provided illustrations of the species.

***Glyptapanteles eutelus* (de Saeger, 1941), new combination**

Apanteles eutelus de Saeger, 1941.

Type information. Holotype male, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Ivory Coast, Rwanda, Senegal.

Notes. Based on the original description (de Saeger 1941b), the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles fabiae* (Wilkinson, 1928), new combination**

Apanteles fabiae Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. This species is placed in *Glyptapanteles* based on the very short ovipositor sheaths, inflexible hypopygium, T1 narrowing towards posterior margin, and T2 subtriangular (trapezoidal).

***Glyptapanteles felipesotoi* Arias-Penna, 2019**

Glyptapanteles felipesotoi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles femoratus* Ashmead, 1906**

Glyptapanteles femoratus Ashmead, 1906.

Type information. Lectotype male, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Japan.

Geographical distribution. OTL, PAL.

OTL: China (HB, ZJ); **PAL:** Japan, Korea.

Notes. Our species concept is based on Watanabe (1932, 1937) and Chen and Song (2004).

***Glyptapanteles ferfernandezii* Arias-Penna, 2019**

Glyptapanteles ferfernandezii Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles ficus* (Granger, 1949)**

Apanteles ficus Granger, 1949.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar, Réunion.

Notes. Our species concept is based on Granger (1949) and Rouse and Gupta (2013).

***Glyptapanteles flavicoxis* (Marsh, 1979)**

Apanteles flavicoxis Marsh, 1979.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Glyptapanteles flavovariatus* (Muesebeck, 1921)**

Apanteles flavovariatus Muesebeck, 1921.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, ON), USA (MI, OR, SD).

***Glyptapanteles floridanus* (Muesebeck, 1921)**

Apanteles floridanus Muesebeck, 1921.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (FL).

***Glyptapanteles fraternus* (Reinhard, 1880)**

Apanteles fraternus Reinhard, 1880.

Type information. Holotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Austria.

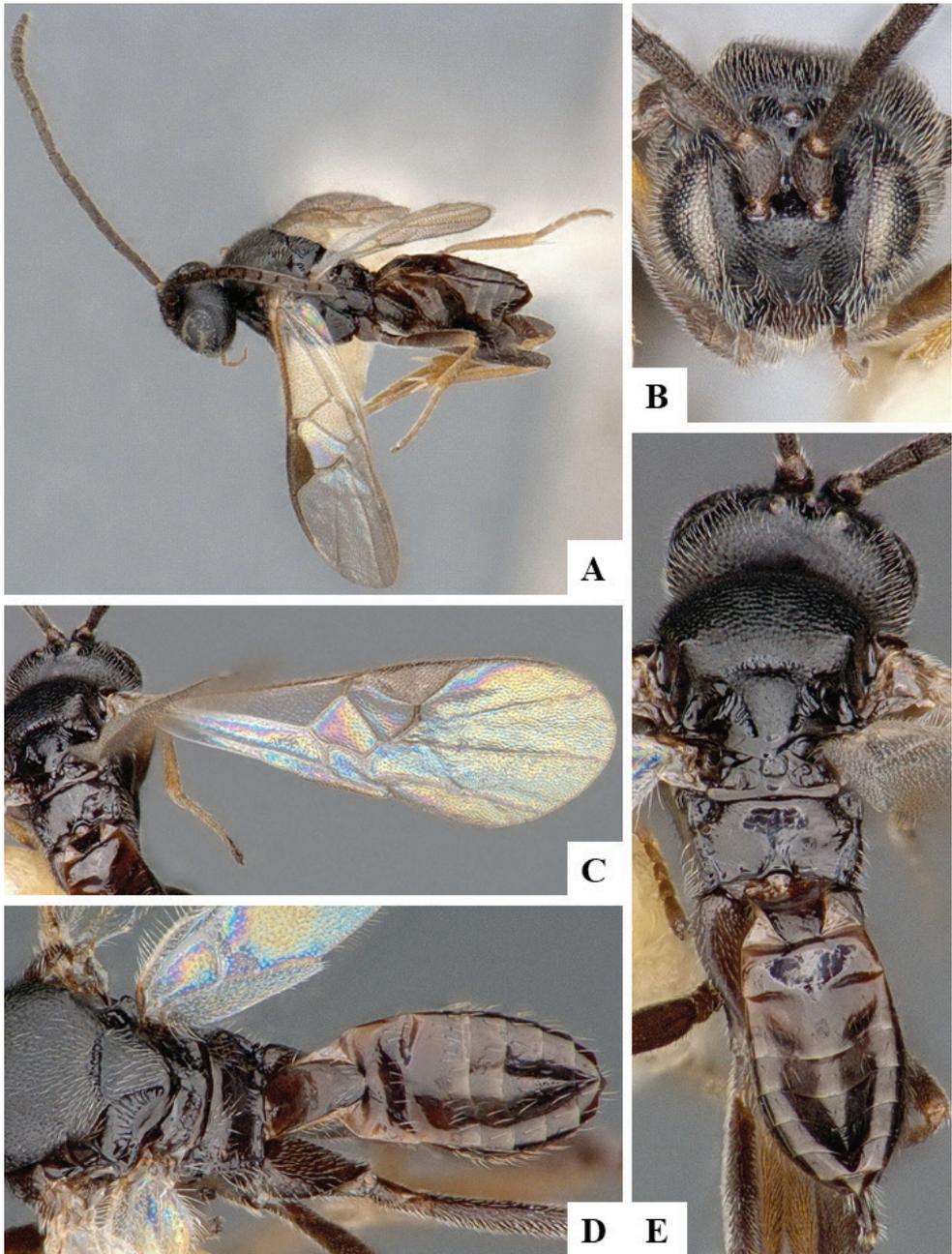


Figure 102. *Glyptapanteles fraternus* female CNC497049 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma and metasoma, dorsal **E** Mesosoma and metasoma, dorsal.

Geographical distribution. PAL.

PAL: Austria, Bosnia and Herzegovina, Croatia, Czech Republic, France, Germany, Hungary, Kazakhstan, Moldova, Mongolia, Poland, Romania, Russia (ZAB, TY), Slovakia, Switzerland, Turkmenistan, Ukraine, United Kingdom, Uzbekistan, Yugoslavia.

Notes. Our species concept is based on Wilkinson (1945), Nixon (1973), Papp (1983a), Tobias (1986) and Kotenko (2007a). The species distribution in Turkmenistan is based on Belokobylskij et al. (2019).

***Glyptapanteles fullawayi* Austin & Dangerfield, 1992**

Glyptapanteles fullawayi Austin & Dangerfield, 1992.

Apanteles politus Fullaway, 1941 [primary homonym of *Apanteles politus* Riley, 1881].

Type information. Holotype male, BPBM (not examined but original description checked). Country of type locality: Western Samoa.

Geographical distribution. AUS.

AUS: Western Samoa.

***Glyptapanteles fulvigaster* (Granger, 1949), new combination**

Apanteles fulvigaster Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. This species is clearly not an *Apanteles*, based on the short ovipositor sheaths. In the original description it is considered to be related to *Apanteles belliger* Wilkinson, which is now placed within *Distatrix*. However, Granger (1949) did not mention in his description that *fulvigaster* has ovipositor sheaths lacking setae (which could be argued to be a noticeable feature and would have indeed shown the species to belong to *Distatrix*). The original description does not mention any details on the lateral sulci on pronotum either, which would have helped to clarify the generic position of the species. Due to all of the above, we take the conservative approach of transferring *fulvigaster* to *Glyptapanteles*, which fits better with the available description. However, we caution that the species could be within *Distatrix* once the specimens from the type series can be examined further.

***Glyptapanteles fulvipes* (Haliday, 1834)**

Microgaster fulvipes Haliday, 1834.

Type information. Lectotype female, NMID (not examined but subsequent treatment of the species checked). Country of type locality: Ireland.

Geographical distribution. NEA, PAL.

NEA: Canada (AB, NT, NU, QC), Greenland; **PAL:** Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Canary Islands, Croatia, Czech Republic, Faroe Islands, Finland, France, Georgia, Germany, Hungary, Iceland, Ireland, Italy, Japan, Kazakhstan, Korea, Lithuania, Macedonia, Moldova, Mongolia, Netherlands,

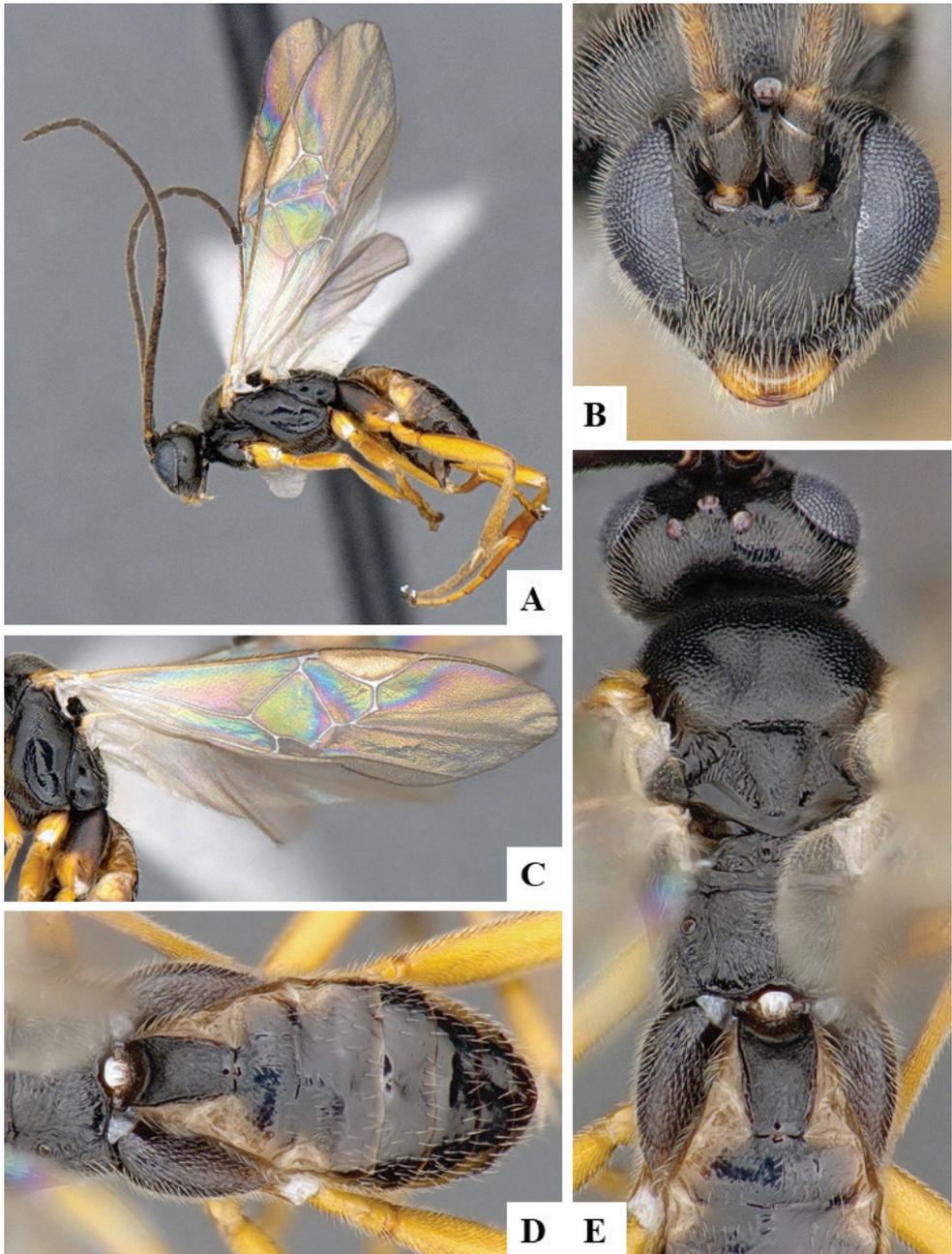


Figure 103. *Glyptapanteles fulvipes* female MRSJFT0427 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Head, mesosoma and tergites 1–2, dorsal.

Poland, Romania, Russia (AMU, ZAB, DA, AL, KDA, MOS, PRI, SAK, SPE, YAR), Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

Notes. Our species concept is based on Nixon (1973), Papp (1983a), Tobias (1986), Kotenko (2007a, van Achterberg (2006) and Fernandez-Triana et al. (2017b).

***Glyptapanteles fuscinervis* (Cameron, 1911), new combination**

Apanteles fuscinervis Cameron, 1911.

Type information. Holotype male, TMSA (not examined but original description checked). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: Rwanda, South Africa.

Notes. Based on the description of Wilkinson (1932a) the best generic placement at present would be in *Glyptapanteles*.

***Glyptapanteles gabinga* (de Saeger, 1944), new combination**

Apanteles gabinga de Saeger, 1944.

Type information. Syntypes female and male, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Based on the original description, the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles garygibsoni* Arias-Penna, 2019**

Glyptapanteles garygibsoni Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles gavinbroadi* Arias-Penna, 2019**

Glyptapanteles gavinbroadi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles genorodriguezae* Arias-Penna, 2019**

Glyptapanteles genorodriguezae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles gerarddelvarei* Arias-Penna, 2019**

Glyptapanteles gerarddelvarei Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles globatus* (Linnaeus, 1758), new combination**

Ichneumon globatus Linnaeus, 1758.

Type information. Syntypes female and male, LSUK (not examined but illustrations of the type series examined). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Sweden.

Notes. The use of the name *Ichneumon globatus* Linnaeus, 1758 has been problematic for a long time, as it was mostly associated with the genus *Microgaster* in Europe (e.g., Yu et al. 2012, 2016, Broad et al. 2016; see also van Achterberg 2014 and Scaramozzino et al. 2017, for more details on the topic). Because the type series of *globatus* clearly does not belong to *Microgaster*, van Achterberg (2014) proposed to use the name *Microgaster rufipes* Nees, 1834 (the oldest available name) for the historical references to that *Microgaster* species in Europe, a decision we accept and follow here (see our rationale to do that in the Notes we provide in this paper under the species *Microgaster rufipes*). As for the type series of *globatus*, those specimens are deposited in The Linnean Society, and two photos of those syntypes are shown in their website (<http://linnean-online.org/16250/>). After examining those images (at least four specimens are distinguishable in the two photos, one clearly being a female), we think that the best generic placement at present would be in *Glyptapanteles*, and propose this new combination here, based on the T1 narrowing towards posterior margin and T2 subtriangular (as evident from one the specimens photographed that are on the cocoon mass) and the short ovipositor sheaths (as evident on the female specimen also photographed on the cocoon mass, the specimen being the closest to the pin holding the mass). The name *Glyptapanteles globatus* (Linnaeus, 1758), as we propose here, would be limited for the time being to the specimens from the Linnaeus series, which are supposedly from Sweden (e.g., see Linnaeus 1761: 411, specimen 1645). Future studies of those specimens will be needed to place this species within the larger context of European and Palearctic *Glyptapanteles*.

***Glyptapanteles glyphodes* (Wilkinson, 1932), new combination**

Apanteles glyphodes Wilkinson, 1932.

Type information. Holotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Uganda.

Notes. This species is placed in *Glyptapanteles* based on the very short ovipositor sheaths, inflexible hypopygium, T1 narrowing towards posterior margin, and T2 subtriangular (trapezoidal).

***Glyptapanteles gowdeyi* (Gahan, 1918)**

Apanteles gowdeyi Gahan, 1918.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Uganda.

Notes. Our species concept is based on Wilkinson (1932a), de Saeger (1944) and Mason (1981).

***Glyptapanteles grantgentryi* Arias-Penna, 2019**

Glyptapanteles grantgentryi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles guierae* (Risbec, 1951), new combination**

Apanteles guierae Risbec, 1951.

Type information. Syntypes female and male, depository unknown (not examined but original description checked). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Senegal.

Notes. From the original description is evident that this species is not *Apanteles*, based on the sculpture of propodeum and shapes of T1 and T2, the best generic placement at present would be in *Glyptapanteles*. That is also supported by the original description, where Risbec (1951: 423) considered the species to be related to *Apanteles eucosmae* (Wilkinson, 1929) which has long been placed within *Glyptapanteles* (e.g., Mason 1981).

***Glyptapanteles gunnarbrehmi* Arias-Penna, 2019**

Glyptapanteles gunnarbrehmi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles guyanensis* (Cameron, 1911), lectotype designation**

Apanteles guyanensis Cameron, 1911.

Type information. Lectotype female, NHMUK (examined). Country of type locality: Guyana.

Geographical distribution. NEO.

NEO: Guyana.

Notes. The type series has four female specimens, all glued on the same card. Shenefelt (1972: 527) mentioned the need to designate a lectotype but did not formally propose it (as he did for many other species in that paper). For the sake of completion, here we designate the lectotype. It is the female placed at the extreme left of the card, which is not only the best-preserved specimen but also has an X below it, which works to clearly mark the lectotype specimen among the series. Taxapad (Yu et al. 2012, 2016) reported the species as occurring in Guyana and Australia, with the latter country being based on Wilkinson (1930c). However, Austin and Dangerfield (1992) considered the Australian specimens to be different from the type series (Guyana). Here we agree with Austin and Dangerfield (1992) and consider *Glyptapanteles guyanensis* as strictly Neotropical (Guyana). A recent paper (Gallardo-Covas 2005) mentioned the possibility of this species also being in Puerto Rico (the species being reported as “probably *guyanensis*”, the species name being misspelled throughout the manuscript), and even mentions *Pseudoplusia includens* (Noctuidae) as its host in the island. However, Gallardo-Covas (2005) did not mention how the specimens were identified and thus we consider here that the Puerto Rico record must be confirmed before being formally listed as part of the species distribution.

***Glyptapanteles haroldgreeneyi* Arias-Penna, 2019**

Glyptapanteles haroldgreeneyi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles harrisinae* (Muesebeck, 1953)**

Apanteles harrisinae Muesebeck, 1953.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: USA (AZ, CA, CT, FL); **NEO:** Mexico.

Notes. Our species concept is based on Papp (1984a) and Whitfield (1995a).

***Glyptapanteles helmuthaguirrei* Arias-Penna, 2019**

Glyptapanteles helmuthaguirrei Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles henryhespenheidei* Arias-Penna, 2019**

Glyptapanteles henryhespenheidei Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles henrytownesi* Arias-Penna, 2019**

Glyptapanteles henrytownesi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles herbertii* (Ashmead, 1900)**

Apanteles herbertii Ashmead, 1900.

Type information. Holotype female, NHMUK (examined). Country of type locality: Saint Vincent.

Geographical distribution. NEA, NEO.

NEA: USA (FL); **NEO:** Argentina, Belize, Colombia, Cuba, Ecuador, Grenada, Mexico, Nicaragua, Peru, Saint Vincent, Venezuela.

***Glyptapanteles horus* (de Saeger, 1944), new combination**

Apanteles horus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Based on the original description, the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles howelldalyi* Arias-Penna, 2019**

Glyptapanteles howelldalyi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles hugokonsi* Arias-Penna, 2019**

Glyptapanteles hugokonsi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles hydroeciae* (You & Xiong, 1983)**

Apanteles hydroeciae You & Xiong, 1983.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (SN).

Notes. Our species concept is based on Chen and Song (2004).

***Glyptapanteles hypermnestrae* Gupta & Pereira, 2012**

Glyptapanteles hypermnestrae Gupta & Pereira, 2012.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Glyptapanteles iangauldi* Arias-Penna, 2019**

Glyptapanteles iangauldi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles ianyarrowi* Arias-Penna, 2019**

Glyptapanteles ianyarrowi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles ilarisaaksjarvi* Arias-Penna, 2019**

Glyptapanteles ilarisaaksjarvi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles inclusus* (Ratzeburg, 1844)**

Microgaster inclusus Ratzeburg, 1844.

Microgaster curvulus Thomson, 1895.

Apanteles rectinervis Telenga, 1955.

Type information. Lectotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. AFR, PAL.

AFR: Cape Verde; **PAL:** Austria, Azerbaijan, Bulgaria, China (SD, SN), Denmark, France, Germany, Ireland, Italy, Japan, Kazakhstan, Korea, Mongolia, Poland, Romania, Russia (ZAB, IRK, PRI, TY), Slovakia, Switzerland, Ukraine, United Kingdom.

Notes. Our species concept is based on Wilkinson (1945), Nixon (1973), Papp (1983a), Tobias (1986), and Chen and Song (2004). The species distribution in Japan and Mongolia is based on Belokobylskij et al. (2019).

***Glyptapanteles indiensis* (Marsh, 1979)**

Apanteles indiensis Marsh, 1979.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: India.

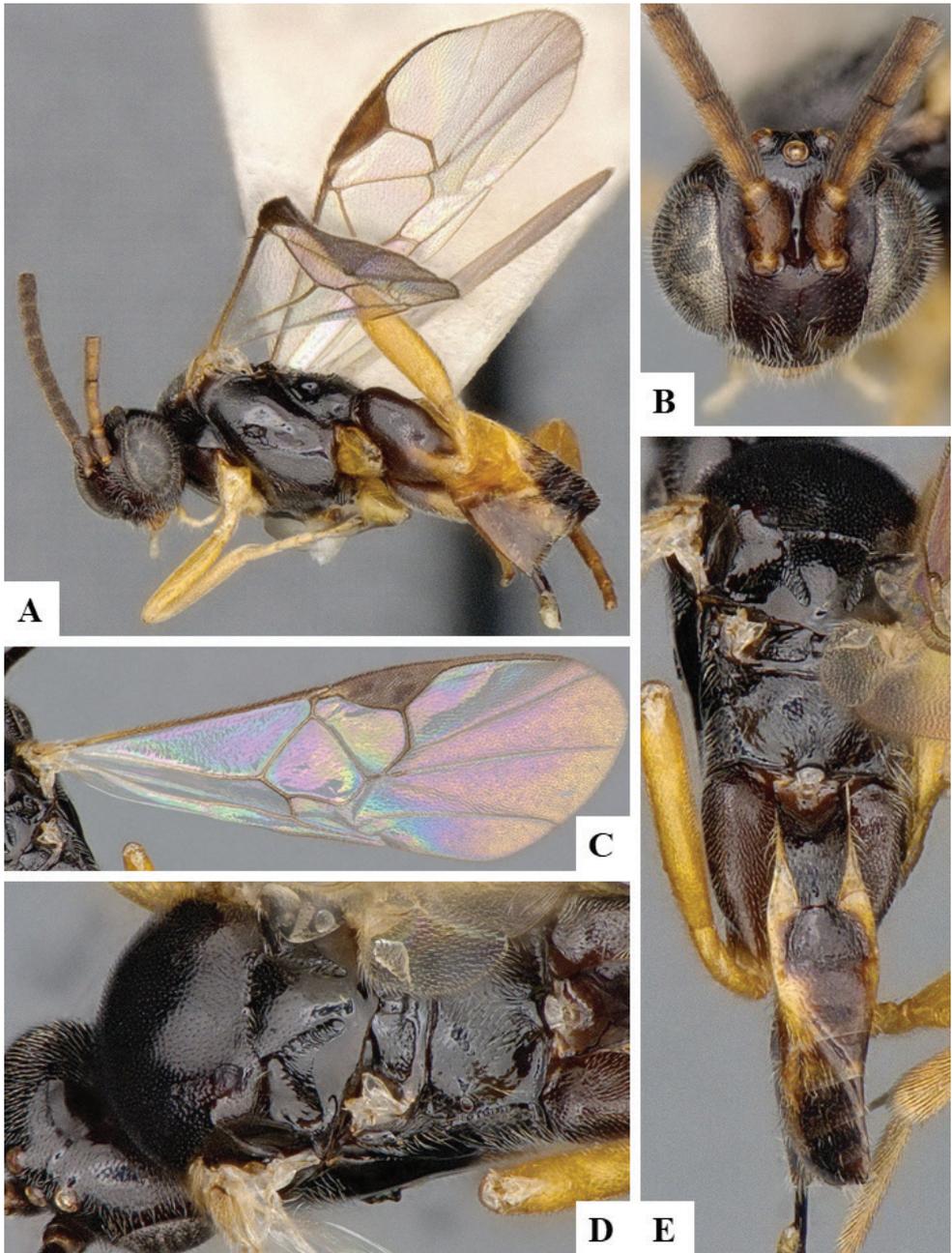


Figure 104. *Glyptapanteles indiensis* female paratype CNCHYM03231 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsolateral **E** Propodeum and metasoma, dorsal.

Geographical distribution. NEA, OTL.
NEA: USA (PA), **OTL:** India.

***Glyptapanteles intermedius* (Balevski, 1980)**

Apanteles intermedius Balevski, 1980.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Bulgaria.

Geographical distribution. PAL.

PAL: Bulgaria, Ukraine.

Notes. Our species concept is based on Tobias (1986) and Kotenko (2006).

***Glyptapanteles intricatus* (de Saeger, 1944), new combination**

Apanteles intricatus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. The original description of *A. intricatus* contains drawings that show this species is better placed within *Glyptapanteles*. See also comments above under *Glyptapanteles argus* (de Saeger, 1944).

***Glyptapanteles jacklonginoi* Arias-Penna, 2019**

Glyptapanteles jacklonginoi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles jamesrobertsoni* Arias-Penna, 2019**

Glyptapanteles jamesrobertsoni Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles jaquioconnorae* Arias-Penna, 2019**

Glyptapanteles jaquioconnorae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles jeremydewaardi* Arias-Penna, 2019**

Glyptapanteles jeremydewaardi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles jerrypowelli* Arias-Penna, 2019**

Glyptapanteles jerrypowelli Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles jesusalgaldei* Arias-Penna, 2019**

Glyptapanteles jesusalgaldei Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles jimmilleri* Arias-Penna, 2019**

Glyptapanteles jimmilleri Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles jjrodriguezae* Arias-Penna, 2019**

Glyptapanteles jjrodriguezae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles johnburnsi* Arias-Penna, 2019**

Glyptapanteles johnburnsi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles johnheraty* Arias-Penna, 2019**

Glyptapanteles johnheraty Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles johnlasallei* Arias-Penna, 2019**

Glyptapanteles johnlasallei Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles johnnoyesi* Arias-Penna, 2019**

Glyptapanteles johnnoyesi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles johnstiremani* Arias-Penna, 2019**

Glyptapanteles johnstiremani Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles josesimbanai* Arias-Penna, 2019**

Glyptapanteles josesimbanai Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles juanvargasi* Arias-Penna, 2019**

Glyptapanteles juanvargasi Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles jumamuturii* Arias-Penna, 2019**

Glyptapanteles jumamuturii Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles keithwillmotti* Arias-Penna, 2019**

Glyptapanteles keithwillmotti Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles kevinjohnsoni* Arias-Penna, 2019**

Glyptapanteles kevinjohnsoni Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles kyleparksi* Arias-Penna, 2019**

Glyptapanteles kyleparksi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles lamborni* (Wilkinson, 1928)**

Apanteles lamborni Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: China (GZ, HN, TW, YN), Malaysia.

***Glyptapanteles lamprosemae* (Wilkinson, 1928), new combination**

Apanteles lamprosemae Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia.

Notes. This species is placed in *Glyptapanteles* based on the very short ovipositor sheaths, inflexible hypopygium, T1 narrowing towards posterior margin, and T2 subtriangular (trapezoidal).

***Glyptapanteles laxatus* (Wilkinson, 1930)**

Apanteles laxatus Wilkinson, 1930.

Type information. Holotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Uganda.

***Glyptapanteles lefevrei* (de Saeger, 1941), new combination**

Apanteles lefevrei de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Burundi, Rwanda.

Notes. Here transferred to *Glyptapanteles* based on propodeum with median, longitudinal carina (defined on posterior half of propodeum), short ovipositor sheaths, and shape and sculpture of T1 and T2 (de Saeger 1941a: 333–335).

***Glyptapanteles leucotretae* (Ullyett, 1946), new combination**

Apanteles leucotretae Ullyett, 1946.

Type information. Holotype female, TMSA (not examined but original description checked). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Based on the original description, the best generic placement is in *Glyptapanteles*, due to the propodeum having a partial median carina, the shapes of T1 and T2, acute hypopygium and length of ovipositor sheaths. Ulyett (1946) also mentions the species as being close to *Glyptapanteles fuscinervis* Cameron.

***Glyptapanteles linghsiuae* Arias-Penna, 2019**

Glyptapanteles linghsiuae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles liparidis* (Bouché, 1834)**

Microgaster liparidis Bouché, 1834.

Microgaster nemorum Hartig, 1838.

Microgaster liparidis Ratzeburg, 1844 [primary homonym of *Microgaster liparidis* Bouché, 1834].

Glyptapanteles japonicus Ashmead, 1906.

Glyptapanteles politus Ashmead, 1906.

Apanteles posticae Sonan, 1927.

Apanteles awanomeigae Watanabe, 1942.

Type information. Holotype female, ZMHB (not examined but authoritatively identified specimens examined). Country of type locality: Germany.

Geographical distribution. OTL, PAL.

OTL: China (HN, TW, ZJ), India; **PAL:** Austria, Belarus, Bulgaria, China (BJ, HL, JL, LN, NM, SN), Czech Republic, Finland, France, Germany, Hungary, Iran, Italy, Japan, Kazakhstan, Korea, Lithuania, Moldova, Mongolia, Poland, Romania, Russia (ZAB, IRK, KGD, KHA, KDA, NVS, PRI, SAK, SPE, SAR, TOM, VOR, YAR), Serbia, Slovakia, Spain, Sweden, Switzerland, Ukraine.

Notes. We examined the female type of *A. japonicus* Ashmead (1906) in the USNM and most of the specimens of *Apanteles awanomeigae* (Watanabe, 1942) which were seen and determined by Watanabe.

***Glyptapanteles lissopleurus* (de Saeger, 1944), new combination**

Apanteles lissopleurus de Saeger, 1944.

Type information. Holotype male, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description, which is the only reference available for this species, the best generic placement at present would be in *Glyptapanteles*. However, the only known specimen is a male and the description is not clear enough to rule out the genus *Distatrix*. Examination of the specimen will be needed to conclude.

***Glyptapanteles longiantennatus* (You & Xiong, 1987)**

Apanteles longiantennatus You & Xiong, 1987.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HN).

Notes. Our species concept is based on Kotenko (2007a).

***Glyptapanteles longistigma* Chen & Song, 2004**

Glyptapanteles longistigma Chen & Song, 2004.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

OTL: China (HB).

***Glyptapanteles longivena* Chen & Song, 2004**

Glyptapanteles longivena Chen & Song, 2004.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

***Glyptapanteles lubomasneri* Arias-Penna, 2019**

Glyptapanteles lubomasneri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles luchosalagajei* Arias-Penna, 2019**

Glyptapanteles luchosalagajei Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles luciana* (Nixon, 1973)**

Apanteles luciana Nixon, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Armenia, Bulgaria, Finland, Germany, Greece, Hungary, Korea, Madeira Islands, Netherlands, Romania, Slovakia, Switzerland, United Kingdom.

***Glyptapanteles lucidus* (Sharma, 1972)**

Apanteles lucidus Sharma, 1972.

Apanteles lucidus Sharma, 1972 [primary junior homonym of *Apanteles lucidus* Szépligeti].

Type information. Holotype female, IFRI (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Glyptapanteles luteipennis* (Muesebeck, 1921)**

Apanteles luteipennis Muesebeck, 1921.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (VA).

Notes. After examining the holotype, we believe the specimen may be better placed in *Protapanteles*, because of the sculpture and carination of propodeum. However, the fore tarsus does not have a thick seta (usual for *Protapanteles*) and the ovipositor sheaths are hidden inside the hypopygium so it is not clear if they have setae or not. Because only the holotype is known, we refrain from transferring the species here and prefer to retain it in *Glyptapanteles*, as Mason (1981) suggested, although future studies may change that.

***Glyptapanteles maculitarsis* (Cameron, 1905)**

Apanteles maculitarsis Cameron, 1905.

Apanteles capensis Cameron, 1907.

Apanteles africanus Viereck, 1911 [primary homonym of *Apanteles africanus* Cameron, 1911].

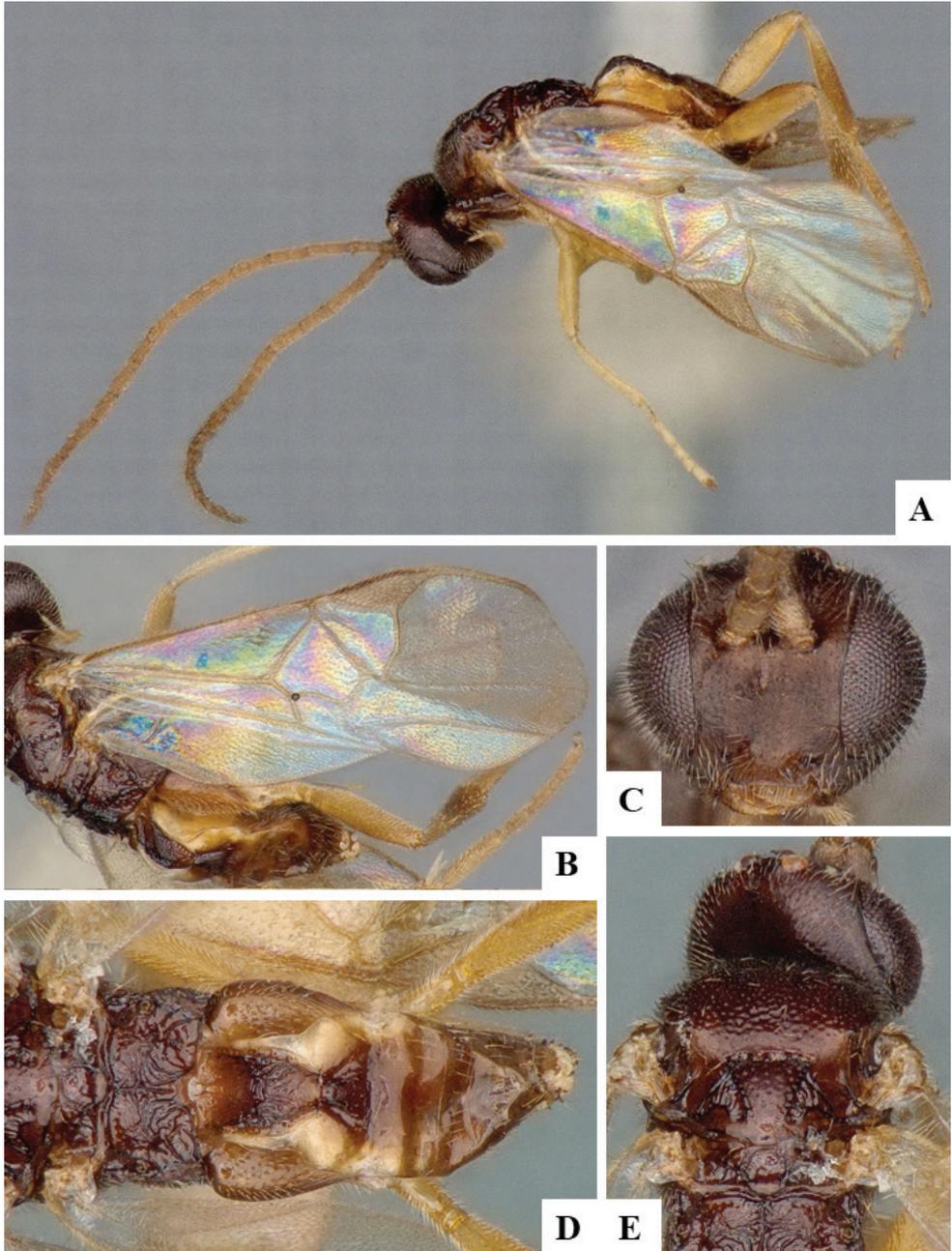


Figure 105. *Glyptapanteles luteipennis* female paratype CNC679221 **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Propodeum and metasoma, dorsal **E** Mesosoma, dorsal.

Apanteles testaceioventris Cameron, 1911.

Apanteles testaceolineatus Cameron, 1911.

Apanteles testaceiventris Brues, 1926 [emendation].

Type information. Holotype female, depository unknown (not examined but authoritatively identified specimens examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: Ethiopia, Kenya, Malawi, Nigeria, Senegal, Sierra Leone, South Africa, Tanzania, Uganda.

Notes. We examined the type, a female specimen, of *Apanteles africanus* (Viereck, 1911), currently a synonym of *G. maculitarsis*.

***Glyptapanteles madecassus* (Granger, 1949), new combination**

Glyptapanteles madecassus Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. This species is not an *Apanteles*. Based on the original description (including an illustration of T1-T3), as well as host information, the species is provisionally transferred to *Glyptapanteles* until examination of the syntype series allows a more definitive identification.

***Glyptapanteles majalis* (Wesmael, 1837)**

Microgaster majalis Wesmael, 1837.

Microgaster callidus Haliday, 1834 [misidentification].

Type information. Syntypes female and male, RBINS (not examined but subsequent treatment of the species checked). Country of type locality: Belgium.

Geographical distribution. PAL.

PAL: Belgium, Germany, United Kingdom.

Notes. Van Achterberg (1997) treated *majalis* as the valid name for the species called *callidus* by Nixon (1973) and Papp (1983a). We follow Broad et al. (2016) for the generic placement of this species.

***Glyptapanteles malleyneae* Arias-Penna, 2019**

Glyptapanteles malleyneae Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles malloryvanwyngaardenae* Arias-Penna, 2019**

Glyptapanteles malloryvanwyngaardenae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles malthacae* (Muesebeck, 1958)**

Apanteles malthacae Muesebeck, 1958.

Type information. Holotype female, USNM (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

***Glyptapanteles mamiae* Arias-Penna, 2019**

Glyptapanteles mamiae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles marcelotavaresi* Arias-Penna, 2019**

Glyptapanteles marcelotavaresi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles marcepsteini* Arias-Penna, 2019**

Glyptapanteles marcepsteini Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles marcpolleti* Arias-Penna, 2019**

Glyptapanteles marcpolleti Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles marjoretownesae* Arias-Penna, 2019**

Glyptapanteles marjoretownesae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles markshawi* Arias-Penna, 2019**

Glyptapanteles markshawi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles marquesi* (Brèthes, 1924), new combination**

Protapanteles marquesi Brèthes, 1924.

Type information. Holotype female, MACN (not examined but authoritatively identified specimens examined). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina, Brazil (SC).

Notes. Since its description within *Protapanteles*, this species has been variously treated as *Apanteles* (Shenefelt 1972) or as *Cotesia* (Yu et al. 2016). We have examined a relatively large series of 23 specimens from Brazil, which are deposited in the CNC and were identified to species by William Mason in 1978, after he compared them versus the type. Those specimens clearly belong to *Glyptapanteles*, based on the metasoma dorsally smooth, T1 narrowing towards posterior margin, T2 subtriangular, and propodeum mostly smooth and without carinae. Two of those specimens (with voucher codes CNCHYM 01307 and CNCHYM 01308 in BOLD) rendered partial DNA barcodes, which cluster near other species of Neotropical *Glyptapanteles*, corroborating the generic placement we propose here.

***Glyptapanteles marshawheelerae* Arias-Penna, 2019**

Glyptapanteles marshawheelerae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles mayberenbaumae* Arias-Penna, 2019**

Glyptapanteles mayberenbaumae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles meganmiltonae* Arias-Penna, 2019**

Glyptapanteles meganmiltonae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles megistusocellus* Song & Chen, 2004**

Glyptapanteles megistusocellus Song & Chen, 2004.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (JL).

***Glyptapanteles mehrdadhajibabaei* Arias-Penna, 2019**

Glyptapanteles mehrdadhajibabaei Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles melanotus* (de Saeger, 1944), new combination**

Apanteles melanotus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description, the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles melissus* (de Saeger, 1944), new combination**

Apanteles melissus de Saeger, 1944.

Type information. Holotype male, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Based on the original description, the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles menander* (Nixon, 1973)**

Apanteles menander Nixon, 1973.

Type information. Holotype female, MZH (not examined but original description checked). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Finland, United Kingdom.

***Glyptapanteles merope* (Nixon, 1965), new combination**

Apanteles merope Nixon, 1965.

Type information. Holotype female, USNM (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia.

Notes. This species is placed in *Glyptapanteles* based on the propodeum with strong and complete median carina, T1 narrowing towards posterior margin, T2 subtriangular, inflexible hypopygium and short ovipositor sheaths.

***Glyptapanteles michelleduennesae* Arias-Penna, 2019**

Glyptapanteles michelleduennesae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles mikegatesi* Arias-Penna, 2019**

Glyptapanteles mikegatesi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Glyptapanteles mikepoguei* Arias-Penna, 2019Glyptapanteles mikepoguei* Arias-Penna, 2019.**Type information.** Holotype female, QCAZ (examined). Country of type locality: Ecuador.**Geographical distribution.** NEO.**NEO:** Ecuador.***Glyptapanteles mikeschauffi* Arias-Penna, 2019***Glyptapanteles mikeschauffi* Arias-Penna, 2019.**Type information.** Holotype female, CNC (examined). Country of type locality: Costa Rica.**Geographical distribution.** NEO.**NEO:** Costa Rica.***Glyptapanteles mikesharkeyi* Arias-Penna, 2019***Glyptapanteles mikesharkeyi* Arias-Penna, 2019.**Type information.** Holotype female, CNC (examined). Country of type locality: Costa Rica.**Geographical distribution.** NEO.**NEO:** Costa Rica.***Glyptapanteles militaris* (Walsh, 1861), lectotype designation***Microgaster militaris* Walsh, 1861.**Type information.** Lectotype female, USNM (examined). Country of type locality: USA.**Geographical distribution.** AUS, NEA, NEO, PAL.**AUS:** Hawaiian Islands; **NEA:** Canada (MB, NB, ON, QC), USA (AZ, AR, CA, CT, DC, FL, IL, IN, IA, KS, LA, MD, MA, MI, MN, MO, NJ, NM, NY, OK, TN, TX, VA); **NEO:** Argentina, Honduras, Mexico, Puerto Rico; **PAL:** Azores, Madeira Islands.**Notes.** There is a single card piece on the pin, with seven cuts where each syntype is glued. Four syntypes are in relatively poor condition: one has only three legs glued to the card, another has only some legs and metasoma left, a third is missing the head (there is one head loose in the unit tray where the specimens are placed), and a fourth is missing the metasoma. The remaining three syntypes are mostly in good condition (although only two specimens each have one complete antenna remaining). The fourth specimen, from left to right, is a female in relatively fair condition (with one antenna complete and another antenna broken before the middle) and

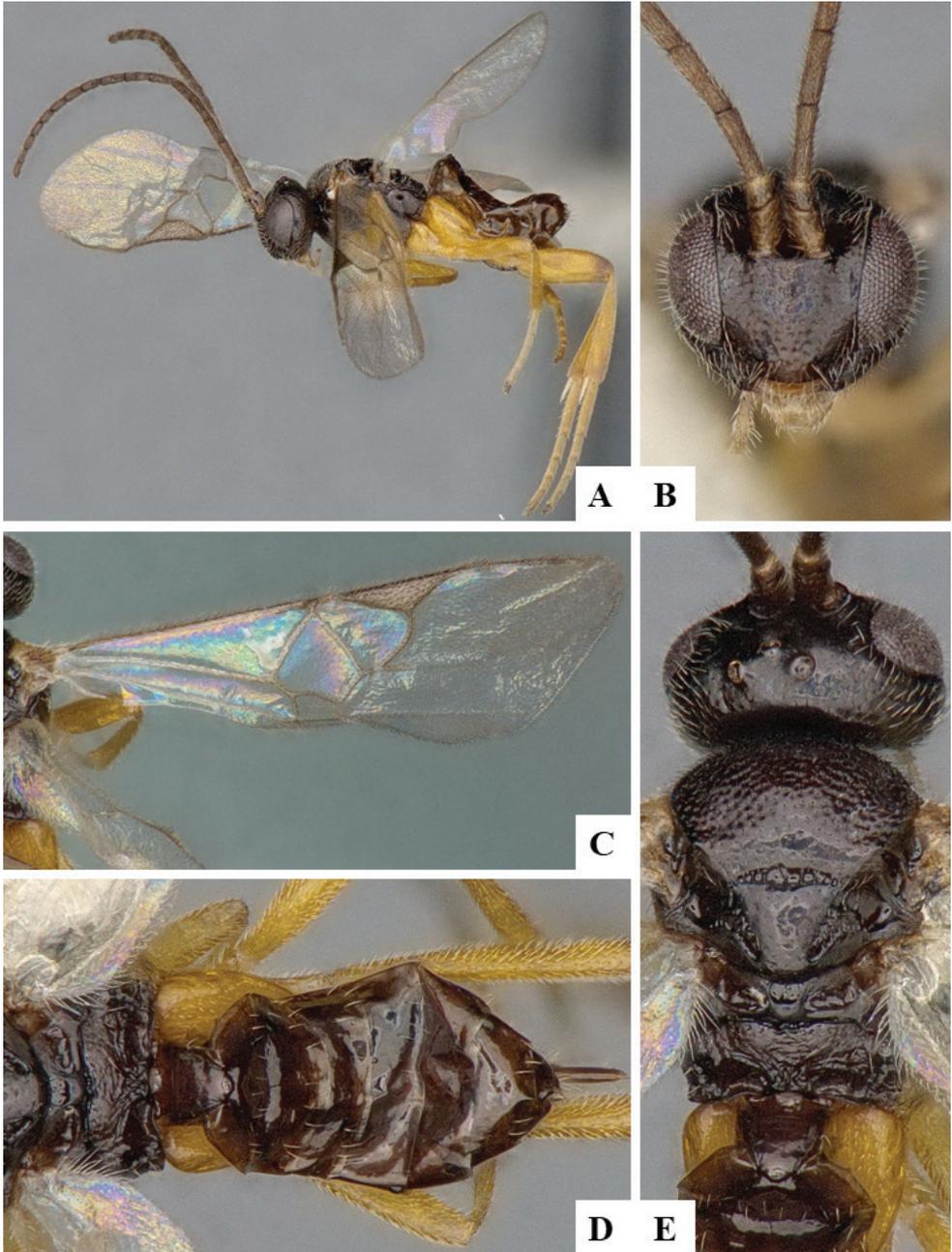


Figure 106. *Glyptapanteles militaris* female CNC679219 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal.

here we designate it as the lectotype; it is placed between a complete specimen to its left and a specimen missing the metasoma to its right.

***Glyptapanteles minor* Ashmead, 1906**

Glyptapanteles minor Ashmead, 1906.

Type information. Lectotype female, USNM (examined). Country of type locality: Japan.

Geographical distribution. OTL, PAL.

OTL: China (GZ, TW, ZJ); **PAL:** Japan, Korea.

Notes. Yu et al. (2016) transferred the species to *Protapanteles* based on an unpublished PhD thesis on Chinese Cotesiini (Zeng 2012). However, after examining the lectotype in the USNM as well as six female and two male specimens in the EIHU collection, we found that they clearly belong to *Glyptapanteles* (based on smooth propodeum, T1 and T2, as well as shapes of T1 and T2), which is in agreement with other authors (e.g., Papp 1990b, Chen and Song 2004, Kotenko 2007a). Thus, for the sake of clarity the species combination is revised here.

***Glyptapanteles mnesampela* Austin, 2000**

Glyptapanteles mnesampela Austin, 2000.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (ACT).

***Glyptapanteles montywoodi* Arias-Penna, 2019**

Glyptapanteles montywoodi Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles muesebecki* (Blanchard, 1947)**

Apanteles muesebecki Blanchard, 1947.

Type information. Holotype female, MACN (not examined but subsequent treatment of the species checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina, Brazil (PR), Paraguay, Peru.

Notes. Our species concept is based on Blanchard (1947) and Whitfield et al. (2002a).

***Glyptapanteles mygdonia* (Nixon, 1973)**

Apanteles mygdonia Nixon, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Bulgaria, Finland, France, Germany, Hungary, Iran, Ireland, Italy, Korea, Madeira Islands, Russia (KDA, PRI), Slovakia, Spain, Switzerland, Turkey, United Kingdom.

***Glyptapanteles naromae* (Risbec, 1951), new combination**

Apanteles naromae Risbec, 1951.

Type information. Syntypes female and male, depository unknown (not examined but original description checked). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Senegal.

Notes. Based on the original description (including a drawing of propodeum and T1-T2), the best generic placement of this species is in *Glyptapanteles*.

***Glyptapanteles nataliaivanovae* Arias-Penna, 2019**

Glyptapanteles nataliaivanovae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles nealweberi* Arias-Penna, 2019**

Glyptapanteles nealweberi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles neoliparidis* Chen & Song, 2004**

Glyptapanteles neoliparidis Chen & Song, 2004.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

***Glyptapanteles nepitae* (Wilkinson, 1934), new combination**

Apanteles nepitae Wilkinson, 1934.

Type information. Holotype female, NHMUK (examined). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: Sri Lanka.

Notes. After examining the holotype, we place this species in *Glyptapanteles* based on the inflexible hypopygium, short ovipositor sheaths with a few setae, T1 mostly parallel-sided but narrowing towards posterior margin on apical third, and T2 subtriangular (trapezoidal) in shape. However, this species is not typical within the genus, as the propodeum has two short carinae near the nucha, which appear to represent a partial areola (but just very short). Most *Glyptapanteles* species, when they have some carination it is mostly a complete (or partial) median, longitudinal carina, or a few, very short carinae near nucha that do not appear to represent a partial areola. But, other than those carinae, the specimen fits well within *Glyptapanteles* and thus we transfer it to that genus here.

***Glyptapanteles nigerrimus* (Roman, 1924)**

Apanteles nigerrimus Roman, 1924.

Type information. Lectotype female, NHMO (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Poland, Romania, Russia (ARK), Yugoslavia.

Notes. Shenefelt (1972: 579) recorded the type material for this species (female and male specimens) as being deposited in the NHRS in Stockholm, Sweden. On the other hand, Nixon (1973: 185) referred to the type of the species as being found in the NHMUK London among material previously borrowed by Wilkinson; and Nixon stated that the type was being returned to the NHMO in Oslo, Norway, where it had been originally borrowed from. We follow Nixon for the depository of this species type. However, the type cannot be a holotype, as it was part of a series in the original description (Roman 1924: 19), thus the specimen that Nixon is referring to as type would actually be the lectotype.

***Glyptapanteles nigrescens* (Cameron, 1906), new combination**

Protapanteles nigrescens Cameron, 1906.

Type information. Holotype male, NHMUK (examined). Country of type locality: Pakistan.

Geographical distribution. OTL.

OTL: Pakistan.

Notes. The holotype, with code 3c.1032, is a male specimen and not a female as previously stated. The confusion is likely due to the relatively small size of the specimen (2.1 mm body length) and the fact that one of the gonoforceps is slightly pulled outwards, more than the rest of the external genitalia, giving the impres

sion of being a very short ovipositor sheath. That must have been very difficult to appreciate with older microscopes and also explains why Wilkinson (1928a: 92) considered the ovipositor sheaths to be shorter than even the metatibial spurs. We have re-examined the specimen (which is in relatively poor condition, covered by metallic rust from the micropin through the mesosoma), and it is evident that is not *Apanteles* but *Glyptapanteles* (which agrees with Wilkinson's (1928a) assessment of *nigriscens* being related to *creatonoti*, another *Glyptapanteles* species). Also, the type locality (only known locality for the species) is currently in Pakistan, not India (as older references mentioned, and still reflected in Yu et al. 2016).

***Glyptapanteles nigricornis* (Muesebeck, 1921)**

Apanteles nigricornis Muesebeck, 1921.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA, VT).

***Glyptapanteles ninazitaniae* Arias-Penna, 2019**

Glyptapanteles ninazitaniae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles ninus* (de Saeger, 1944), new combination**

Apanteles ninus de Saeger, 1944.

Type information. Syntypes female and male, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Based on the original description, the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles nivalis* (Papp, 1983)**

Apanteles nivalis Papp, 1983.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Switzerland.

Geographical distribution. PAL.

PAL: Italy, Switzerland.

***Glyptapanteles nkuli* (de Saeger, 1941), new combination**

Apanteles nkuli de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Based on the original description (de Saeger 1941a), the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles obliquae* (Wilkinson, 1928)**

Apanteles obliquae Wilkinson, 1928.

Apanteles obliquae niger Wilkinson, 1928 [homonym of *Apanteles niger* Muesebeck, 1921)].

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: Bangladesh, China (GX), India, Nepal.

***Glyptapanteles octonarius* (Ratzeburg, 1852)**

Microgaster octonarius Ratzeburg, 1852.

Apanteles stauropodis Marshall, 1889 [*nomen nudum*].

Apanteles lucifugus Lyle, 1917.

Type information. Type lost (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Azerbaijan, Croatia, Georgia, Germany, Hungary, Ireland, Italy, Lithuania, Netherlands, Poland, Romania, Russia (PRI, TAM), Slovakia, Ukraine, United Kingdom, Yugoslavia.

Notes. Our species concept is based on Wilkinson (1945), Nixon (1973), Papp (1983a) and Tobias (1986). We examined the type series of *Apanteles lucifugus* (Lyle, 1917). The species distribution in Azerbaijan is based on Belokobylskij et al. (2019).

***Glyptapanteles operculinae* (Fullaway, 1941)**

Apanteles operculinae Fullaway, 1941.

Type information. Holotype female, BPBM (not examined but subsequent treatment of the species checked). Country of type locality: Western Samoa.

Geographical distribution. AUS.

AUS: American Samoa, Western Samoa.

Notes. Our species concept is based on Austin and Dangerfield (1992).

Glyptapanteles pachopinasi* Arias-Penna, 2019Glyptapanteles pachopinasi* Arias-Penna, 2019.**Type information.** Holotype male, QCAZ (examined). Country of type locality: Ecuador.**Geographical distribution.** NEO.**NEO:** Ecuador.***Glyptapanteles palabundus* (Tobias, 1986)***Apanteles palabundus* Tobias, 1986.**Type information.** Holotype female, ZIN (not examined but original description checked). Country of type locality: Ukraine.**Geographical distribution.** PAL.**PAL:** Ukraine.***Glyptapanteles pallipes* (Reinhard, 1880)***Apanteles pallipes* Reinhard, 1880.*Apanteles pallidipes* Marshall, 1885.*Microgaster longicornis* Provancher, 1886.*Apanteles radiatus* Ashmead, 1898.*Apanteles reinhardi* Wilkinson, 1936.**Type information.** Lectotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Austria.**Geographical distribution.** NEA, PAL.**NEA:** Canada (BC, NB, ON, QC), Greenland, USA (AK, CT, IL, MA, NH, NY, OH, VA); **OTL:** China (FJ, HN, SH), India; **PAL:** Armenia, Austria, Azerbaijan, Belgium, Bulgaria, China (GS, LN), Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Korea, Latvia, Lithuania, Macedonia, Mongolia, Poland, Romania, Russia (KGD, MOS, PRI, SAK, VLG, VOR), Spain, Switzerland, Ukraine, United Kingdom, Yugoslavia.**Notes.** Our species concept is based on Nixon (1965, 1973), Papp (1983a), Tobias (1986), Chen and Song (2004), van Achterberg (2006) and Fernandez-Triana et al. (2017b).***Glyptapanteles pamitchellae* Arias-Penna, 2019***Glyptapanteles pamitchellae* Arias-Penna, 2019.**Type information.** Holotype female, CNC (examined). Country of type locality: Costa Rica.**Geographical distribution.** NEO.**NEO:** Costa Rica.

***Glyptapanteles parasundanus* (Bhatnagar, 1950), new combination**

Apanteles parasundanus Bhatnagar, 1950.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The best generic placement for this species is *Glyptapanteles*, based on propodeum having weak, median longitudinal carina but lacking a transverse carina; T1 parallel-sided on anterior 0.7 but then strongly narrowing towards posterior margin; T2 smooth, trapezoidal in shape and shorter than T3 length; and ovipositor sheaths short. The year of publication of the Bhatnagar paper was until recently commonly cited as 1948 and/or 1950 (e.g., Chen and Song 2004, Yu et al. 2016), probably following Shenefeldt (1972) who referred to this paper as “Bhatnagar (1948) 1950”. While the intended year for Volume X, Parts I & II of the Indian Journal of Entomology was 1948, the actual dates of publication were June 1950 (Part I) and October 1950 (Part II), as clearly shown on the cover page of the Volume, which we have checked. Because the dates of publication are the ones to be considered, and for the sake of clarity, we hereby revise the species year of description to 1950.

***Glyptapanteles paulhansoni* Arias-Penna, 2019**

Glyptapanteles paulhansoni Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles paulheberti* Arias-Penna, 2019**

Glyptapanteles paulheberti Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles paulhurdi* Arias-Penna, 2019**

Glyptapanteles paulhurdi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles penelope* (Nixon, 1965), new combination**

Apanteles penelope Nixon, 1965.

Type information. Holotype female, USNM (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia.

Notes. At present, the best generic placement for this species is *Glyptapanteles*, based on its inflexible hypopygium and short ovipositor sheaths. In the holotype a median sulcus on T1 is partially visible, as well as traces of transverse carinae laterally on propodeum (near spiracles).

***Glyptapanteles penelopeus* (Tobias, 1986)**

Apanteles penelopeus Tobias, 1986.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Moldova.

Geographical distribution. PAL.

PAL: Moldova.

***Glyptapanteles penthocratus* (Austin, 1987), new combination**

Apanteles penthocratus Austin, 1987.

Type information. Holotype female, NHMUK (examined). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. The original description makes clear that this species belongs to *Glyptapanteles*, and even a comment from the author explicitly says so (Austin 1987: 149). After examining the holotype we here formally transfer it to *Glyptapanteles*, based on inflexible hypopygium, shapes of T1 and T2, and very short ovipositor sheaths with only setae near apex.

***Glyptapanteles petermarzi* Arias-Penna, 2019**

Glyptapanteles petermarzi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles phildevriesi* Arias-Penna, 2019**

Glyptapanteles phildevriesi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles philippinensis* (Ashmead, 1904), new combination**

Apanteles philippinensis Ashmead, 1904.

Type information. Holotype female, USNM (examined). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. This species is clearly not *Apanteles*. The holotype has a mostly smooth propodeum, although a median carina is visible on posterior 0.4, as well as two lateral carinae (at both sides of the median carina) which seem to define a partial areola on posterior 0.3 of propodeum; T1 is smooth and mostly parallel-sided but narrowing on posterior 0.3; T2 is smooth and trapezoidal in shape; the ovipositor and ovipositor sheaths are very short (less than 0.2 metatibia length) and the sheaths are mostly without setae (but with a few setae near apex, those setae being as long as the setae on the hypopygium). Most of those features could be associated with *Glyptapanteles* (shapes of T1 and T2; mostly smooth propodeum, T1, and T2, ovipositor and sheaths), but what appears to be a partially defined areola on posterior 0.3 of the propodeum would be closer to *Cotesia* (and in fact, there are *Cotesia* species with similar shape and sculpture of T1 and T2 and mostly smooth propodeum, e.g., see Figure 53 in this paper, showing *Cotesia hispanica*). We prefer to transfer the species to *Glyptapanteles* because Wilkinson (1928a: 91), who was able to examine a female paratype of the species, considered it as very close to *Apanteles phytometrae* Wilkinson, which is now placed in *Glyptapanteles*.

***Glyptapanteles philocampus* Cameron, 1911, new combination**

Apanteles philocampus Cameron, 1911.

Type information. Syntypes female, NHMUK (examined). Country of type locality: Guyana.

Geographical distribution. NEO.

NEO: Guyana.

Notes. After examining the type series, it is evident that this species belongs to the genus *Glyptapanteles* (based on the sort ovipositor sheaths, inflexible hypopygium, subtriangular (trapezoidal) shape of T2 and propodeum mostly shiny and with only small carinae near nucha). Both the original description (Cameron 1911b: 327) and Shenefelt (1972: 599) mention that the type series was composed of female and male; however, after carefully examining it, we found that the five syntypes are female (the ovipositor and sheaths on the extreme left specimen are

barely visible because of being covered by glue, which might have been overlooked by earlier authors).

***Glyptapanteles philwardi* Arias-Penna, 2019**

Glyptapanteles philwardi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles phoebe* (Nixon, 1965), new combination**

Apanteles phoebe Nixon, 1965.

Type information. Holotype female, USNM (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia, Philippines.

Notes. Transferred to *Glyptapanteles* based on subtriangular T2, inflexible hypopygium and short ovipositor sheaths.

***Glyptapanteles phragmataeciae* (You & Zhou, 1990)**

Apanteles phragmataeciae You & Zhou, 1990.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HN).

Notes. Our species concept is based on Chen and Song (2004).

***Glyptapanteles phytometraduplus* (Shenefelt, 1972), new combination**

Apanteles phytometraduplus Shenefelt, 1972.

Apanteles phytometrae Risbec, 1951 [homonym of *Apanteles phytometrae* Wilkinson, 1928].

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Senegal.

Notes. Based on the original description (and associated drawing of propodeum, T1, and T2) the species is best placed in *Glyptapanteles*. The original description (Risbec 1951) is based on the female, but it does not detail the number of specimens actually examined by the author. However, we make the assumption that

only one specimen was seen, as other descriptions in that paper mention the total number of specimens when it is more than one.

***Glyptapanteles phytometrae* (Wilkinson, 1928)**

Apanteles phytometrae Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Western Samoa.

Geographical distribution. AUS, OTL.

AUS: Fiji, Western Samoa; **OTL:** Bangladesh, Indonesia.

***Glyptapanteles pinicola* (Lyle, 1917)**

Apanteles pinicola Lyle, 1917.

Type information. Lectotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Hungary, Italy, Madeira Islands, Romania, Russia (KIR, KRS), Slovakia, Switzerland, United Kingdom.

***Glyptapanteles politus* (Riley, 1881)**

Apanteles politus Riley, 1881.

Type information. Syntypes female and male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (FL, IL, MO, NJ).

***Glyptapanteles popovi* (Telenga, 1955)**

Apanteles popovi Telenga, 1955.

Type information. Lectotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkey, Turkmenistan.

Notes. Our species concept is based on Papp (1983a), Tobias (1986).

***Glyptapanteles porthetriae* (Muesebeck, 1928)**

Apanteles porthetriae Muesebeck, 1928.

Type information. Holotype female, USNM (examined). Country of type locality: Hungary.

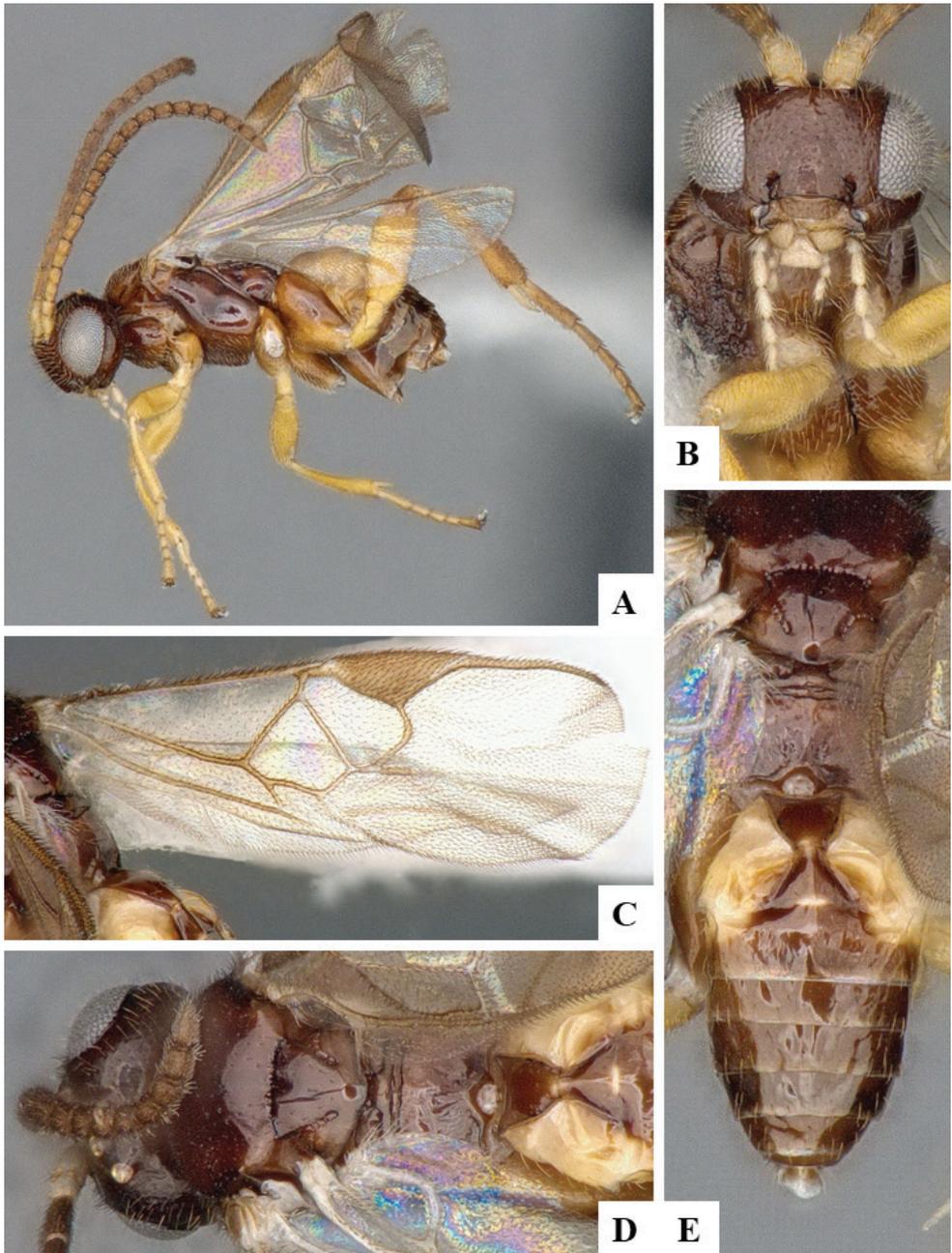


Figure 107. *Glyptapanteles politus* female CNCH1334 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma and tergites 1–2, dorsal **E** Propodeum and metasoma, dorsal.

Geographical distribution. OTL, PAL.

OTL: India; **PAL:** Armenia, Austria, Azerbaijan, Bulgaria, China (JL), Croatia, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Israel, Italy, Korea, Mol

dova, Morocco, Poland, Portugal, Romania, Russia (ZAB, DA, MOS, PRI, VOR, YAR), Serbia, Slovakia, Spain, Switzerland, Turkey, Ukraine, United Kingdom.

Notes. The species distribution in Israel is based on Belokobylskij et al. (2019).

***Glyptapanteles praesens* (Muesebeck, 1947)**

Apanteles praesens Muesebeck, 1947.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. AUS, NEA.

AUS: Hawaiian Islands; **NEA:** USA (CA).

***Glyptapanteles propylae* (de Saeger, 1941), new combination**

Apanteles propylae de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description (de Saeger 1941a), the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles pseudacraeae* Donaldson, 1991**

Glyptapanteles pseudacraeae Donaldson, 1991.

Type information. Holotype female, TMSA (not examined but original description checked). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

***Glyptapanteles pseudotsugae* Fernandez-Triana, 2018**

Glyptapanteles pseudotsugae Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, BC), USA (AZ, CA, OR).

***Glyptapanteles puera* (Wilkinson, 1928), new combination**

Apanteles puera Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India, Myanmar.

Notes. This species is placed in *Glyptapanteles* based on the very short ovipositor sheaths, inflexible hypopygium, T1 narrowing towards posterior margin, and T2 subtriangular (trapezoidal).

***Glyptapanteles rafamanitioi* Arias-Penna, 2019**

Glyptapanteles rafamanitioi Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles ripus* (Papp, 1983)**

Apanteles ripus Papp, 1983.

Type information. Holotype female, ZMHB (not examined but original description checked). Country of type locality: Slovakia.

Geographical distribution. PAL.

PAL: Germany, Hungary, Korea, Macedonia, Poland, Russia (TVE), Slovakia, Spain, Yugoslavia.

***Glyptapanteles robbinthorpi* Arias-Penna, 2019**

Glyptapanteles robbinthorpi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles ronaldzunigai* Arias-Penna, 2019**

Glyptapanteles ronaldzunigai Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles roysnellingi* Arias-Penna, 2019**

Glyptapanteles roysnellingi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles rubens* (Reinhard, 1880)**

Apanteles rubens Reinhard, 1880.

Type information. Holotype male, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Germany, Israel, Russia (MOS), Ukraine.

Notes. Our species concept is based on Papp (1983a), Tobias (1986). The species distribution in Israel is based on Belokobylskij et al. (2019).

***Glyptapanteles sagmaria* (Nixon, 1965)**

Apanteles sagmaria Nixon, 1965.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

***Glyptapanteles salepus* (Papp, 1983)**

Apanteles salepus Papp, 1983.

Type information. Holotype female, RMNH (not examined but original description checked). Country of type locality: Netherlands.

Geographical distribution. PAL.

PAL: Greece, Netherlands, United Kingdom.

***Glyptapanteles sarrothripae* (Weed, 1887)**

Apanteles sarrothripae Weed, 1887.

Type information. Lectotype female, INHS (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, NS, ON), USA (CT, DC, IL, MD, MA, MI, MO, NJ, NY, OH, RI, VA).

Notes. Our species concept is based on Muesebeck (1921), Mason (1981), Papp (1983a), Whitfield (1995a) and Fernandez-Triana (2010).

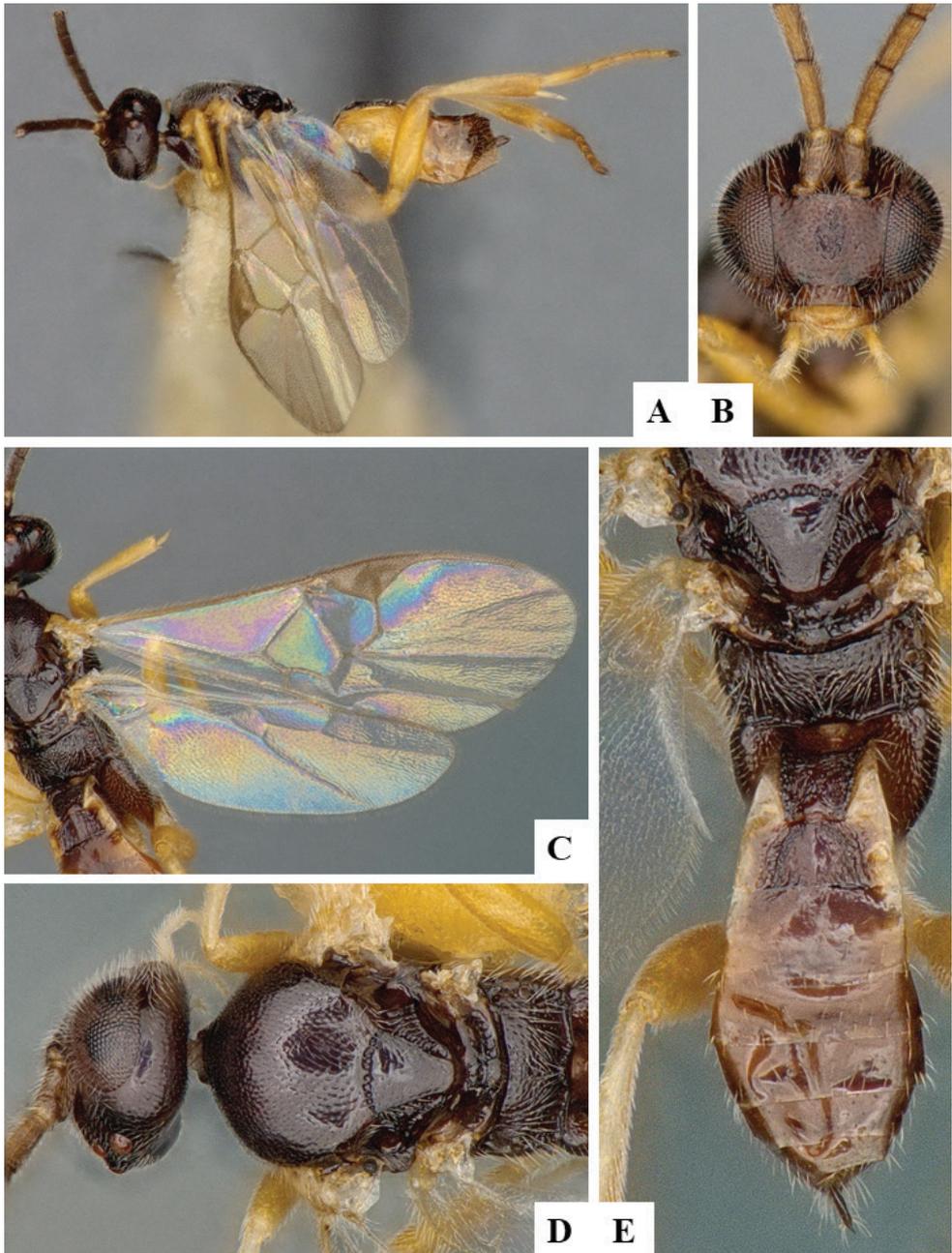


Figure 108. *Glyptapanteles sarrothripae* female CNC679326 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

***Glyptapanteles scottmilleri* Arias-Penna, 2019**

Glyptapanteles scottmilleri Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles scottshawi* Arias-Penna, 2019**

Glyptapanteles scottshawi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles seydeli* (de Saeger, 1941), new combination**

Apanteles seydeli de Saeger, 1941.

Type information. Syntypes female and male, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description, the best generic placement at present is in *Glyptapanteles*, due to the sculpture and carination pattern of propodeum, shape and sculpture of T1–T2, and the short ovipositor sheaths.

***Glyptapanteles shelbystedenfeldae* Arias-Penna, 2019**

Glyptapanteles shelbystedenfeldae Arias-Penna, 2019.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles sibiricus* (Papp, 1983)**

Apanteles sibiricus Papp, 1983.

Apanteles sibiricus Papp, 1983 [homonym of *Apanteles sibiricus* Fahringer, 1938].

Type information. Holotype female, ZMHB (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Germany, Russia, Serbia.

Notes. The species distribution in Russia is only quoted as Siberia (Papp 1983a, Belokobylskij et al. 2019).

***Glyptapanteles siderion* (Nixon, 1965), new combination**

Apanteles siderion Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: Indonesia.

Notes. This species is clearly not an *Apanteles*, based on the inflexible hypopygium and very short, mostly glabrous, ovipositor sheaths. The best generic placement at present would be in *Glyptapanteles*; however, the propodeum has a complete transverse carina (in addition to the median one), and T1 has a weakly defined longitudinal sulcus on the anterior 0.3 of tergite. It is likely that this species, together with *Apanteles atylana* Nixon (which is similar to *siderion*) and several undescribed species we have seen in collections from the Oriental region, will be placed in a different, new genus (related to the Cotesiini group of genera; see section above Brief diagnosis of all Microgastrinae genera as they are understood in this paper, for details of our current concepts on Microgastrinae groups) in the future. Pending the resolution of these species in a future paper, here we transfer *siderion* and *atylana* to *Glyptapanteles*.

***Glyptapanteles simus* (de Saeger, 1944), new combination**

Apanteles simus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Based on the original description, the best generic placement at present would be in *Glyptapanteles*. However, the ovipositor sheaths shown in the drawing and in part of the original description also look similar to those found in *Pholetesor*. Further study of the specimens will be needed to conclude.

***Glyptapanteles sondrawardae* Arias-Penna, 2019**

Glyptapanteles sondrawardae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles speciosissimus* (Granger, 1949), new combination**

Apanteles speciosissimus Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. Based on the propodeum sculpture, shapes of T1 and T2, and the short length of the ovipositor sheaths (all detailed in the original description), this species is better placed in *Glyptapanteles*.

***Glyptapanteles pilosomae* (de Saeger, 1941), new combination**

Apanteles pilosomae de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Angola.

Geographical distribution. AFR.

AFR: Angola, Democratic Republic of Congo.

Notes. Based on the original description (de Saeger 1941a), the best generic placement would be in *Glyptapanteles*.

***Glyptapanteles spodopterae* Ahmad, 2009**

Glyptapanteles spodopterae Ahmad, 2009.

Type information. Holotype female, AMUZ (not examined but subsequent treatment of the species checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Our species concept is based on Gupta & Fernandez-Triana (2014).

***Glyptapanteles stackelbergi* (Telenga, 1955)**

Apanteles stackelbergi Telenga, 1955.

Type information. Lectotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Uzbekistan.

Geographical distribution. PAL.

PAL: Uzbekistan.

Notes. Our species concept is based on Telenga (1955), Papp (1983a) and Tobias (1986).

***Glyptapanteles stephaniecluttsae* Arias-Penna, 2019**

Glyptapanteles stephaniecluttsae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles stephaniekirkae* Arias-Penna, 2019**

Glyptapanteles stephaniekirkae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles subpunctatus* (Granger, 1949), new combination**

Apanteles subpunctatus Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. Based on the propodeum sculpture, shapes of T1 and T2, and the short length of the ovipositor sheaths (all from the original description), the best generic placement for this species is in *Glyptapanteles*.

***Glyptapanteles sujeevanratnasinghami* Arias-Penna, 2019**

Glyptapanteles sujeevanratnasinghami Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles suniae* Arias-Penna, 2019**

Glyptapanteles suniae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles sureshnaiki* Arias-Penna, 2019**

Glyptapanteles sureshnaiki Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles suzannegreenae* Arias-Penna, 2019**

Glyptapanteles suzannegreenae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles sydneycameronae* Arias-Penna, 2019**

Glyptapanteles sydneycameronae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles taniaariasae* Arias-Penna, 2019**

Glyptapanteles taniaariasae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles tanyadapkeyae* Arias-Penna, 2019**

Glyptapanteles tanyadapkeyae Arias-Penna, 2019.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles taylori* (Wilkinson, 1928)**

Apanteles taylori Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: Indonesia.

***Glyptapanteles theivorae* (Shenefelt, 1972)**

Apanteles theivorae Shenefelt, 1972.

Apanteles gracilariae Sonan, 1942 [primary homonym of *Apanteles gracilariae* Wilkinson, 1940].

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GZ, HN, TW, YN, ZJ).

Notes. Our species concept is based on Sonan (1942) and Chen and Song (2004).

***Glyptapanteles thespis* (de Saeger, 1944), new combination**

Apanteles thespis de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Even in the original description, de Saeger (1944) suspected that this species did not belong to *Apanteles*, based on the ovipositor sheaths. The median longitudinal carina on the propodeum, also clearly excludes the species from *Apanteles*. Without examining the specimens, it is impossible to conclude but we consider the best generic placement at present to be in *Glyptapanteles*.

***Glyptapanteles thibautdelsinnei* Arias-Penna, 2019**

Glyptapanteles thibautdelsinnei Arias-Penna, 2019.

Type information. Holotype male, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles thomaspapei* Arias-Penna, 2019**

Glyptapanteles thomaspapei Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles thompsoni* (Lyle, 1927)**

Apanteles thompsoni Lyle, 1927.

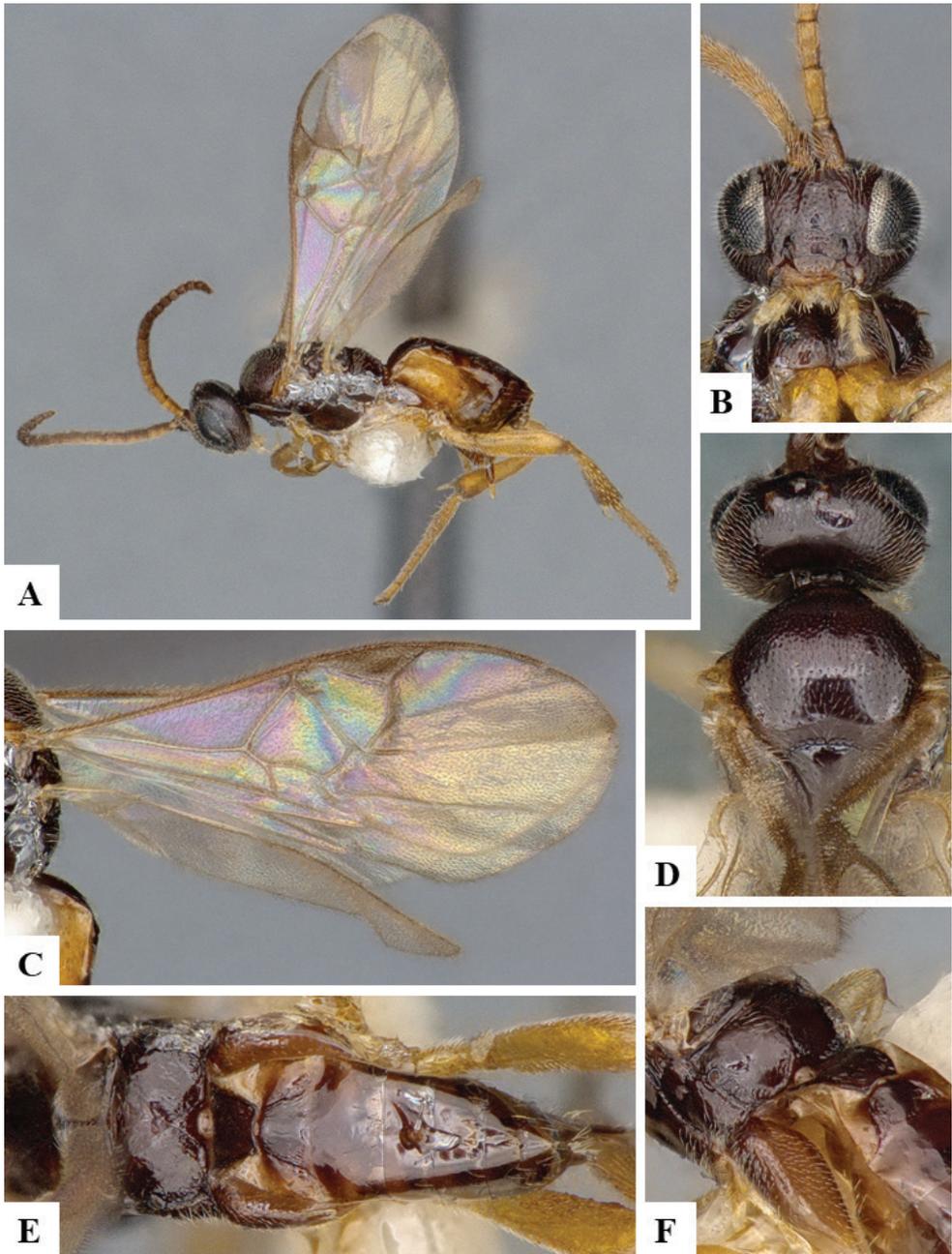


Figure 109. *Glyptapanteles thompsoni* female CNCHYM01350 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Propodeum, dorsolateral.

Type information. Holotype female, NHMUK (examined). Country of type locality: France.

Geographical distribution. AFR, OTL, PAL.

AFR: Cameroon; **OTL:** China (TW, ZJ); **PAL:** Belgium, France, Hungary, Iran, Japan, Korea, Moldova, Romania, Russia (NGR, PRI, SAK).

***Glyptapanteles thoseae* (Wilkinson, 1934), new combination**

Apanteles thoseae Wilkinson, 1934.

Type information. Syntypes female and male, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. This species is placed in *Glyptapanteles* based on the short ovipositor sheaths, inflexible hypopygium, T1 narrowing towards posterior margin, and T2 subtriangular (= trapezoidal).

***Glyptapanteles toluagunbiadeae* Arias-Penna, 2019**

Glyptapanteles toluagunbiadeae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles tomwallai* Arias-Penna, 2019**

Glyptapanteles tomwallai Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles trilochoae* Gupta, 2013**

Glyptapanteles trilochoae Gupta, 2013.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Glyptapanteles vafer* (Nixon, 1965)**

Apanteles vafer Nixon, 1965.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Philippines.

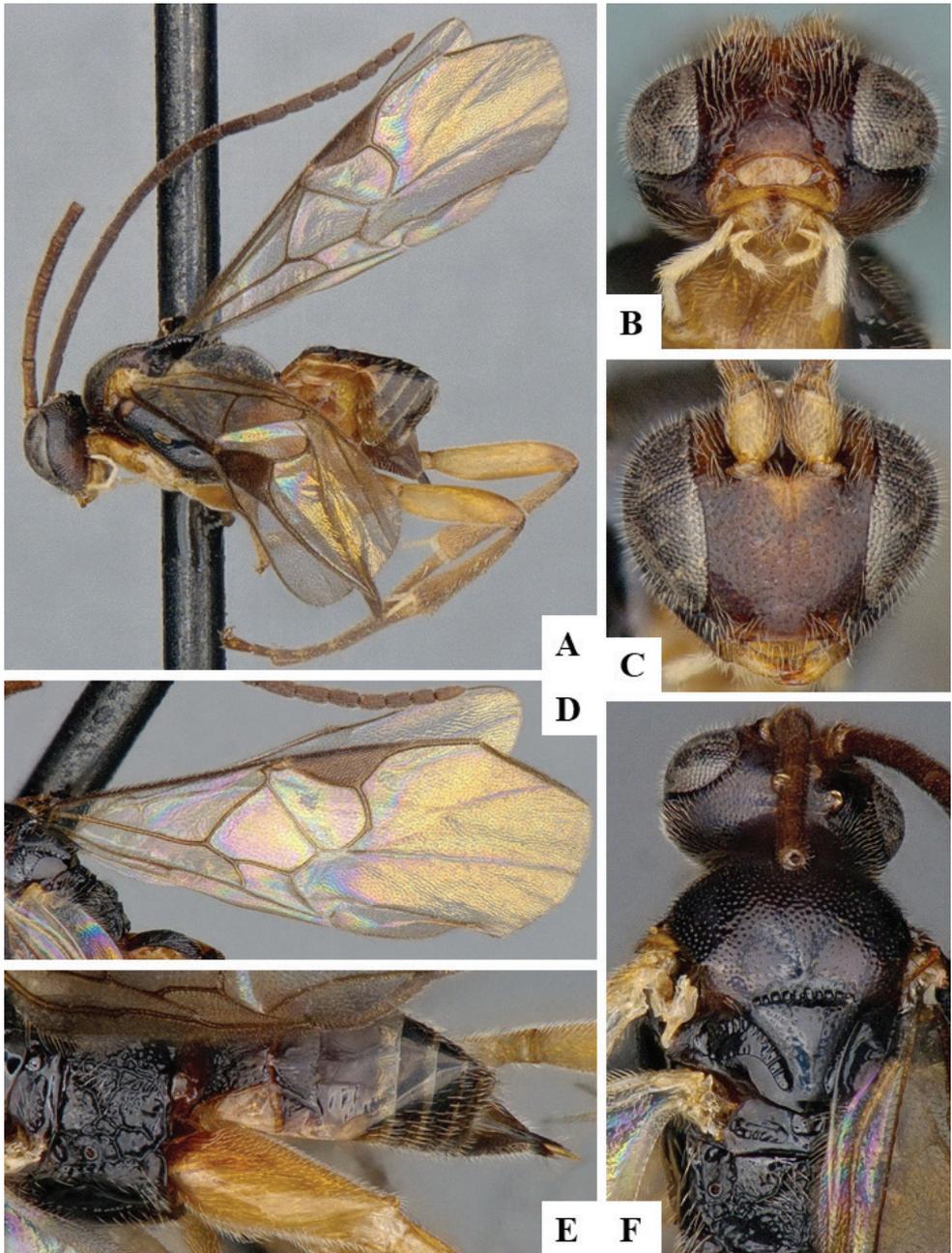


Figure 110. *Glyptapanteles vafer* female CNCHYM03251 **A** Habitus, lateral **B** Head, frontoventral **C** Head, frontal **D** Fore wing **E** Propodeum and metasoma, laterodorsal **F** Head and mesosoma, dorsal.

Geographical distribution. OTL.
OTL: Philippines.

***Glyptapanteles venustus* (de Saeger, 1944), new combination**

Apanteles venustus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda, Senegal.

Notes. Based on the original description (de Saeger 1944), the best generic placement at present would be in *Glyptapanteles*.

***Glyptapanteles victoriapookae* Arias-Penna, 2019**

Glyptapanteles victoriapookae Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles vitripennis* (Curtis, 1830)**

Microgaster vitripennis Curtis, 1830.

Microgaster vitripennis Curtis, 1829 [*nomen nudum*].

Microgaster fulcriger Wesmael, 1837.

Apanteles impavidus Gautier & du Dresnay, 1926.

Type information. Lectotype female, MVMMA (not examined but subsequent treatment of the species checked). Country of type locality: United Kingdom.

Geographical distribution. OTL, PAL.

OTL: India, Pakistan; **PAL:** Azerbaijan, Belgium, Bulgaria, Czech Republic, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Poland, Romania, Russia (IRK, MOS, PRI, SPE), Serbia, Slovakia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

Notes. Our species concept is based on Nixon (1973) and Tobias (1986). The species distribution in Turkmenistan is based on Belokobylskij et al. (2019).

***Glyptapanteles websteri* (Muesebeck, 1921)**

Apanteles websteri Muesebeck, 1921.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, NB, QC), USA (AR, NC, OH).

***Glyptapanteles wilkinsoni* (Fahringer, 1936), new combination**

Apanteles wilkinsoni Fahringer, 1936.

Apanteles plutellae Wilkinson, 1931 [primary homonym of *Apanteles plutellae* Kurdjumov, 1912].

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: Indonesia.

Notes. This species is placed in *Glyptapanteles* based on the short ovipositor sheaths, inflexible hypopygium, T1 slightly narrowing towards posterior margin, and T2 subtriangular (trapezoidal).

***Glyptapanteles wilmersimbanai* Arias-Penna, 2019**

Glyptapanteles wilmersimbanai Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles wonyoungchoi* Arias-Penna, 2019**

Glyptapanteles wonyoungchoi Arias-Penna, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Glyptapanteles yalizhangae* Arias-Penna, 2019**

Glyptapanteles yalizhangae Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Glyptapanteles yanayacuensis* Arias-Penna, 2019**

Glyptapanteles yanayacuensis Arias-Penna, 2019.

Type information. Holotype female, QCAZ (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

Genus *Hygroplitis* Thomson, 1895

Hygroplitis Thomson, 1895: 2244. Gender: masculine. Type species: *Microgaster russatus* Haliday, 1834, by subsequent designation (Viereck 1914: 73).

Originally described as a subgenus of *Microgaster* but elevated to the generic rank by Viereck (1914). Known from nine described species, mostly from the Palaearctic region, with a few taxa reaching the Oriental and Nearctic regions. We have seen a few additional species in collections. Revisions are available for species of China (Xu and Han 2007) and Russia (Kotenko 2007a). The known host records are mostly from three families of Lepidoptera (Crambidae, Noctuidae and Tortricidae). There are 18 DNA-barcode compliant sequences of *Hygroplitis* in BOLD, representing two BINs; molecular data suggest that this genus might be just a group of *Microgaster*, but the evidence is not conclusive at present. The gender of *Hygroplitis* has been treated historically as feminine, but that is incorrect (Doug Yanega, pers. comm.), as the name is based on the Greek noun *οπλιτης* (*oplitis*), which is masculine; accordingly, species names are changed below to match the gender of the genus.

***Hygroplitis basarukini* Kotenko, 1993**

Hygroplitis basarukini Kotenko, 1993.

Type information. Holotype female, SIZK (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (SAK).

Notes. Our species concept is based on Kotenko (2006, 2007).

***Hygroplitis melligaster* (Provancher, 1886)**

Microgaster melligaster Provancher, 1886.

Microgaster rubricoxa Provancher, 1888.

Type information. Lectotype female, ULQC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (MB, NB, NS, ON, PE, QC), USA (IA, MA, MI, NJ, NY, VA).

***Hygroplitis nigrinus* Luo & You, 2005**

Hygroplitis nigrinus Luo & You, 2005.

Type information. Holotype female, GUGC (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GZ).

Notes. Our species concept is based on Xu and Han (2007) and Kotenko (2007a).

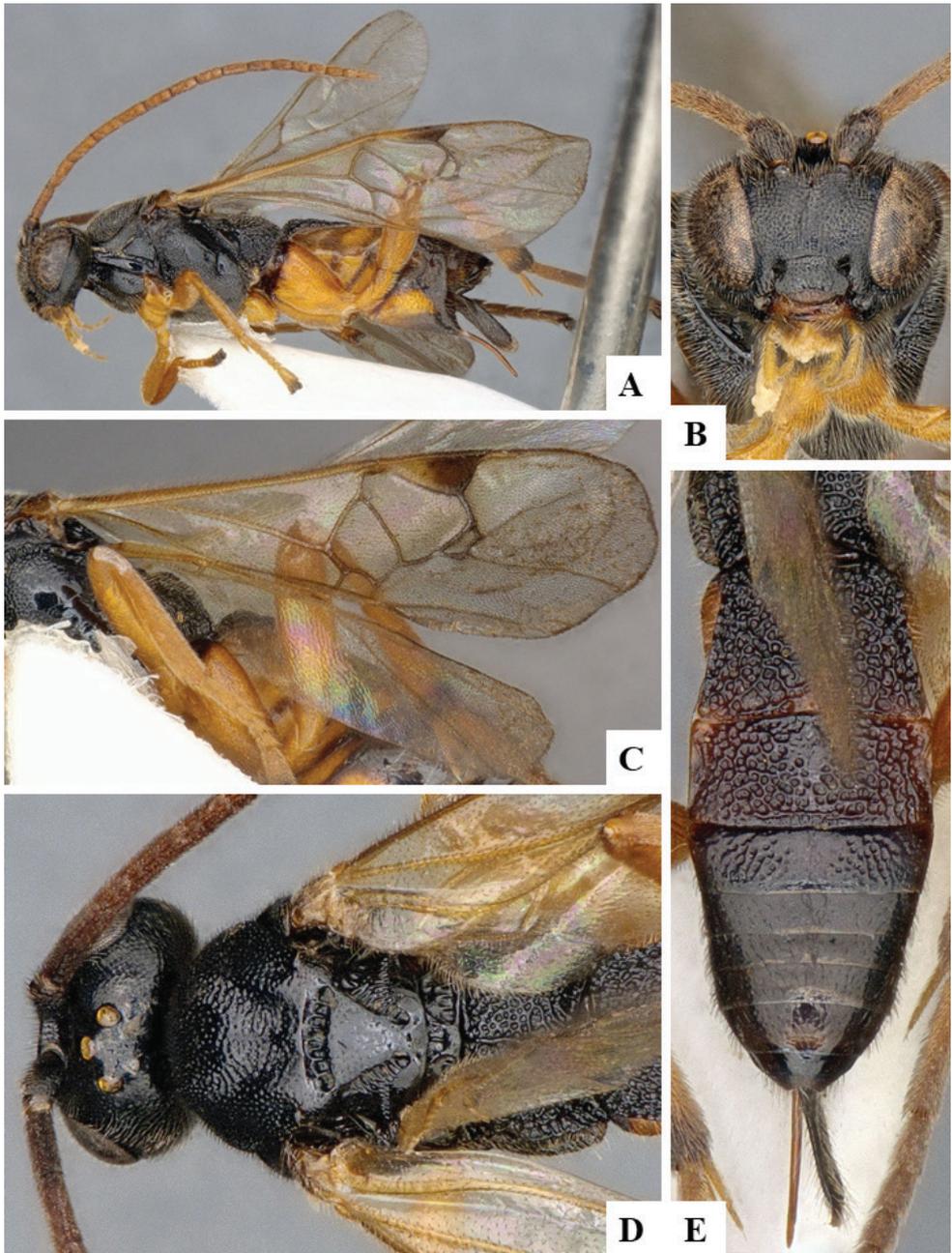


Figure 111. *Hygroplitis basarukini* female paratype CNCHYM01362 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

Hygroplitis pseudorussatus* Shaw, 1992Hygroplitis pseudorussata* Shaw, 1992.**Type information.** Holotype female, RSME (examined). Country of type locality: United Kingdom.**Geographical distribution.** PAL.**PAL:** Netherlands, United Kingdom.***Hygroplitis rugulosus* (Nees, 1834)***Microgaster rugulosus* Nees, 1834.*Microgaster infumata* Haliday, 1834.*Microgaster opaca* Ruthe, 1858.**Type information.** Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.**Geographical distribution.** PAL.**PAL:** Czech Republic, Finland, Germany, Hungary, Ireland, Italy, Netherlands, Poland, Russia (C, NW), Sweden, Switzerland, Turkey, Ukraine, United Kingdom.**Notes.** Our species concept is based on Shaw (2012b).***Hygroplitis ruinosus* Kotenko, 2007***Hygroplitis ruinosa* Kotenko, 2007.**Type information.** Holotype female, ZIN (not examined but original description checked). Country of type locality: Russia.**Geographical distribution.** PAL.**PAL:** Russia (PRI).***Hygroplitis russatus* (Haliday, 1834)***Microgaster russatus* Haliday, 1834.*Microgaster dimidiata* Wesmael, 1837.*Microgaster basalis* Stephens, 1846.*Microgaster aomoriensis* Matsumura, 1910.**Type information.** Lectotype male, NHMUK (examined). Country of type locality: unknown.**Geographical distribution.** OTL, PAL.**OTL:** China (FJ, GX, GZ, HB, HN, JS, JX, SN, TW, YN, ZJ), Vietnam; **PAL:** Belgium, China (AH, BJ, HA, LN, SN, SD), Finland, France, Germany, Hungary, Ireland, Japan, Korea, Moldova, Netherlands, Poland, Russia (ALT, SA), Sweden, Turkey, Ukraine, United Kingdom.

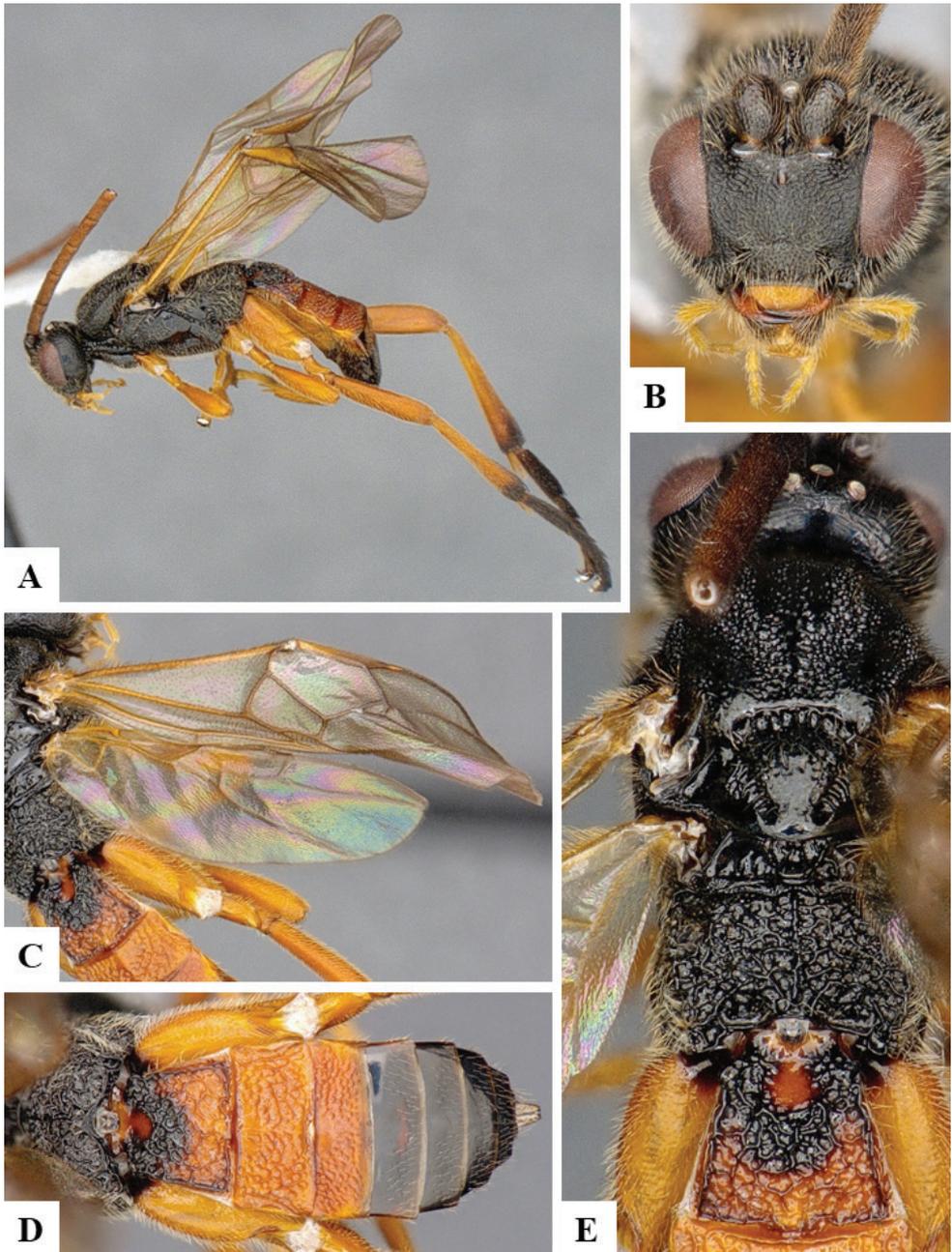


Figure 112. *Hygroplitis pseudorussata* male MRSJFT0057 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Mesosoma and tergite 1, dorsal.

Notes. The lectotype specimen is missing its head (except for the antennae, which are glued to the card) and the anterior part of mesosoma.

***Hygroplitis sinicus* (Xu & He, 2000)**

Microgaster sinicus Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL. PAL.

OTL: China (FJ); **PAL:** China (JL).

Notes. Our species concept is based on Xu and Han (2007).

***Hygroplitis toritarsis* Song & Chen, 2004**

Hygroplitis toritarsis Song & Chen, 2004.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

Genus *Hypomicrogaster* Ashmead, 1898

Hypomicrogaster Ashmead, 1898: 166. Gender: feminine. Type species: *Microgaster zonaria* Say, 1836, by subsequent designation and monotypy (Ashmead 1900a: 132).

Known from 48 species, *Hypomicrogaster* may end up as just a New World genus, with the majority of species found in the Neotropical region. Species from the Old World tropics previously assigned to this genus seem to represent different lineages, and they are all assigned to different genera in this paper. A recent revision of the world species (Valerio and Whitfield 2015) has a number of inaccuracies and does not work well for all species. In addition to that, we have seen more than 100 undescribed species in collections. More than 15 families of Lepidoptera have been recorded as hosts for *Hypomicrogaster*, but many records are likely to be incorrect and/or need further verification. There are 2,100+ DNA-barcode compliant sequences of this genus in BOLD, representing 148 BINs. The gender of *Hypomicrogaster* has at times been treated as masculine; however, all genera ending in *gaster* are feminine, without exception (Doug Yanega, pers. comm., see also Article 30.1.2 of the ICZN). Accordingly, a large number of adjectival epithets in *Hypomicrogaster* are incorrect and are changed below.

***Hypomicrogaster acarnas* Nixon, 1965, status revised**

Hypomicrogaster acarnas Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

Notes. Valerio and Whitfield (2015) synonymized *H. acarnas* under *H. tydeus*, at the same time misspelling the name *acarnas* as *arcarnas*. After examining the types of both *tydeus* and *acarnas* (both in the NHMUK) we consider that there are sufficient morphological features to support both as different species, and thus here we remove *acarnas* from synonym with *tydeus* and treat both as separate species. Additionally, we provide some morphological details to separate them.

1) *H. acarnas*: T1 length 1.8 x its width at posterior margin; T1 almost entirely smooth (only very few, shallow, and scattered punctures near posterior margin); T2 width at posterior margin 2.1 × its length; propleuron, pronotum laterally and metacoxa entirely yellow; ovipositor sheaths 0.36 × metatibia length; body length 2.4 mm and fore wing length 2.5 mm.

2) *H. tydeus*: T1 length 1.3 × its width at posterior margin; posterior 0.3 of T1 with punctures; T2 width at posterior margin 3.1 × its length; propleuron, pronotum laterally and anterior half of metacoxa brown; ovipositor sheaths 0.62 × metatibia length; body length and fore wing length 2.8 mm.

***Hypomicrogaster aodoa* Valerio, 2015**

Hypomicrogaster aodus Valerio, 2015.

Type information. Holotype female, IAVH (not examined but original description checked). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia.

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster aplebis* Valerio, 2015**

Hypomicrogaster aplebis Valerio, 2015.

Type information. Holotype female, MCZC (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (MT).

***Hypomicrogaster areolaris* (Blanchard, 1947)**

Apanteles areolaris Blanchard, 1947.

Microgaster blanchardi Muesebeck, 1958 [replacement name].

Hypomicrogaster diaphaniae Muesebeck, 1958.

Hypomicrogaster acontes Nixon, 1965.

Hypomicrogaster metris Nixon, 1965.

Hypomicrogaster moscus Nixon, 1965.

Hypomicrogaster solox Nixon, 1965.

Type information. Holotype female, MACN (not examined but authoritatively identified specimens examined). Country of type locality: Argentina.

Geographical distribution. NEA, NEO.

NEA: USA (FL); **NEO:** Argentina, Brazil (DF, SC), Costa Rica, El Salvador, Mexico.

Notes. The original name, *Apanteles areolaris* Blanchard, 1947, was transferred to *Microgaster* and then became a secondary junior homonym of *Microgaster areolaris* Thomson, 1895; so Muesebeck (1958b) changed the name to *Microgaster blanchardi* Muesebeck, 1958. Then Valerio and Whitfield (2015) transferred the species to *Hypomicrogaster* as *H. areolaris* (Blanchard). Valerio and Whitfield (2015) also synonymized under 'areolaris' four other species of *Hypomicrogaster* that had been considered as valid species until that moment (see synonyms above). The type belongs to the Blanchard collection, which we assume is deposited in the MACN. We have examined the types of *H. acontes* Nixon, *H. metris* Nixon (which is broken in pieces, glued to two points on the same pin), *H. moscus* Nixon and *H. solox* Nixon (all in the NHMUK), and we consider that at least some of the synonyms proposed by Valerio and Whitfield (2015) are not justified, i.e., we think some of those species should be considered as valid. However, pending a reassessment of *Hypomicrogaster* in the New World, we refrain from changing the status of those species names in this paper.

***Hypomicrogaster cernus* Valerio, 2015**

Hypomicrogaster cernus Valerio, 2015.

Type information. Holotype female, IAVH (not examined but original description checked). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia.

Notes. Valerio and Whitfield (2015) stated that the name was adjectival, but this is not an actual Latin adjective; it therefore must be treated as indeclinable under ICZN Article 31.2.3.

***Hypomicrogaster crocina* Valerio, 2015**

Hypomicrogaster crocinus Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (PE).

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster daktulios* Valerio, 2015**

Hypomicrogaster daktulios Valerio, 2015.

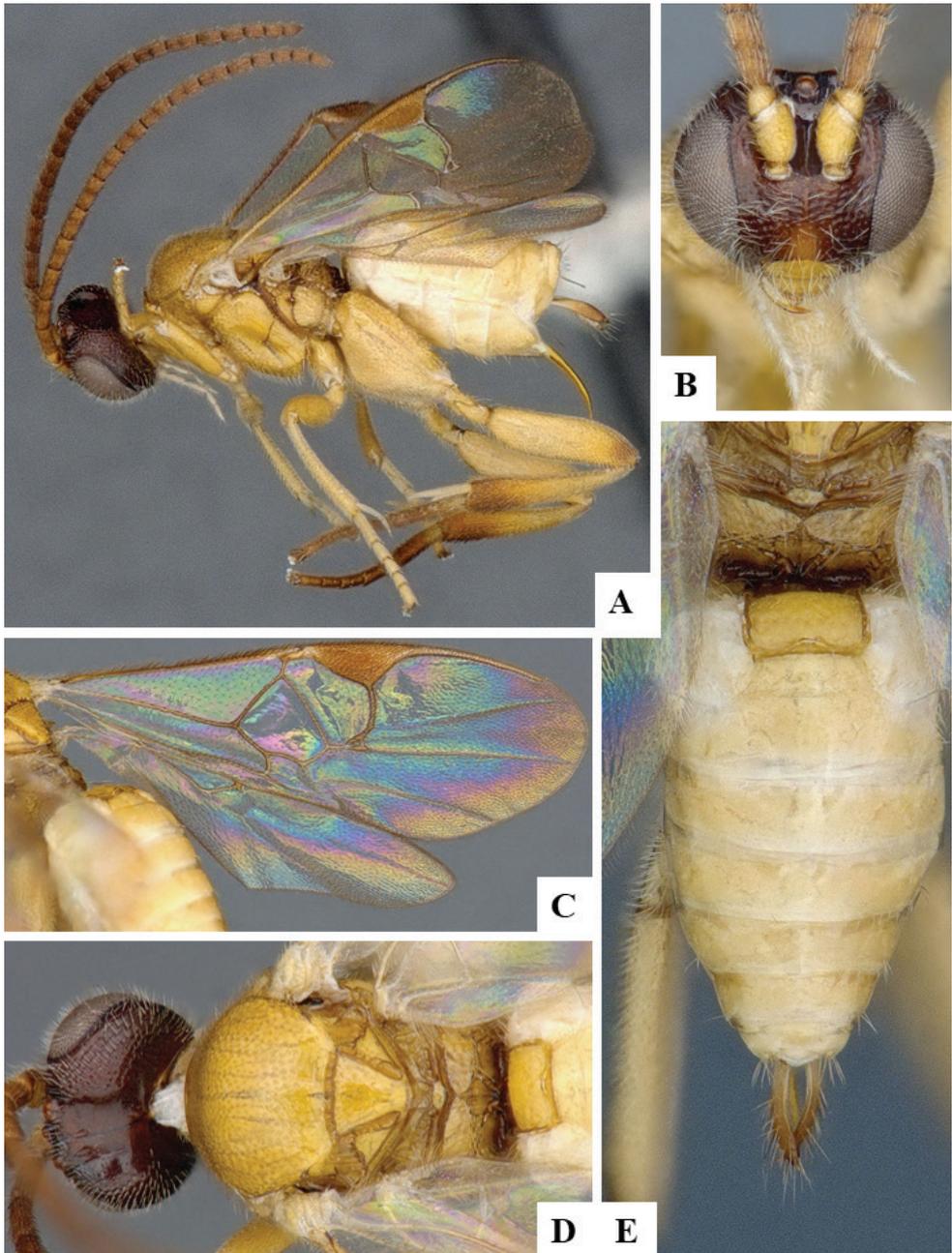


Figure 113. *Hypomicrogaster crocinus* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

Type information. Holotype female, ESUW (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Hypomicrogaster deltis* Valerio, 2015**

Hypomicrogaster deltis Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (MT, RJ, RO).

***Hypomicrogaster duo* Valerio, 2015**

Hypomicrogaster duo Valerio, 2015.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Honduras.

Geographical distribution. NEO.

NEO: Honduras.

***Hypomicrogaster ecus* Nixon, 1965**

Hypomicrogaster ecus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Hypomicrogaster epipagis* Valerio, 2015**

Hypomicrogaster epipagis Valerio, 2015.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Uruguay.

Geographical distribution. NEO.

NEO: Bolivia, Uruguay.

***Hypomicrogaster espera* Valerio, 2015**

Hypomicrogaster espera Valerio, 2015.

Type information. Holotype female, ESUW (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Hypomicrogaster evrys* Valerio, 2015**

Hypomicrogaster evrys Valerio, 2015.

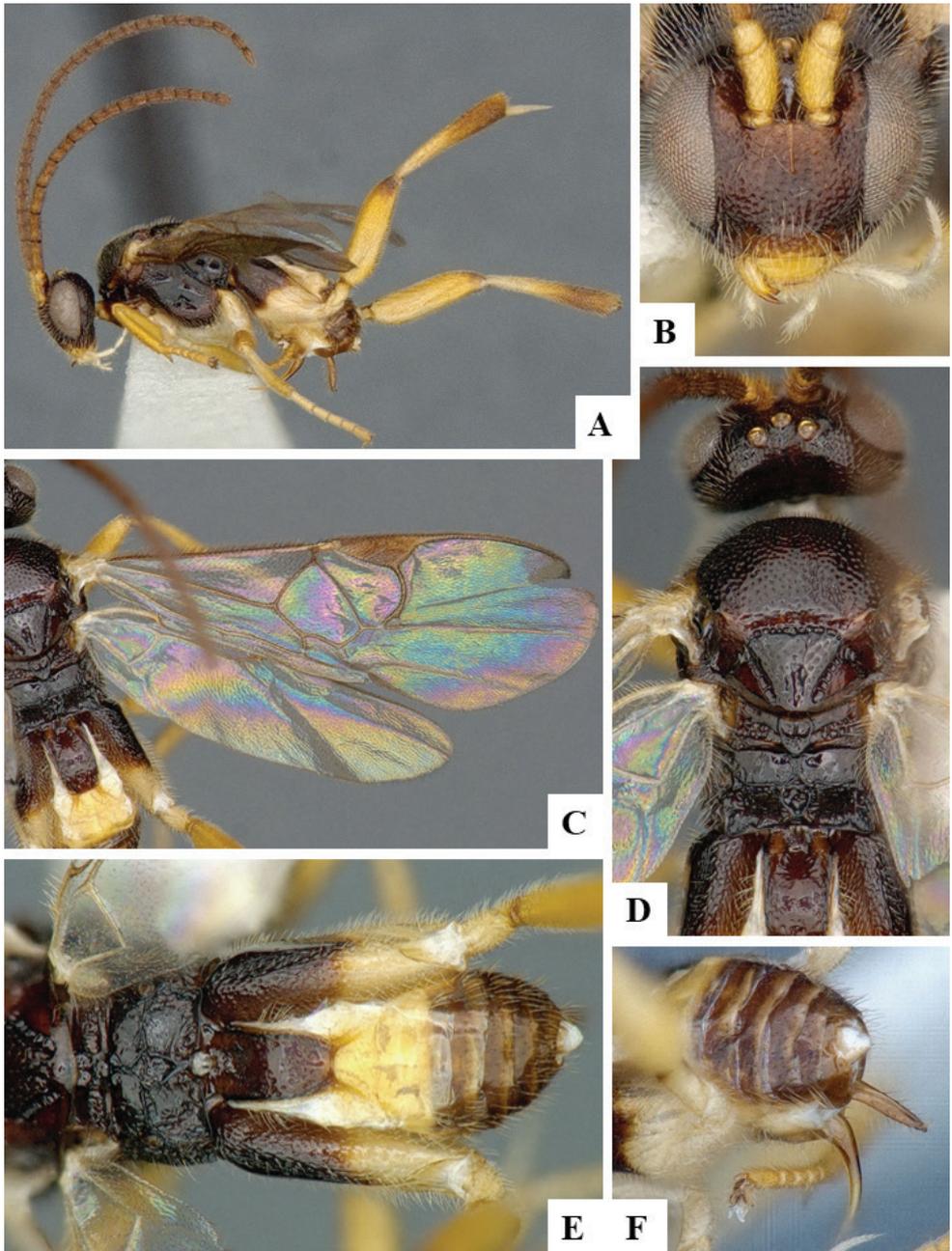


Figure 114. *Hypomicrogaster deltis* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Hypomicrogaster guille* Valerio, 2015**

Hypomicrogaster guille Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Hypomicrogaster hektos* Valerio, 2015**

Hypomicrogaster hektos Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

***Hypomicrogaster hupsos* Valerio, 2015**

Hypomicrogaster hupsos Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Hypomicrogaster imitator* (Ashmead, 1900)**

Urogaster imitator Ashmead, 1900.

Type information. Holotype female, NHMUK (examined). Country of type locality: Saint Vincent.

Geographical distribution. NEO.

NEO: Grenada, Saint Vincent.

***Hypomicrogaster ingensis* Valerio, 2015**

Hypomicrogaster ingensis Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

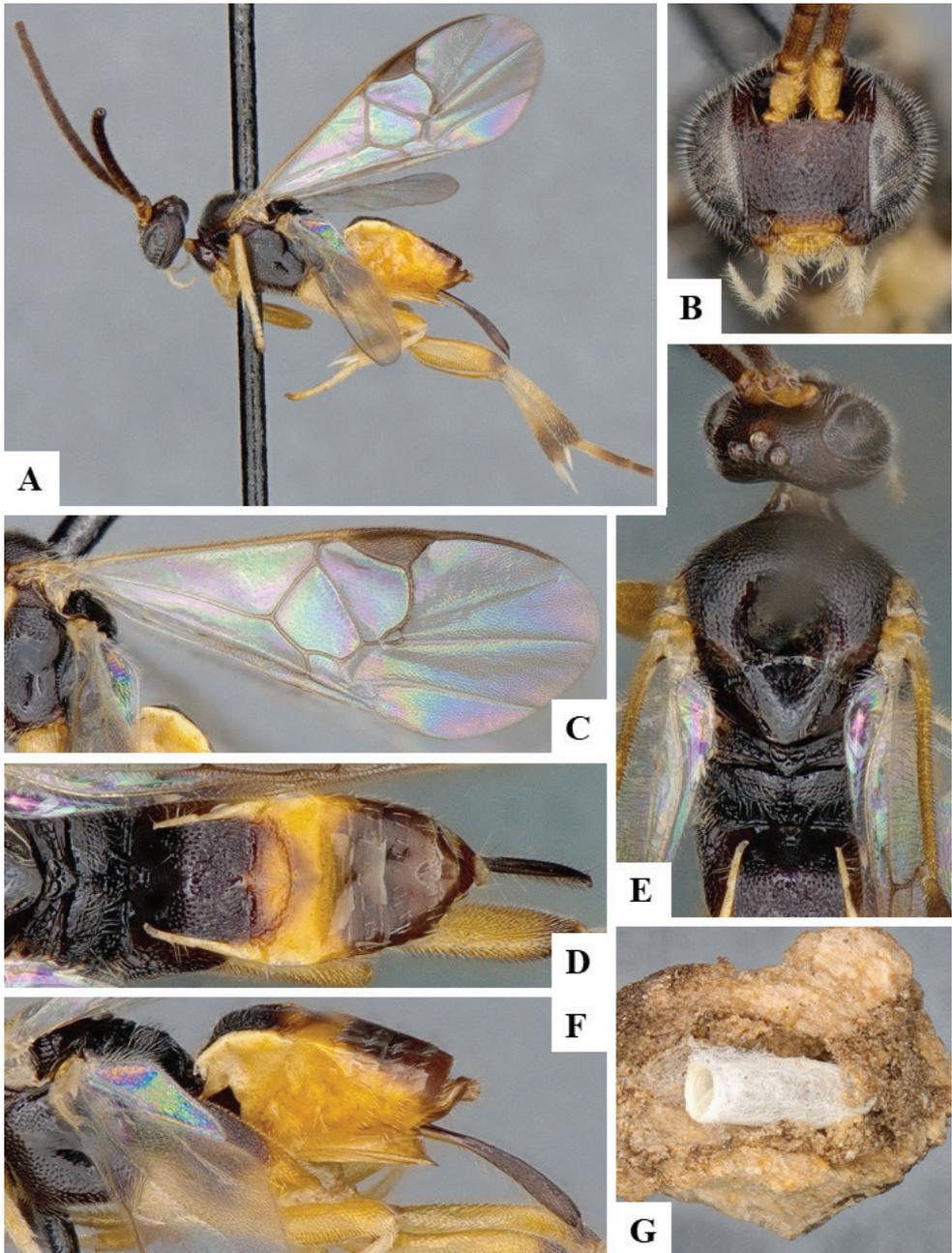


Figure 115. *Hypomicrogaster eddytolophae* female CNC482258 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Propodeum and metasoma, dorsal **E** Mesosoma, dorsal **F** Mesosoma, metasoma and ovipositor sheaths, lateral **G** Cocoon.

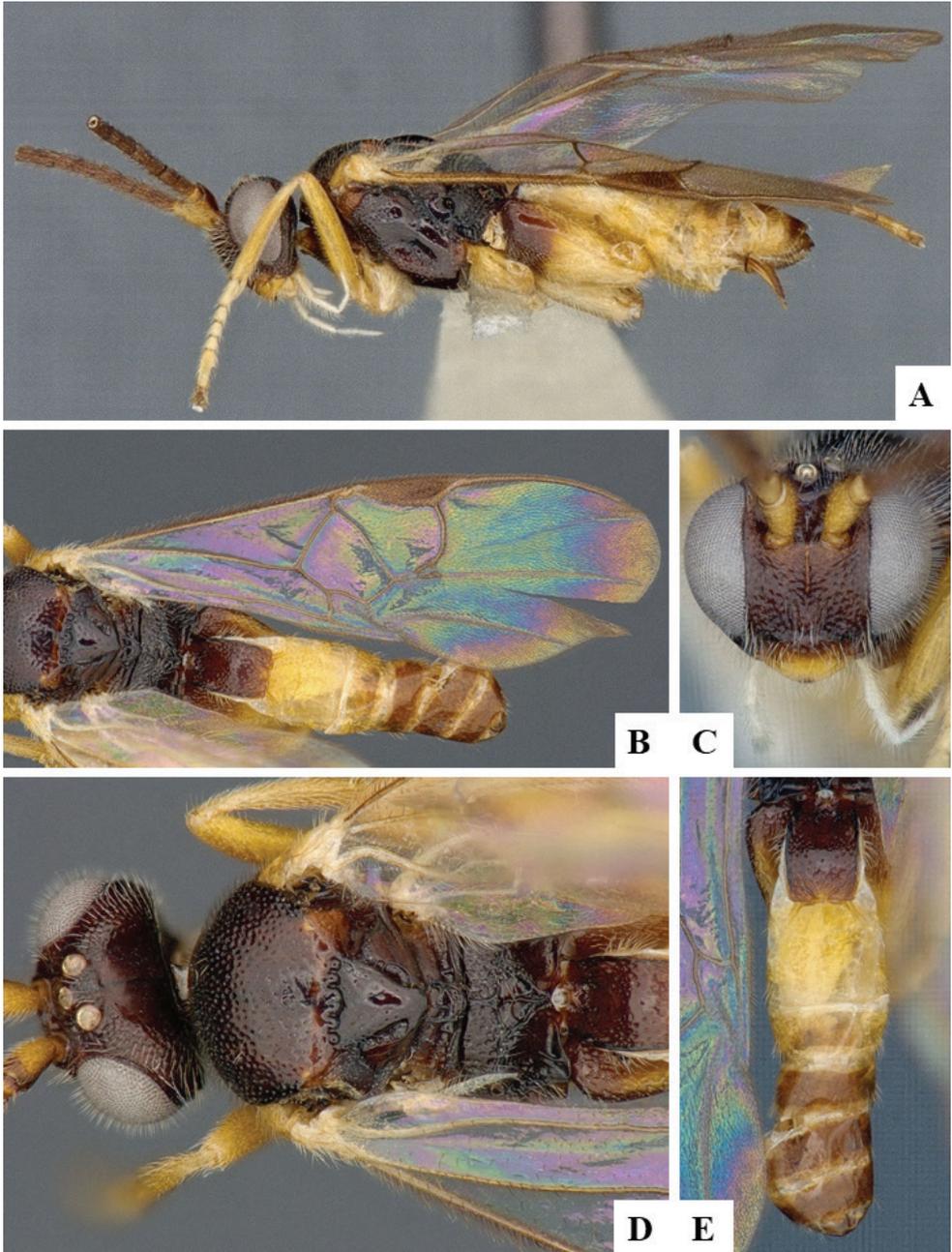


Figure 116. *Hypomicrogaster guille* female holotype **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

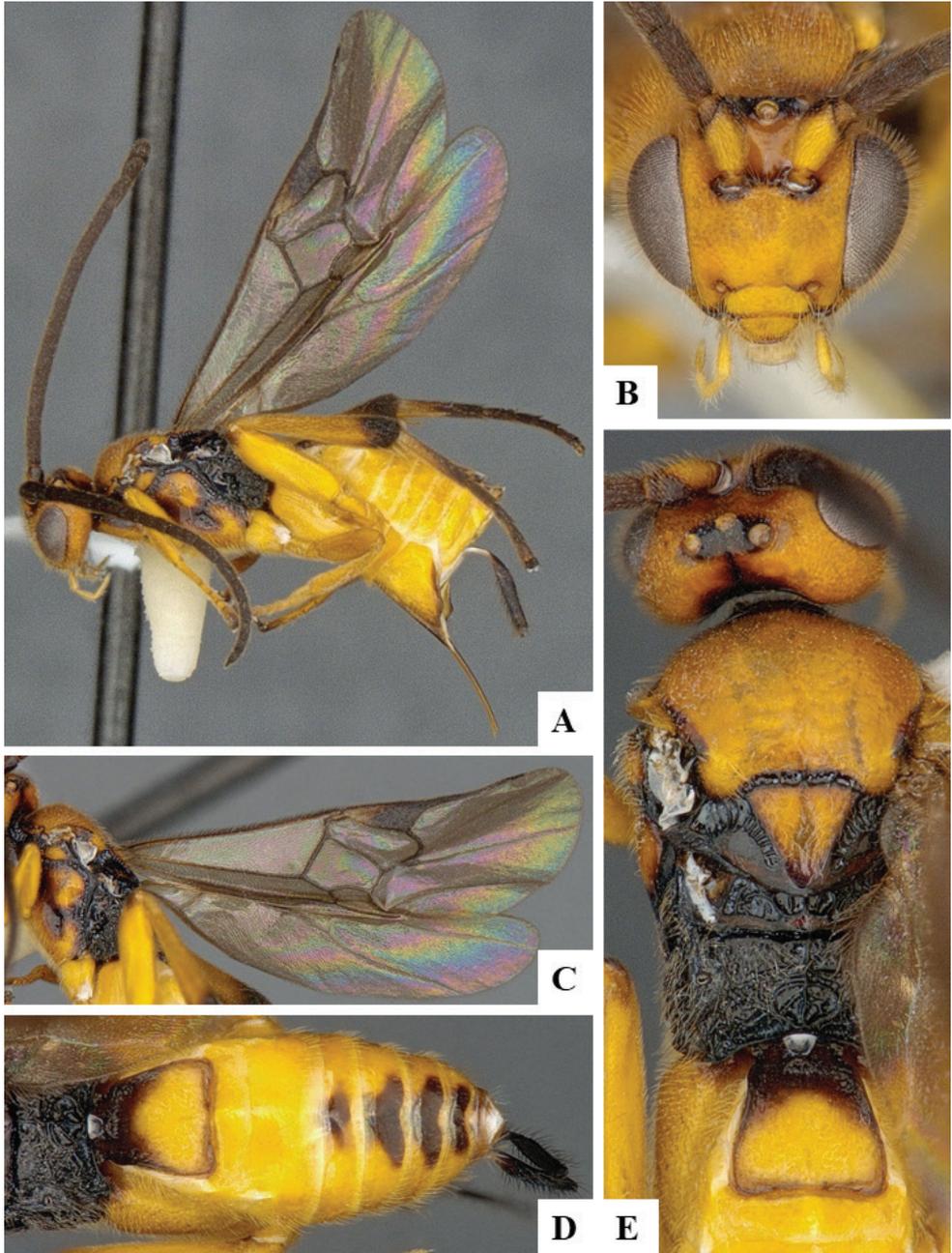


Figure 117. *Hypomicrogaster hektos* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Head, mesosoma and tergite 1, dorsal.

***Hypomicrogaster insolita* Valerio, 2015**

Hypomicrogaster insolitus Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (MT).

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster inversalis* Valerio, 2015**

Hypomicrogaster inversalis Valerio, 2015.

Type information. Holotype male, CNC (examined). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

***Hypomicrogaster koinos* Valerio, 2015**

Hypomicrogaster koinos Valerio, 2015.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEA, NEO.

NEA: USA (MI); **NEO:** Brazil (PA, RJ), Costa Rica, Colombia, Ecuador, Mexico, Trinidad & Tobago, Venezuela.

***Hypomicrogaster larga* Valerio, 2015**

Hypomicrogaster largus Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEA, NEO.

NEA: Canada (ON), USA (OH); **NEO:** Argentina, Belize, Brazil (MT, PR, SP), Cayman Islands, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Panama.

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster laxa* Valerio & Mason, 2015**

Hypomicrogaster laxus Valerio & Mason, 2015.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON), USA (KS, TX).

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster linearis* Valerio, 2015**

Hypomicrogaster linearis Valerio, 2015.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Hypomicrogaster lineata* Valerio, 2015**

Hypomicrogaster lineatus Valerio, 2015.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (NY, VA).

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster luisi* Valerio, 2015**

Hypomicrogaster luisi Valerio, 2015.

Type information. Holotype female, MCZC (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina, Brazil (MT), Colombia, Costa Rica, Ecuador, Mexico, Peru.

***Hypomicrogaster masoni* Valerio, 2015**

Hypomicrogaster masoni Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ, SP).

***Hypomicrogaster mesos* Valerio, 2015**

Hypomicrogaster mesos Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Hypomicrogaster mikrosus* Valerio, 2015**

Hypomicrogaster mikrosus Valerio, 2015.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

Notes. Valerio and Whitfield (2015) stated that the name was adjectival, but this is not an actual Greek adjective; it therefore must be treated as indeclinable under ICZN Article 31.2.3.

***Hypomicrogaster multa* Valerio, 2015**

Hypomicrogaster multus Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Argentina, Brazil (RJ), Venezuela.

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster pablouzagai* (Fernandez-Triana & Boudreault, 2016)**

Promicrogaster pablouzagai Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Hypomicrogaster pectinata* Valerio, 2015**

Hypomicrogaster pectinatus Valerio, 2015.

Type information. Holotype male, CNC (examined). Country of type locality: Bolivia.

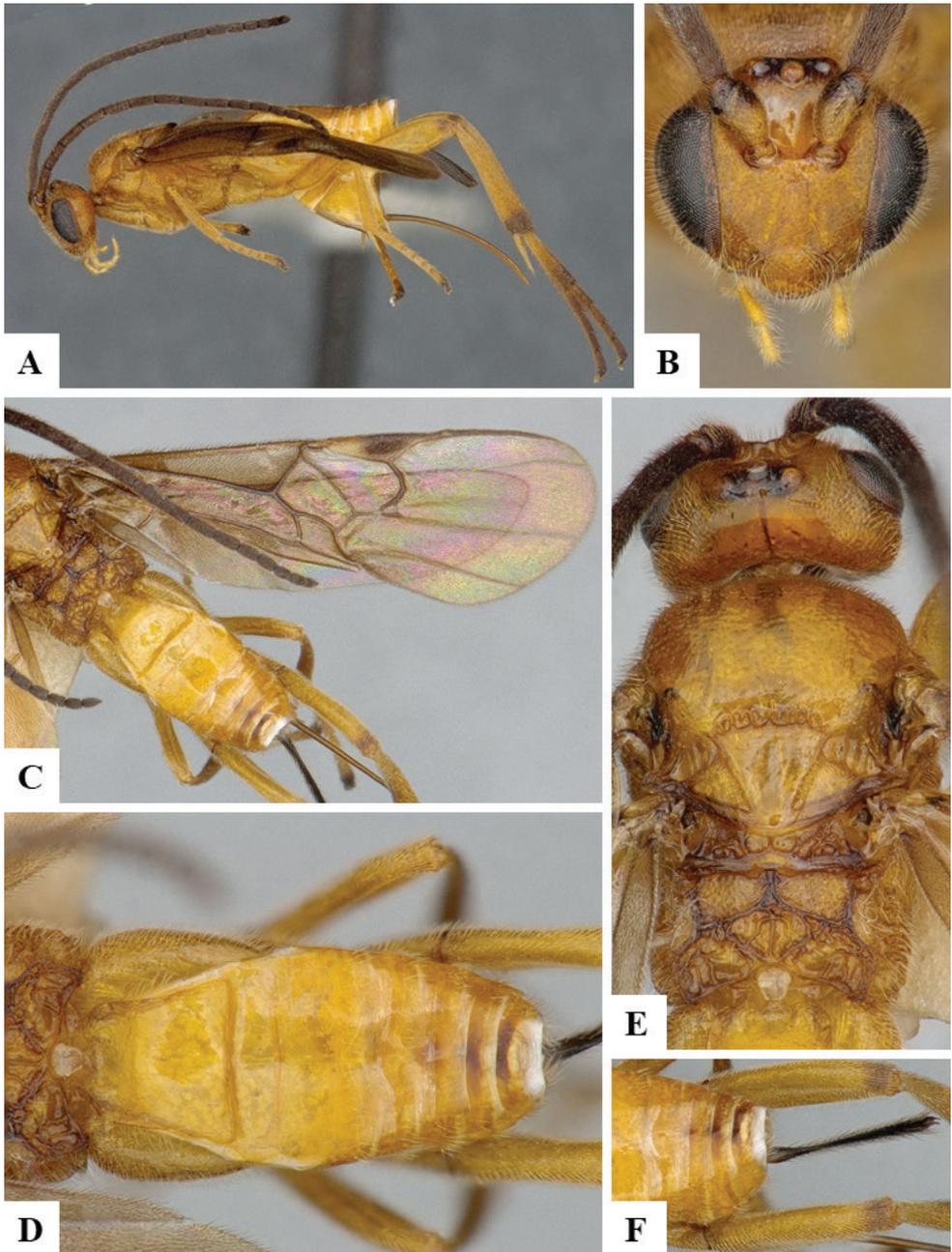


Figure 118. *Hypomicrogaster multus* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal **F** Ovipositor sheaths.

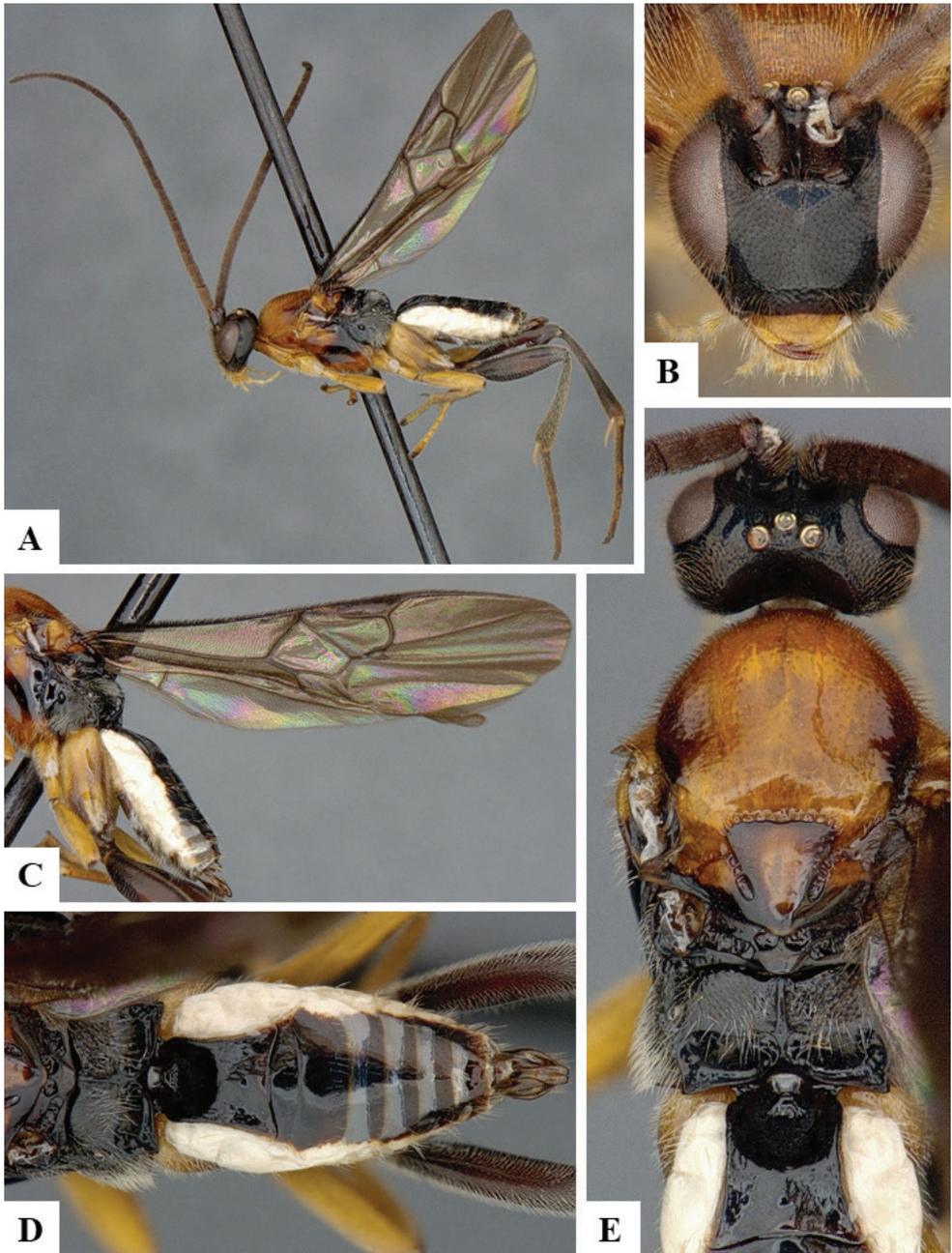


Figure 119. *Hypomicrogaster pectinatus* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal.

Geographical distribution. NEO.

NEO: Bolivia.

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster plagios* Valerio, 2015**

Hypomicrogaster plagios Valerio, 2015.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Hypomicrogaster pollex* Valerio, 2015**

Hypomicrogaster pollex Valerio, 2015.

Type information. Holotype female, IAVH (not examined but original description checked). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia, Ecuador.

***Hypomicrogaster rugosa* Valerio, 2015**

Hypomicrogaster rugosus Valerio, 2015.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Bolivia, Brazil (RO), Colombia, Costa Rica, Ecuador, Mexico, Panama, Peru.

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster samarshalli* (Fernandez-Triana, 2010), new combination**

Apanteles samarshalli Fernandez-Triana, 2010.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: Canada (ON), USA (FL); **NEO:** Costa Rica, Mexico.

Notes. A critical re-examination of the many available specimens (including the holotype), as well as the numerous DNA barcodes available, clearly indicates that this species is better placed within *Hypomicrogaster*. Among the main morphological characters that suggest so, the propodeum has an irregular pattern of carinae

radiating from the nucha, as well as coarse sculpture (over most of propodeum), which have been observed in other species of *Hypomicrogaster*; also, the fore wing venation suggests a very small (basically obliterated) areolet, which would clearly exclude the species from *Apanteles*. The DNA barcodes cluster with many species of *Hypomicrogaster* and relatively far from other species of *Apanteles*, further supporting the decision to transfer the species.

***Hypomicrogaster scindus* Valerio, 2015**

Hypomicrogaster scindus Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

Notes. Valerio and Whitfield (2015) stated that the name was adjectival, but this is not an actual Latin adjective; it therefore must be treated as indeclinable under ICZN Article 31.2.3.

***Hypomicrogaster sicingens* Valerio, 2015**

Hypomicrogaster sicingens Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

***Hypomicrogaster sicpollex* Valerio, 2015**

Hypomicrogaster sicpollex Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

***Hypomicrogaster sicscindus* Valerio, 2015**

Hypomicrogaster sicscindus Valerio, 2015.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

Notes. Valerio and Whitfield (2015) stated that the name was adjectival, but this is not an actual Latin adjective; it therefore must be treated as indeclinable under ICZN Article 31.2.3.

***Hypomicrogaster siderion* Valerio, 2015**

Hypomicrogaster siderion Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Hypomicrogaster spatulae* Valerio, 2015**

Hypomicrogaster spatulae Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (AM, PE, RO), Ecuador.

***Hypomicrogaster specialis* Valerio, 2015**

Hypomicrogaster specialis Valerio, 2015.

Type information. Holotype female, MCZC (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Bolivia, Brazil (AM, DF), Colombia, Costa Rica, Ecuador, Panama, Paraguay.

***Hypomicrogaster tantilla* Valerio, 2015**

Hypomicrogaster tantillus Valerio, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Argentina, Brazil (BA, RJ).

Notes. Valerio and Whitfield (2015) stated that the name was adjectival; it therefore must change spelling in compliance with ICZN Article 31.2.

***Hypomicrogaster tetra* Valerio, 2015**

Hypomicrogaster tetra Valerio, 2015.

Type information. Holotype female, IAVH (not examined but original description checked). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia.

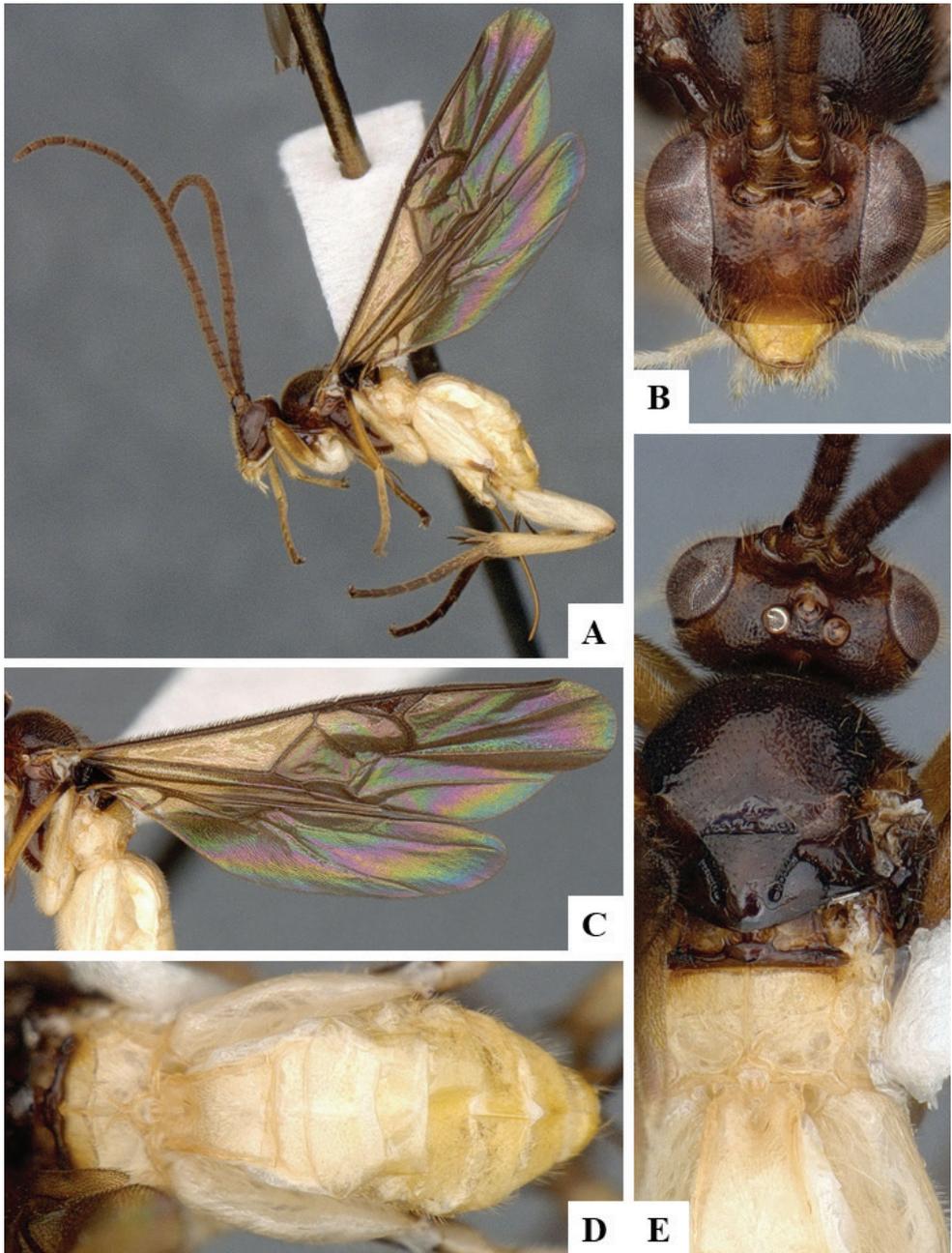


Figure 120. *Hypomicrogaster siderion* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal.

***Hypomicrogaster tydeus* Nixon, 1965**

Hypomicrogaster tydeus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

Notes. See comments under *H. acarnas* for a justification to consider both species as separate, including morphological details.

***Hypomicrogaster zan* Valerio, 2015**

Hypomicrogaster zan Valerio, 2015.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Brazil (SC), Costa Rica.

***Hypomicrogaster zonaria* (Say, 1836)**

Microgaster zonaria Say, 1836.

Microgaster cincta Provancher, 1881.

Protapanteles recurvariae Ashmead, 1903.

Hypomicrogaster ecdytolophae Muesebeck, 1922.

Hypomicrogaster jocarae Muesebeck, 1958.

Hypomicrogaster hypsipylae de Santis, 1972.

Type information. Type lost (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: Canada (NB, NS, ON, QC), USA (AR, CO, CT, DE, DC, FL, IL, IN, IA, KS, KY, LA, MD, MA, MO, NE, NH, NJ, NY, OH, OK, PA, TX, VA, WV, WI);

NEO: Costa Rica, Cuba, Guatemala, Puerto Rico.

Notes. Valerio and Whitfield (2015: 31) mentioned the species names *Protapanteles recurviriae* Ashmead, 1903 and *Microgaster recurvita* (Ashmead) Muesebeck, 1920 as associated names to *H. zonaria* but both are typographical errors of *recurvariae* (and the correct year for the Muesebeck citation is 1921). In any case, *H. zonaria* (*sensu* Valerio and Whitfield 2015) seems to comprise a large assemblage of species dumped altogether, but DNA and host records strongly suggest they may represent several distinct species. However, resolution of this is beyond the scope of this paper.

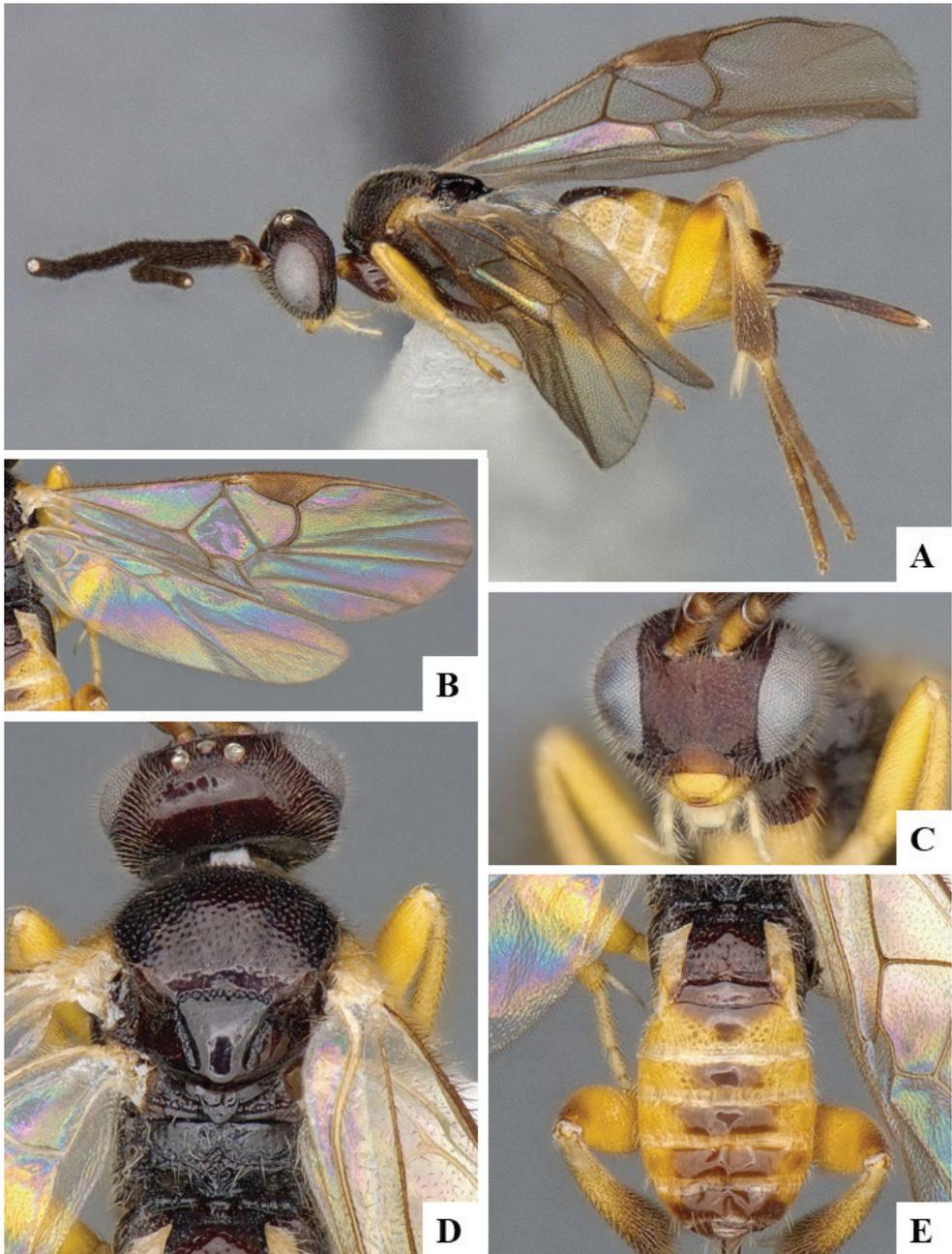


Figure 121. *Hypomicrogaster zonaria* female CNCHYM01436 **A** Habitus, lateral **B** Fore wing and hind wing **C** Head, frontal **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

Genus *Iconella* Mason, 1981

Iconella Mason, 1981: 74. Gender: feminine. Type species: *Apanteles etiellae* Viereck, 1911, by original designation.

A cosmopolitan genus, with 38 described species known from all biogeographical regions except Australasian. There are revisions available for China (Chen and Song 2004), the Palearctic (Kotenko 2007b), and the New World (Fernandez-Triana et al. 2013a), but we have seen in collections additional species, mostly from tropical areas. The genus may be split into several following more studies on the phylogeny of Microgastrinae (especially the species from the Old World tropics). The concept of *Iconella* and its separation from *Apanteles* has been controversial (e.g., Mason 1981, van Achterberg 2003, Fernandez-Triana et al. 2014e), but we consider it as a valid genus. Host data include mostly Crambidae and Pyralidae, with a couple of records from Tortricidae. There are 49 DNA-barcode compliant sequences of *Iconella* in BOLD, representing 12 BINs.

***Iconella aeolus* (Nixon, 1965)**

Apanteles aeolus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Germany, Russia (MOS), Turkey, Ukraine, United Kingdom.

Notes. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *aeolus*.

***Iconella albinervis* (Tobias, 1964)**

Apanteles albinervis Tobias, 1964.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Azerbaijan, Hungary, Kazakhstan, Moldova, Russia (S), Turkey, Ukraine.

Notes. Our species concept is based on Papp (1982), Tobias (1986), Kotenko (2007b).

***Iconella alfalfae* (Nixon, 1960)**

Apanteles alfalfae Nixon, 1960.

Type information. Holotype female, NHMUK (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (SA).

Notes. This species was transferred to *Iconella* by Mason (1981), and it was also considered to belong to that genus by Austin and Dangerfield (1992). However, Yu et al. (2016) treated it as an *Apanteles*. After examining the female holotype, we agree it belongs to *Iconella*, and for the sake of clarity we revise its combination here.

***Iconella andydeansi* Fernandez-Triana, 2013**

Iconella andydeansi Fernandez-Triana, 2013.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Iconella argante* (Nixon, 1976)**

Apanteles argante Nixon, 1976.

Type information. Holotype female, MZH (not examined but original description checked). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Finland, Kazakhstan, Russia (PRI), Ukraine.

***Iconella assabensis* (Shenefelt, 1972)**

Apanteles assabensis Shenefelt, 1972.

Apanteles lacteipennis Szépligeti, 1913 [secondary homonym of *Apanteles lacteipennis* Curtis, 1830].

Type information. Lectotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Eritrea.

Geographical distribution. AFR.

AFR: Eritrea, Tanzania.

Notes. Our species concept is based on Papp (2004).

***Iconella cajani* (Wilkinson, 1928), new combination**

Apanteles cajani Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. This species is placed in *Iconella* based on the propodeum having a complete median, longitudinal carina; the scutellar lunules maximum height being more than 0.7 x the maximum height of the lateral face of the scutellum, and the hind wing having a sinuous vein cu-a.

***Iconella canadensis* Fernandez-Triana, 2013**

Iconella canadensis Fernandez-Triana, 2013.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (NB, ON, QC).

Notes. Fernandez-Triana et al. (2013a) considered that a record of *Iconella* from Virginia, USA (reported in Yu et al. 2012) probably belongs to *I. canadensis*, but specimen examination is needed to conclude.

***Iconella compressiabdominis* (You & Tong, 1991)**

Apanteles compressiabdominis You & Tong, 1991.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HN).

Notes. Our species concept is based on Chen and Song (2004) and Kotenko (2007b).

***Iconella detrectans* (Wilkinson, 1928), new combination**

Apanteles detrectans Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. AFR, OTL.

AFR: Sudan; **OTL:** India.

Notes. This species is placed in *Iconella* based on the propodeum having a complete median, longitudinal carina; the scutellar lunules maximum height being more than 0.7 x the maximum height of the lateral face of the scutellum, and the hind wing having a sinuous vein cu-a.

***Iconella etiellae* (Viereck, 1911)**

Apanteles etiellae Viereck, 1911.

Apanteles iselyi Cushman, 1919.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: USA (AZ, AR, CA, CO, IA, KS, NM, OK, TX, UT, VA, WA); **NEO:** Mexico.

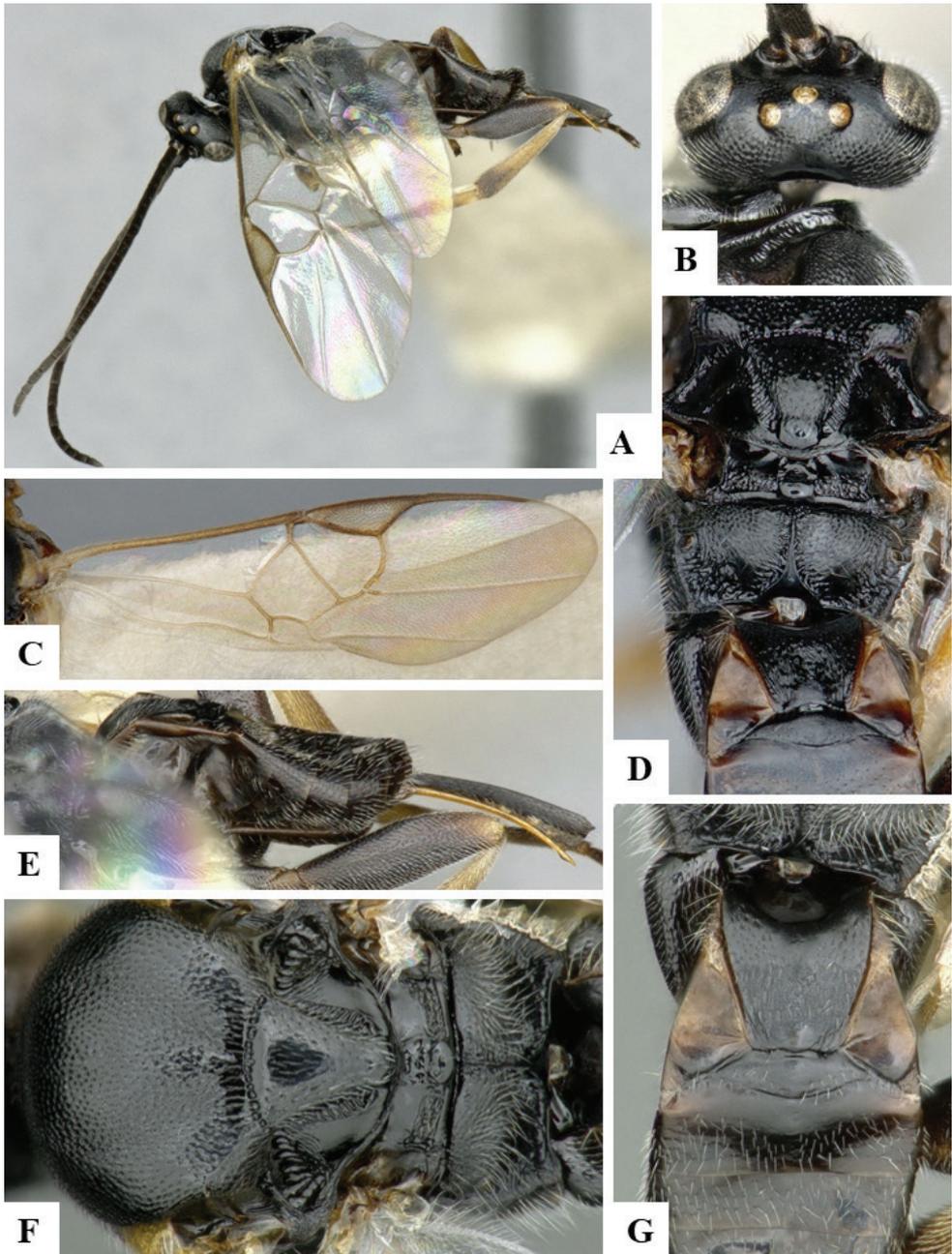


Figure 122. *Iconella canadensis* female holotype **A** Habitus, lateral **B** Head, dorsal **C** Fore wing **D** Propodeum and tergites 1 to 2, dorsal **E** Metasoma, lateral **F** Mesosoma, dorsal **G** Tergites 1–4, dorsal.

Notes. The record of this species from Mexico (Muesebeck 1958, Coronado-Blanco et al. 2004) probably refers to a different species, but specimen examination is needed to conclude.

***Iconella fedtschenkoi* (Kotenko, 1986)**

Apanteles fedtschenkoi Kotenko, 1986.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Uzbekistan.

Geographical distribution. PAL.

PAL: Uzbekistan.

***Iconella inula* Papp, 2012**

Iconella inula Papp, 2012.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Cape Verde.

Geographical distribution. AFR.

AFR: Cape Verde.

***Iconella isolata* (Muesebeck, 1955)**

Apanteles etiellae Muesebeck, 1955.

Apanteles etiellae isolatus Muesebeck, 1955.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Trinidad & Tobago.

Geographical distribution. NEO.

NEO: British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Montserrat, Puerto Rico, Saint Kitts & Nevis, Trinidad & Tobago.

Notes. Our species concept and geographical distribution is based on Fernandez-Triana et al. (2013a).

***Iconella isus* (Nixon, 1965)**

Apanteles isus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Armenia, Hungary, Iran, Israel, Kazakhstan, Russia (C, S), Serbia, Spain, Uzbekistan.

Notes. The species distribution in Iran, Israel, Kazakhstan and Russia is based on Belokobylskij et al. (2019).

***Iconella jason* (Nixon, 1965), new combination**

Apanteles jason Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Indonesia, Malaysia.

Notes. Transferred to *Iconella* based on the well defined, strong median carina.

***Iconella jayjayrodriguezae* Fernandez-Triana, 2013**

Iconella jayjayrodriguezae Fernandez-Triana, 2013.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica, Mexico.

***Iconella lacteoides* (Nixon, 1965)**

Apanteles lacteoides Nixon, 1965.

Apanteles memorabilis Alexeev, 1971.

Type information. Holotype female, NHRS (not examined but original description checked). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Germany, Greece, Hungary, Italy, Kazakhstan, Mongolia, Poland, Russia (PRI, ROS), Slovakia, Sweden, Turkey, Turkmenistan, Ukraine, Uzbekistan.

***Iconella lynceus* (Nixon, 1965), new combination**

Apanteles lynceus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Transferred to *Iconella* based on the well defined, strong median carina, with some smaller striae radiating from it.

***Iconella masallensis* (Abdinbekova, 1969)**

Apanteles masallensis Abdinbekova, 1969.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Azerbaijan.

Geographical distribution. PAL.

PAL: Azerbaijan, Tajikistan.

Notes. Our species concept is based on Kotenko (1981), Papp (1982) and Tobias (1986).

***Iconella memorata* Kotenko, 2007**

Iconella memorata Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (PRI).

***Iconella mera* (Kotenko, 1992)**

Apanteles merus Kotenko, 1992.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ZAB).

Notes. Our species concept is based on Kotenko (1992, 2007). The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Iconella merata* (Kotenko, 1981)**

Apanteles meratus Kotenko, 1981.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Ukraine.

Geographical distribution. PAL.

PAL: Russia (S), Ukraine.

***Iconella merula* (Reinhard, 1880)**

Apanteles merula Reinhard, 1880.

Type information. Holotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Austria, Belgium, Bulgaria, Finland, Germany, Hungary, Israel, Poland, Romania, Russia (S), Slovakia, Turkey, Ukraine.

Notes. Our species concept is based on Nixon (1968, 1976), Kotenko (1981), Papp (1982), and Tobias (1986). The species distribution in Israel is based on Belokobylskij et al. (2019).

***Iconella meruloides* (Nixon, 1965)**

Apanteles meruloides Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Turkey.

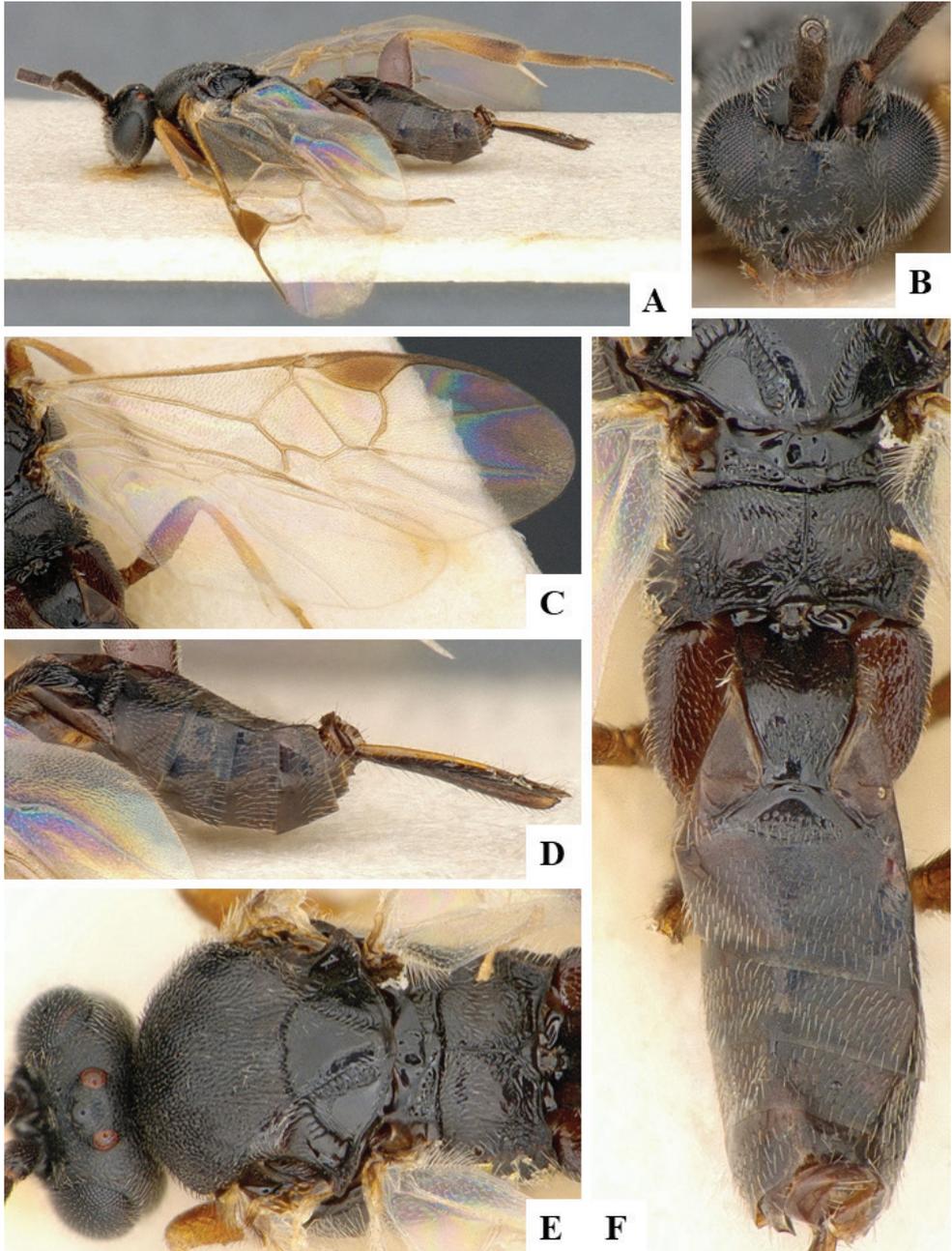


Figure 123. *Iconella merula* female CNC474671 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, lateral **E** Head and mesosoma, dorsal **F** Propodeum and metasoma, dorsal.

Geographical distribution. PAL.

PAL: Hungary, Iran, Israel, Jordan, Malta, Romania, Turkey.

***Iconella mongashtensis* Zargar & Gupta, 2019**

Iconella mongashtensis Zargar & Gupta, 2019.

Type information. Holotype female, TMUC (not examined but original description checked). Country of type locality: Iran.

Geographical distribution. PAL.

PAL: Iran.

***Iconella myeloenta* (Wilkinson, 1937)**

Apanteles myeloenta Wilkinson, 1937.

Type information. Holotype female, NHMUK (examined). Country of type locality: Cyprus.

Geographical distribution. PAL.

PAL: Cyprus, Greece, Iran, Israel, Moldova, Russia (NC, S), Spain, Tunisia, Turkey, Turkmenistan.

Notes. The holotype is missing its head, but otherwise is in good condition.

***Iconella nagy* (Papp, 1975)**

Apanteles nagy Papp, 1975.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Romania.

Geographical distribution. PAL.

PAL: Romania.

Notes. We suspect this species does not belong to *Iconella*, as it does not have a median longitudinal carinae on the propodeum, one of the main defining characters of the genus. Examination of specimens will be needed to conclude on that.

***Iconella oppugnator* (Papp, 1974)**

Apanteles oppugnator Papp, 1974.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Korea.

Geographical distribution. PAL.

PAL: Korea.

***Iconella pyrene* (Nixon, 1965), new combination**

Apanteles pyrene Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Transferred to *Iconella* based on the well-defined, strong, median carina on the propodeum.

***Iconella rudolphae* (Kotenko, 1986)**

Apanteles rudolphae Kotenko, 1986.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan, Russia (S).

***Iconella similus* Zargar & Gupta, 2019**

Iconella similus Zargar & Gupta, 2019.

Type information. Holotype female, TMUC (not examined but original description checked). Country of type locality: Iran.

Geographical distribution. PAL.

PAL: Iran.

***Iconella subcamilla* (Tobias, 1976)**

Apanteles subcamilla Tobias, 1976.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Azerbaijan.

Geographical distribution. PAL.

PAL: Azerbaijan, Cape Verde, Iran, Israel.

Notes. Our species concept is based on Tobias (1986) and Kotenko (1981, 2007).

***Iconella tedanius* (Nixon, 1965), new combination**

Apanteles tedanius Nixon, 1965.

Type information. Holotype female, USNM (examined). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. Transferred to *Iconella* based on the propodeum with a complete median carina. Also, Nixon (1965) placed the species within the *merula* species group, which comprises other *Iconella* species.

***Iconella turanica* (Telenga, 1955)**

Apanteles turanicus Telenga, 1955.

Apanteles subtilis Alexeev, 1971.

Type information. Holotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Tajikistan, Turkmenistan.

Notes. Our species concept is based on Telenga (1955), Papp (1982) and Tobias (1986).

***Iconella valiko* Kotenko, 2007**

Iconella valiko Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Kyrgyzstan.

Geographical distribution. PAL.

PAL: Kyrgyzstan.

***Iconella verae* (Tobias, 1976)**

Apanteles verae Tobias, 1976.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Armenia.

Geographical distribution. PAL.

PAL: Armenia.

Notes. Our species concept is based on Papp (1984a), Tobias (1986) and Kotenko (2007b).

***Iconella vindicius* (Nixon, 1965)**

Apanteles vindicius Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Italy.

Geographical distribution. PAL.

PAL: Bulgaria, Georgia, Hungary, Italy, Korea, Russia (ZAB, DA, PRI), Turkey, Ukraine.

Notes. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *vindicius*.

Genus *Illidops* Mason, 1981

Illidops Mason, 1981: 56. Gender: masculine. Type species: *Apanteles butalidis* Marshall, 1889, by original designation.

A cosmopolitan genus, with 37 described species known from all biogeographical regions except Australasian (one species has been introduced to Hawaii). A few species from the Neotropical region, India, and Russia Far East have been keyed out (Penteado-Dias et

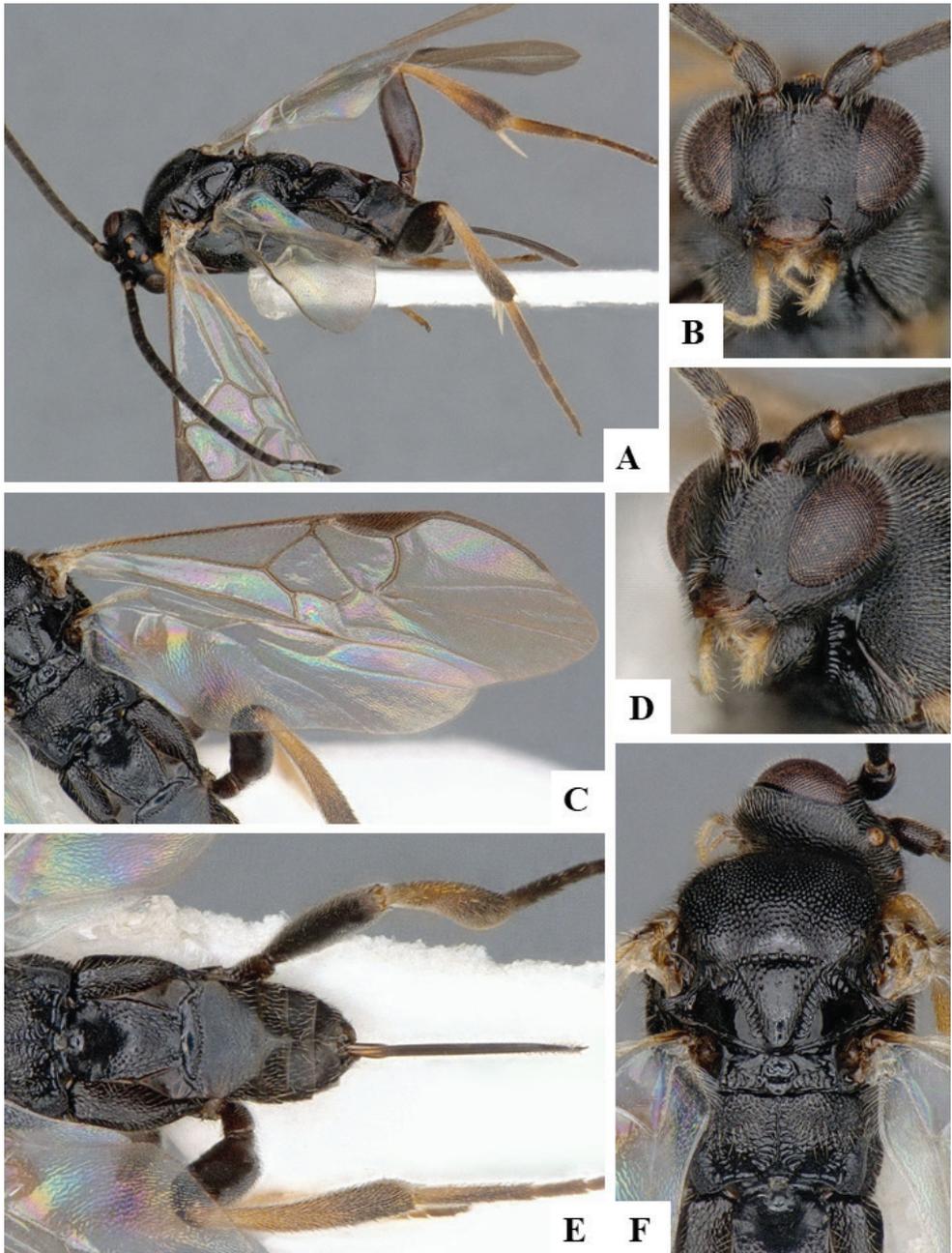


Figure 124. *Iconella vindicia* female CNCHYM01472 **A** Habitus, dorsolateral **B** Head, frontal **C** Fore wing and hind wing **D** Head, frontolateral **E** Metasoma, dorsal **F** Mesosoma, dorsal.

al. 2000, Ahmad et al. 2005a, Kotenko 2007a), but we have seen in collections many additional species, from both temperate and tropical areas. The concept of *Illidops* and its separation from *Apanteles* has been controversial (e.g., Mason 1981, van Achterberg

2003, Fernandez-Triana et al. 2014e), but we consider it a valid genus. Host data include the families Gelechiidae and Scythrididae, but they may need verification. There are 112 DNA-barcode compliant sequences of this genus in BOLD, representing 12 BINs.

***Illidops albostigmalis* van Achterberg & Fernandez-Triana, 2017**

Illidops albostigmalis van Achterberg & Fernandez-Triana, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: United Arab Emirates, Yemen.

***Illidops aridus* Pentead-Dias & Scatolini, 2000**

Illidops aridus Pentead-Dias & Scatolini, 2000.

Type information. Holotype female, DCBU (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SP).

***Illidops assimilis* (Papp, 1976)**

Apanteles assimilis Papp, 1976.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

***Illidops azamgarhensis* (Ahmad, 2005), new combination**

Apanteles azamgarhensis Ahmad, 2005.

Type information. Holotype female, AMUZ (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. This species was described as *Apanteles (Illidops) azamgarhensis*, as the authors of the paper considered *Illidops* to be a subgenus within *Apanteles* (Ahmad et al. 2005: 229). As far as we know, no other publication has dealt with this species, except for Taxapad, which last two versions treated *Illidops* as a synonym (Yu et al. 2012) or as a subgenus of *Apanteles* (Yu et al. 2016). Thus, until now all available references had placed this species within *Apanteles*. In the original description, the presence or absence of a postero-median band of rugosity on the scutellar disc is not discussed, but the details of the propodeum sculpture, metasoma and fore

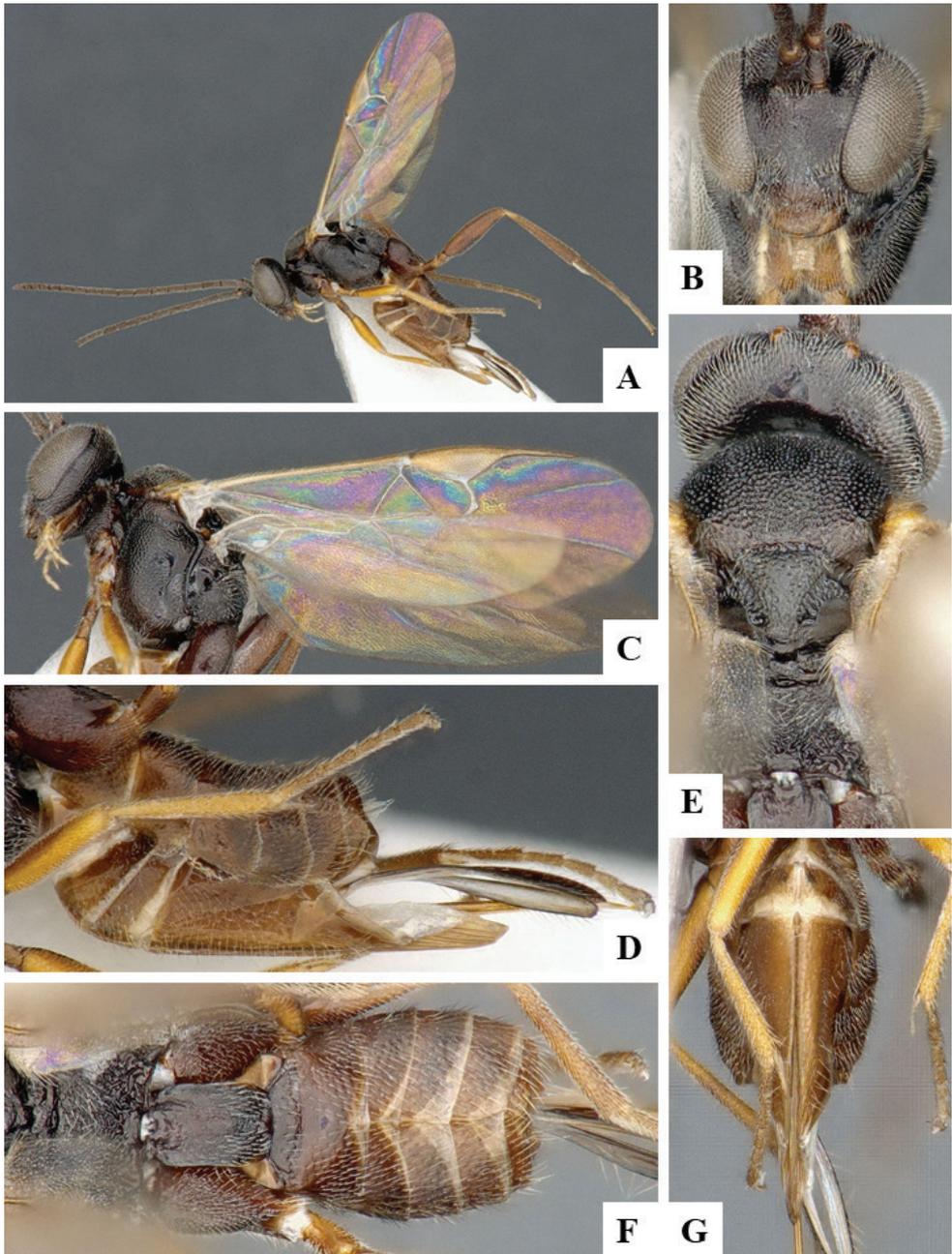


Figure 125. *Illidops allostigmatis* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, lateral **E** Mesosoma, dorsal **F** Propodeum and metasoma, dorsal **G** Hypopygium, ventral.

wing venation seem to suggest that this species belongs to *Illidops*, thus the new combination is here proposed.

***Illidops barcinonensis* (Marshall, 1898)**

Apanteles barcinonensis Marshall, 1898.

Apanteles rhamphus Marshall, 1898.

Type information. Lectotype female, MNCN (not examined but subsequent treatment of the species checked). Country of type locality: Spain.

Geographical distribution. PAL.

PAL: Spain.

Notes. Our species concept is based on Papp (1986, 1988).

***Illidops bellicosus* (Papp, 1977)**

Apanteles bellicosus Papp, 1977.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

***Illidops blandus* (Tobias & Kotenko, 1986)**

Apanteles blandus Tobias & Kotenko, 1986.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Tajikistan.

Geographical distribution. PAL.

PAL: Tajikistan.

***Illidops butalidis* (Marshall, 1889)**

Apanteles butalidis Marshall, 1889.

Type information. Holotype female, PCMAG (not examined but subsequent treatment of the species checked). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Bulgaria, Croatia, Germany, Hungary, Mongolia, Romania, Russia (ZAB, PRI), Serbia, Slovakia, Spain, Sweden, Tunisia, Turkey, Ukraine, United Kingdom.

Notes. Our concept of this species is based on Wilkinson (1945), Nixon (1965, 1976), Papp (1981) and Kotenko (2007a).

***Illidops buteonis* (Kotenko, 1986)**

Apanteles buteonis Kotenko, 1986.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Ukraine.

Geographical distribution. PAL.

PAL: Russia (S), Ukraine.

***Illidops cloelia* (Nixon, 1965)**

Apanteles cloelia Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Switzerland.

Geographical distribution. PAL.

PAL: Austria, Hungary, Korea, Russia (E, NC), Slovakia, Switzerland, Tajikistan, Yugoslavia.

Notes. The distribution in Tajikistan is based in Belokobylskij et al. (2019).

***Illidops dauricus* Kotenko, 2007**

Illidops dauricus Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ZAB).

***Illidops electilis* (Tobias, 1964)**

Apanteles electilis Tobias, 1964.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Croatia, Hungary, Kazakhstan, Russia (S), Serbia, Tunisia.

Notes. Our species concept is based on Nixon (1976), Papp (1981) and Tobias (1986).

***Illidops keralensis* (Narendran & Sumodan, 1992)**

Chelonus keralensis Narendran & Sumodan, 1992.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Our species concept is based on van Achterberg and Narendran (1997).

***Illidops kostjuki* (Kotenko, 1986)**

Apanteles kostjuki Kotenko, 1986.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ALT).

***Illidops kostylevi* (Kotenko, 1986)**

Apanteles kostylevi Kotenko, 1986.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Ukraine.

Geographical distribution. PAL.

PAL: Russia (ROS), Ukraine.

***Illidops lamprosemae* (Ahmad, 2005), new combination**

Apanteles lamprosemae Ahmad, 2005.

Apanteles lamprosemae Ahmad, 2005 [primary junior homonym of *Apanteles lamprosemae* Wilkinson, 1928].

Type information. Holotype female, AMUZ (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. This species was described as *Apanteles (Illidops) lamprosemae* Ahmad, 2005, as the authors of the paper considered *Illidops* to be a subgenus within *Apanteles* (Ahmad et al. 2005: 229). As far as we know, no other publication has dealt with this species, except for Taxapad, which last two versions treated *Illidops* as a synonym (Yu et al. 2012) or as a subgenus of *Apanteles* (Yu et al. 2016). Thus, until now all available references had placed this species within *Apanteles*. In the original description, the presence or absence of a postero-median band of rugosity on the scutellar disc is not discussed, but the details of the propodeum sculpture, metasoma and fore wing venation seem to suggest that this species belongs to *Illidops*, thus the new combination is here proposed.

***Illidops mutabilis* (Telenga, 1955)**

Apanteles mutabilis Telenga, 1955.

Apanteles szabo Papp, 1972.

Type information. Syntypes female and male, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Ukraine.

Geographical distribution. PAL.

PAL: Austria, Bulgaria, Georgia, Hungary, Kazakhstan, Mongolia, Romania, Russia (KDA), Serbia, Slovakia, Spain, Tunisia, Turkey, Ukraine.

Notes. Our species concept is based on Papp (1981), Tobias (1986) and Kotenko (2007a).

***Illidops naso* (Marshall, 1885)**

Apanteles naso Marshall, 1885.

Apanteles contortus Tobias, 1964.

Apanteles crantor Nixon, 1965.

Apanteles evander Nixon, 1965.

Apanteles coresia Nixon, 1973.

Type information. Holotype male, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Afghanistan, Armenia, Azerbaijan, Bulgaria, Croatia, Finland, Georgia, Greece, Hungary, Iran, Kazakhstan, Korea, Kyrgyzstan, Macedonia, Moldova, Mongolia, Romania, Russia (KC, VOR), Serbia, Slovakia, Switzerland, Turkey, Turkmenistan, United Kingdom, Uzbekistan.

Notes. The distribution in Turkmenistan is based in Belokobylskij et al. (2019).

***Illidops nigrитеgula* (Tobias & Kotenko, 1986)**

Apanteles nigrитеgula Tobias & Kotenko, 1986.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan, Russia (S).

***Illidops paranaensis* Pentead-Dias & Scatolini, 2000**

Illidops paranaensis Pentead-Dias & Scatolini, 2000.

Type information. Holotype female, DCMP (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (PR).

***Illidops perseveratus* (Papp, 1977)**

Apanteles perseveratus Papp, 1977.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

***Illidops planiscapus* (Tobias, 1976)**

Apanteles planiscapus Tobias, 1976.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (DA).

Notes. Our species concept is based on Papp (1988) and Tobias (1988). Type depository inferred from Tobias (1986).

***Illidops rostratus* (Tobias, 1976)**

Apanteles rostratus Tobias, 1976.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Armenia, Russia (KDA), Uzbekistan.

Notes. Our species concept is based on Papp (1988) and Tobias (1988). Type depository inferred from Tobias (1986).

***Illidops scutellaris* (Muesebeck, 1921)**

Apanteles scutellaris Muesebeck, 1921.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. AUS, NEA, NEO, PAL.

AUS: Hawaiian Islands; **NEA:** USA (AZ, CA, FL, TX); **NEO:** Mexico; **PAL:** Bulgaria, Cyprus, Greece, Hungary, Iran.

***Illidops sophrosine* (Nixon, 1976)**

Apanteles sophrosine Nixon, 1976.

Type information. Holotype female, NHMUK (examined). Country of type locality: Italy.

Geographical distribution. PAL.

PAL: Bulgaria, Hungary, Italy, Russia (ZAB, PRI).

***Illidops splendidus* (Papp, 1974)**

Apanteles splendidus Papp, 1974.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Hungary, Russia (C).

***Illidops subversor* (Tobias & Kotenko, 1986)**

Apanteles subversor Tobias & Kotenko, 1986.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (NVS).

***Illidops suevus* (Reinhard, 1880)**

Apanteles suevus Reinhard, 1880.

Apanteles minutus Szépligeti, 1896.

Apanteles polonicus Fahringer, 1936.

Apanteles brevisternis Tobias, 1964.

Apanteles suspicax Tobias, 1964.

Apanteles dion Nixon, 1965.

Apanteles sesostris Nixon, 1976.

Type information. Holotype female, ZMHB (not examined but authoritatively identified specimens examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Austria, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Iran, Kazakhstan, Korea, Macedonia, Malta, Moldova, Mongolia, Montenegro, Poland, Romania, Russia (IRK), Serbia, Slovakia, Switzerland, United Kingdom.

Notes. We examined the type of *Apanteles sesostris* Nixon. The species distribution in Iran is based in Belokobylskij et al. (2019).

***Illidops suffectus* (Tobias & Kotenko, 1986)**

Apanteles suffectus Tobias & Kotenko, 1986.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan.

***Illidops terrestris* Wharton, 1983**

Illidops terrestris Wharton, 1983.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA, FL, GA, TX).

***Illidops tigris* (Kotenko, 1986)**

Apanteles tigris Kotenko, 1986.

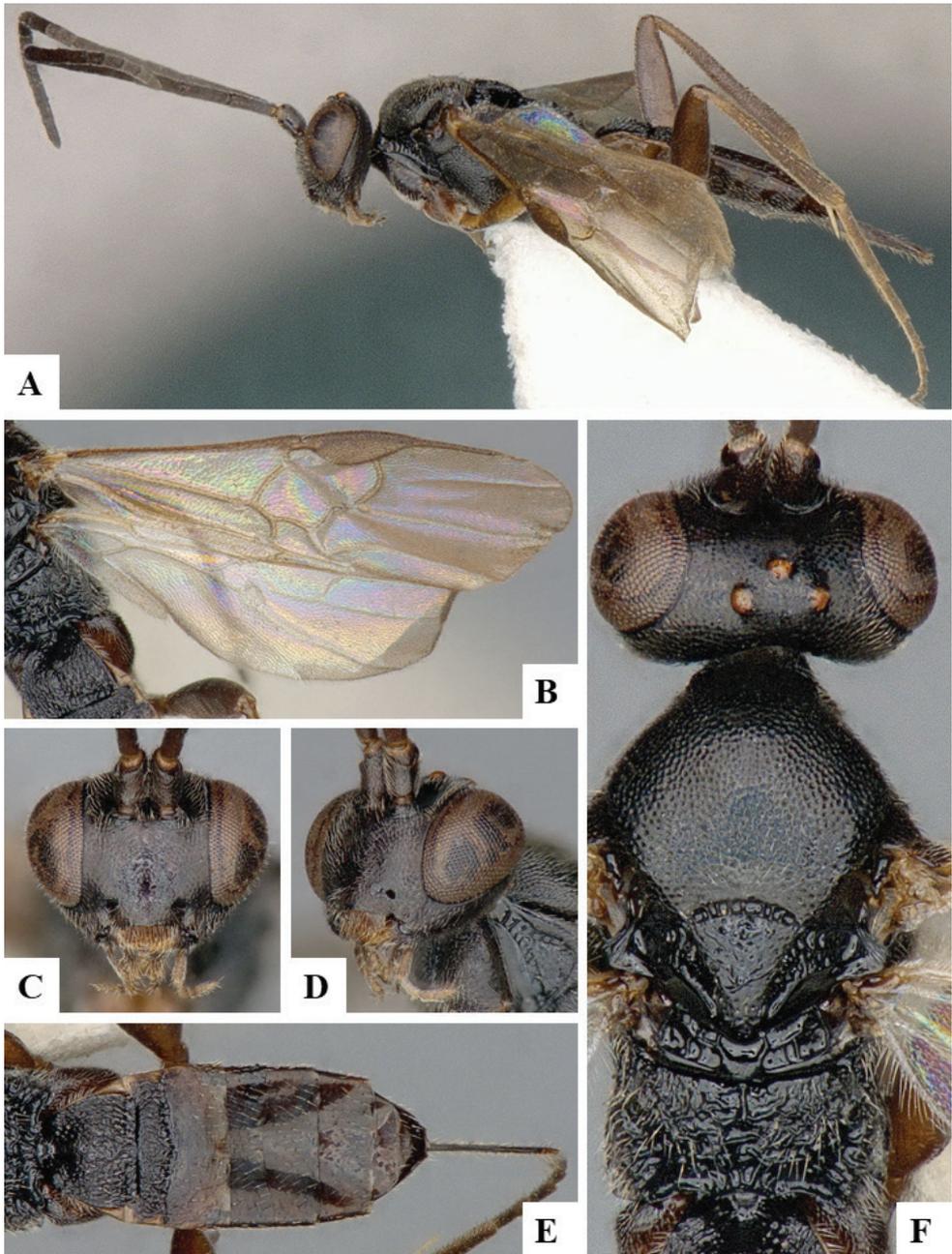


Figure 126. *Illidops suevus* female CNCHYM01526 **A** Habitus, lateral **B** Fore wing and hind wing **C** Head, frontal **D** Head, frontolateral **E** Metasoma, dorsal **F** Head and mesosoma, dorsal.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Tajikistan.

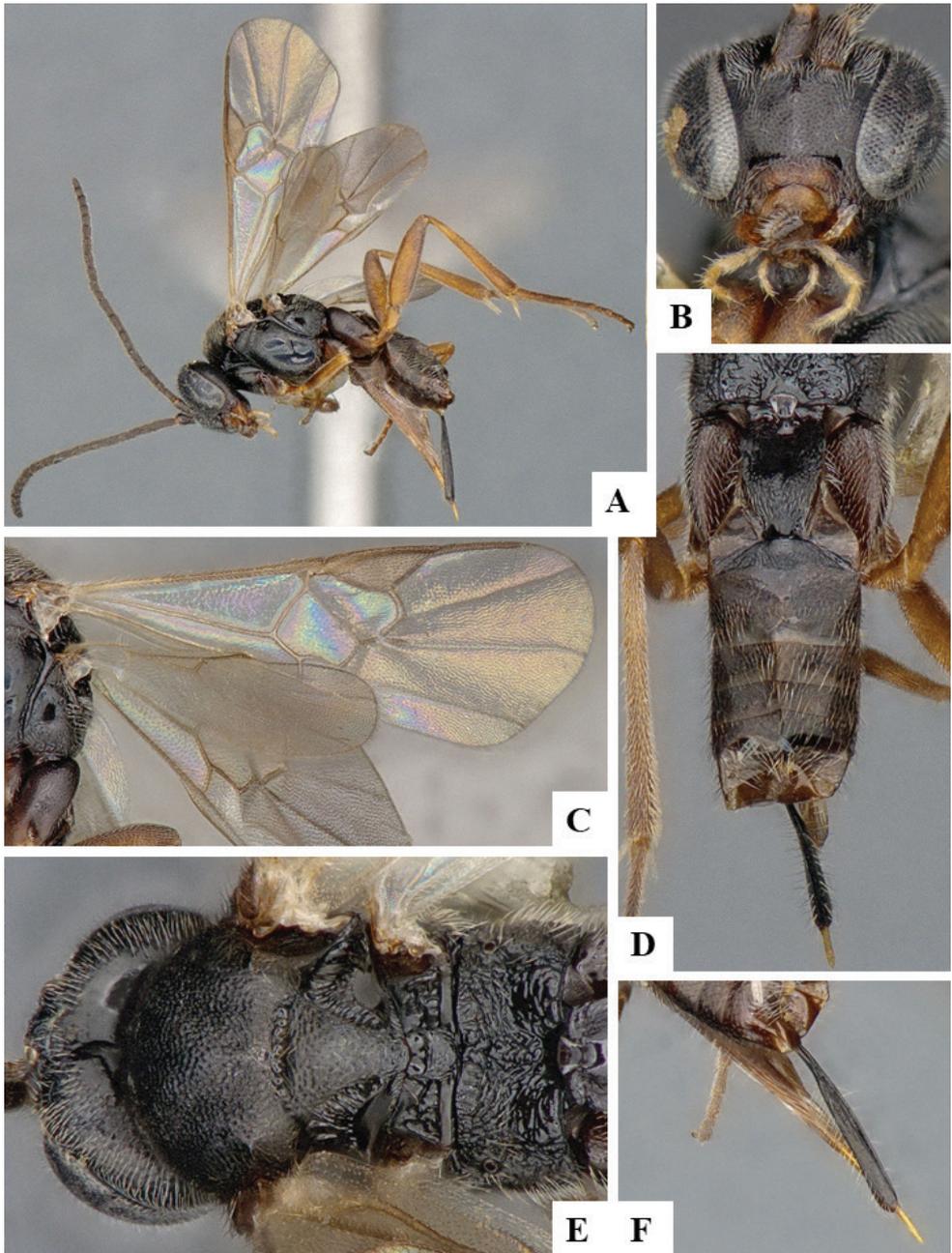


Figure 127. *Illidops terrestris* female paratype CNCHYM01522 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Mesosoma, dorsal **F** Ovipositor and ovipositor sheaths.

Geographical distribution. PAL.

PAL: Tajikistan, Turkmenistan.

***Illidops toreicus* Kotenko, 2007**

Illidops toreicus Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ZAB).

***Illidops trabea* (Nixon, 1965), new combination**

Apanteles trabea Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. The holotype has its eyes converging ventrally, scutellar disc with postero-medial band of rugosity, propodeum entirely strongly rugulose, and short vein R1 in the fore wing.

***Illidops urgens* Kotenko, 2004**

Illidops urgens Kotenko, 2004.

Type information. Holotype female, SIZK (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan, Russia (SAR).

Notes. Our species concept is based on Kotenko (2006).

***Illidops urgo* (Nixon, 1965)**

Apanteles urgo Nixon, 1965.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Greece.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Croatia, Greece, Hungary, Iran, Mongolia, Russia (S), Slovakia, Turkey.

Notes. The species distribution in Armenia and Russia are based in Belokobylskij et al. (2019).

***Illidops uvidus* Pentead-Dias & Scatolini, 2000**

Illidops uvidus Pentead-Dias & Scatolini, 2000.

Type information. Holotype female, DCBU (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (PR, SP).

***Illidops vitobiasi* Kotenko, 2004**

Illidops vitobiasi Kotenko, 2004.

Type information. Holotype female, SIZK (not examined but subsequent treatment of the species checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

Notes. Our species concept is based on Kotenko (2006).

Genus *Janhalacaste* Fernandez-Triana, 2018

Janhalacaste Fernandez-Triana, 2018: 59. Gender: neuter. Type species: *Janhalacaste winnieae* Fernandez-Triana & Boudreault, 2018, by original designation.

Known from three species recently described from the Neotropical region (Fernandez-Triana and Boudreault 2018). We are aware of at least one additional species in collections. All known host records are from Depressariidae. There are 12 DNA-barcode compliant sequences of *Janhalacaste* in BOLD, representing three BINs.

***Janhalacaste danieli* Fernandez-Triana & Boudreault, 2018**

Janhalacaste danieli Fernandez-Triana & Boudreault, 2018.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Janhalacaste guanacastensis* Fernandez-Triana & Boudreault, 2018**

Janhalacaste guanacastensis Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Janhalacaste winnieae* Fernandez-Triana & Boudreault, 2018**

Janhalacaste winnieae Fernandez-Triana & Boudreault, 2018.

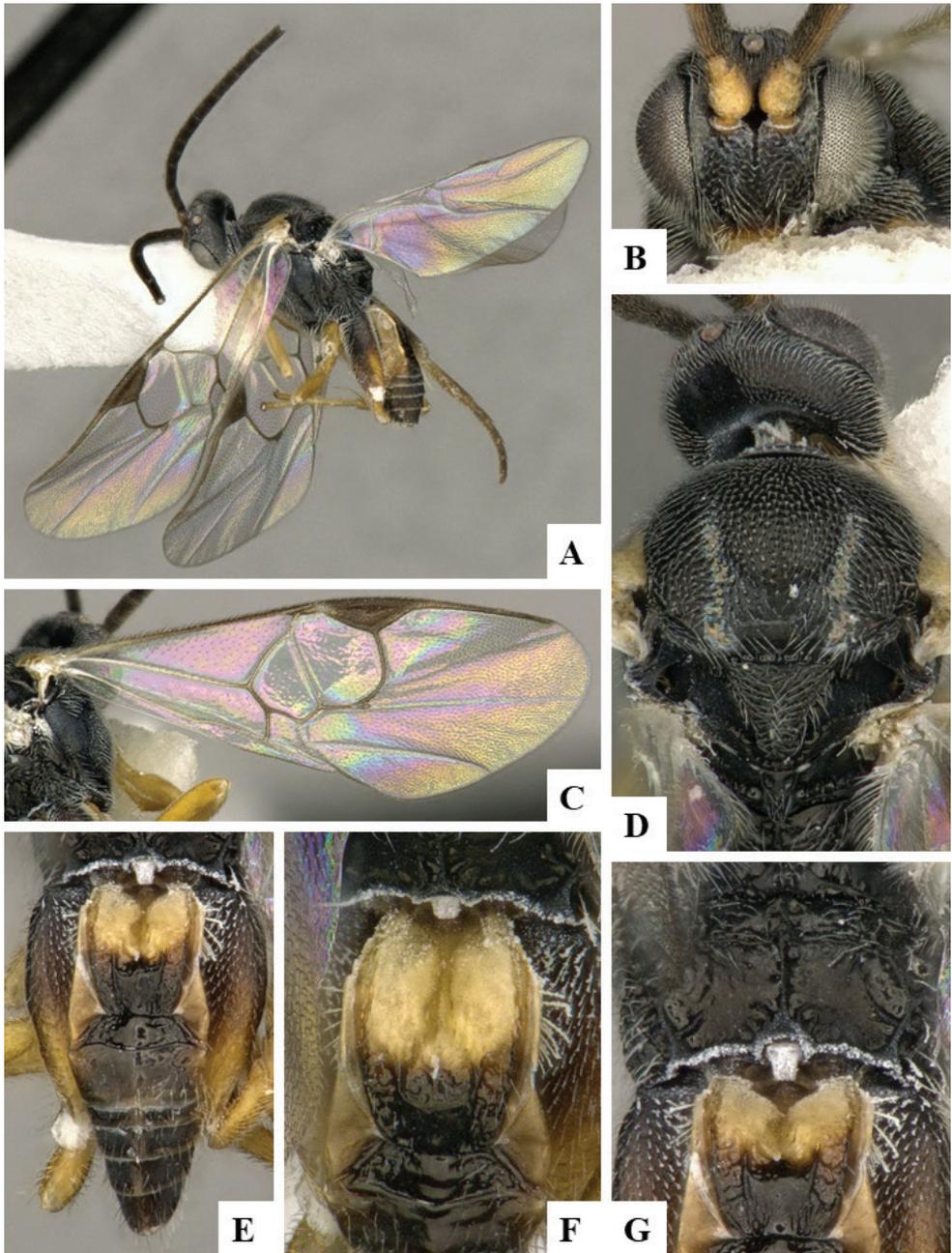


Figure 128. *Janbalacaste danieli* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Metasoma, dorsal **F** Tergites 1–2, dorsal **G** Propodeum and tergite 1, dorsal.

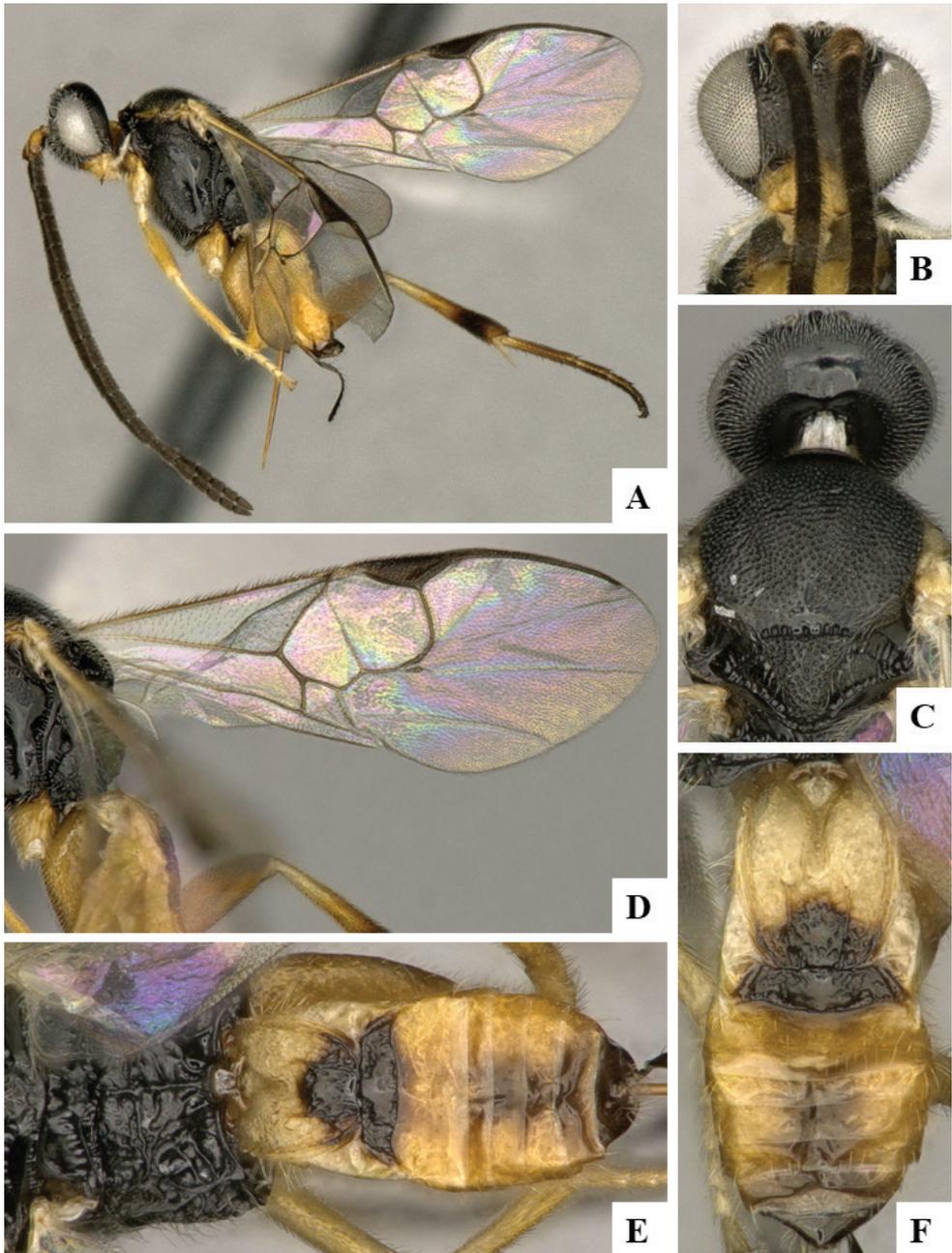


Figure 129. *Janhalacaste winnieae* female holotype **A** Habitus, lateral **B** Head, frontal **C** Mesosoma, dorsal **D** Fore wing **E** Propodeum and metasoma, dorsal **F** Metasoma, dorsal.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Genus *Jenopappius* Fernandez-Triana, 2018

Jenopappius Fernandez-Triana, 2018: 67. Gender: neuter. Type species: *Jenopappius magyarmuzeum* Fernandez-Triana and Boudreault 2018, by original designation.

Known from three species from the Afrotropical region, which were recently revised (Fernandez-Triana and Boudreault 2018). We are aware of additional species in collections. No host data are currently available for this genus. There are eleven DNA-barcode compliant sequences of *Jenopappius* in BOLD, representing one BIN (although those sequences have not been identified in BOLD as belonging to *Jenopappius*, see Fernandez-Triana and Boudreault 2018 for that).

Jenopappius aethiopicus (de Saeger, 1944)

Microplitis aethiopicus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Kenya, Rwanda.

Jenopappius magyarmuzeum Fernandez-Triana & Boudreault, 2018

Jenopappius magyarmuzeum Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of the Congo.

Jenopappius niger (de Saeger, 1944)

Microplitis niger de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Genus *Jimwhitfieldius* Fernandez-Triana, 2018

Jimwhitfieldius Fernandez-Triana, 2018: 75. Gender: neuter. Type species: *Jimwhitfieldius jamesi* Fernandez-Triana and Boudreault 2018, by original designation.

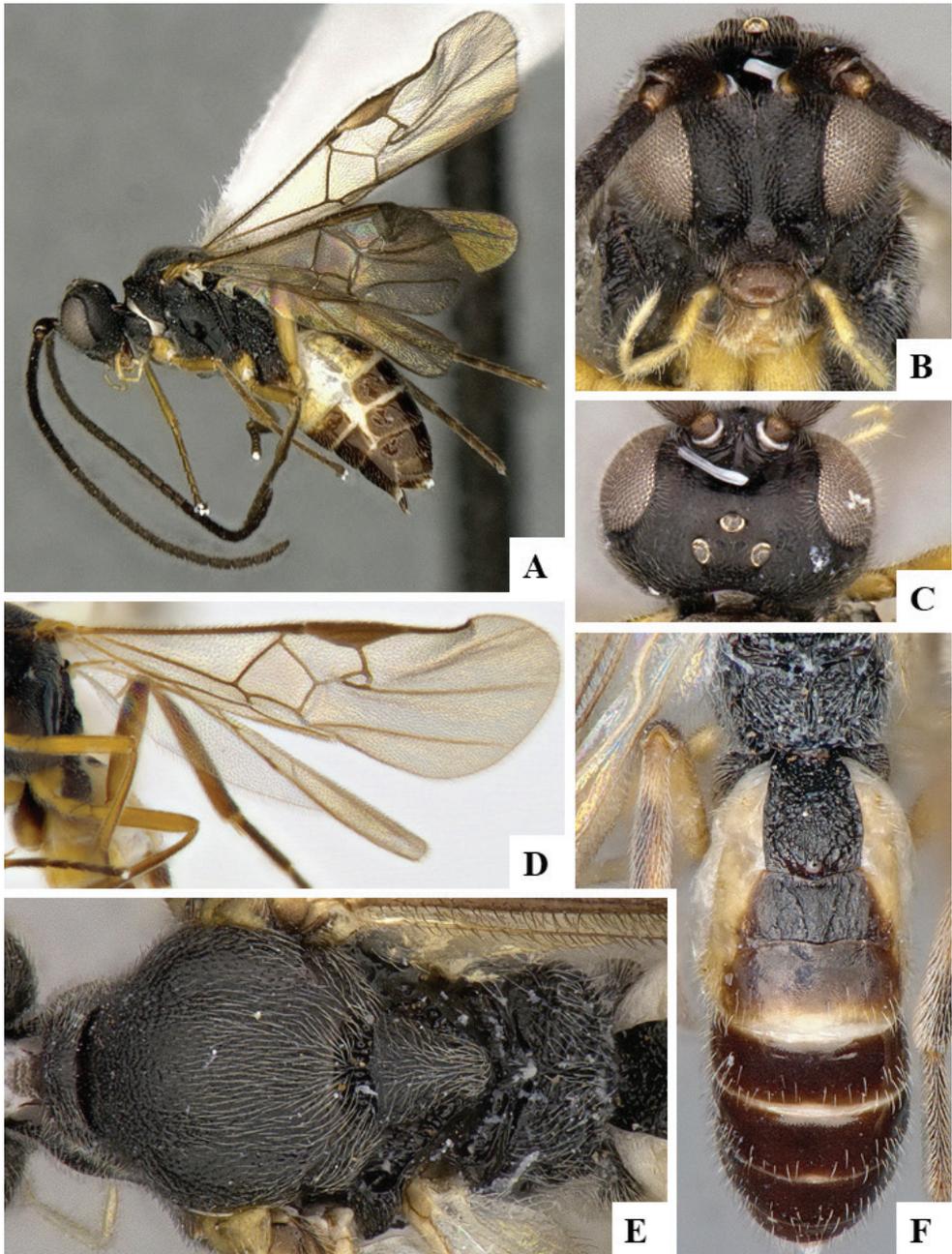


Figure 130. *Jenopappius aethiopica* female CNC878534 **A** Habitus, lateral **B** Head, frontal **C** Head, dorsal **D** Fore wing **E** Mesosoma, dorsal **F** Metasoma, dorsal.

Known from two species from the Oriental region, which were recently revised (Fernandez-Triana and Boudreault 2018). We are aware of additional species in collections. No host data are currently available for this genus. There are 19 DNA-barcode compliant sequences of *Jimwhitfieldius* in BOLD, representing five BINs (although

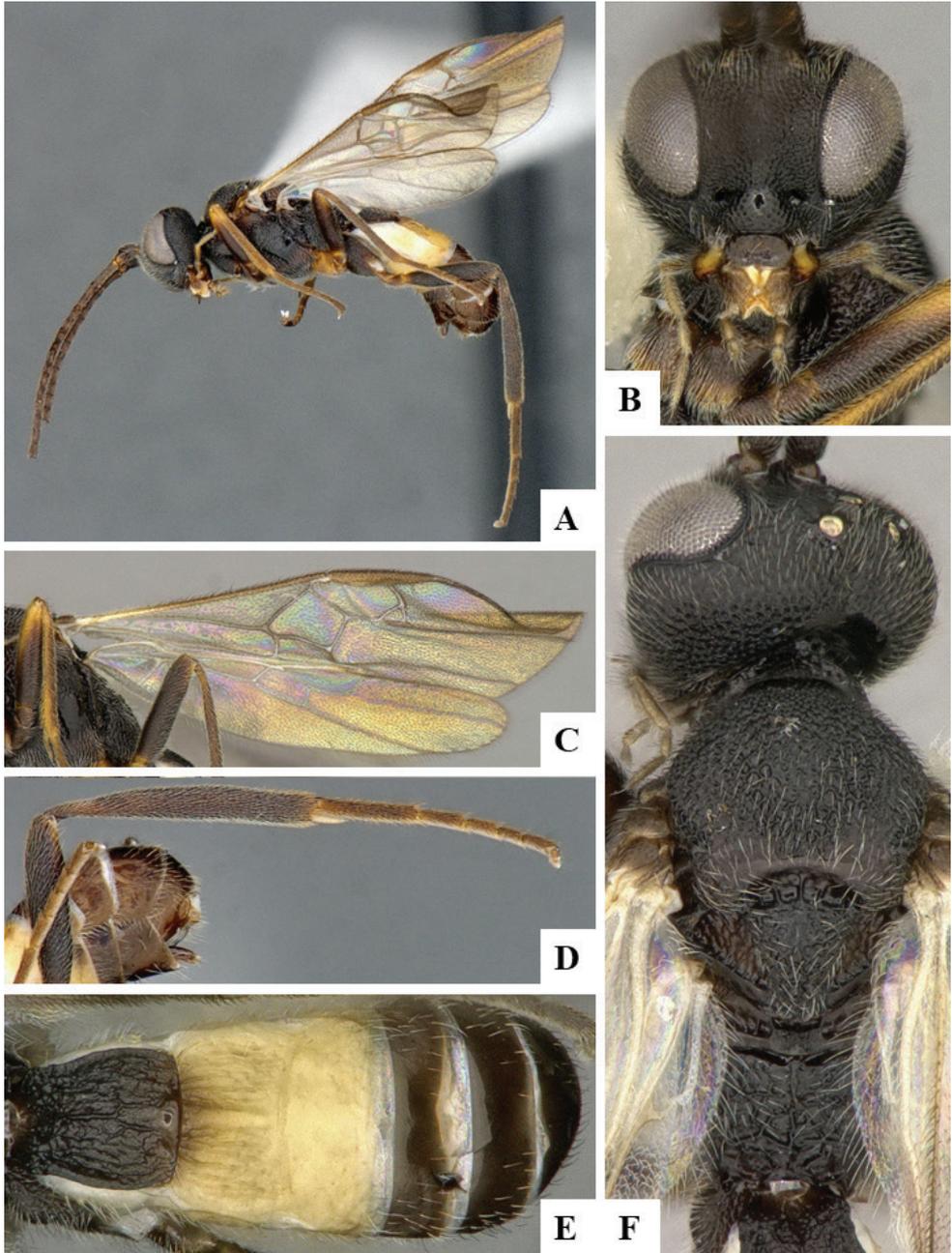


Figure 131. *Jenopappius magyarmuzeum* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Hind leg and apex of metasoma, lateral **E** Metasoma, dorsal **F** Mesosoma, dorsal.

those sequences have not been identified in BOLD as belonging to *Jimwhitfieldius*, see Fernandez-Triana and Boudreault 2018 for that).

***Jimwhitfieldius jamesi* Fernandez-Triana & Boudreault, 2018**

Jimwhitfieldius jamesi Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, QSBG (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Thailand, Vietnam.

***Jimwhitfieldius sydneyae* Fernandez-Triana & Boudreault, 2018**

Jimwhitfieldius sydneyae Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, QSBG (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Thailand.

Genus *Keylimepie* Fernandez-Triana, 2016

Keylimepie Fernandez-Triana, 2016: 96. Gender: neuter. Type species: *Keylimepie peckorum* Fernandez-Triana, 2016, by original designation.

Four species from the Nearctic and Afrotropical regions (Fernandez-Triana 2016, Fernandez-Triana & van Achterberg 2017). We have seen a few additional species in collections, including from the Neotropics, but the genus does not seem to be very speciose. The known species were collected in relatively hot and dry environments. No host data are currently available for this genus. There are no DNA-barcode compliant sequences of *Keylimepie* in BOLD, but the two African species have mini-barcodes of 276–278 bp.

***Keylimepie hadhramautensis* van Achterberg & Fernandez-Triana, 2017**

Keylimepie hadhramautensis van Achterberg & Fernandez-Triana, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

***Keylimepie peckorum* Fernandez-Triana, 2016**

Keylimepie peckorum Fernandez-Triana, 2016.

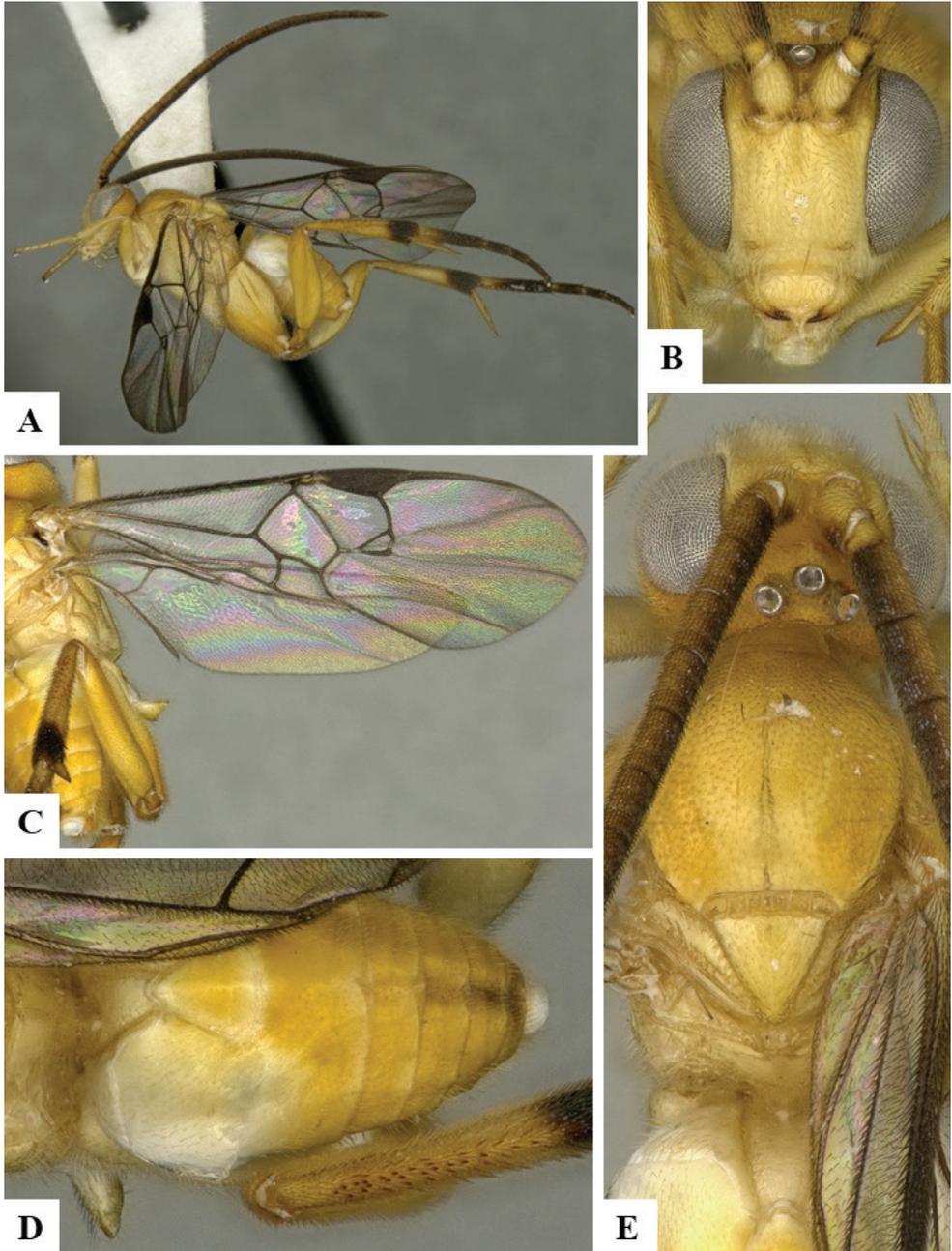


Figure 132. *Jimwhitfeldius jamesi* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal.

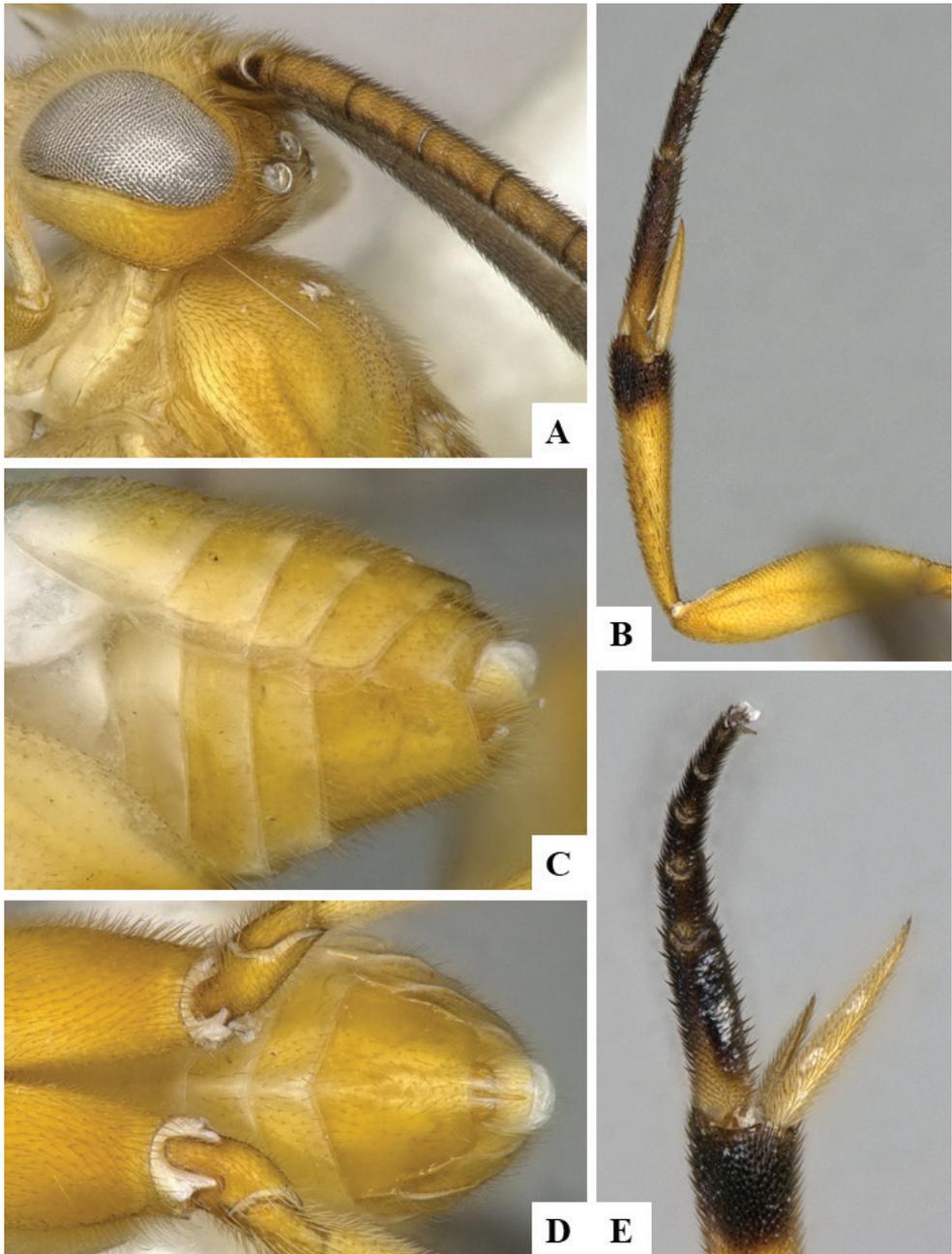


Figure 133. *Jimwhitfeldius jamesi* female holotype **A** Antennal flagellomeres 1–4 **B** Hind leg **C** Hypopygium and ovipositor, lateral **D** Hypopygium and ovipositor, ventral **E** Inner and outer spines of metatibia.

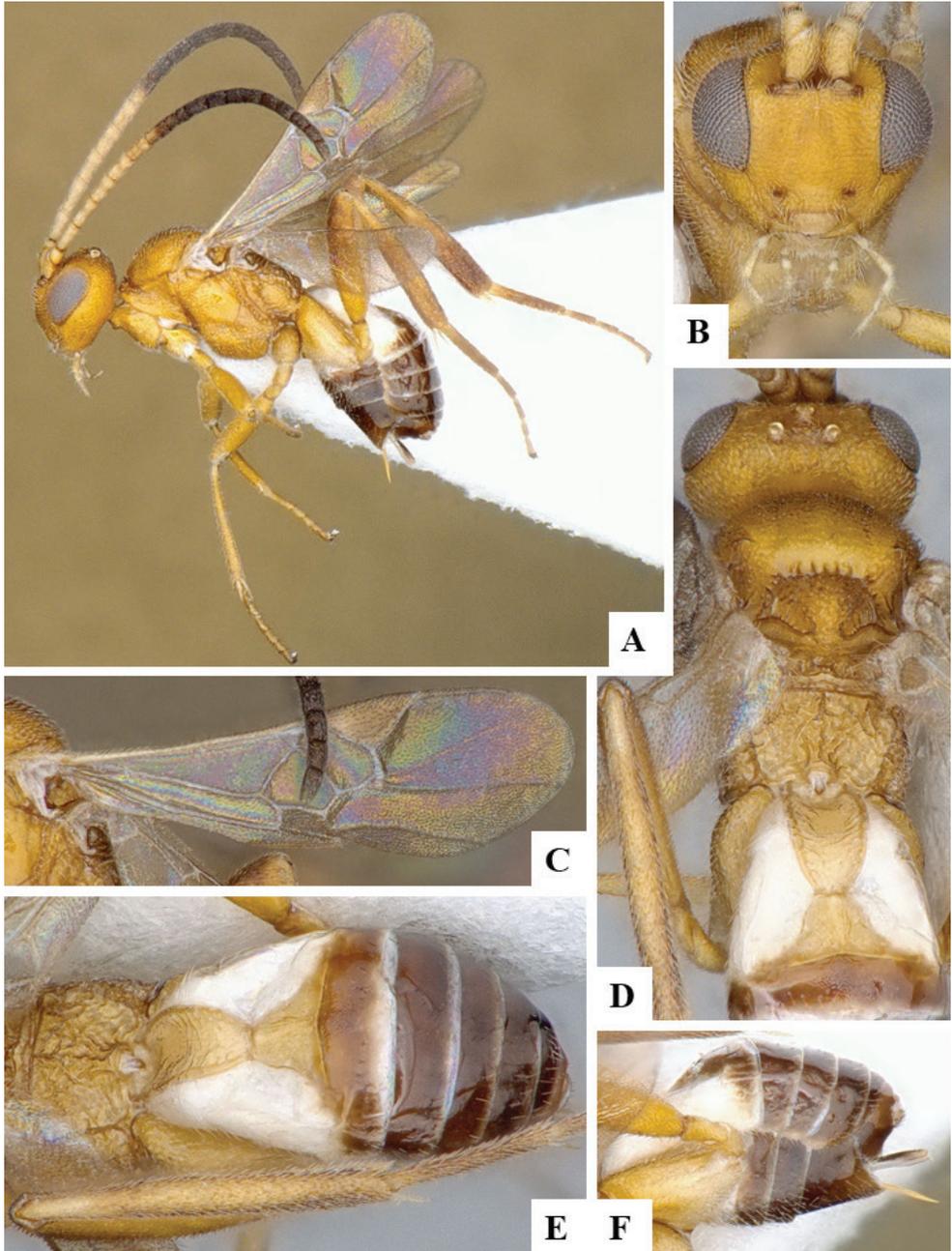


Figure 134. *Keylimepie badbramautensis* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head, mesosoma and tergites 1–3, dorsal **E** Propodeum and metasoma, dorsal **F** Metasoma, lateral.

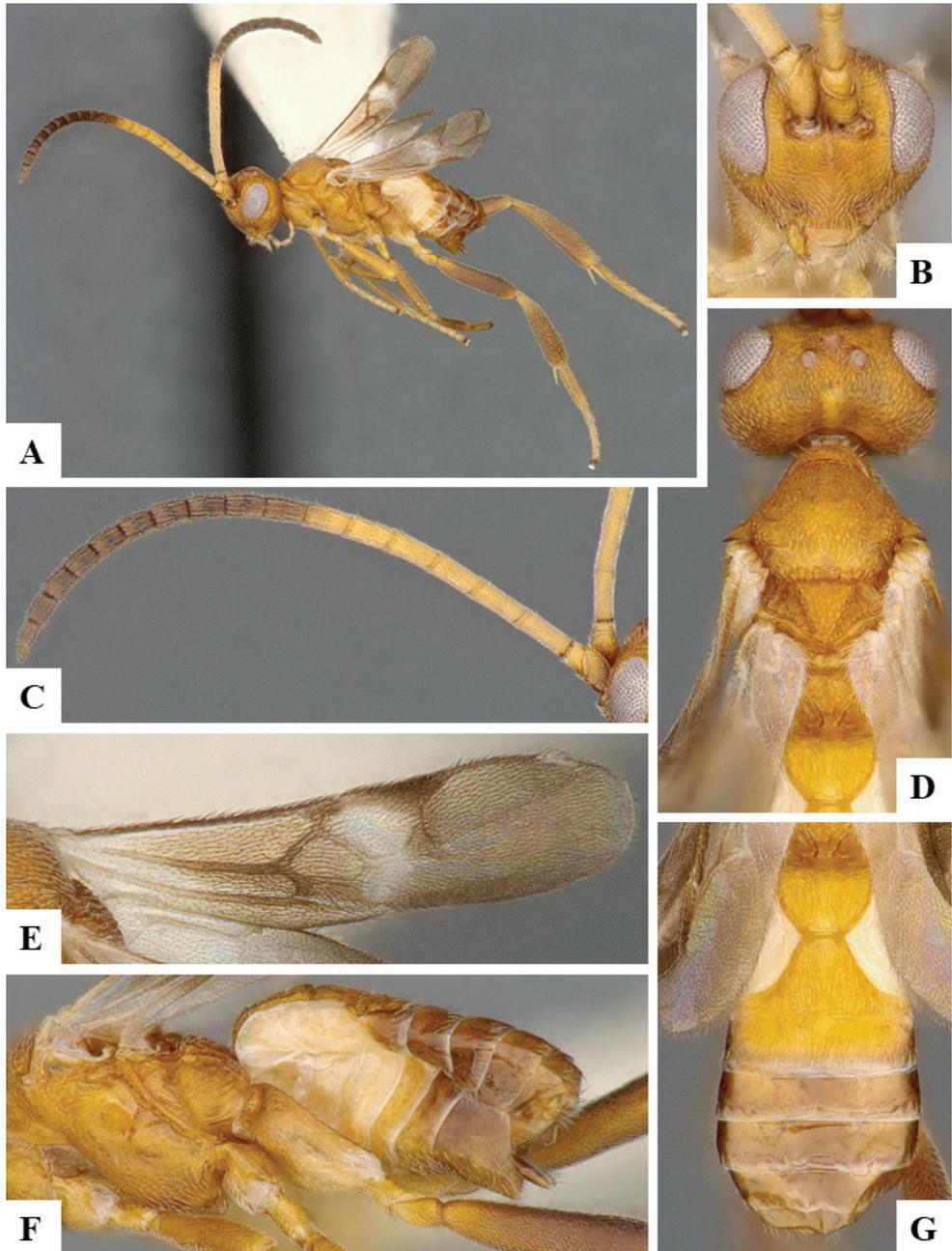


Figure 135. *Keylimepie peckorum* female CNC483615 **A** Habitus, lateral **B** Head, frontal **C** Antenna **D** Head and mesosoma, dorsal **E** Fore wing **F** Mesosoma and metasoma, lateral **G** Metasoma, dorsal.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (FL).

***Keylimepie sanaaensis* van Achterberg & Fernandez-Triana, 2017**

Keylimepie sanaaensis van Achterberg & Fernandez-Triana, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

***Keylimepie striatus* (Muesebeck, 1922), new combination**

Microplitis striatus Muesebeck, 1922.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (IL, MI, TX).

Notes. Here we place this species in *Keylimepie*. The male holotype is not in great condition but fits well within the current genus concept (including shape and sculpture of the head, large tentorial pits, fore wing areolet, and T1 and T2 shapes and sculptures). In the USNM collection there are two other males of the genus, both identified as *M. striatus* by Muesebeck, but clearly representing different, undescribed species (with different venation patterns and body colouration from *striatus*).

Genus *Kiwigaster* Fernandez-Triana, Ward & Whitfield, 2011

Kiwigaster Fernandez-Triana, Ward & Whitfield, 2011: 25. Gender: feminine.

Type species: *Kiwigaster variabilis* Fernandez-Triana & Ward, 2011, by original designation.

Only known from a single, very unique species from the Australasian region (Fernandez-Triana et al. 2011). No host data are currently available for this genus. There is one DNA-barcode compliant sequence in BOLD, that BIN characterizing the genus and species. In the original description of *Kiwigaster*, its gender was incorrectly stated to be masculine (Fernandez-Triana et al. 2011: 25); however all genera ending in *gaster* are feminine, without exception (Doug Yanega, pers. comm., see also Article 30.1.2 of the ICZN); thus here we correct that previous mistake.

***Kiwigaster variabilis* Fernandez-Triana & Ward, 2011**

Kiwigaster variabilis Fernandez-Triana & Ward, 2011.

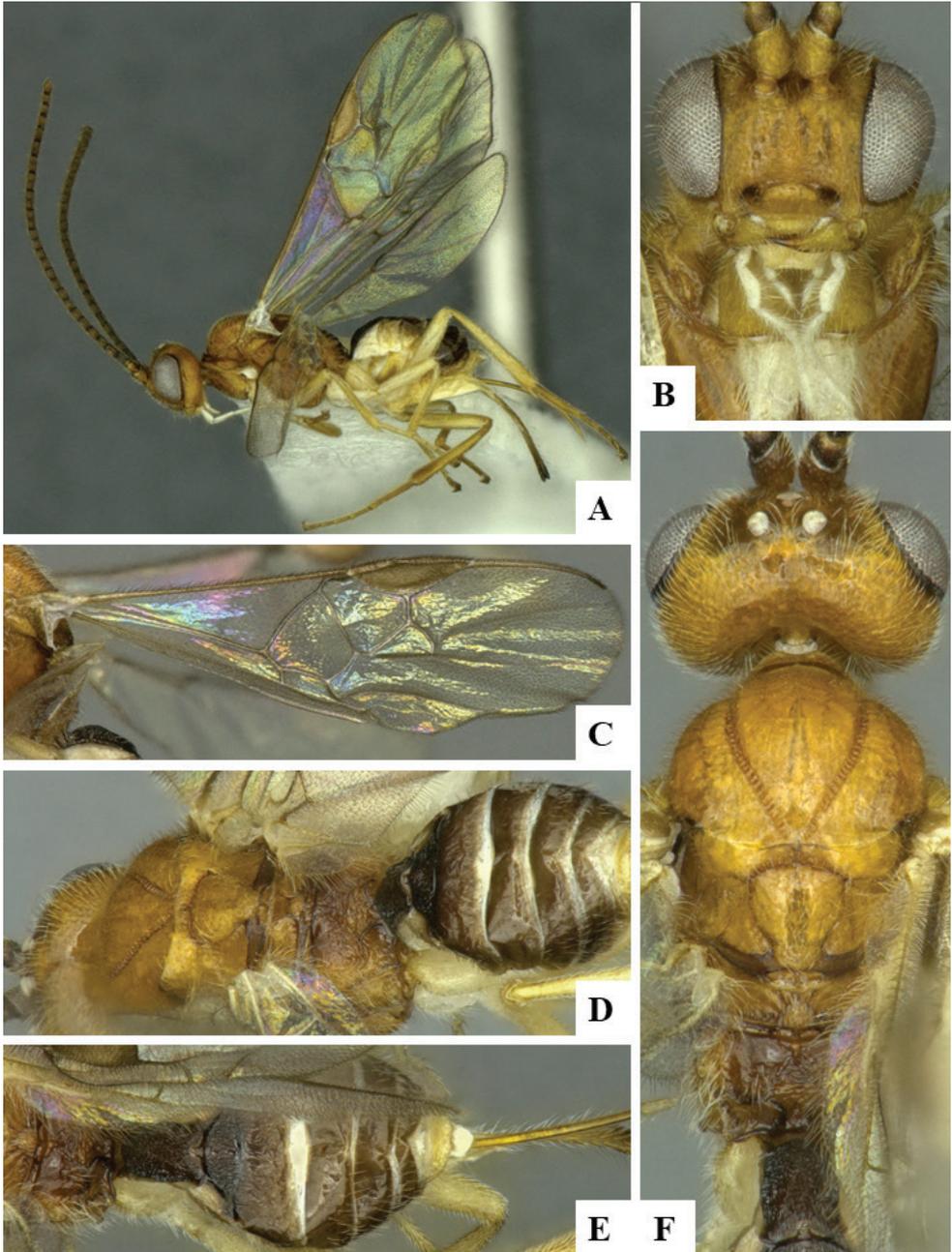


Figure 136. *Kiwigaster variabilis* female AMNZ71859 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Propodeum, dorsal **E** Metasoma, dorsal **F** Head and mesosoma, dorsal.

Type information. Holotype female, NZAC (examined). Country of type locality: New Zealand.

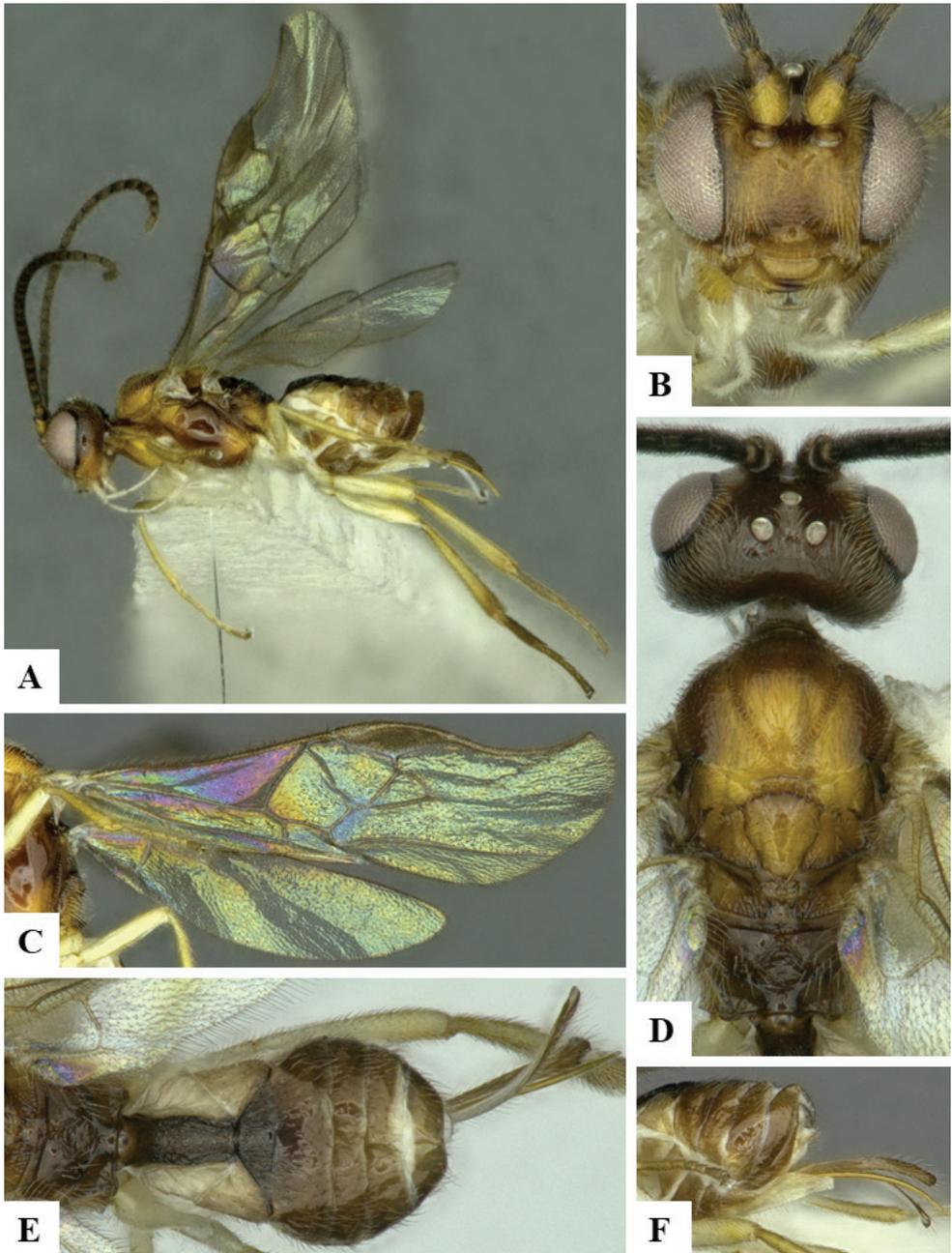


Figure 137. *Kiwigaster variabilis* female AMNZ71861 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

Geographical distribution. AUS.
AUS: New Zealand.

Genus *Kotenkosius* Fernandez-Triana, 2018

Kotenkosius Fernandez-Triana, 2018: 84. Gender: neuter. Type species: *Kotenkosius tricarinatus* Fernandez-Triana and Boudreault 2018, by original designation.

Known from one recently described species from the Oriental region (Fernandez-Triana and Boudreault 2018). We are aware of at least one additional species in collections. No host data are currently available for this genus. There are at least three DNA-barcode compliant sequences of *Kotenkosius* in BOLD, representing one BIN, with another potential, undescribed species, having a BIN (see Fernandez-Triana and Boudreault 2018 for more details).

***Kotenkosius tricarinatus* Fernandez-Triana & Boudreault, 2018**

Kotenkosius tricarinatus Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, RMNH (examined). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Bangladesh, Malaysia, Taiwan, Thailand, Vietnam.

Genus *Larissimus* Nixon, 1965

Larissimus Nixon, 1965: 204. Gender: masculine. Type species: *Larissimus cassander* Nixon, 1965, by original designation.

One described species from the Neotropical region (Nixon 1965, Mason 1981). We have seen in collections (CNC) a few additional species from South America, but the genus does not seem to be very speciose. The described species has been reared from Erebiidae (Arctiinae). There is one DNA-barcode compliant sequence of this genus in BOLD, representing one BIN, which corresponds to the described species; additionally, there are seven shorter sequences from specimens which represent at least one other species.

***Larissimus cassander* Nixon, 1965**

Larissimus cassander Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC, SP).

Genus *Lathrapanteles* Williams, 1985

Lathrapanteles Williams, 1985: 1963. Gender: masculine. Type species: *Apanteles papaipemae* Muesebeck, 1921, by original designation.

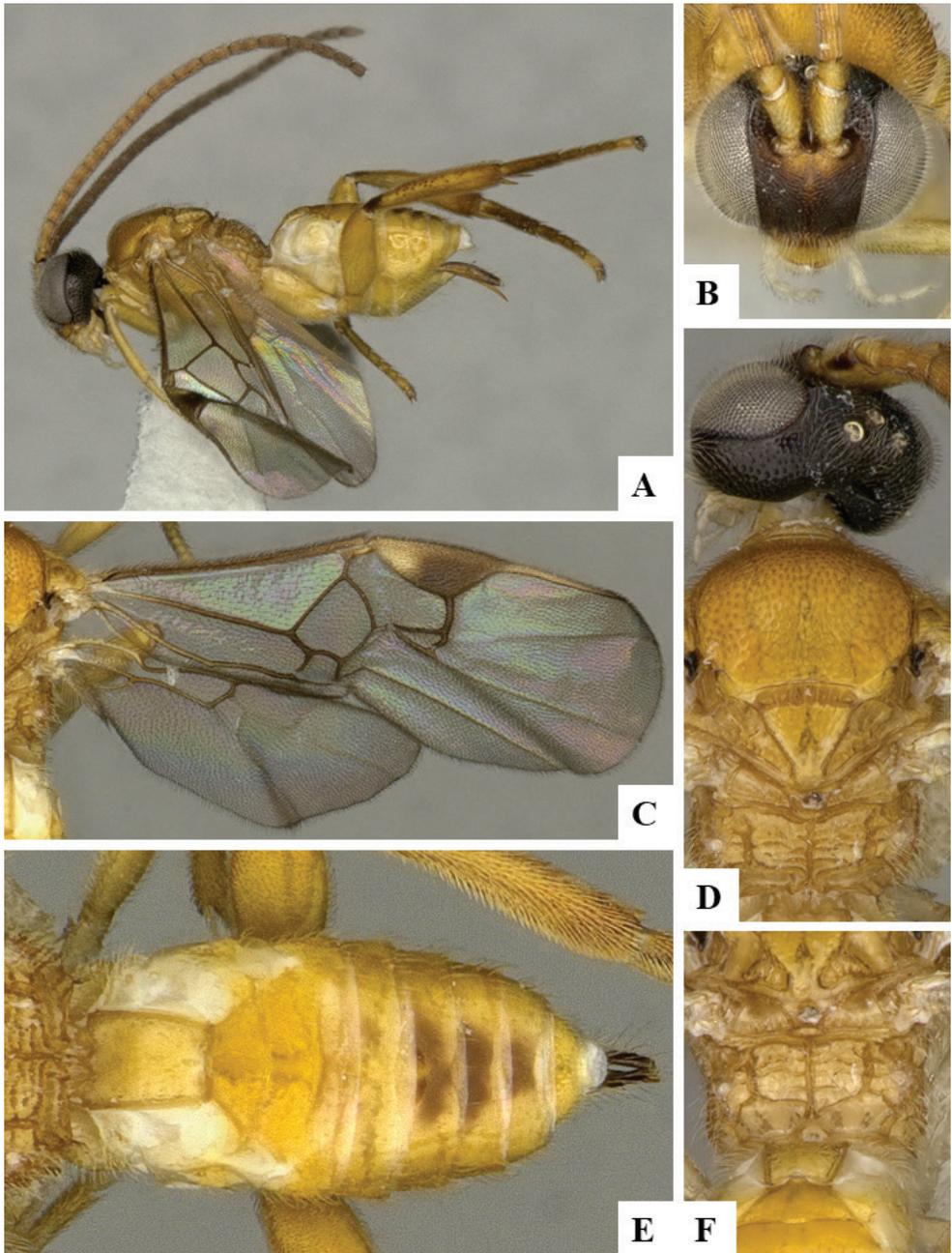


Figure 138. *Kottenkosius tricarinatus* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Metasoma, dorsal **F** Propodeum, dorsal.

This is a New World genus, with four species currently described from the Nearctic and Neotropical regions, which were revised by Williams (1985). We have seen a few additional species in collections (CNC), mostly from tropical areas, but *Lathrapanteles*

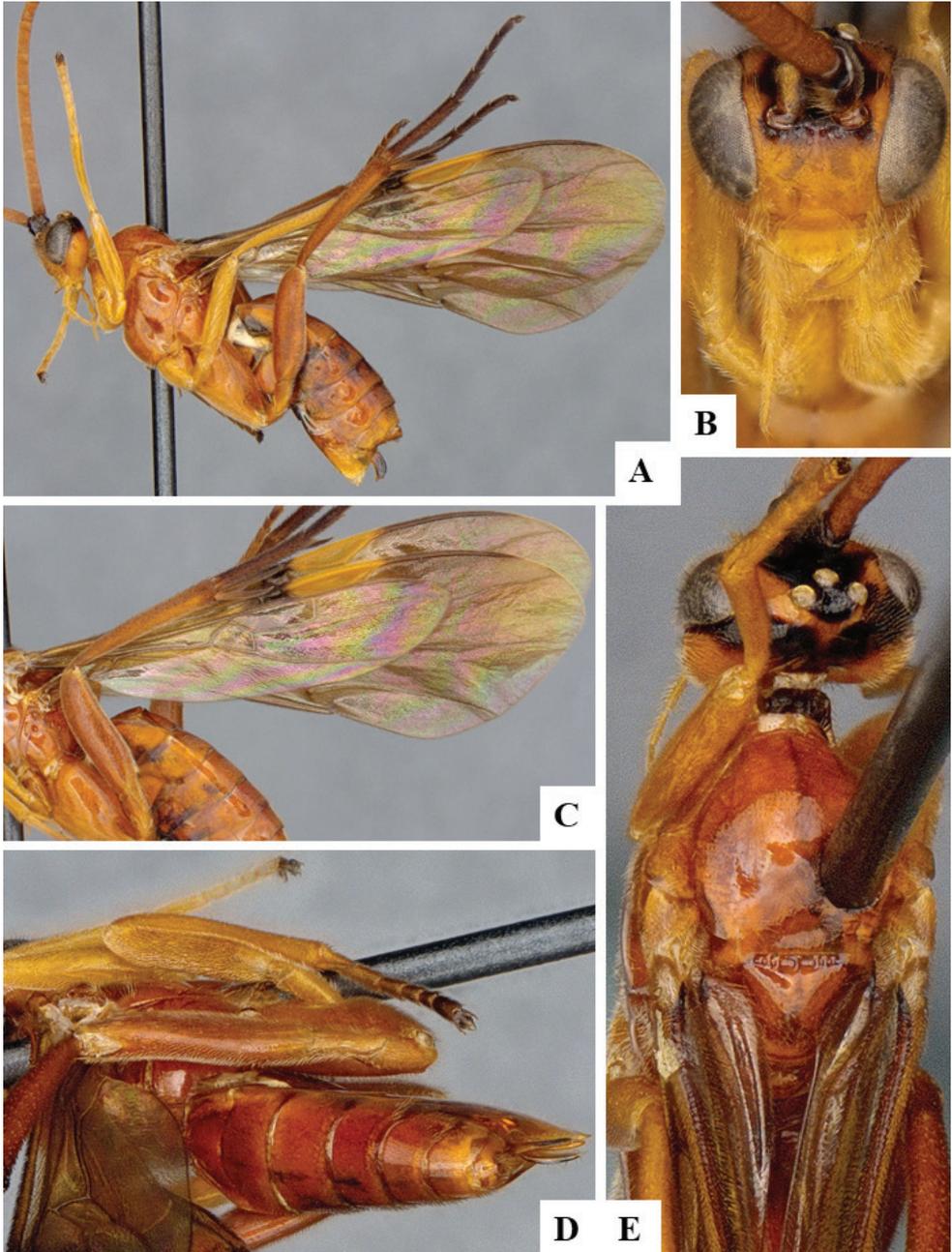


Figure 139. *Larissimus cassander* female CNC281020 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, laterodorsal **E** Head and mesosoma, dorsal.

does not seem to be very speciose. Host data include the family Noctuidae, with one record from Pyralidae. There are 41 DNA-barcode compliant sequences of this genus in BOLD, representing six BINs.

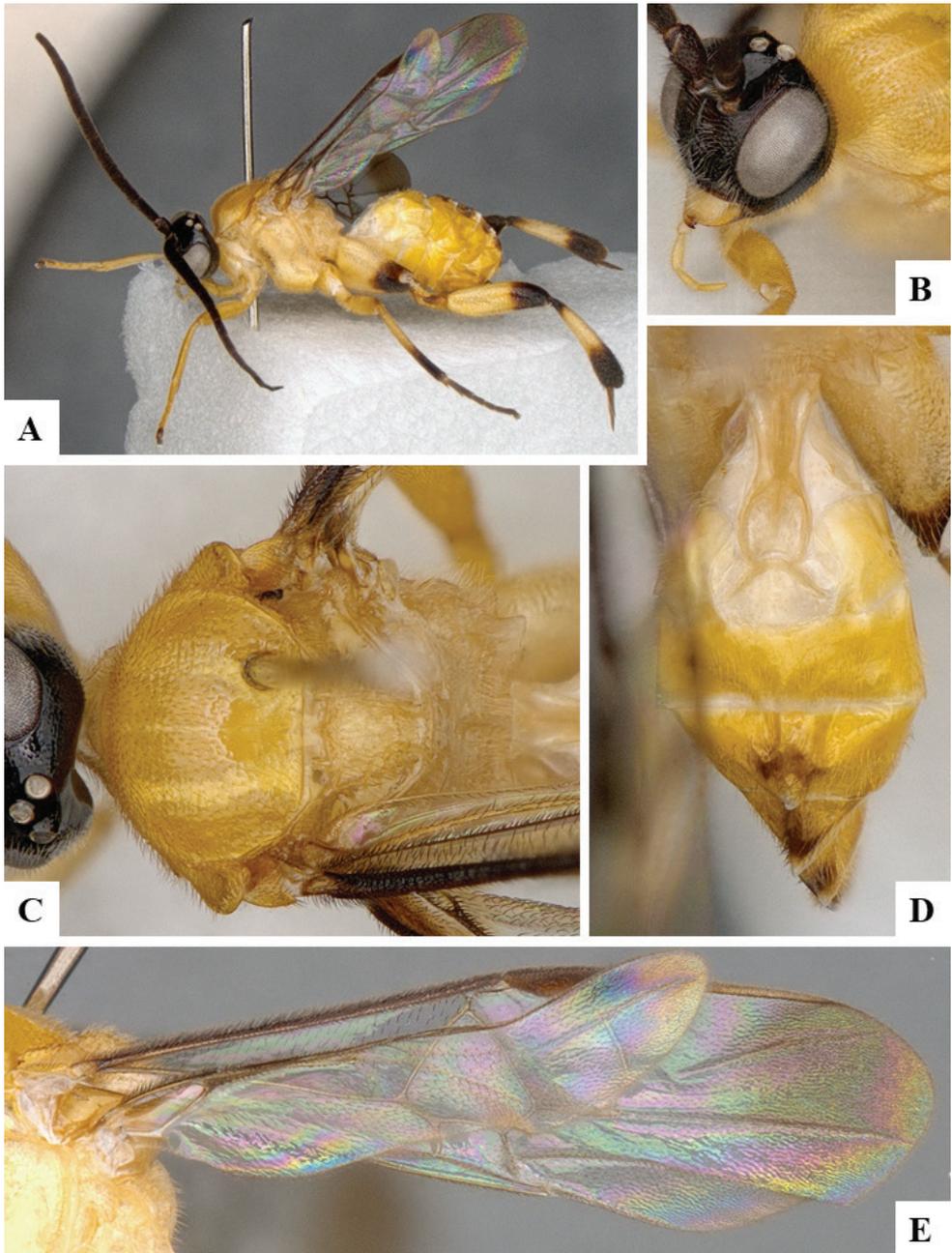


Figure 140. *Larissimus* sp. female CNC666286 **A** Habitus, lateral **B** Head, frontolateral **C** Mesosoma, dorsal **D** Metasoma, dorsal **E** Fore wing and hind wing.

***Lathrapanteles ampyx* Williams, 1985**

Lathrapanteles ampyx Williams, 1985.

Type information. Holotype female, USNM (examined). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia, Peru.

***Lathrapanteles fuscus* Williams, 1985**

Lathrapanteles fuscus Williams, 1985.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (BC, MB, NT, NS, QC), USA (CO, MN).

***Lathrapanteles heleios* Williams, 1985**

Lathrapanteles heleios Williams, 1985.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (ON, QC).

Notes. The Canadian record from Quebec (Aylmer) is from Fernandez-Triana et al. (2016a), a paper where that specimen was wrongly reported to be from Ontario.

***Lathrapanteles papaipemae* (Muesebeck, 1921)**

Apanteles papaipemae Muesebeck, 1921.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (NL, ON, QC), USA (IL, IN, IA, KS, MA, MI, MO, NY, OH, OR).

Genus *Mariapanteles* Whitfield & Fernandez-Triana, 2012

Mariapanteles Whitfield & Fernandez-Triana, 2012: 66. Gender: masculine.

Type species: *Mariapanteles felipei* Whitfield, 2012, by original designation.

This is a Neotropical genus with two species currently described (Whitfield et al. 2012). We have seen a few additional species in collections (CNC), mostly from tropical areas, but *Mariapanteles* does not seem to be very speciose. No host data are currently available for this genus. There are four DNA-barcode compliant sequences of this genus in BOLD, representing two BINs.

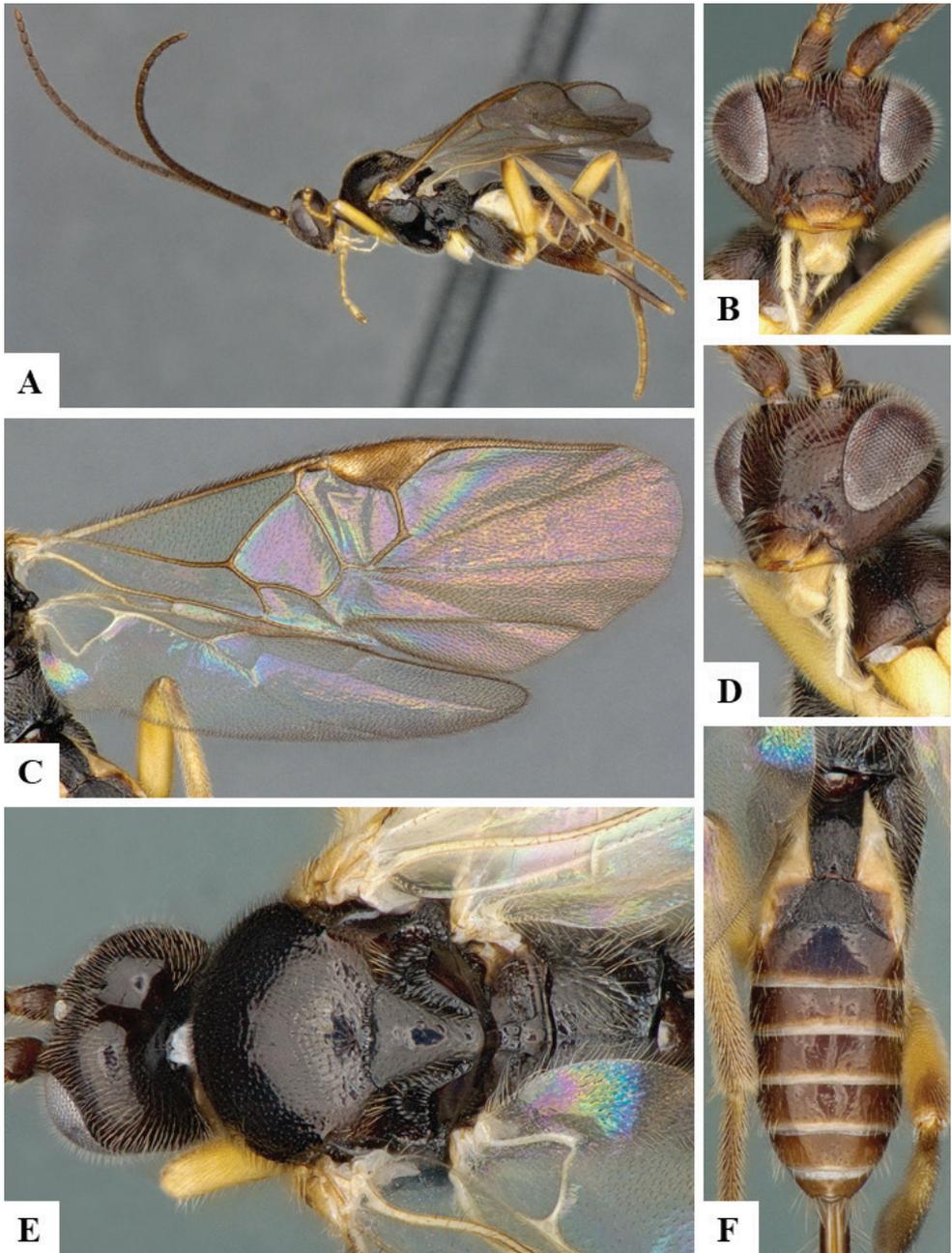


Figure 141. *Lathrapanteles ampyx* female paratype CNCHYM01560 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head, laterofrontal **E** Mesosoma, dorsal **F** Metasoma, dorsal.

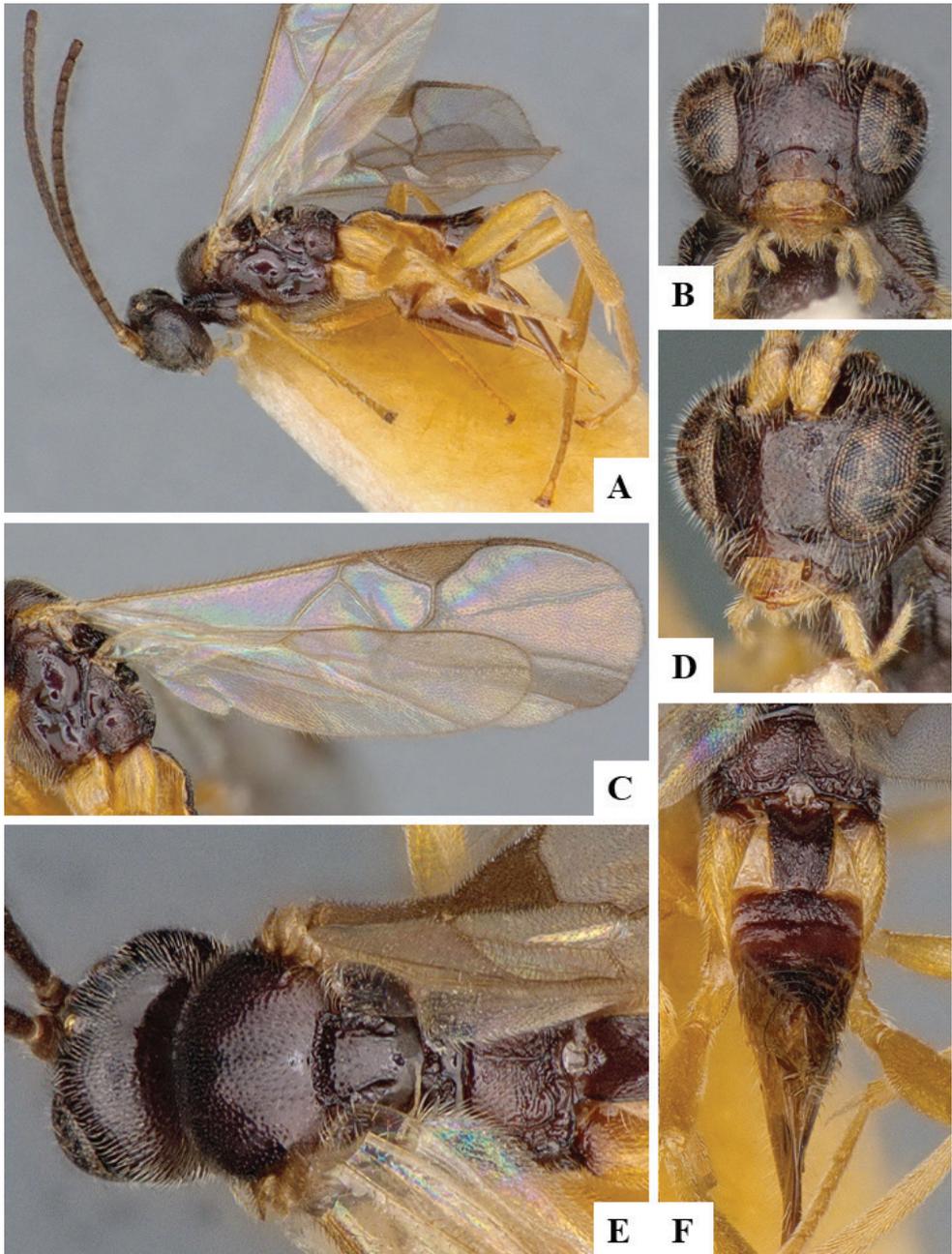


Figure 142. *Lathrapanteles papaipemae* female CNC807785 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head, frontolateral **E** Mesosoma, dorsal **F** Metasoma, dorsal.

***Mariapanteles dapkeyae* Fernandez-Triana, 2012**

Mariapanteles dapkeyae Fernandez-Triana, 2012.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (GO, MT).

***Mariapanteles felipei* Whitfield, 2012**

Mariapanteles felipei Whitfield, 2012.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Genus *Markshawius* Fernandez-Triana, 2018

Markshawius Fernandez-Triana, 2018: 88. Gender: neuter. Type species: *Markshawius erucidoctus* Fernandez-Triana and Boudreault 2018, by original designation.

Known from three recently described species from the Oriental region (Fernandez-Triana and Boudreault 2018). We are aware of at least one additional species in collections. No host data are currently available for this genus. There is one DNA-barcode compliant sequence of *Markshawius* in BOLD, representing one BIN (although that sequence has not been identified in BOLD as belonging to *Markshawius*, see Fernandez-Triana and Boudreault 2018 for that).

***Markshawius erucidoctus* Fernandez-Triana & Boudreault, 2018**

Markshawius erucidoctus Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, RMNH (examined). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Markshawius francescae* Fernandez-Triana & Boudreault, 2018**

Markshawius francescae Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, QSBG (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Nepal, Thailand, Vietnam.

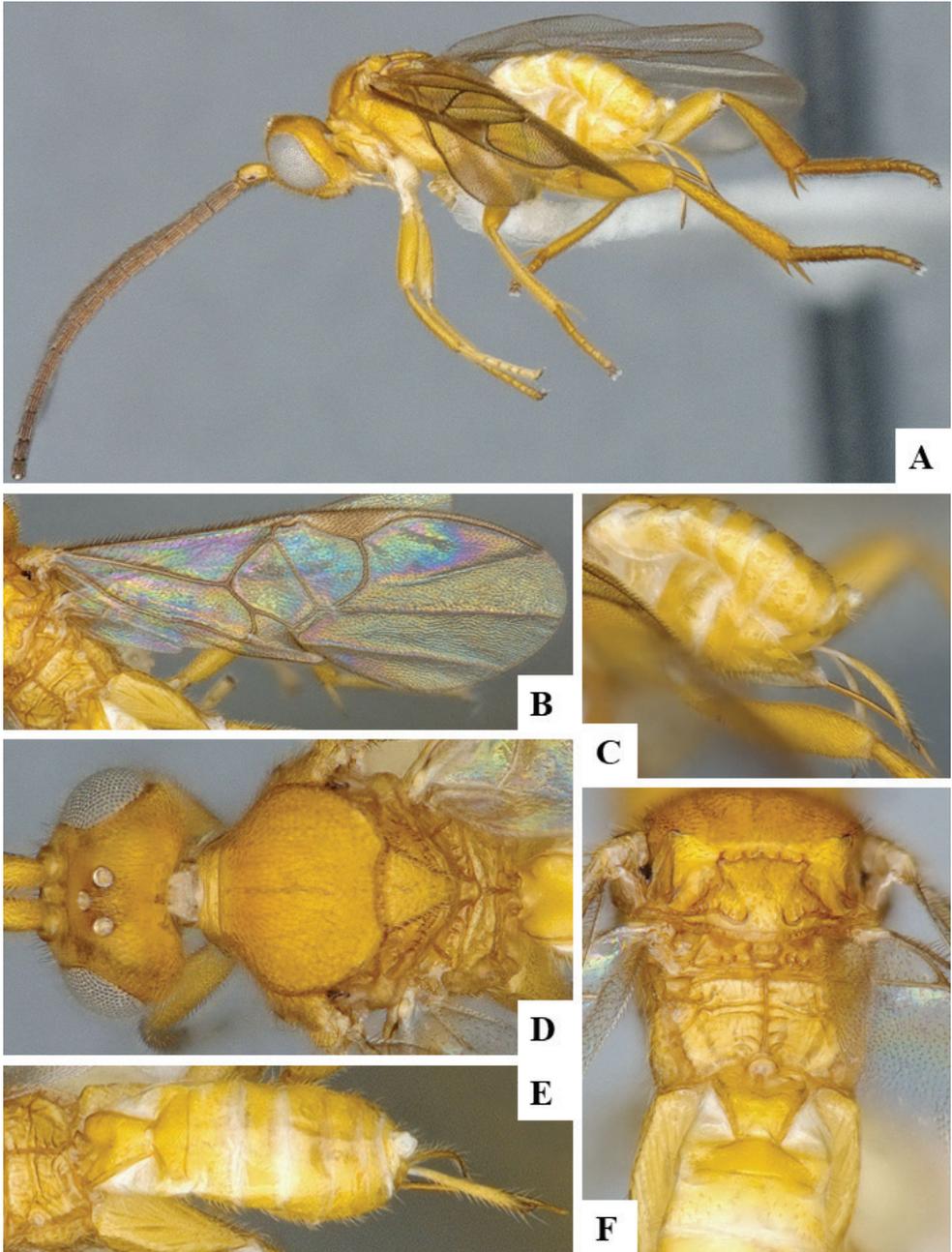


Figure 143. *Mariapanteles dapkeyae* female holotype **A** Habitus, lateral **B** Fore wing **C** Ovipositor and ovipositor sheaths **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Propodeum and tergites 1–3, dorsal.

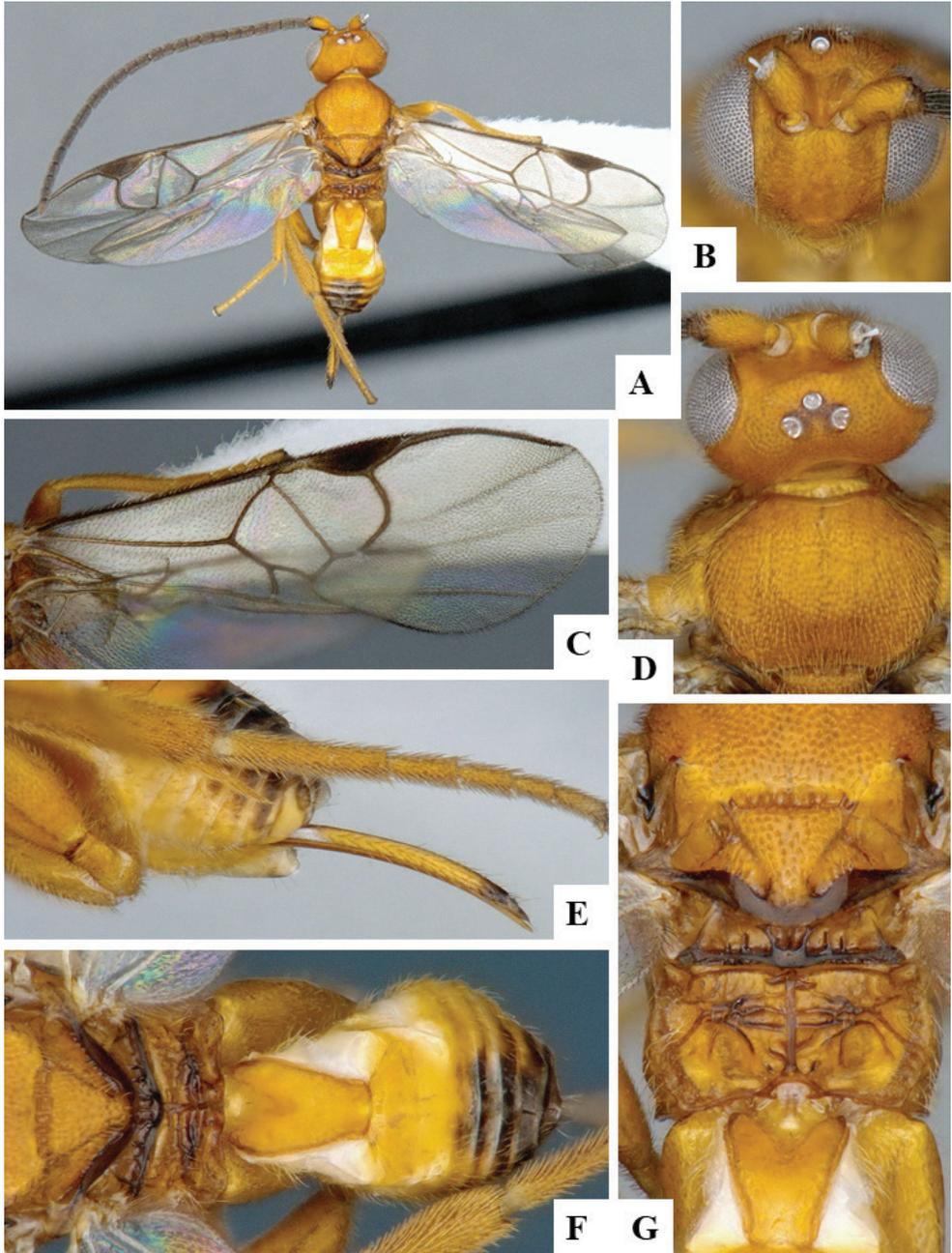


Figure 144. *Mariapanteles felipei* female holotype **A** Habitus, dorsal **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Ovipositor and ovipositor sheaths **F** Metasoma, dorsal **G** Propodeum and tergite 1, dorsal.

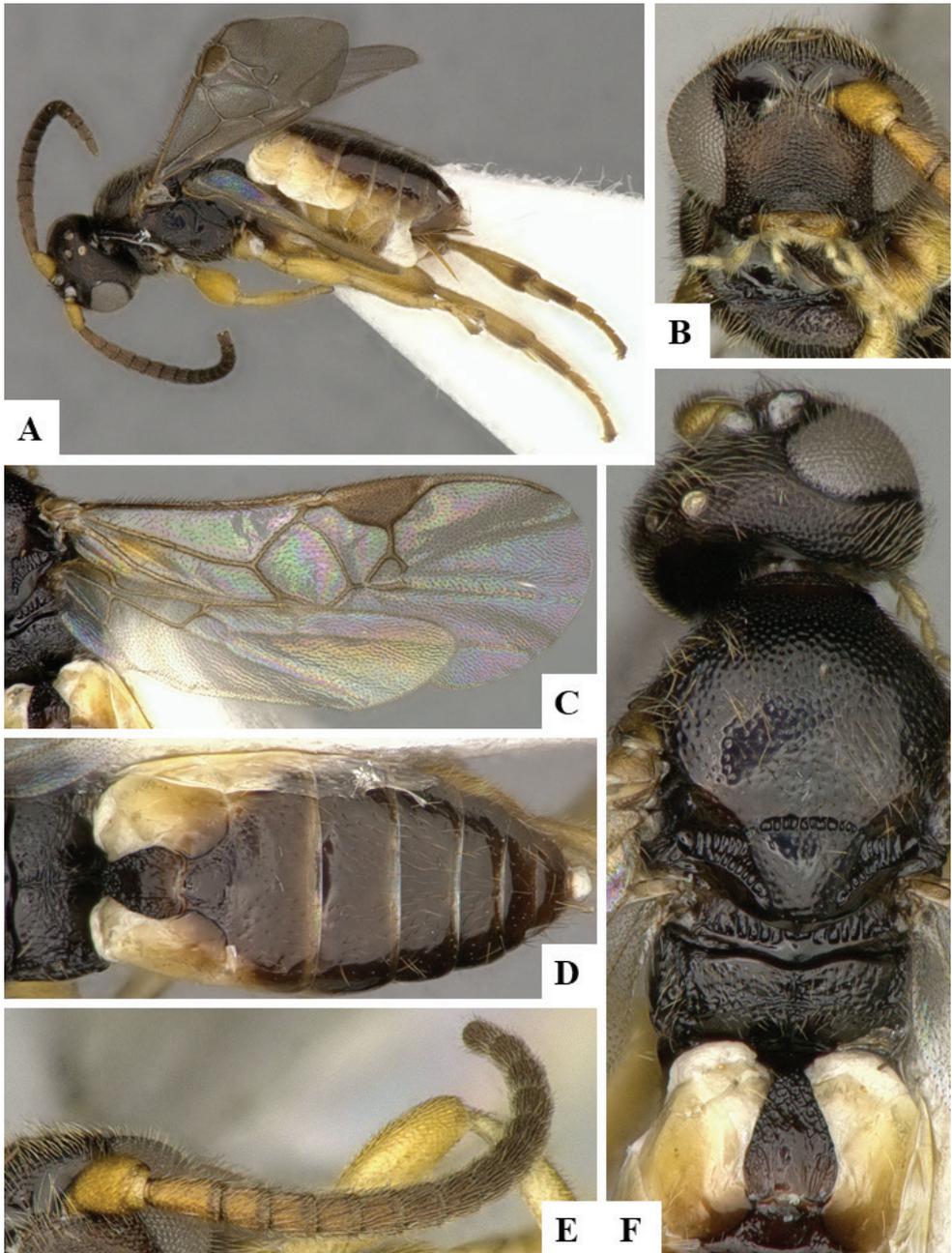


Figure 145. *Markshawius erucidoctus* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Antenna **F** Mesosoma and tergite 1, dorsal.

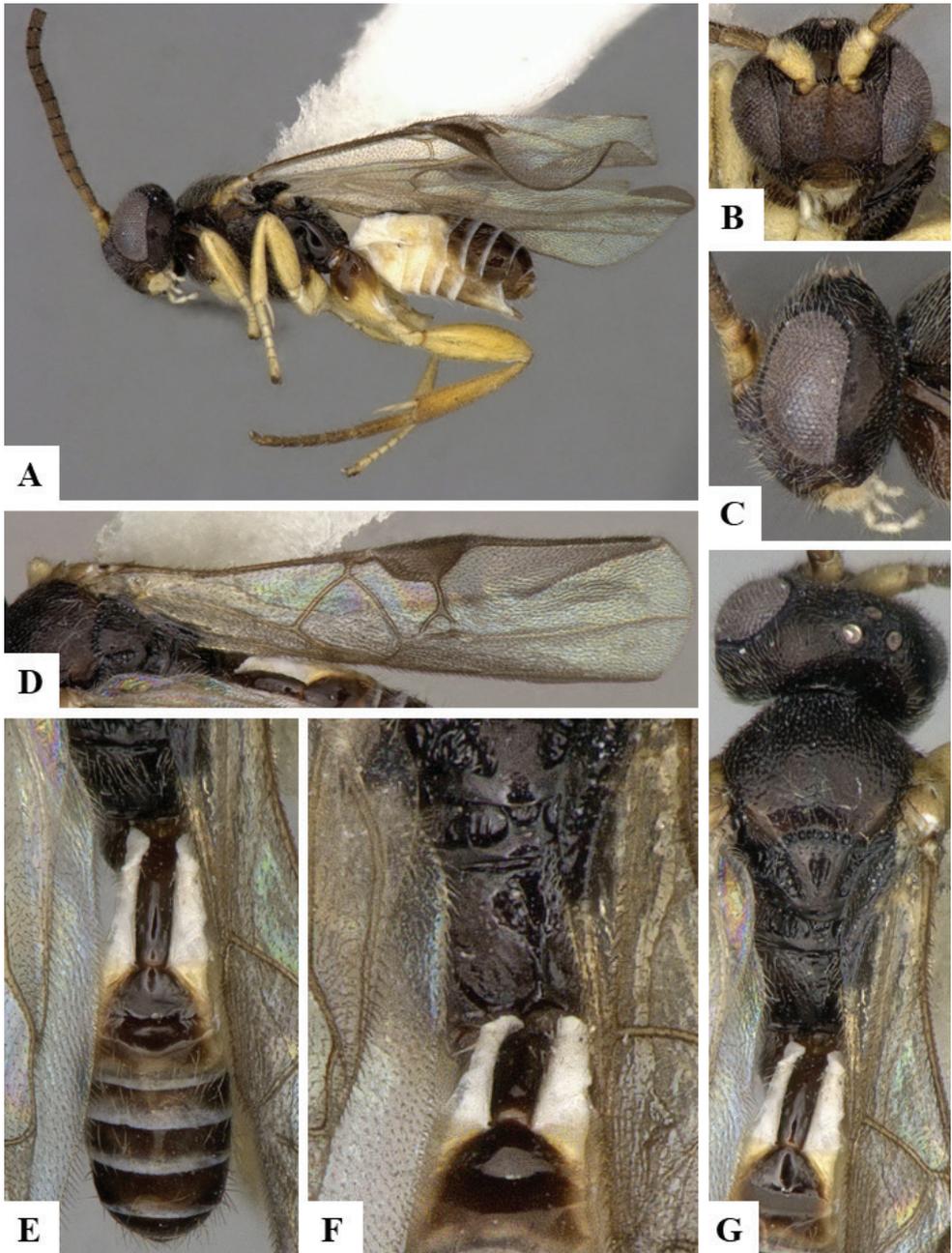


Figure 146. *Markshawiis francescae* female holotype **A** Habitus, lateral **B** Head, frontal **C** Head, lateral **D** Fore wing **E** Metasoma, dorsal **F** Propodeum and tergites 1–3, dorsal **G** Mesosoma and tergites 1–2, dorsal.

***Markshawius thailandensis* Fernandez-Triana & Boudreault, 2018**

Markshawius thailandensis Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, QSBG (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Thailand.

Genus *Microgaster* Latreille, 1804

Microgaster Latreille, 1804: 175. Gender: feminine. Type species: *Microgaster australis* Thomson, 1895, by subsequent designation (ICZN 1988).

Liganira Walker, 1860: 308 [Name mentioned as previous error and suppressed as *Microgaster* (Shenefelt 1973: 694), see also Mason (1981: 80)]. Type species: *Microgaster detractus* Walker, 1860.

Lissogaster Bengtsson, 1926: 64. Type species: *Microgaster polita*, Marshall, 1885, by subsequent designation (Muesebeck and Walkley 1951).

This was the first genus of Microgastrinae to be described and is the basis for the subfamily name. Until relatively recently, there was some confusion with the application of the name *Microgaster* and its type species (e.g., see van Achterberg 1982, Papp 1984c, Mason 1986, Tobias 1986, Whitfield 1987, Yu et al. 2012, 2016), which had the potential to complicate and confuse the treatment of many species used in biological control. Following van Achterberg's (1982) examination of the lectotype of *Ichneumon deprimator* Fabricius, designated as the type species of *Microgaster*, which turned out to be a species of *Microplitis*, the generic name *Microgaster* was applied to what had been called *Microplitis*, and the junior synonym *Lissogaster* was brought into play for *Microgaster* auctt. Mason (1986) applied to ICZN and it was reversed by a 1988 ICZN Opinion (1510) by setting aside previous designations (i.e., *deprimator*) and making *Microgaster australis* Thomson the type species of *Microgaster* (which returned *Lissogaster* to synonymy under *Microgaster* and restored the traditional use of *Microplitis*). But, for a short period of time (1982–1988), the name *Lissogaster* was in legitimate use for *Microgaster*, and *Microgaster* for *Microplitis* (e.g., Papp 1984c). As currently understood, *Microgaster* is a cosmopolitan genus, with 104 described species. We have seen many additional species in collections, mostly from temperate areas. There are some revisions available for certain regions and/or countries, but most are outdated and even the most recent revisions do not take into account the hidden diversity that is revealed by DNA barcoding and biological data. Approximately 25 families of Lepidoptera have been recorded as hosts for *Microgaster*, but many records are likely to be incorrect and/or need further verification. There are 1,000+ DNA-barcode compliant sequences of this genus in BOLD, representing 67 BINs.

***Microgaster acilius* Nixon, 1968**

Microgaster acilius Nixon, 1968.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: United Kingdom.

Notes. Reinstated as a valid species by Shaw (2012b), a decision we agree with and follow here.

***Microgaster albomarginata* Fahringer, 1935**

Microgaster albomarginata Fahringer, 1935.

Type information. Holotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GZ, SN).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster alebion* Nixon, 1968**

Microgaster alebion Nixon, 1968.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Czech Republic, Finland, Germany, Hungary, Italy, Poland, Romania, Russia (KR), Serbia, Switzerland, Turkey, United Kingdom.

***Microgaster archboldensis* Fernandez-Triana, 2018**

Microgaster archboldensis Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (FL).

***Microgaster arctostaphylica* Shaw, 2012**

Microgaster arctostaphylica Shaw, 2012.

Type information. Holotype female, RSME (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: United Kingdom.

***Microgaster areolaris* Thomson, 1895**

Microgaster areolaris Thomson, 1895.

Type information. Type unknown, MZLU (not examined but subsequent treatment of the species checked). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Armenia, Bosnia and Herzegovina, Finland, Germany, Hungary, Ireland, Mongolia, Montenegro, Norway, Poland, Romania, Russia (STA), Sweden, Switzerland, Ukraine, United Kingdom.

Notes. Our species concept is based on Nixon (1968) and Papp (1976c).

***Microgaster asramenes* Nixon, 1968**

Microgaster asramenes Nixon, 1968.

Type information. Holotype female, NHMUK (examined). Country of type locality: Turkey.

Geographical distribution. OTL, PAL.

OTL: China (ZJ); **PAL:** Georgia, Hungary, Italy, Korea, Poland, Romania, Russia (PRI), Turkey.

***Microgaster atropa* de Saeger, 1944**

Microgaster atropa de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

***Microgaster auriculata* (Fabricius, 1804)**

Ichneumon auriculatus Fabricius, 1804.

Microgaster auriculatrix Schulz, 1906 [unjustified emendation].

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria, Germany, Italy, Russia (NC, S).

Notes. Our species concept and geographical distribution is based on Nixon (1968) and Papp (1976c), but we exclude it from the UK based on Broad et al. (2016). The species is treated as a member of Ichneumonidae, as *Scolobates auriculatus* (Fabricius, 1804) in Yu et al. (2016), but the status of this species (and the history of the name use) will require further clarification. The issue is currently under investigation for publication (Ghafouri Moghaddam, pers. comm.), and thus for the time being we present the basic information for this species as it concerns Microgastrinae.

***Microgaster australis* Thomson, 1895**

Microgaster australis Thomson, 1895.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Italy.

Geographical distribution. PAL.

PAL: Georgia, Germany, Greece, Hungary, Iran, Italy, Kazakhstan, Latvia, Moldova, Mongolia, Montenegro, Poland, Russia (PRI), Slovenia, Spain, Turkey, Turkmenistan.

Notes. Our species concept is based on Shaw et al. (2009). The species distribution in Georgia, Turkey and Turkmenistan is based on Belokobylskij et al. (2019).

***Microgaster balearica* Marshall, 1898**

Microgaster balearica Marshall, 1898.

Type information. Syntypes female and male, depository unknown (not examined but original description checked). Country of type locality: Spain.

Geographical distribution. PAL.

PAL: Spain.

Notes. Our species concept is based on Marshall (1898) and Telenga (1955).

***Microgaster biaca* Xu & He, 1998**

Microgaster biaca Xu & He, 1998.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (ZJ).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster breviterebrae* Xu & He, 2003**

Microgaster breviterebrae Xu & He, 2003.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HL, JL, LN).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster brittoni* Viereck, 1917**

Microgaster brittoni Viereck, 1917.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.**NEA:** Canada (ON), USA (CT, GA, IA, MA, MI, MN, NY, WI).***Microgaster campestris* Tobias, 1964***Microgaster campestris* Tobias, 1964.**Type information.** Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.**Geographical distribution.** PAL.**PAL:** Azerbaijan, China (HA, LN), Kazakhstan, Russia (S), Serbia, Uzbekistan.**Notes.** Our species concept is based on Papp (1976c), Tobias (1986) and Xu and Han (2007).***Microgaster canadensis* Muesebeck, 1922***Microgaster canadensis* Muesebeck, 1922.**Type information.** Holotype female, USNM (not examined but original description checked). Country of type locality: Canada.**Geographical distribution.** NEA.**NEA:** Canada (AB, BC, MB, NB, NS, ON, PE, QC, SK), USA (AR, CO, MA, MI, NY, OR).***Microgaster caris* Nixon, 1968***Microgaster caris* Nixon, 1968.**Type information.** Holotype female, NHMW (not examined but original description checked). Country of type locality: Austria.**Geographical distribution.** PAL.**PAL:** Austria, China (JL), Czech Republic, Hungary, Russia (C, PR), Slovakia, Switzerland.***Microgaster chryso sternis* (Tobias, 1986)***Lissogaster chryso sternis* Tobias, 1986.**Type information.** Holotype female, ZIN (not examined but original description checked). Country of type locality: Moldova.**Geographical distribution.** PAL.**PAL:** Moldova.***Microgaster congregatiformis* Viereck, 1917***Microgaster congregatiformis* Viereck, 1917.**Type information.** Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, MB, ON), USA (CA, CT, MA, MI, NJ, NY).

***Microgaster consors* Nixon, 1968**

Microgaster consors Nixon, 1968.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Hungary, Slovakia, United Kingdom.

***Microgaster crassicornis* Ruthe, 1860**

Microgaster crassicornis Ruthe, 1860.

Type information. Holotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Finland, Germany, Hungary, Ireland, Poland, Romania, Russia (BEL, YAR), Serbia, Sweden, Switzerland, United Kingdom.

Notes. Our species concept is based on Nixon (1968) and Papp (1976c).

***Microgaster debilitata* Papp, 1976**

Microgaster debilitata Papp, 1976.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

***Microgaster deceptor* Nixon, 1968**

Microgaster deceptor Nixon, 1968.

Type information. Holotype female, MZH (examined). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Finland, Slovenia.

***Microgaster deductor* Nixon, 1968**

Microgaster deductor Nixon, 1968.

Type information. Holotype female, MZH (not examined but original description checked). Country of type locality: Finland.

Geographical distribution. NEA, PAL.

NEA: Canada (MB, NT, YT), USA (AK); **PAL:** Finland, Poland, Sweden.

Notes. The record from Poland was questioned by Fernandez-Triana (2014) as a possible misidentification, but is still kept here until more evidence is found.

***Microgaster discoidus* Xu & He, 2000**

Microgaster discoidus Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (SN).

Notes. Our species concept is based on Chen and Song (2004) and Xu and Han (2007).

***Microgaster ductilis* Nixon, 1968**

Microgaster ductilis Nixon, 1968.

Type information. Holotype female, MZH (examined). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Finland, Georgia, Hungary, Korea, Mongolia, Russia (PRI), United Kingdom.

***Microgaster dudichi* Papp, 1961**

Microgaster dudichi Papp, 1961.

Type information. Holotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Germany.

Notes. Our species concept is based on Nixon (1968), Papp (1976c) and Tobias (1986).

***Microgaster elegans* Herrich-Schäffer, 1838**

Microgaster elegans Herrich-Schäffer, 1838.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Germany, Netherlands.

Notes. Our species concept is based on Herrich-Schäffer (1838), Shenefelt (1973) and Belokobylskij et al. (2003). We have examined the colour plates from the original source (Herrich-Schäffer 1838) and there are three plates (numbered as 153.13, 153.14 and 153.15) which all correspond to *Microgastrinae* genera. Those

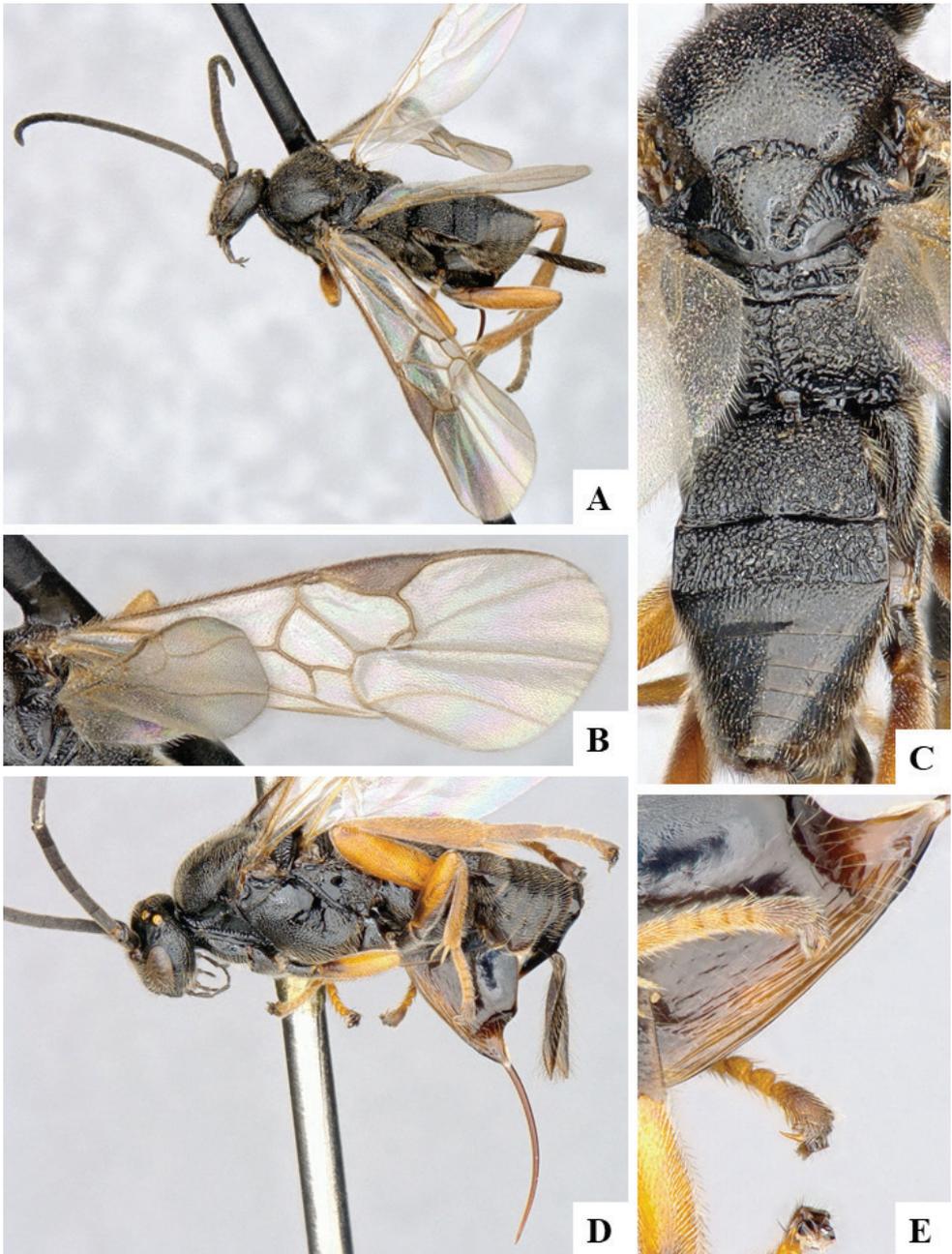


Figure 147. *Microgaster deductor* female CNC752604 (for images A, B and C) and female CNC752606 (for images D and E) **A** Habitus, lateral **B** Fore wing **C** Mesosoma and metasoma, dorsal **D** Habitus, lateral **E** Hypopygium, ventrolateral.

plates are detailed enough to allow us to assign each to a genus with a high degree of certainty: plate 13 corresponds to *Microgaster*, 14 to *Glyptapanteles*, and

15 to either *Dolichogenidea* (most likely) or *Apanteles*. However, both catalogues of Szépligeti (1904: 150) and Shenefelt (1973: 705) record *M. elegans* as being described in plate 14. That is likely to be a mistake, as that plate is clearly not *Microgaster* (but the previous one definitely is).

***Microgaster epagoges* Gahan, 1917**

Microgaster epagoges Gahan, 1917.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, ON, QC), USA (CO, IL, IN, IA, MA, MO, NY, OH, PA, SC, TN, VA).

Notes. Our species concept is based on Muesebeck (1922), Nixon (1968) and Fernandez-Triana and Huber (2010).

***Microgaster erro* Nixon, 1968**

Microgaster erro Nixon, 1968.

Type information. Holotype female, MZH (examined). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Finland, Germany, Hungary, Kazakhstan, Mongolia, Russia (KR, PRI), Serbia, Slovakia, Sweden, Switzerland.

Notes. The species distribution in Kazakhstan is based on Belokobylskij et al. (2019).

***Microgaster eupolis* Nixon, 1968**

Microgaster eupolis Nixon, 1968.

Type information. Holotype female, NHMW (not examined but original description checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria, Germany, Italy, Serbia, Switzerland.

***Microgaster famula* Nixon, 1968**

Microgaster famula Nixon, 1968.

Type information. Holotype female, NHMW (not examined but original description checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria, Croatia, Hungary, Moldova, Romania, Russia (C), Serbia, Slovakia, Switzerland, Turkey.

***Microgaster femoralamericana* Shenefelt, 1973**

Microgaster femoralamericana Shenefelt, 1973.

Microgaster femoralis Muesebeck, 1922 [primary homonym of *Microgaster femoralis* Bouché, 1834].

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA, ID, OR, WA).

Notes. Our species concept is based on Muesebeck (1922).

***Microgaster ferruginea* Xu & He, 2000**

Microgaster ferruginea Xu & He, 2000.

Type information. Holotype male, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (ZJ); **PAL:** China (SD).

Notes. Our species concept is based on Chen and Song (2004) and Xu and Han (2007).

***Microgaster filizinancae* Koçak & Kemal, 2013**

Microgaster filizinancae Koçak & Kemal, 2013.

Microgaster gracilis Inanç, 1992 [primary homonym of *Microgaster gracilis* Curtis, 1830].

Type information. Holotype female, ZMTU (not examined but subsequent treatment of the species checked). Country of type locality: Turkey.

Geographical distribution. PAL.

PAL: Turkey.

Notes. Koçak and Kemal (2013) proposed the name *Microgaster filizinancae* as a replacement for *M. gracilis* Inanç, 1992, junior primary homonym of *Microgaster gracilis* Curtis, 1830.

***Microgaster fischeri* Papp, 1960**

Microgaster fischeri Papp, 1960.

Type information. Holotype male, NHMW (not examined but subsequent treatment of the species checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria, Hungary, Moldova, Mongolia, Russia (KDA, PRI), Turkey.

Notes. Our species concept is based on Shaw (2012b). We also examined two male paratypes.

***Microgaster flaviventris* Xu & He, 2002**

Microgaster flaviventris Xu & He, 2002.

Microgaster flaviventris Xu & He, 2002 [primary homonym of *Microgaster flaviventris* Cresson, 1865].

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HL).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster fulvicrus* Thomson, 1895**

Microgaster fulvicrus Thomson, 1895.

Microgaster striatoscutellaris Kiss, 1927.

Type information. Syntypes female and male, MZLU (not examined but subsequent treatment of the species checked). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Finland, Germany, Hungary, Ireland, Japan, Korea, Moldova, Montenegro, Romania, Russia (DA, PRI), Serbia, Slovakia, Sweden, Turkey, United Kingdom, Uzbekistan.

Notes. Our species concept is based on Nixon (1968), Papp (1976c), and Tobias (1986). The species distribution in Japan and Uzbekistan is based on Belokobylskij et al. (2019).

***Microgaster fusca* Papp, 1959**

Microgaster fusca Papp, 1959.

Microgaster phryne Nixon, 1968.

Type information. Holotype female, HNHM (not examined but paratype examined). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Hungary, Macedonia, Moldova, Romania, Russia (C), Yugoslavia.

Notes. We also examined the type of *Microgaster phryne* Nixon.

***Microgaster gelechia* Riley, 1869**

Microgaster gelechia Riley, 1869.

Microgaster gelechia Riley, 1869 [incorrect original spelling].

Microgaster gelechia trichotaphae Walley, 1932.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON, QC), USA (CO, CT, DC, IL, LA, MD, MA, MO, NJ, NY, NC, ND, VA, WI).

***Microgaster glabritergites* Xu & He, 2000**

Microgaster glabritergites Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HL).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster gregaria* (Schrank, 1781)**

Ichneumon gregarius Schrank, 1781.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Austria.

***Microgaster harnedi* Muesebeck, 1922**

Microgaster harnedi Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (IN, MA, MI, MS, SC, VA, WA).

***Microgaster himalayensis* Cameron, 1910**

Microgaster himalayensis Cameron, 1910.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. From the original description, as well as subsequent treatment of the species (Wilkinson 1927), it is not clear if this species actually belongs to *Microgaster*. We suspect it does not, but until further study of the type is done, it is not possible to establish with certainty the generic placement of the species, so we leave it in the genus in which it was originally described.

***Microgaster hospes* Marshall, 1885**

Microgaster hospes Marshall, 1885.

Microgaster comptanae Viereck, 1911.

Type information. Syntypes female and male, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. NEA, PAL.

NEA: Canada (ON, QC), USA (CO, IA, KS, MD, NJ, NY, OH, UT, VA); **PAL:** Bulgaria, Czech Republic, Finland, Georgia, Germany, Hungary, Ireland, Italy, Lithuania, Moldova, Mongolia, Netherlands, Poland, Romania, Russia (BU, KR, PRI), Slovakia, Switzerland, United Kingdom, Uzbekistan.

Notes. We also examined the type of *Microgaster comptanae* Viereck, 1911, a female specimen.

***Microgaster hungarica* Szépligeti, 1896**

Microgaster hungarica Szépligeti, 1896.

Type information. Lectotype male, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Austria, Azerbaijan, Hungary, Kyrgyzstan, Moldova, Mongolia, Romania, Russia (KDA, KYA), Ukraine.

Notes. Our species concept is based on Papp (1976c, 2004). The species distribution in Azerbaijan and Kyrgyzstan is based on Belokobylskij et al. (2019).

***Microgaster hyalina* Cresson, 1865**

Microgaster hyalina Cresson, 1865.

Type information. Holotype female, ANSP (not examined but subsequent treatment of the species checked). Country of type locality: Cuba.

Geographical distribution. NEO.

NEO: Cuba.

Notes. Our species concept is based on Muesebeck (1921).

***Microgaster intercus* (Schrank, 1781)**

Ichneumon intercus Schrank, 1781.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria.

***Microgaster kuchingensis* Wilkinson, 1927**

Microgaster kuchingensis Wilkinson, 1927.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. AUS, OTL, PAL.

AUS: Papua New Guinea; **OTL:** China (FJ, TW, ZJ), India, Malaysia, Philippines;

PAL: China (JL), Japan.

Notes. The holotype is missing the head, the metasoma is detached (but glued to a card) and the micropin is full of rust.

***Microgaster latitergum* Song & Chen, 2004**

Microgaster latitergum Song & Chen, 2004.

Type information. Holotype female, FAFU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (FJ, HB); **PAL:** China (JL).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster leechi* Walley, 1935**

Microgaster leechi Walley, 1935.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (BC, MB, ON, QC), USA (FL, MD, MA, MI, OH, OR, PA).

***Microgaster longicalcar* Xu & He, 2003**

Microgaster longicalcar Xu & He, 2003.

Microgaster longicalcar Xu & He, 2003 [homonym of *Microgaster longicalcar* Thomson, 1895].

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HB).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster longicaudata* Xu & He, 2000**

Microgaster longicaudata Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (ZJ).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster longiterebra* Xu & He, 2000**

Microgaster longiterebra Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (YN).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster luctuosa* Haliday, 1834**

Microgaster luctuosus Haliday, 1834.

Microgaster curvicrus Thomson, 1895.

Type information. Holotype male, NMID (not examined but original description checked). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Austria, Azerbaijan, Bulgaria, Croatia, Finland, Germany, Greece, Hungary, Ireland, Israel, Moldova, Mongolia, Poland, Romania, Russia (KR, KIR, PRI, SPE, YAR), Serbia, Sweden, Switzerland, Tunisia, Turkey, Turkmenistan, United Kingdom, Uzbekistan.

Notes. The original description (Haliday 1834: 239) is based on a single male specimen. Not only is that clearly stated, but the actual description, which we thoroughly checked, undoubtedly refers to a male specimen as there is no mention of an ovipositor (all previous and subsequent descriptions in that paper, when based on female specimens, mention the ovipositor as aculeus and provide details on its length, but that is missing in the description of *luctuosus*). Shenefelt (1973: 734) also refers to the type as male. However, van Achterberg (1997: 54–55) in his revision of Haliday collection of Braconidae mentions the type as female, which is also referred to by Taxapad (Yu et al. 2016). We follow here the original description in considering the holotype to be a male. The species distribution in Israel and Turkey is based on Belokobylskij et al. (2019).

***Microgaster magnifica* Wilkinson, 1929**

Microgaster magnifica Wilkinson, 1929.

Type information. Holotype female, NHMUK (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

***Microgaster memorata* Papp, 1971**

Microgaster memorata Papp, 1971.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

***Microgaster meridiana* Haliday, 1834**

Microgaster meridiana Haliday, 1834.

Microgaster spinolae Haliday, 1834 [primary homonym of *Microgaster spinolae* Nees, 1834 (?)].

Microgaster alexis Curtis, 1837.

Microgaster grandis Thomson, 1895.

Microgaster contubernalis Marshall, 1898.

Type information. Lectotype female, NMID (examined). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Bulgaria, Canary Islands, Czech Republic, Finland, Germany, Hungary, Ireland, Italy, Kazakhstan, Latvia, Lithuania, Moldova, Poland, Romania, Russia (IRK, KR, PRI, RYA, SPE, YAR), Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

Notes. Our species concept is based on Shaw (2012b), who also removed *Microgaster acilia* Nixon, 1968 from synonym and reinstated it as a valid species.

***Microgaster messoria* Haliday, 1834**

Microgaster messoria Haliday, 1834.

Microgaster tibialis Nees, 1834 [primary homonym of *Microgaster tibialis* Curtis, 1830].

Microgaster ambigua Ruthe, 1860.

Microgaster maculata Ruthe, 1860.

Microgaster vulgaris Ruthe, 1860.

Microgaster pluto Morley, 1936.

Type information. Lectotype female, NMID (examined). Country of type locality: unknown.

Geographical distribution. NEA, PAL.

NEA: Canada (ON, QC); **PAL:** Armenia, Austria, Azerbaijan, Bulgaria, Canary Islands, China (JL, SN, XJ), Croatia, Czech Republic, Finland, France, Georgia, Germany, Hungary, Ireland, Italy, Japan, Kazakhstan, Latvia, Macedonia, Malta, Moldova, Montenegro, Netherlands, Poland, Romania, Russia (DA, KAM, KIR, KDA, MOS, ORE, PRI, SAK, SPE, VGG, YAR), Serbia, Spain, Sweden, Switzerland, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

Notes. We also examined the type of *Microgaster pluto* Morley.

***Microgaster nerione* Nixon, 1968**

Microgaster nerione Nixon, 1968.

Type information. Holotype female, NHMUK (examined). Country of type locality: Mexico.

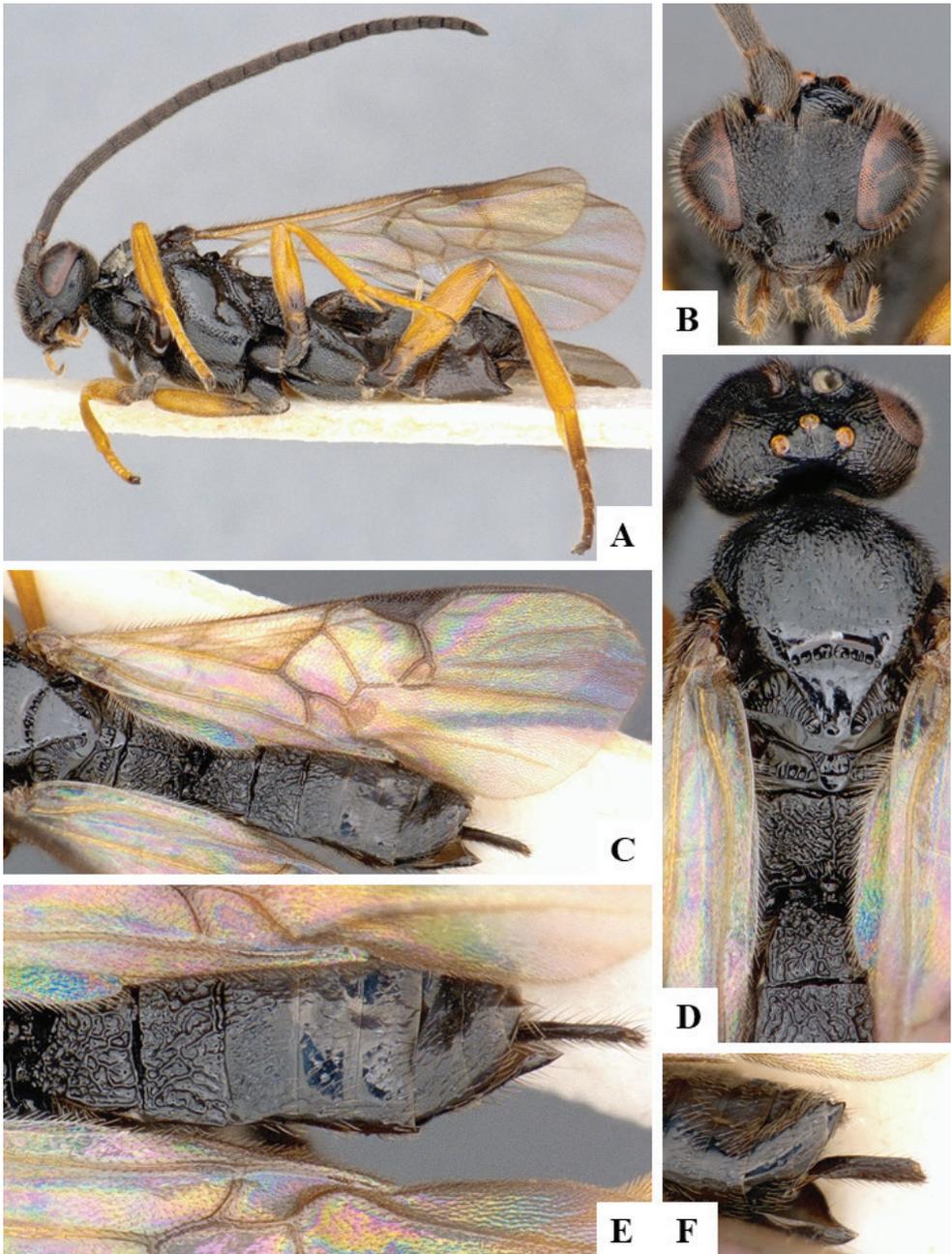


Figure 148. *Microgaster meridiana* female CNC474707 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal **F** Hypopygium and ovipositor sheaths.

Geographical distribution. NEO.

NEO: Mexico.

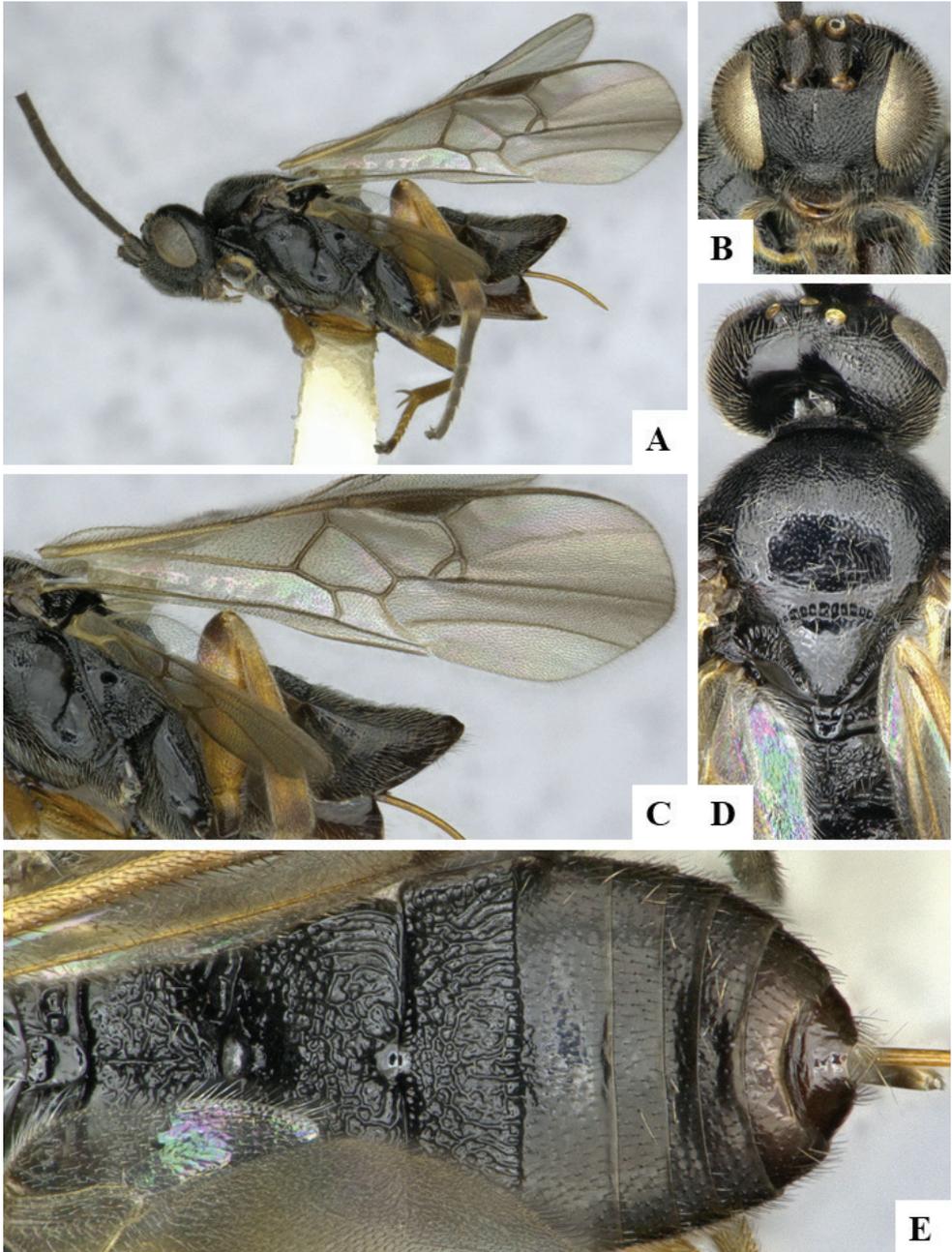


Figure 149. *Microgaster messoria* female CNCHYM01635 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

***Microgaster nigricans* Nees, 1834**

Microgaster nigricans, Nees, 1834.

Type information. Holotype male, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Germany, Hungary, Mongolia, Russia (PRI), Sweden, United Kingdom.

Notes. Our species concept is based on Papp (2016). Broad et al. (2016) considered the species as of doubtful status in the United Kingdom, but nevertheless listed in their account, a decision we accept and follow here.

***Microgaster nitidula* Wesmael, 1837**

Microgaster nitidula Wesmael, 1837.

Type information. Lectotype female, RBINS (not examined but subsequent treatment of the species checked). Country of type locality: Belgium.

Geographical distribution. PAL.

PAL: Belgium, France, Germany, Poland, Romania, Russia (DA, SPE, YAR), Sweden.

Notes. Our species concept is based on Papp (1976c) and Tobias (1986).

***Microgaster nixalebion* Shaw, 2004**

Microgaster nixalebion Shaw, 2004.

Type information. Holotype female, RSME (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Belgium, France, Greece, United Kingdom.

***Microgaster nixonii* Austin & Dangerfield, 1992**

Microgaster nixonii Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NSW, TAS).

***Microgaster nobilis* Reinhard, 1880**

Microgaster nobilis Reinhard, 1880.

Microgaster nobilis compressifemur Fahringer, 1937.

Type information. Holotype male, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Canary Islands, France, Germany, Hungary, Moldova, Romania, Russia (RYA), Switzerland, Ukraine.

Notes. Our species concept is based on Shaw et al. (2009). The species distribution in Armenia is based on Belokobylskij et al. (2019).

***Microgaster novicia* Marshall, 1885**

Microgaster novicia Marshall, 1885.

Microgaster swammerdamiae Muesebeck, 1922.

Type information. Syntypes female and male, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. NEA, OTL, PAL.

NEA: USA (CT); **OTL:** China (GD, ZJ); **PAL:** Finland, Germany, Hungary, Mongolia, Russia (NW), Serbia, Switzerland, United Kingdom.

Notes. We also examined the type of *Microgaster swammerdamiae* Muesebeck, 1922, a female specimen: it has a relatively short ovipositor and the hypopygium is not pleated but inflexible.

***Microgaster noxia* Papp, 1976**

Microgaster noxia Papp, 1976.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

***Microgaster obscuripennata* You & Xia, 1992**

Microgaster obscuripennata You & Xia, 1992.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HN, ZJ).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster opheltes* Nixon, 1968**

Microgaster opheltes Nixon, 1968.

Type information. Holotype female, NHMUK (examined). Country of type locality: Macedonia.

Geographical distribution. PAL.

PAL: Ireland, Italy, Macedonia, Romania, Turkey, Yugoslavia.

***Microgaster ostrinae* Xu & He, 2000**

Microgaster ostrinae Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (HN, ZJ); **PAL:** China (LN, SD).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster pantographae* Muesebeck, 1922**

Microgaster pantographae Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA, PAL.

NEA: Canada (ON), USA (IL, IA, MA, MI, MO, NY, OH, PA, VA); **PAL:** United Kingdom.

***Microgaster parvistriga* Thomson, 1895**

Microgaster parvistriga Thomson, 1895.

Microgaster parvistrigis Marshall, 1897 [unjustified emendation].

Type information. Type unknown, MZLU (not examined but subsequent treatment of the species checked). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Armenia, Bulgaria, Finland, Germany, Greece, Hungary, Iran, Korea, Mongolia, Poland, Romania, Russia (PRI), Slovakia, Sweden, Switzerland, United Kingdom.

Notes. Our species concept is based on Papp (1976c) and Shaw (2012b). The species distribution in Iran is based on Belokobylskij et al. (2019).

***Microgaster peroneae* Walley, 1935**

Microgaster peroneae Walley, 1935.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (BC, NB, NL, NS, ON, QC), USA (AK, DC, MI, OH, WA).

***Microgaster phthorimaeae* Muesebeck, 1922**

Microgaster phthorimaeae Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA, OR, WA).

***Microgaster planiabdominalis* You, 2002**

Microgaster planiabdominalis You, 2002.

Type information. Holotype female, IEAS (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (QH).

***Microgaster polita* Marshall, 1885**

Microgaster polita Marshall, 1885.

Microgaster carinata Bengtsson, 1926 [primary homonym of *Microgaster carinata* Packard, 1881].

Microgaster bengtssoni Fahringer, 1937.

Type information. Holotype male, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Armenia, Finland, Germany, Hungary, Ireland, Kazakhstan, Korea, Lithuania, Norway, Poland, Romania, Russia (KAM, PRI, SAK, SPE), Sweden, Switzerland, United Kingdom.

Notes. The species distribution in Kazakhstan is based on Belokobylskij et al. (2019).

***Microgaster postica* Nees, 1834**

Microgaster postica Nees, 1834.

Microgaster marginella Wesmael, 1837.

Type information. Holotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Belgium, Czech Republic, France, Germany, Hungary, Netherlands, Poland, Romania, Russia (PRI).

Notes. Our species concept is based on Papp (1976c) and Tobias (1986).

***Microgaster procera* Ruthe, 1860**

Microgaster procerus Ruthe, 1860.

Microgaster intermedia Ivanov, 1899.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Austria, Finland, Germany, Hungary, Ireland, Mongolia, Netherlands, Poland, Romania, Russia (SPE), Spain, Ukraine.

Notes. Our species concept is based on Nixon (1968), Papp (1976c) and Shaw (2012b).

***Microgaster pseudotibialis* Fahringer, 1937**

Microgaster pseudotibialis Fahringer, 1937.

Microgaster tibialis Brullé, 1832 [primary homonym of *Microgaster tibialis* Curtis, 1830].

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Algeria, Greece.

***Microgaster punctithorax* Xu & He, 2000**

Microgaster punctithorax Xu & He, 2000.

Type information. Holotype male, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (LN).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster raschkiellae* Shaw, 2012**

Microgaster raschkiellae Shaw, 2012.

Type information. Holotype female, RSME (examined). Country of type locality: United Kingdom.

Geographical distribution. NEA, PAL.

NEA: Canada (MB); **PAL:** United Kingdom.

***Microgaster rava* You & Zhou, 1996**

Microgaster rava You & Zhou, 1996.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GX).

Notes. Our species concept is based on Chen and Song (2004), Xu and Han (2007), and Kotenko (2007a). The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Microgaster reticulata* Shestakov, 1940**

Microgaster reticulata Shestakov, 1940.

Type information. Holotype female, NHRS (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (PRI).

Notes. Our species concept is based on Nixon (1968) and Kotenko (2007a).

***Microgaster rubricollis* Spinola, 1851**

Microgaster rubricollis Spinola, 1851.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

***Microgaster rufipes* Nees, 1834**

Microgaster rufipes Nees, 1834. [= *Microgaster globata* auctt., not Linnaeus, 1758].

Ichneumon gossypinus Retzius, 1783.

Ichneumon globator Thunberg, 1822.

Microgaster anthomyiarum Bouché, 1834.

Microgaster amentorum Ratzeburg, 1844.

Microgaster subincompleta Ratzeburg, 1852.

Microgaster laeviscuta Thomson, 1895.

Microgaster incurvata Papp, 1976.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Albania, Armenia, Austria, Azerbaijan, Belgium, Bulgaria, Canary Islands, China (JL), Croatia, Czech Republic, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Ireland, Italy, Japan, Kazakhstan, Korea, Latvia, Lithuania, Moldova, Mongolia, Montenegro, Netherlands, Norway, Poland, Romania, Russia (IRK, KAM, KC, MOS, PRI, ROS, SAK, SPE, SAR, VGG, VOR, YAR), Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Turkmenistan, Ukraine, United Kingdom.

Notes. We accept and follow here the decision made by van Achterberg (2014) to apply the name *Microgaster rufipes* Nees, 1834 to what historically has been considered *Microgaster globata* Linnaeus, 1758. Because of its importance and future implications, we reproduce verbatim what van Achterberg (2014: 207) wrote:

“*Ichneumon globatus* Linnaeus, 1758 has been for long a problematic species and was mostly associated with the genus *Microgaster* Latreille, 1804. This is contradicted by the biological data supplied in the original description and the specimens in the Linnean Society (<http://linnean-online.org/16250/>). They may be from the original Linnean collection and are labelled (by Linnaeus?) as «globatus ?». It concerns specimens of a gregarious species with yellow hind coxae on a white cocoon-mass, probably belonging to the genus *Protapanteles* Ashmead, 1900. This disagrees with Linnaeus' (1761) statement that the host is *Papilio brassicae* and therewith implying that this species is *Cotesia glomerata* (Linnaeus, 1758), the common gregarious parasitoid of the cabbage white (*Pieris brassicae* (Linnaeus, 1758)). The oldest available name for *Ichneumon globatus* auctt. is *Microgaster rufipes* Nees, 1834”.

After we examined the two photos of the purportedly syntypes of *Ichneumon globatus* Linnaeus, 1758, as depicted in the web link mentioned by van Achterberg (2014), we agree that the specimens shown there do not belong to *Microgaster*; we think that the best generic placement at present would be in *Glyptapanteles*. That implies that all historical references to *Microgaster globata* Linnaeus, which were commonly associated to any *Microgaster* with reddish femora/legs (e.g., see comments on that by Scaramozzino et al. 2017) should now be referred to *Microgaster rufipes* Nees, 1834, which is the oldest available name, as van Achterberg (2014) correctly proposed [For more details on this, see the treatment of *globata* by older sources; e.g., *rufipes* was considered as one of three varieties of *globata* in the Hymenoptera Catalogue of Dalla Torre (1898: 153), with the two other names listed as varieties of *globata* being junior to *rufipes*]. However, there remains a tangle of species that have been, in some cases almost certainly incorrectly, synonymized under *globata* (e.g., as discussed by Shaw 2012b and Broad et al. 2016), so it is too simple a solution to suggest that by accepting and following van Achterberg's (2014) decision, all records from Europe that were previously cited as *globata* (i.e., all countries listed for *globata* in Yu et al. 2012, Yu et al. 2016, Broad et al. 2016) should just be transferred to *rufipes*. [One example of the problems that remain is the name *Microgaster laeviscuta* Thomson, 1895. Papp (1976c) synonymized it under *Ichneumon globatus* Linnaeus, 1758; however, Shaw (2012b) questioned this, based on material from the NMS he had seen, and instead suggested that *laeviscuta* was probably a different species but more study was required before both species were recognized as separate; subsequently, Yu et al. (2016) considered both as different species. Until more evidence is available, here we are following Shaw (2012b) and thus list *laeviscuta* as a questionable synonym of *rufipes* (= *globata* auctt.)]. For the morphological concept of *rufipes* we follow Papp (1976c), Tobias (1986), Kotenko (2007a), and Xu and Han (2007); we also read the original descriptions

of the names involved (Linnaeus 1758, Nees 1834). In addition to this, we here propose that the specimens from Linnaeus be considered as a different species, for now restricted to Sweden (e.g., see Linnaeus 1761: 411, specimen 1645), and to be placed in the genus *Glyptapanteles* (see further comments and rationale for our decision under the Notes for the species *Glyptapanteles globatus* (Linnaeus, 1758)).

***Microgaster ruralis* Xu & He, 1998**

Microgaster ruralis Xu & He, 1998.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ, HB, JL, LN).

***Microgaster scopelosomae* Muesebeck, 1926**

Microgaster scopelosomae Muesebeck, 1926.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (MA).

***Microgaster shennongjiaensis* Xu & He, 2001**

Microgaster shennongjiaensis Xu & He, 2001.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HB).

***Microgaster stictica* Ruthe, 1858**

Microgaster stictica Ruthe, 1858.

Microgaster confusa Papp, 1971.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Bulgaria, Croatia, Czech Republic, Finland, Germany, Hungary, Ireland, Italy, Korea, Mongolia, Netherlands, Poland, Romania, Russia (PRI), Slovakia, Spain, Sweden, Switzerland, Turkey, United Kingdom, Yugoslavia.

Notes. Our species concept is based on Nixon (1968), Papp (1986) and Kotenko (2007a).

***Microgaster subcompleta* Nees, 1834**

Microgaster subcompleta Nees, 1834.

Microgaster annulipes Curtis, 1830 [*nomen nudum*].

Microgaster carinata Packard, 1881.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. NEA, PAL.

NEA: USA (IL, MA, NH, NJ, NY); **OTL:** China (GX); **PAL:** Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, China (HL, JL), Croatia, Czech Republic, France, Georgia, Germany, Hungary, Ireland, Italy, Japan, Korea, Lithuania, Macedonia, Moldova, Netherlands, Poland, Romania, Russia (BEL, KHA, KDA, MOS, NGR, PRI, RYA, SAK, SPE, VOR, YAR), Slovakia, Spain, Switzerland, Turkey, Ukraine, United Kingdom, Yugoslavia.

Notes. Our species concept is based on Nixon (1968), Papp (1976c), Kotenko (2007a), Xu and Han (2007) and Shaw et al. (2009).

***Microgaster subtilipunctata* Papp, 1959**

Microgaster subtilipunctata Papp, 1959.

Microgaster obsepiens Nixon, 1968.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Austria, Germany, Hungary, Moldova, Romania, Russia (NC, S), Switzerland, Turkey.

Notes. Our species concept is based on Nixon (1968) and Papp (1976c).

***Microgaster syntopic* Fernandez-Triana, 2018**

Microgaster syntopic Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (FL, GA).

***Microgaster szelenyii* Papp, 1974**

Microgaster szelenyii Papp, 1974.

Type information. Holotype female, HNHM (not examined but paratype examined). Country of type locality: Korea.

Geographical distribution. OTL, PAL.

OTL: China (GZ, ZJ); **PAL:** China (HA, JL, LN), Korea, Russia (PRI).

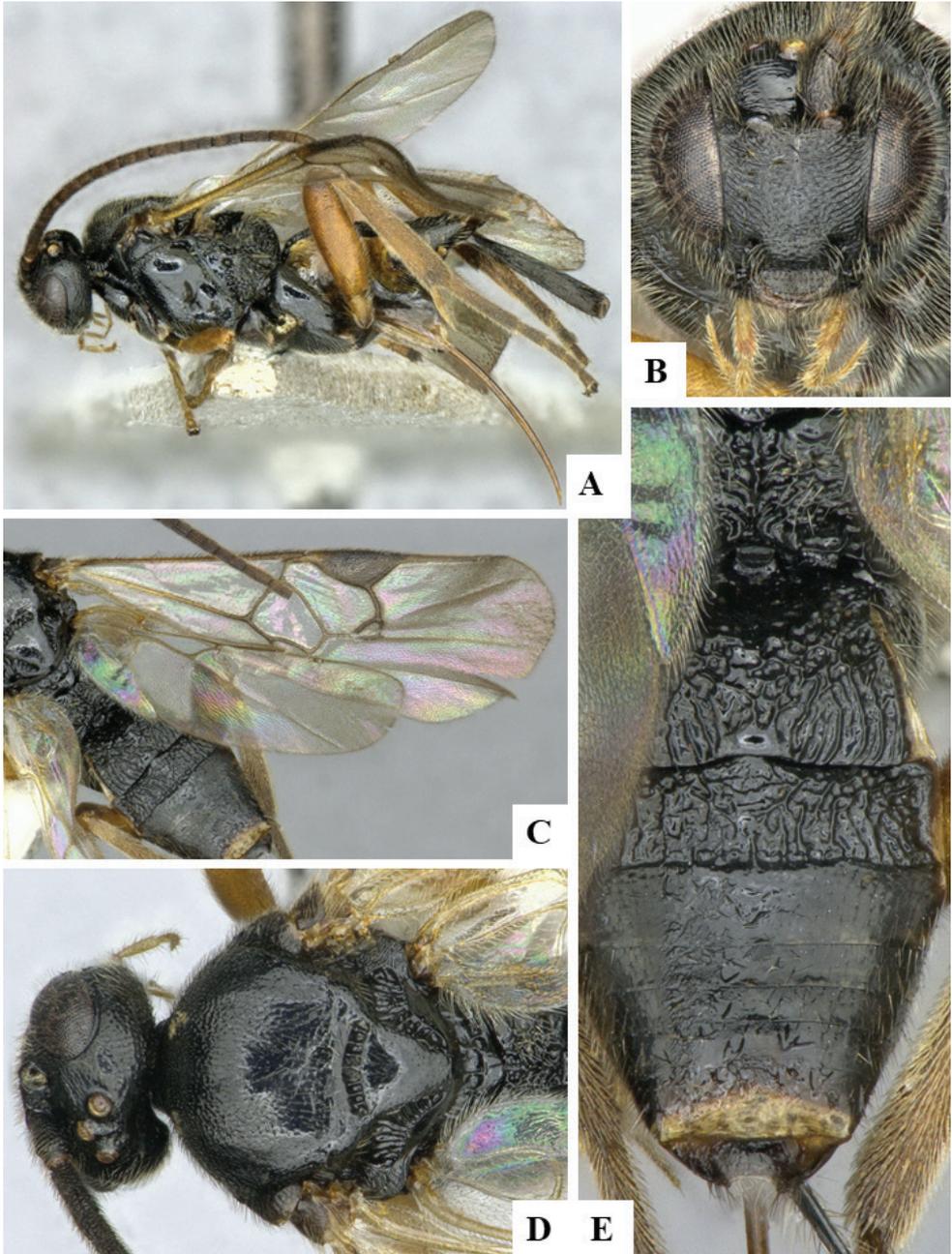


Figure 150. *Microgaster subcompleta* female CNCHYM01657 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

***Microgaster taishana* Xu, He & Chen, 1998**

Microgaster taishana Xu, He & Chen, 1998.

Type information. Holotype female, SAUC (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (SD).

Notes. Our species concept is based on Chen and Song (2004), Xu and Han (2007) and Kotenko (2007a). The depository acronym is based on the institution name, Shandong Agricultural University, China.

***Microgaster tianmushana* Xu & He, 2001**

Microgaster tianmushana Xu & He, 2001.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (ZJ).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster tjobodas* Wilkinson, 1927**

Microgaster tjobodas Wilkinson, 1927.

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: Indonesia.

***Microgaster tortricis* (Schrank, 1781)**

Ichneumon tortricis Schrank, 1781.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria.

***Microgaster tremenda* Papp, 1971**

Microgaster tremenda Papp, 1971.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

Notes. Our species concept is based on Kotenko (2007a).

***Microgaster uliginosa* Thomson, 1895**

Microgaster uliginosus Thomson, 1895.

Type information. Holotype female, MZLU (not examined but subsequent treatment of the species checked). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Finland, Netherlands, Poland, Romania, Russia (NW), Sweden.

Notes. Our species concept is based on Papp (1976c).

***Microgaster utibilis* Papp, 1976**

Microgaster utibilis Papp, 1976.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

Notes. Our species concept is based on Papp (1976c) and Kotenko (2007a).

***Microgaster varicornis* Rondani, 1872**

Microgaster varicornis Rondani, 1872.

Type information. Type and depository unknown (not examined). Country of type locality: Italy.

Geographical distribution. PAL.

PAL: Italy.

***Microgaster yichunensis* Xu & Chen, 2002**

Microgaster yichunensis Xu & Chen, 2002.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HL).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster yunnanensis* Xu & He, 1999**

Microgaster yunnanensis Xu & He, 1999.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (YN).

Notes. Our species concept is based on Xu and Han (2007).

***Microgaster zhaoi* Xu & He, 1997**

Microgaster zhaoi Xu & He, 1997.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

Notes. Our species concept is based on Xu and Han (2007).

Genus *Microplitis* Foerster, 1863

Microplitis Foerster, 1863: 245. Gender: masculine. Type species: *Microgaster sordipes* Nees, 1834, by original designation.

This is a cosmopolitan genus, with 192 described species, but we have seen many additional species in collections, mostly from temperate areas, and the actual number of species could be at least twice that currently known. There are some revisions available for certain regions and/or countries, but most are outdated and even the most recent ones do not take into account the hidden diversity that is revealed by DNA barcoding and biological data. Approximately 12 families of Lepidoptera have been recorded as hosts for *Microplitis*, but many records are likely to be incorrect and/or need further verification. There are almost 4,000 DNA-barcode compliant sequences of this genus in BOLD, representing 212 BINs.

***Microplitis abrs* Austin & Dangerfield, 1993**

Microplitis abrs Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS, OTL.

AUS: Australia (QLD); **OTL:** Vietnam.

***Microplitis adelaidensis* Austin & Dangerfield, 1993**

Microplitis adelaidensis Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (SA).

***Microplitis adisuræ* (Subba Rao & Sharma, 1960), new combination**

Microgaster adisuræ Subba Rao & Sharma, 1960.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Transferred to *Microplitis* based on the original descriptions and illustrations provided, which show short ovipositor and ovipositor sheaths (the sheaths with only few setae concentrated at apex), T1 narrowing towards posterior margin and more than $2.5 \times$ as long medially as its width at posterior margin, T2 subtriangular, metatibial spurs less than half length of first segment of metatarsus. All these characters exclude the species from being *Microgaster* and strongly indicate the best generic placement at present to be in *Microplitis*.

***Microplitis adrianguadamuzi* Fernandez-Triana & Whitfield, 2015**

Microplitis adrianguadamuzi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Microplitis aduncus* (Ruthe, 1860)**

Microgaster aduncus Ruthe, 1860.

Microgaster brachycerus Thomson, 1895.

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Bulgaria, Finland, Georgia, Germany, Hungary, Iran, Korea, Mongolia, Netherlands, Poland, Russia (KAM), Selvagens Islands, Serbia, Sweden, Switzerland, Tunisia, Turkmenistan, United Kingdom.

Notes. The holotype is in relatively poor condition, missing the antennae and with the hind wings glued over the body, obscuring or impeding the observation of features of part of the mesosoma and most of the metasoma. The species distribution in Georgia, Korea, and Turkmenistan is based on Belokobylskij et al. (2019).

***Microplitis ajmerensis* Rao & Kurian, 1950**

Microplitis ajmerensis Rao & Kurian, 1950.

Type information. Holotype female, NZSI (not examined but subsequent treatment of the species checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Our species concept is based on Gupta (2013a) and Ranjith et al. (2015a).

***Microplitis alajensis* Telenga, 1955, restored combination**

Microplitis alajensis Telenga, 1955.

Type information. Lectotype female, depository unknown (not examined but original description checked). Country of type locality: Kyrgyzstan.

Geographical distribution. PAL.

PAL: Kyrgyzstan, Mongolia.

Notes. Our species concept is based on Telenga (1955), Papp (1984c) and Tobias (1986). This species was at times considered to belong to *Microgaster*, e.g., Papp (1984c) and Tobias (1986), as part of the confusion with the application and use of the *Microplitis* and *Microgaster* names, which was only solved after 1988 (see more details and comments under our introduction to the genus *Microgaster* above, p 717). The correct generic placement at present would be in *Microplitis*, which is corroborated by the original description and images, as well as the key and images provided by Papp (1984c). Because some of the more recent references (e.g., Yu et al. 2016) still refer to the species within *Microgaster*, for the sake of clarity we restore its status here.

***Microplitis alaskensis* Ashmead, 1902**

Microplitis alaskensis Ashmead, 1902.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, BC, MB, NS, ON, QC), USA (AK, AZ, CA, CO, IL, KS, MA, MT, NY, OR, WA).

***Microplitis albipennis* Abdinbekova, 1969**

Microplitis albipennis Abdinbekova, 1969.

Type information. Holotype male, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Azerbaijan.

Geographical distribution. PAL.

PAL: Azerbaijan, Hungary, Mongolia, Poland, Russia (NC), Turkey.

Notes. Our species concept is based on Papp (1984c) and Tobias (1986).

***Microplitis albotibialis* Telenga, 1955**

Microplitis albotibialis Telenga, 1955.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. OTL, PAL.

OTL: China (HN); **PAL:** China (HA, JL, LN), Hungary, Korea, Mongolia, Russia (ZAB, PRI).

***Microplitis alexanderrojasi* Fernandez-Triana & Whitfield, 2015**

Microplitis alexanderrojasi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Microplitis altissimus* Fernandez-Triana, 2018**

Microplitis altissimus Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CO).

***Microplitis amplitergius* Xu & He, 2002**

Microplitis amplitergius Xu & He, 2002.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (GZ, ZJ); **PAL:** China (LN, NX).

***Microplitis aprilae* Austin & Dangerfield, 1993**

Microplitis aprilae Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS, OTL.

AUS: Australia (NSW, NT, QLD); **OTL:** Vietnam.

***Microplitis areyongensis* Austin & Dangerfield, 1993**

Microplitis areyongensis Austin & Dangerfield, 1993.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS, OTL.

AUS: Australia (NT); **OTL:** India, Vietnam.

***Microplitis ariatus* Papp, 1979**

Microplitis ariatus Papp, 1979.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Tunisia.

Geographical distribution. PAL.

PAL: Canary Islands, Tunisia.

***Microplitis atamiensis* Ashmead, 1906**

Microplitis atamiensis Ashmead, 1906.

Type information. Holotype male, USNM (examined). Country of type locality: Japan.

Geographical distribution. PAL.

PAL: Japan, Korea.

***Microplitis autographae* Muesebeck, 1922**

Microplitis autographae Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, ON, QC), USA (AZ, ID, KS, NM).

***Microplitis bamagensis* Austin & Dangerfield, 1993**

Microplitis bamagensis Austin & Dangerfield, 1993.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

***Microplitis basalis* (Bingham, 1906)**

Microgaster basalis Bingham, 1906.

Microgaster basalis Bingham, 1906 [primary homonym of *Microgaster basalis* Stephens, 1846].

Type information. Holotype female, OUMNH (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

Notes. Our species concept is based on Austin and Dangerfield (1993).

***Microplitis basipallescens* Song & Chen, 2008**

Microplitis basipallescens Song & Chen, 2008.

Type information. Holotype female, HUNAU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HB).

***Microplitis beyarslani* Inanç, 2002**

Microplitis beyarslani Inanç, 2002.

Type information. Holotype female, ZMTU (not examined). Country of type locality: Turkey.

Geographical distribution. PAL.

PAL: Turkey.

Notes. The depository acronym was selected based on the institution name (Zoological Museum, Trakya University, Turkey).

***Microplitis bicoloratus* Xu & He, 2003**

Microplitis bicoloratus Xu & He, 2003.

Microplitis bicoloratus Chen, 2004 [primary homonym of *Microplitis bicoloratus* Xu & He, 2003].

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (FJ, HB, ZJ), India; **PAL:** China (SD).

***Microplitis blascoi* Papp & Shaw, 2001**

Microplitis blascoi Papp & Shaw, 2001.

Type information. Holotype female, RSME (examined). Country of type locality: Spain.

Geographical distribution. PAL.

PAL: Spain.

***Microplitis bomiensis* Zhang, 2019**

Microplitis bomiensis Zhang, 2019.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (XZ).

***Microplitis borealis* Xu & He, 2000**

Microplitis borealis Xu & He, 2000.

Microplitis borealis Xu & He, 2000 [primary homonym of *Microplitis borealis* Marshall, 1885].

Type information. Holotype male, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (JL, LN, XJ).

***Microplitis bradleyi* Muesebeck, 1922**

Microplitis bradleyi Muesebeck, 1922.

Type information. Holotype female, CUIIC (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, BC), USA (CA, OR, UT).

***Microplitis brassicae* Muesebeck, 1922**

Microplitis brassicae Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (AZ, CA, CO, NE, NM, TX).

***Microplitis brevispina* Song & Chen, 2008**

Microplitis brevispina Song & Chen, 2008.

Type information. Holotype female, HUNAU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

***Microplitis capeki* Nixon, 1970**

Microplitis capeki Nixon, 1970.

Type information. Holotype female, MMBC (not examined but original description checked). Country of type locality: Czech Republic.

Geographical distribution. PAL.

PAL: Czech Republic, Germany, Hungary.

***Microplitis carinatus* Song & Chen, 2008**

Microplitis carinata Song & Chen, 2008.

Microplitis carinata Song & Chen, 2008 [primary homonym of *Microplitis carinata* Ahsmead, 1900].

Type information. Holotype female, HUNAU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (HB).

***Microplitis carinicornis* (Cameron, 1905)**

Microgaster (?) *carinicornis* Cameron, 1905.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: India, Sri Lanka.

***Microplitis carteri* Walley, 1932**

Microplitis carteri Walley, 1932.

Type information. Holotype male, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (AB).

***Microplitis cebes* Nixon, 1970**

Microplitis cebes Nixon, 1970.

Type information. Holotype female, NHMUK (examined). Country of type locality: Switzerland.

Geographical distribution. PAL.

PAL: Austria, Croatia, Germany, Greece, Hungary, Mongolia, Poland, Serbia, Slovakia, Spain, Switzerland, Turkey.

***Microplitis ceratoniae* Riley, 1881**

Microplitis ceratoniae Riley, 1881.

Microplitis waldeni Viereck, 1917.

Microplitis ceratoniae actuosus Riley, 1881.

Type information. Syntypes female and male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (NB, NS, ON, QC, SK), USA (AR, CA, CO, CT, DC, IL, KS, MA, MI, MO, NJ, NM, NY, OR, RI, TX).

Notes. Janzen et al. (2003) stated that *ceratomiae* could actually represent a complex of morphologically similar but biologically distinct species. We have examined the type of *Microplitis waldeni* Viereck, 1917, currently a synonym of *M. ceratomiae*, and found it to be different based on a) larger body size, b) darker colour, c) coarser sculpture of frons, clypeus, anteromesoscutum, and mesopleuron, and d) slight differences in the shape of T1 and the setae pattern on metasomal terga. However, we refrain here to reinstate *waldeni* as a valid species until more study of specimens allows for a better sorting of their distribution (as well as clarifying if other potential cryptic species exist under the *ceratomiae* name).

***Microplitis chacoensis* (Cameron, 1908)**

Microgaster chacoensis Cameron, 1908.

Microplitis ayerzai Brèthes, 1910.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. NEO, PAL.

NEO: Argentina, Brazil, Paraguay, Trinidad & Tobago, Uruguay, Venezuela; **PAL:** United Kingdom.

***Microplitis changbaishanus* Song & Chen, 2008**

Microplitis changbaishanus Song & Chen, 2008.

Type information. Holotype female, HUNAU (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (JL).

***Microplitis chivensis* Telenga, 1955, restored combination**

Microplitis chivensis Telenga, 1955.

Type information. Lectotype male, ZIN (not examined but original description checked). Country of type locality: Uzbekistan.

Geographical distribution. PAL.

PAL: Uzbekistan.

Notes. Our species concept is based on Telenga (1955), Papp (1984c) and Tobias (1986). Transferred back to *Microplitis* because of the short ovipositor and metatibial spurs shorter than half the length of first segment of metatarsus. The reference to this species as *Microgaster* in papers after the original description (e.g., Papp 1984c, Tobias 1986, Yu et al. 2012, 2016) is only due to the confusion with the

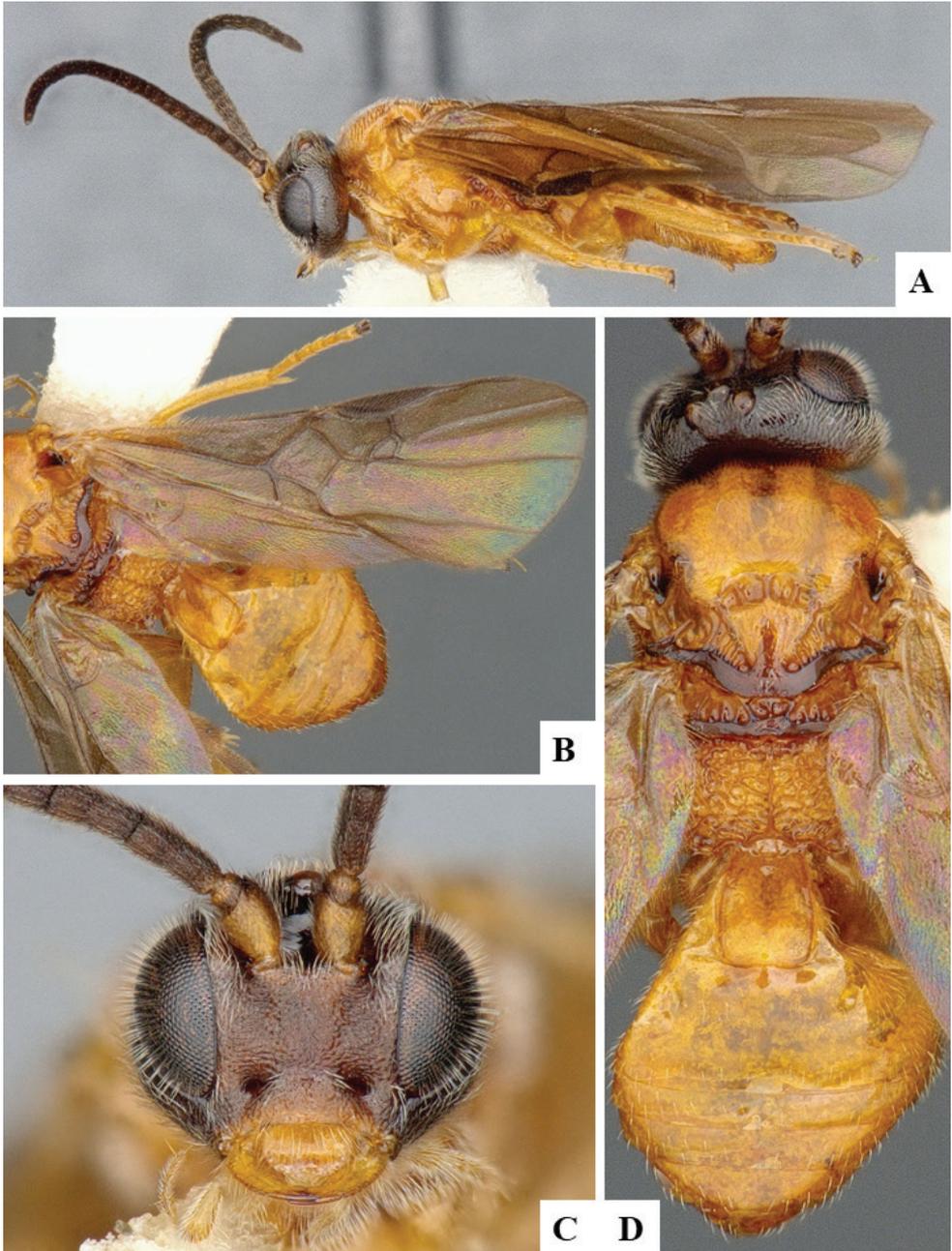


Figure 151. *Microplitis chacoensis* female CNCHYM01728 **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Habitus, dorsal.

application of the *Microgaster* name and its type species (see details on that above, under the introduction to the genus *Microgaster*).

***Microplitis choui* Xu & He, 2000**

Microplitis choui Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (GS, SN).

Notes. Our species concept is based on Xu and He (2003b).

***Microplitis chrysostigma* Tobias, 1964, restored combination**

Microplitis chrysostigma Tobias, 1964.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan.

Notes. Our species concept is based on Papp (1984c) and Tobias (1986); both authors dealt with this taxon in their keys to *Microplitis*, and the closest species (morphologically) in these papers are all *Microplitis*. The reference to this species as *Microgaster* in papers after the original description (e.g., Papp 1984c, Tobias 1986, Yu et al. 2012, 2016) is only due to the confusion with the application of the name *Microgaster* and its type species (see details above, under the introduction to the genus *Microgaster*; p 717).

***Microplitis chui* Xu & He, 2002**

Microplitis chui Xu & He, 2002.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (ZJ).

Notes. Our species concept is based on Chen and Song (2004), Kotenko (2007a) and Ranjith et al. (2015a).

***Microplitis coactus* (Lundbeck, 1896)**

Microgaster coactus Lundbeck, 1896.

Type information. Lectotype female, ZMUC (not examined but subsequent treatment of the species checked). Country of type locality: Greenland.

Geographical distribution. NEA, PAL.

NEA: Canada (NU), Greenland; **PAL:** Iceland.

Notes. Our species concept is based on Muesebeck (1922), Papp (1984c), van Achterberg (2006), and Fernandez-Triana et al. (2017b).

***Microplitis combinatus* (Papp, 1984)**

Microgaster combinata Papp, 1984.

Type information. Holotype female, ZSM (not examined but original description checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria, Germany.

***Microplitis confusus* Muesebeck, 1922**

Microplitis confusus Muesebeck, 1922.

Type information. Holotype male, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (NB, ON), USA (IN, MD, MI, NY, TX).

***Microplitis crassiantenna* Song & Chen, 2008**

Microplitis crassiantenna Song & Chen, 2008.

Type information. Holotype female, HUNAU (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (JL).

***Microplitis crassifemoralis* Alexeev, 1971**

Microplitis crassifemoralis Alexeev, 1971.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

***Microplitis crenulatus* (Provancher, 1888)**

Microgaster crenulatus Provancher, 1888.

Type information. Lectotype female, ULQC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (QC), USA (MA, MI).

***Microplitis croceipes* (Cresson, 1872)**

Microgaster croceipes Cresson, 1872.

Microplitis nigripennis Ashmead, 1905.

Type information. Holotype female, ANSP (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. AUS, NEA.

AUS: New Zealand; **NEA:** USA (AL, AZ, AR, CO, GA, IL, KS, MD, MS, MO, NJ, NM, NC, OK, OR, SC, TN, UT, VA).

Notes. Our species concept is based on Muesebeck (1922), Papp (1986) and Papp and Shaw (2001).

***Microplitis cubitellanus* Xu & He, 2000**

Microplitis cubitellanus Xu & He, 2000.

Type information. Holotype male, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (JL, XJ).

***Microplitis daitojimensis* Sonan, 1940**

Microplitis daitojimensis Sonan, 1940.

Type information. Type and depository unknown (not examined). Country of type locality: Ryukyu Islands.

Geographical distribution. OTL.

OTL: Ryukyu Islands.

***Microplitis decens* Tobias, 1964**

Microplitis decens Tobias, 1964.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Finland, Germany, Hungary, Italy, Kazakhstan, Korea, Mongolia, Montenegro, Netherlands, Russia (S), Serbia, Spain, Switzerland, Turkey, United Kingdom.

Notes. The presence of this species in the United Kingdom has been questioned by Shaw (2012b).

***Microplitis decipiens* Prell, 1925**

Microplitis decipiens Prell, 1925.

Type information. Lectotype female, TUDTG (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Azerbaijan, Germany, Hungary, Iran, Kazakhstan, Lithuania, Moldova, Poland, Russia (C, NW), Turkey.

Notes. Our species concept is based on Papp (1984c). The depository acronym (TUDTG) is based on the institution name: Technische Universität Dresden, Department of Forest Science in Tharandt, Germany.

***Microplitis demolitor* Wilkinson, 1934**

Microplitis demolitor Wilkinson, 1934.

Type information. Holotype female, NHMUK (examined). Country of type locality: Australia.

Geographical distribution. AUS, OTL.

AUS: Australia (NSW, NT, QLD, SA, WA); **OTL:** India, Pakistan, Vietnam.

***Microplitis deprimator* (Fabricius, 1798)**

Ichneumon deprimator Fabricius, 1798.

Microgaster ingratus Haliday, 1834.

Microgaster deprimatrix Schulz, 1906.

Type information. Lectotype male, ZMUC (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Austria, Azerbaijan, Belgium, Bulgaria, Cyprus, Czech Republic, Finland, France, Georgia, Germany, Hungary, Iran, Ireland, Italy, Kazakhstan, Korea, Latvia, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia (DA, KYA, RYA, SPE, SAR), Serbia, Spain, Switzerland, Turkey, Ukraine, United Kingdom.

Notes. Our species concept is based on Papp (1984c) and Kotenko (2007a). The species distribution in Kazakhstan is based on Belokobylskij et al. (2019).

***Microplitis desertorum* Telenga, 1955, restored combination**

Microplitis desertorum Telenga, 1955.

Type information. Lectotype female, ZIN (not examined but original description checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan.

Notes. Our species concept is based on Telenga (1955), Papp (1984c) and Tobias (1986). Transferred back to *Microplitis* because of the short ovipositor and metatibial spurs shorter than half the length of first segment of metatarsus. The reference to this species as *Microgaster* in papers after the original description (e.g., Papp 1984c, Tobias 1986, Yu et al. 2012, 2016) is only due to the confusion with the application of the *Microgaster* name and its type species (see details above, under the introduction to the genus *Microgaster*; p 717).

***Microplitis desertus* Alexeev, 1977**

Microplitis desertus Alexeev, 1977.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

***Microplitis docilis* Nixon, 1970**

Microplitis docilis Nixon, 1970.

Type information. Holotype female, MZH (not examined but original description checked). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Bulgaria, Croatia, Finland, Germany, Hungary, Russia (BU, PRI), Serbia, Sweden, Turkey.

***Microplitis dornator* (Papp, 1987)**

Microgaster dornator Papp, 1987.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Korea.

Geographical distribution. PAL.

PAL: Korea, Russia (PRI).

Notes. Our species concept is based on Kotenko (2007a).

***Microplitis eminius* (Papp, 1987)**

Microgaster eminius Papp, 1987.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Korea.

Geographical distribution. PAL.

PAL: Korea.

Notes. Our species concept is based on Kotenko (2007a).

***Microplitis eremitus* Reinhard, 1880**

Microplitis eremitus Reinhard, 1880.

Type information. Lectotype male, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Austria, Azerbaijan, Croatia, Finland, France, Germany, Hungary, Kazakhstan, Korea, Lithuania, Mongolia, Netherlands, Poland, Russia (ZAB, IRK,

PRI, SPE, VOR, YAR), Serbia, Spain, Sweden, Switzerland, Turkey, Ukraine, Uzbekistan.

Notes. Our species concept is based on Nixon (1970), Papp (1984c) and Kotenko (2007a).

***Microplitis erythrogaster* Abdinbekova, 1969**

Microplitis erythrogaster Abdinbekova, 1969.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Azerbaijan.

Geographical distribution. PAL.

PAL: Azerbaijan, Denmark, Germany, Hungary, Russia (NC, S), Tajikistan, Turkmenistan.

Notes. Our species concept is based on Papp (1984c) and Tobias (1986).

***Microplitis espinachi* Walker, 2003**

Microplitis espinachi Walker, 2003.

Type information. Holotype female, NHMUK (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Notes. Janzen et al. (2003) indicated that the holotype and an unspecified number of paratypes for *M. espinachi* were deposited in the USNM. However, Fernandez-Triana et al. (2015b) could not locate any of the specimens in that collection, unit trays did not exist for any specimen of *M. espinachi* in the USNM, and there was no record of their existence in any USNM database. Because of that, Fernandez-Triana et al. (2015b) considered it unlikely that specimens of this species were ever deposited in the USNM and they speculated that the type might be misplaced or lost. The finding of the holotype for this species in London (NHMUK) is thus very important as it clarifies its situation. Also, it will allow for future studies about the limits between *M. espinachi* and *M. adrianguadamuzi* Fernandez-Triana & Whitfield, and the validity of the latter species, something that was not possible until the *M. figueresi* Walker type series was also found (see Fernandez-Triana et al. 2015b for more details about these three species).

***Microplitis excisus* Telenga, 1955**

Microplitis excisus Telenga, 1955.

Type information. Lectotype female, ZIN (not examined but original description checked). Country of type locality: Ukraine.

Geographical distribution. PAL.

PAL: Azerbaijan, Russia (NC, S), Ukraine.

***Microplitis feltiae* Muesebeck, 1922**

Microplitis feltiae Muesebeck, 1922.

Type information. Holotype male, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (AL, AZ, CA, CO, ID, IL, IN, KS, LA, MO, OK, TN, TX, WA).

***Microplitis figueresi* Walker, 2003**

Microplitis figueresi Walker, 2003.

Type information. Holotype female, NHMUK (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Notes. Until this paper, the type of *M. figueresi* was considered lost or misplaced (Fernandez-Triana et al. 2015b). The finding of the holotype for this species in London (NHMUK) is thus very important as it clarifies its situation, and will allow for future studies about the limits between *M. espinachi* Walker and *M. adrianguadamuzi* Fernandez-Triana & Whitfield, and the validity of the latter species, something that was not possible until the *M. figueresi* Walker type series was found. See Fernandez-Triana et al. (2015b) for more details about these three species, and also comments above, under *Microplitis espinachi*.

***Microplitis flavipalpis* (Brullé, 1832)**

Microgaster flavipalpis Brullé, 1832.

Microplitis ruricola Lyle, 1918.

Type information. Lectotype male, MNHN (not examined but authoritatively identified specimens examined). Country of type locality: Greece.

Geographical distribution. PAL.

PAL: Algeria, Armenia, Bulgaria, Finland, France, Germany, Greece, Hungary, Israel, Kazakhstan, Korea, Lithuania, Moldova, Mongolia, Poland, Russia (ZAB, PRI), Serbia, Slovakia, Spain, Switzerland, Tunisia, Turkey, United Kingdom.

Notes. We examined the type of *Microplitis ruricola* Lyle, 1918. The species distribution in Israel is based on Belokobylskij et al. (2019).

***Microplitis fordi* Nixon, 1970**

Microplitis fordi Nixon, 1970.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

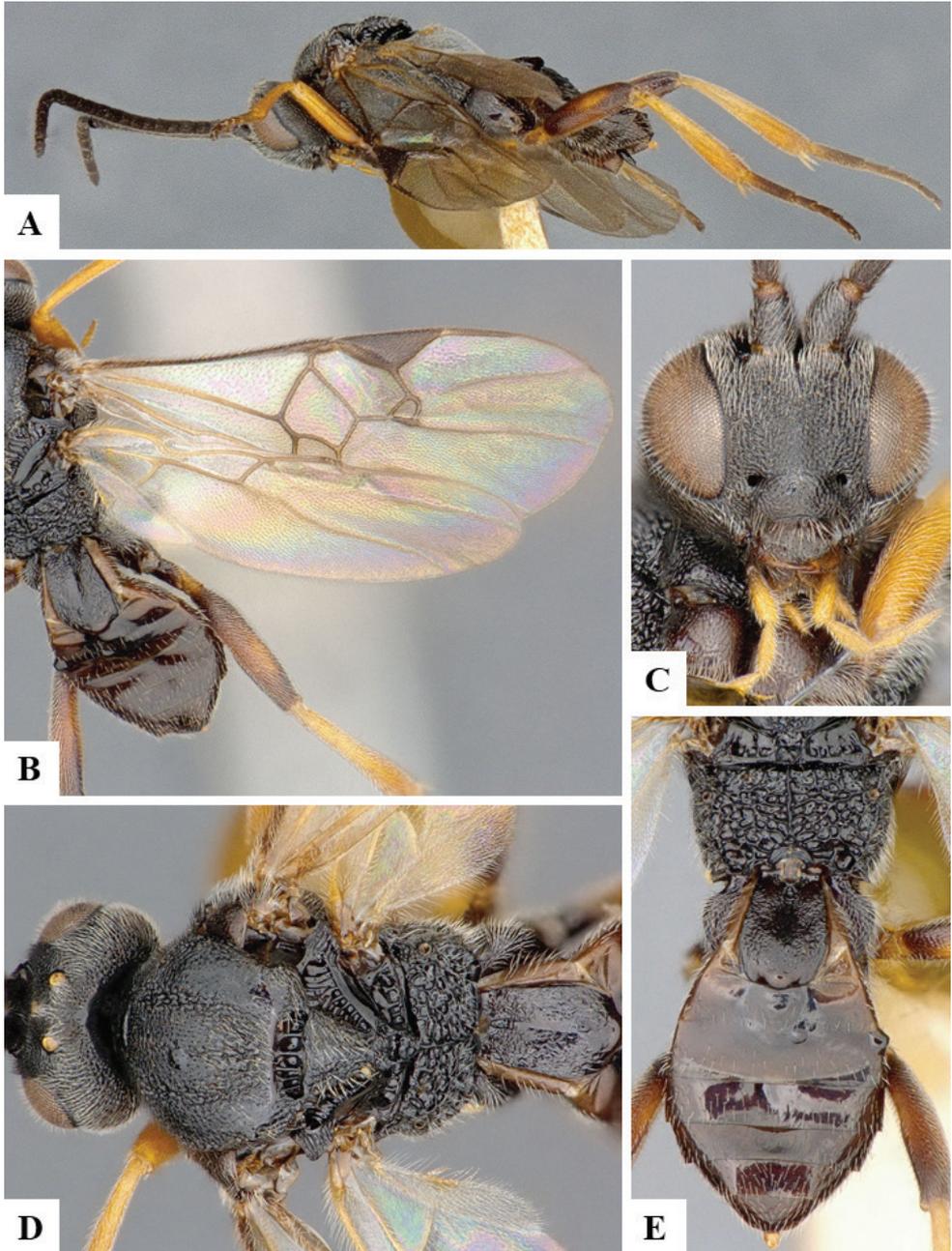


Figure 152. *Microplitis flavipalpis* female CNCHYM01748 **A** Habitus, lateral **B** Fore wing and hind wing **C** Head, frontal **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

PAL: Austria, Bulgaria, Croatia, Czech Republic, Germany, Greece, Hungary, Israel, Italy, Jordan, Macedonia, Mongolia, Russia (C), Switzerland, Tunisia, Turkey, United Kingdom, Yugoslavia.

Notes. Papp (1984c) suggested that this species might be a junior synonym of *Microplitis semicircularis* (Ratzeburg, 1834), but nevertheless retained the species as valid (also Broad et al. 2016), a decision we follow here.

***Microplitis francopupulini* Fernandez-Triana & Whitfield, 2015**

Microplitis francopupulini Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Microplitis fraudulentus* (Papp, 1984)**

Microgaster fraudulenta Papp, 1984.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia, Russia (ZAB).

***Microplitis fujianicus* Song & Zhang, 2017**

Microplitis fujianica Song & Zhang, 2017.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

Notes. The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Microplitis fulvicornis* (Wesmael, 1837)**

Microgaster fulvicornis Wesmael, 1837.

Microplitis pallidicornis Marshall, 1898.

Type information. Lectotype male, RBINS (not examined but subsequent treatment of the species checked). Country of type locality: Belgium.

Geographical distribution. PAL.

PAL: Belgium, Croatia, Czech Republic, Finland, Germany, Hungary, Iran, Ireland, Netherlands, Poland, Romania, Russia (RYA, SAR), Serbia, Slovakia, Switzerland, Turkey, United Kingdom.

Notes. Our species concept is based on Papp (1984c) and Tobias (1986).

***Microplitis galinarius* Kotenko, 2007**

Microplitis galinarius Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ZAB).

***Microplitis gerulus* Papp, 1980, restored combination**

Microplitis gerulus Papp, 1980.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

Notes. Our species concept is based on Papp (1984c) and Tobias (1986). This species was at times considered to belong to *Microgaster*, e.g., Papp (1984c) and Tobias (1986), as part of the confusion with the application and use of the *Microplitis* and *Microgaster* names (which was only solved after 1988, see more details and comments under our introduction to the genus *Microgaster* above). The correct generic placement at present would be in *Microplitis*, which is also corroborated by the description and images in Papp (1984c). Because some of the more recent references (e.g., Kotenko 2007a, Yu et al. 2016) still refer to the species within *Microgaster*, for the sake of clarity we restore its status here.

***Microplitis gidjus* Austin & Dangerfield, 1993**

Microplitis gidjus Austin & Dangerfield, 1993.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS, OTL.

AUS: Australia (NT); **OTL:** Vietnam.

***Microplitis glabrior* Alexeev, 1971, restored combination**

Microplitis glabrior Alexeev, 1971.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

Notes. Our species concept is based on Alexeev (1971), Papp (1984c), and Tobias (1986). This species was at times considered to belong to *Microgaster*, e.g., Papp (1984c) and Tobias (1986), as part of the confusion with the application and use of

the *Microplitis* and *Microgaster* names (which was only solved after 1988, see more details and comments under our introduction to the genus *Microgaster* above). The correct generic placement at present would be in *Microplitis*, which is also corroborated by the description and images in Alexeev (1971) and Papp (1984c). Because some of the more recent references (e.g., Yu et al. 2016) still refer to the species within *Microgaster*, for the sake of clarity we restore its status here.

***Microplitis gortynae* Riley, 1881**

Microplitis gortynae Riley, 1881.

Type information. Syntypes female and male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON), USA (CO, IL, IA, KS, MS, MO, NH, NJ, NY, OH, OR, PA, VA, WI).

***Microplitis goughi* Austin & Dangerfield, 1993**

Microplitis goughi Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (ACT, NSW, SA, TAS, VIC, WA).

***Microplitis hebertbakeri* Fernandez-Triana & Whitfield, 2015**

Microplitis hebertbakeri Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Microplitis helicoverpae* Xu & He, 2000**

Microplitis helicoverpae Xu & He, 2000.

Type information. Holotype male, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (HB); **PAL:** China (HE).

Notes. Our species concept is based on Chen and Song (2004).

***Microplitis heterocerus* (Ruthe, 1860)**

Microgaster heterocerus Ruthe, 1860.

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Croatia, Germany, Hungary, Israel, Italy, Korea, Poland, Romania, Russia (IN, ROS, VGG), Slovakia, Spain, Turkey, Ukraine, Yugoslavia.

Notes. The holotype is missing the metasoma.

***Microplitis hirtifacialis* Song & You, 2008**

Microplitis hirtifacialis Song & You, 2008.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (HB); **PAL:** China (JL).

Notes. The shape and sculpture of T2 is uncommon for *Microplitis*, but until specimens can be examined, we prefer to retain the species in this genus.

***Microplitis hispalensis* Marshall, 1898**

Microplitis hispalensis Marshall, 1898.

Microgaster serotinus Papp, 1984.

Type information. Lectotype female, MNCN (not examined but subsequent treatment of the species checked). Country of type locality: Spain.

Geographical distribution. PAL.

PAL: France, Spain.

Notes. Our species concept is based on Papp (1984c) and Shaw (2012b).

***Microplitis hova* Granger, 1949**

Microplitis hova Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

***Microplitis hyalinipennis* Alexeev, 1971**

Microplitis hyalinipennis Alexeev, 1971.

Type information. Holotype male, ZIN (not examined but original description checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

***Microplitis hyphanthiae* Ashmead, 1898**

Microplitis hyphantiae Ashmead, 1898.

Microplitis hyphantiae Ashmead, 1898 [incorrect original spelling].

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, ON, QC), USA (AR, IL, IN, MD, MA, MI, MO, NH, NJ, NY, OH, TX, WV).

Notes. Yu et al. (2012, 2016) listed the holotype of this species as being in the INHS collection. However, we have examined it in the USNM, which should be recorded as the correct depository for the holotype.

***Microplitis idia* Nixon, 1970**

Microplitis idia Nixon, 1970.

Type information. Holotype female, NHMUK (examined). Country of type locality: Sweden.

Geographical distribution. PAL.

PAL: Germany, Hungary, Israel, Russia (NW), Sweden, Turkey.

***Microplitis impressus* (Wesmael, 1837)**

Microgaster impressus Wesmael, 1837.

Microgaster sispes Nixon, 1970.

Type information. Lectotype male, RBINS (not examined but authoritatively identified specimens examined). Country of type locality: Belgium.

Geographical distribution. NEA, PAL.

NEA: Canada (MB, ON, QC); **PAL:** Belgium, France, Germany, Hungary, Poland, Slovakia, United Kingdom.

Notes. We have examined the type of *Microgaster sispes* Nixon.

***Microplitis improvisus* (Papp, 1984)**

Microgaster improvisa Papp, 1984.

Type information. Holotype female, RMNH (not examined but paratype examined). Country of type locality: Netherlands.

Geographical distribution. PAL.

PAL: Netherlands.

Notes. We examined female and male paratypes.

***Microplitis incurvatus* Xu & He, 2002**

Microplitis incurvata Xu & He, 2002.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (XJ).

***Microplitis indicus* Marsh, 1978**

Microplitis indicus Marsh, 1978.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Microplitis infula* (Kotenko, 1994)**

Microgaster infula Kotenko, 1994.

Type information. Holotype female, SIZK (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ZAB, PRI).

Notes. Our species concept is based on Kotenko (2006, 2007).

***Microplitis jamesi* Austin & Dangerfield, 1993**

Microplitis jamesi Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NSW).

***Microplitis jiangsuensis* Xu & He, 2000**

Microplitis jiangsuensis Xu & He, 2000.

Type information. Holotype male, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (JS).

***Microplitis jorgehernandez* Fernandez-Triana & Whitfield, 2015**

Microplitis jorgehernandez Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Microplitis jorgeluisi* Fernandez-Triana, 2018**

Microplitis jorgeluisi Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (TX).

***Microplitis juanmanueli* Fernandez-Triana, 2018**

Microplitis juanmanueli Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC), USA (CO).

***Microplitis julioalbertoi* Fernandez-Triana, 2018**

Microplitis julioalbertoi Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CT, GA).

***Microplitis karakurti* Rossikov, 1904**

Microplitis kara-kurti Rossikov, 1904.

Type information. Type and depository unknown (not examined). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Kazakhstan, Turkmenistan.

***Microplitis kaszabi* Papp, 1980**

Microplitis kaszabi Papp, 1980.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Korea, Mongolia, Russia (PRI).

Notes. Our species concept is based on Papp (1984c) and Kotenko (2007a).

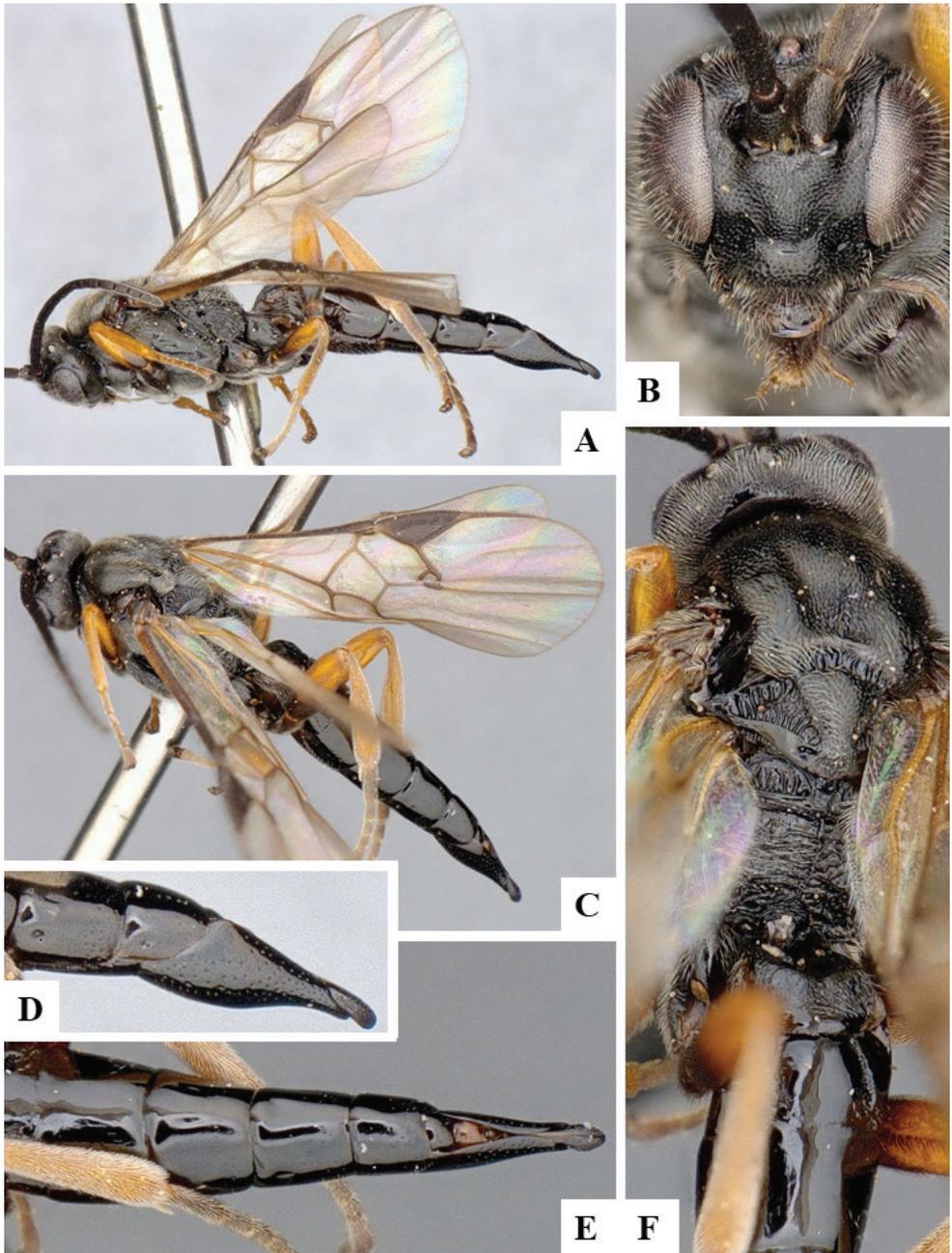


Figure 153. *Microplitis juanmanueli* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Apex of metasoma, lateral **E** Metasoma, dorsal **F** Mesosoma and tergites 1–3, laterodorsal.

***Microplitis kewleyi* Muesebeck, 1922**

Microplitis kewleyi Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, MB, NB, NL, NS, ON, PE, QC), USA (CA, DC, IA, MD, MI, NJ, NY, WI).

***Microplitis kurandensis* Austin & Dangerfield, 1993**

Microplitis kurandensis Austin & Dangerfield, 1993.

Type information. Holotype male, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

***Microplitis lacteus* Austin & Dangerfield, 1993**

Microplitis lacteus Austin & Dangerfield, 1993.

Type information. Holotype female, CNC (examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

***Microplitis laticinctus* Muesebeck, 1922**

Microplitis laticinctus Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (QC), USA (AL, DC, IL, IA, MA, NY, OH, VA).

***Microplitis latistigmus* Muesebeck, 1922**

Microplitis latistigmus Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (MD).

***Microplitis leoniae* Niezabitowski, 1910**

Microplitis leoniae Niezabitowski, 1910.

Type information. Syntypes female and male, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Poland.

Geographical distribution. PAL.

PAL: Georgia, Hungary, Korea, Poland, Russia (PRI).

Notes. Our species concept is based on Papp (1984c) and Kotenko (2007a). The species distribution in Korea is based on Belokobylskij et al. (2019).

***Microplitis leucaniae* Xu & He, 2002**

Microplitis leucaniae Xu & He, 2002.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (FJ, GX, JS, ZJ); **PAL:** China (XJ).

Notes. Our species concept is based on Chen and Song (2004), Kotenko (2007a) and Ranjith et al. (2015a).

***Microplitis lineatus* Austin & Dangerfield, 1993**

Microplitis lineatus Austin & Dangerfield, 1993.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

***Microplitis longicaudus* Muesebeck, 1922**

Microplitis longicaudus Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA, CO, ID, NV, OR).

***Microplitis longiradiusis* Xu & He, 2003**

Microplitis longiradiusis Xu & He, 2003.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HL).

***Microplitis longwangshanus* Xu & He, 2000**

Microplitis longwangshana Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ, HB, ZJ).

Notes. Our species concept is based on Chen and Song (2004) and Ranjith et al. (2015a).

***Microplitis lugubris* (Ruthe, 1860)**

Microgaster lugubris Ruthe, 1860.

Microplitis borealis Marshall, 1885.

Microgaster coracinus Thomson, 1895.

Microplitis rutheana Fahringer, 1937.

Type information. Holotype female, NHMUK (examined). Country of type locality: Poland.

Geographical distribution. NEA, PAL.

NEA: Canada (MB, NU), Greenland; **PAL:** Armenia, Finland, Germany, Hungary, Ireland, Lithuania, Mongolia, Poland, Russia (TA, YAR), Serbia, Sweden, Switzerland, Turkey, United Kingdom.

Notes. We also examined the type of *M. borealis* Marshall. A new distribution record (from Canada, MB, Churchill, at ca. 59° N), which had been named *Microplitis* jft01 in previous papers (Fernandez-Triana 2010, Fernandez-Triana et al. 2011) expands considerably the southernmost distribution of the species within the Nearctic region.

***Microplitis lugubroides* van Achterberg, 2006**

Microplitis lugubroides van Achterberg, 2006.

Type information. Holotype female, ZMUC (not examined but original description checked). Country of type locality: Greenland.

Geographical distribution. NEA.

NEA: Greenland.

***Microplitis mahunkai* (Papp, 1979)**

Glabromicroplitis mahunkai Papp, 1979.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Tunisia.

Geographical distribution. PAL.

PAL: Tunisia.

***Microplitis malimba* (Papp, 1984)**

Microgaster malimba Papp, 1984.

Type information. Holotype female, RMNH (not examined but paratype examined). Country of type locality: Netherlands.

Geographical distribution. PAL.

PAL: Netherlands, Russia (PRI), Ukraine, United Kingdom.

Notes. According to Shaw (2012b) and Broad et al. (2016), the interpretation by (Nixon 1970) of *Microplitis trochanterata* (not *tuberculifer*, of which *trochanterata* is a junior synonym, see below under that species in our checklist) is actually referable to *malimba*. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *malimba*. We examined one female paratype.

***Microplitis mamestrae* Weed, 1887**

Microplitis mamestrae Weed, 1887.

Type information. Lectotype female, INHS (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC), USA (CT, DC, IL, KS, MA, MI, NH, NJ, NM, NY, OH, UT, WI).

Notes. Our species concept is based on Muesebeck (1922) and Whitfield (1995a).

***Microplitis mandibularis* (Thomson, 1895)**

Microgaster mandibularis Thomson, 1895.

Type information. Lectotype female, MZLU (not examined but subsequent treatment of the species checked). Country of type locality: Sweden.

Geographical distribution. NEA, PAL.

NEA: Greenland; **PAL:** Armenia, Azerbaijan, Croatia, Finland, Georgia, Germany, Hungary, Macedonia, Mongolia, Netherlands, Russia (PRI, SAK), Serbia, Slovakia, Spain, Sweden, Switzerland, Tunisia, Turkey, United Kingdom.

Notes. Our species concept is based on van Achterberg (2006) and Kotenko (2007a). The species distribution in Armenia, Azerbaijan and Georgia is based on Belokobylskij et al. (2019).

***Microplitis manilae* Ashmead, 1904**

Microplitis manilae Ashmead, 1904.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Philippines.

Geographical distribution. AUS, OTL, PAL.

AUS: Australia (QLD), Papua New Guinea; **OTL:** China (GD, TW, ZJ), India, Malaysia, Philippines, Ryukyu Islands, Thailand, Vietnam; **PAL:** Korea.

Notes. Our species concept is based on Austin and Dangerfield (1993), Gupta (2013a) and Ranjith et al. (2015a).

***Microplitis mariamargaritae* Fernandez-Triana, 2018**

Microplitis mariamargaritae Fernandez-Triana, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CO).

***Microplitis marini* Whitfield, 2003**

Microplitis marini Whitfield, 2003.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEA, NEO.

NEA: USA (AZ); **NEO:** Costa Rica.

Notes. The record of this species from Arizona (US) was questioned by Fernandez-Triana et al. (2015b) as the available information suggests it may represent a different (most likely undescribed) species. However, to conclude, examination of the US specimen would be needed; thus, for the time being they are listed under *marini*.

***Microplitis marshallii* Kokujev, 1898**

Microplitis marshallii Kokujev, 1898.

Type information. Lectotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Georgia.

Geographical distribution. OTL, PAL.

OTL: China (FJ, HB, YN); **PAL:** Armenia, Azerbaijan, China (JL), Finland, Georgia, Hungary, Iran, Moldova, Romania, Russia (KEM, ROS, STA), Turkey.

Notes. Our species concept is based on Papp (1984c), Chen and Song (2004), Kotenko (2007a) and Ranjith et al. (2015a).

***Microplitis masneri* Austin & Dangerfield, 1993**

Microplitis masneri Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

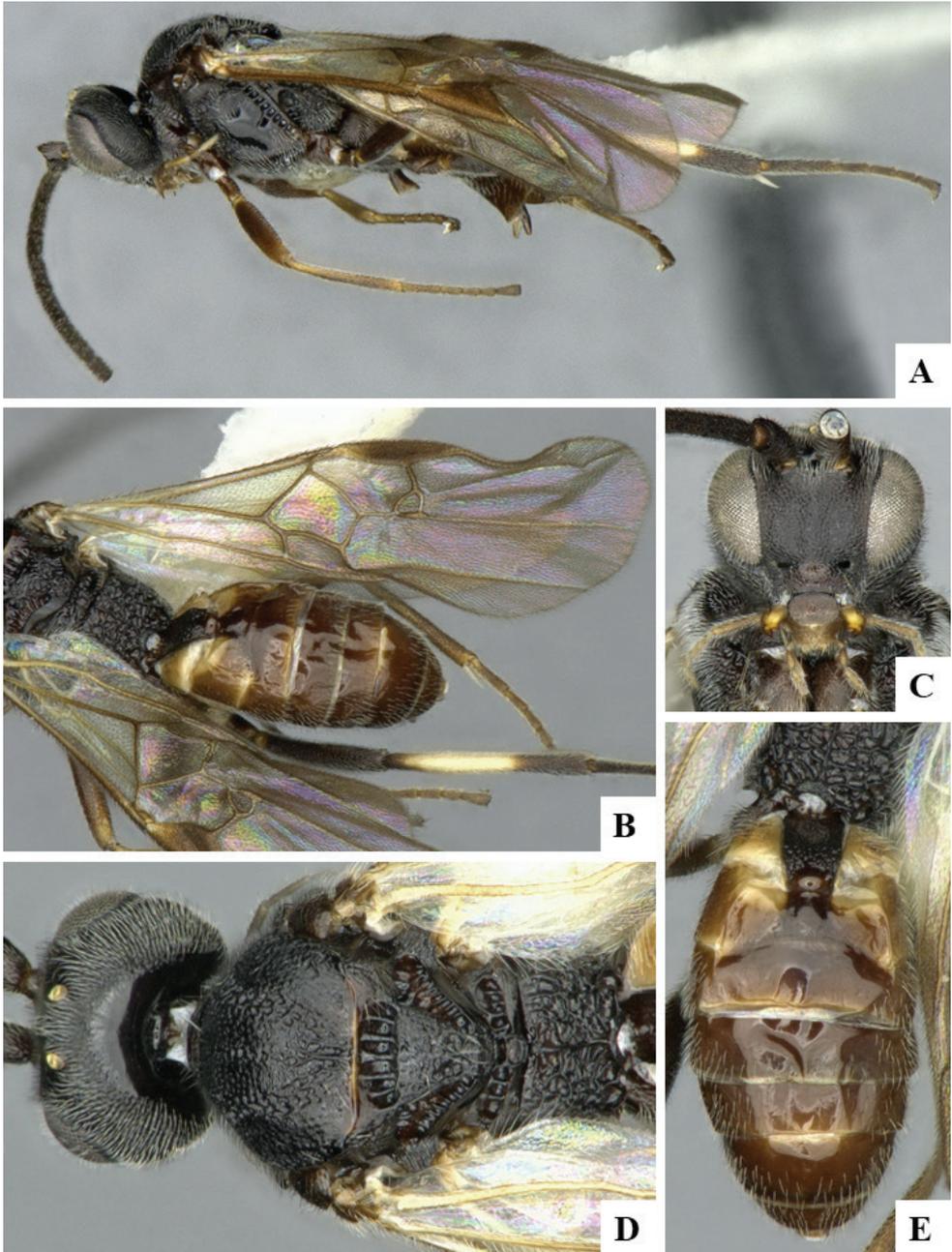


Figure 154. *Microplitis manilae* female CNC776776 **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

***Microplitis maturus* Weed, 1888**

Microplitis maturus Weed, 1888.

Microplitis cincta Ashmead, 1891.

Microgaster tuckeri Viereck, 1905.

Type information. Holotype male, ANSP (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, ON, QC), USA (AR, CT, FL, GA, IL, IA, KS, LA, MD, MI, MO, NJ, NY, SD, VT).

Notes. The information about the holotype is taken from Shenefelt (1973: 750). We have also examined the holotype of *M. cincta* in the USNM, a male specimen.

***Microplitis mediator* (Haliday, 1834)**

Microgaster mediator Haliday, 1834.

Microgaster medianus Ruthe, 1860 [primary homonym of *Microgaster medianus* Ratzeburg, 1852].

Microplitis halidayi Fahringer, 1937.

Microplitis pseudomedianus Fahringer, 1937.

Type information. Lectotype male, NMID (examined). Country of type locality: unknown.

Geographical distribution. NEA, NEO, OTL, PAL.

NEA: Greenland, **NEO:** Brazil (PR); **OTL:** China (HN, JS, ZJ), Pakistan; **PAL:** Albania, Armenia, Austria, Azerbaijan, Belgium, Bulgaria, China (HE, HL, HA, LN, NM, SD, SN, XJ), Croatia, Czech Republic, Finland, France, Georgia, Germany, Hungary, Iran, Ireland, Italy, Japan, Kazakhstan, Korea, Latvia, Lithuania, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia (AST, ZAB, KIR, KDA, MOS, ORE, PRI, RYA, SAK, SAR, STA, YAR), Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, Uzbekistan.

Notes. van Achterberg (1997) revised the Haliday collection of Braconidae and designated a lectotype for *Microplitis mediator*. Unfortunately, the type locality or country for the lectotype specimen are not clearly specified (van Achterberg 1997: 57). Based on the first few sections of van Achterberg's paper (where he detailed the process he used to recognize Haliday's type specimens, publication dates, and list of taxa described), Ireland seems to be the most likely country of the lectotype. We also examined the type of *Microgaster medianus* Ruthe. The species distribution in Armenia, Georgia, and Iran is based on Belokobylskij et al. (2019).

***Microplitis melianae* Viereck, 1911**

Microplitis melianae Viereck, 1911.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

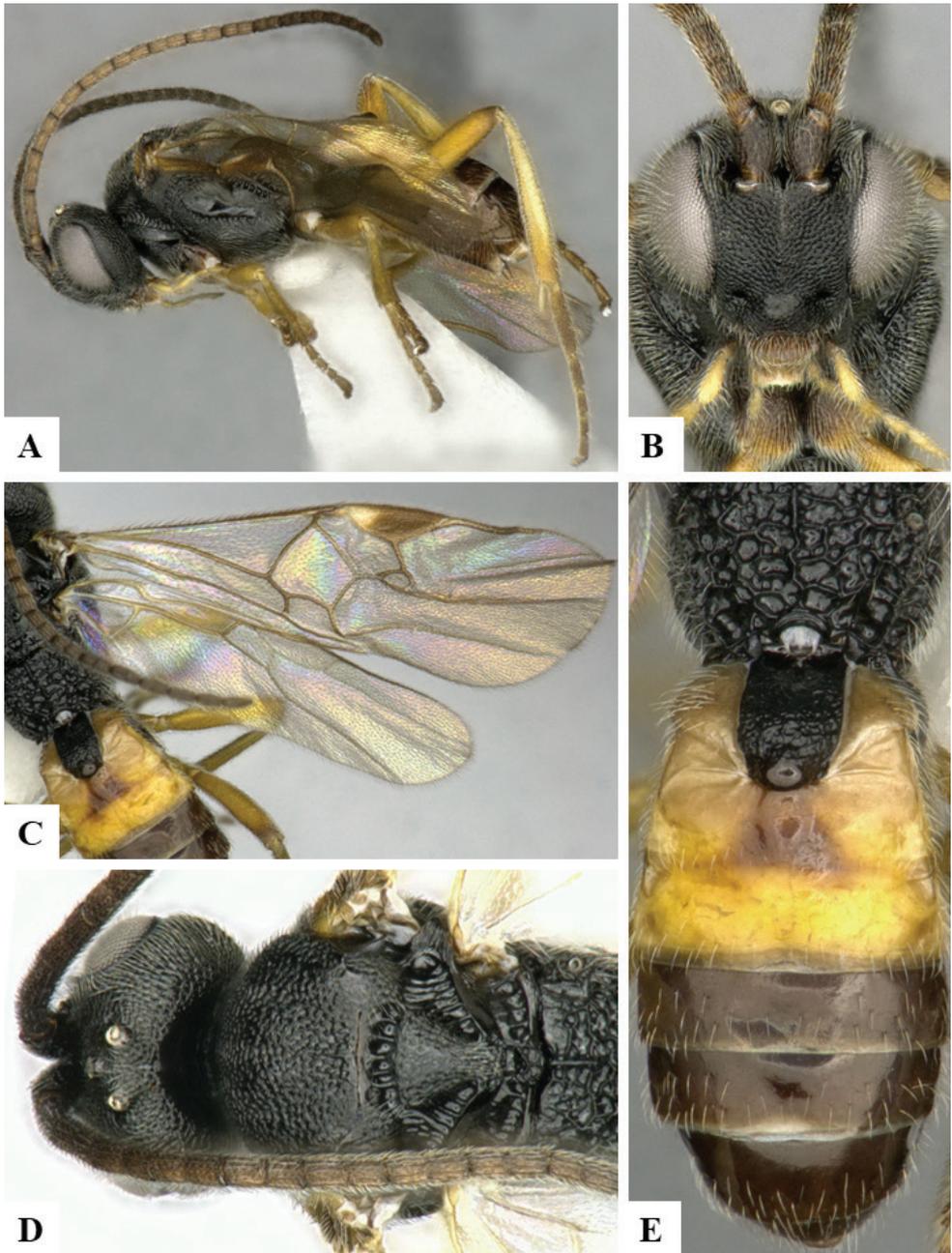


Figure 155. *Microplitis mediator* female CNC677799 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

Geographical distribution. NEA.

NEA: Canada (AB, ON), USA (IL, IA, KS, NY, OH, OK, TN, TX).

***Microplitis mencianus* Xu & He, 1999**

Microplitis menciana Xu & He, 1999.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HL).

Notes. The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Microplitis mexicanus* (Cameron, 1887), new combination**

Microgaster mexicana Cameron, 1887.

Type information. Holotype female, NHMUK (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

Notes. After the original description, the only taxonomist that has commented on this species was Muesebeck (1922: 42). He stated that he did not know that species but guessed that it did not belong to *Microgaster*, and then correctly guessed that it could be *Microplitis*, based on the description from Cameron. After examining the female holotype, we formally transfer the species here to *Microplitis*, based on its inflexible hypopygium, very short ovipositor sheaths, T1 very narrow and with polished knob at apex, T2 subtriangular, and metatibial spurs shorter than half the length of the first metatarsus segment.

***Microplitis minutus* Alexeev, 1977**

Microplitis minutus Alexeev, 1977.

Type information. Holotype female, ZIN (not examined). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

***Microplitis moestus* (Ratzeburg, 1852)**

Microgaster möstus Ratzeburg, 1852.

Microplitis maestus Dalla Torre, 1898 [unjustified emendation].

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Austria, Germany, Hungary, Netherlands, United Kingdom.

Notes. Our species concept is based on Papp (1984c).

***Microplitis mongolicus* Papp, 1967**

Microplitis mongolicus Papp, 1967.

Type information. Holotype male, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Hungary, Israel, Jordan, Mongolia, Russia (ZAB).

Notes. Our species concept is based on Papp (1984c).

***Microplitis montanus* Muesebeck, 1922**

Microplitis montanus Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA, MO, NV).

***Microplitis murkyi* Gupta, 2013**

Microplitis murkyi Gupta, 2013.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Microplitis murrayi* Austin & Dangerfield, 1993**

Microplitis murrayi Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (ACT, NSW, QLD, TAS, VIC, WA).

***Microplitis naenia* Nixon, 1970**

Microplitis naenia Nixon, 1970.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Hungary, Russia (C, NW), Slovakia, Turkey, United Kingdom.

***Microplitis narendrani* Ranjith & Nasser, 2015**

Microplitis narendrani Ranjith & Nasser.

Type information. Holotype female, DZUC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The depository acronym (DZUC) was selected based on Ranjith et al. (2015a) and not the Insect and Spider Collections of the World website, which lists a different institution under that same acronym.

***Microplitis necopinatus* (Papp, 1984)**

Microgaster necopinata Papp, 1984.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Finland.

Geographical distribution. PAL.

PAL: Finland.

***Microplitis newguineaensis* Austin & Dangerfield, 1993**

Microplitis newguineaensis Austin & Dangerfield, 1993.

Type information. Holotype female, CNC (examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

***Microplitis nielseni* Austin & Dangerfield, 1993**

Microplitis nielseni Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (WA).

***Microplitis nigrifemur* Xu & He, 2006**

Microplitis nigrifemur Xu & He, 2006.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HE).

***Microplitis nigrinus* Muesebeck, 1922**

Microplitis nigrinus Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CO).

***Microplitis obscuripennatus* Xu & He, 1999**

Microplitis obscuripennatus Xu & He, 1999.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

Notes. The illustration of the mesosoma and metasoma in the original description suggest that this species might belong to *Snellenius*, based on the deep notauli, the deeply impressed scutellar disc, and the shape of T1. However, the English translation (Xu and He 1999: 67, 68) that follows the Chinese description makes no mention of an epicnemial carina, the most distinguishing character of *Snellenius*; thus, we retain the species under the genus in which it was originally described.

***Microplitis ocellatae* (Bouché, 1834)**

Microgaster ocellatae Bouché, 1834.

Microgaster canaliculatus Wesmael, 1837.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. OTL, PAL.

OTL: China (JS); **PAL:** Belgium, China (LN), Croatia, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Moldova, Netherlands, Poland, Romania, Russia (ZAB, SAK), Serbia, Ukraine, United Kingdom.

Notes. Our species concept is based on Nixon (1970), Papp (1984c) and Kotenko (2007a).

***Microplitis ochraceus* Szépligeti, 1896**

Microplitis ochraceus Szépligeti, 1896.

Microplitis flaviventris Ivanov, 1898.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Azerbaijan, Greece, Hungary, Iran, Kazakhstan, Moldova, Mongolia, Romania, Russia (KDA, ROS), Ukraine, Uzbekistan.

Notes. Our species concept is based on Papp (1984c) and Kotenko (2007a).

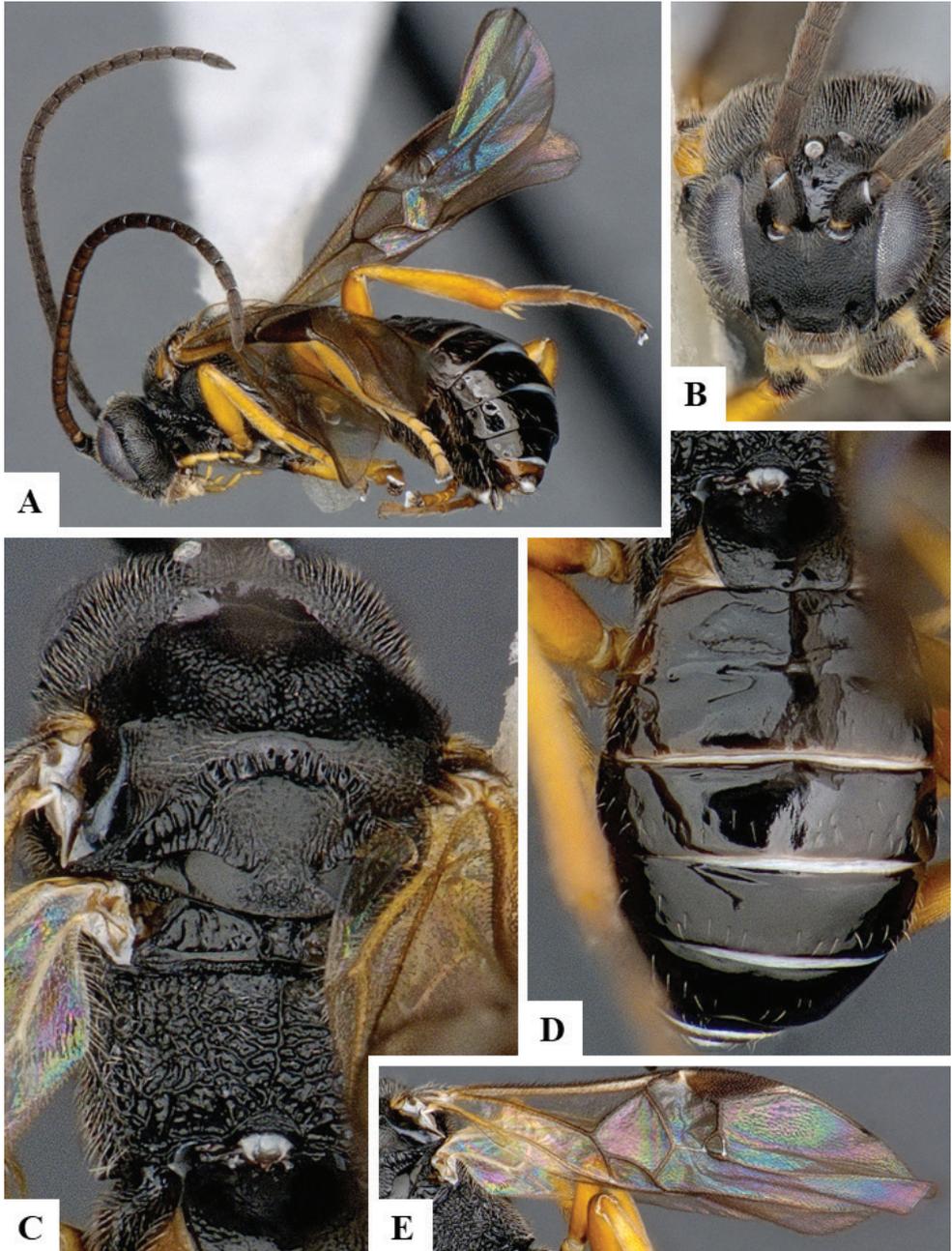


Figure 156. *Microplitis ocellatae* female MRSJFT0076 **A** Habitus, lateral **B** Head, frontal **C** Mesosoma, dorsal **D** Metasoma, dorsal **E** Fore wing.

***Microplitis paizhensis* Zhang, 2019**

Microplitis paizhensis Zhang, 2019.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (XZ).

***Microplitis pallidipennis* Tobias, 1964**

Microplitis pallidipennis Tobias, 1964.

Type information. Holotype male, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan, Mongolia, Russia (S).

Notes. Our species concept is based on Papp (1984c), Tobias (1986), and Kotenko (2007a).

***Microplitis pallidipes* Szépligeti, 1902**

Microplitis pallidipes Szépligeti, 1902.

Type information. Holotype male, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Singapore.

Geographical distribution. OTL, PAL.

OTL: China (FJ, HN, TW, ZJ), Singapore, Vietnam; **PAL:** China (SD), Korea, Russia (PRI, SAK).

Notes. Our species concept is based on Wilkinson (1930a), Long and Belokobylski (2004), and Kotenko (2007a).

***Microplitis pellucidus* Telenga, 1955**

Microplitis pellucidus Telenga, 1955.

Type information. Lectotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Denmark, Germany, Hungary, Korea, Netherlands, Russia (ALT, PRI), Serbia.

Notes. Our species concept is based on Telenga (1955), Papp (1984c), Tobias (1986) and Kotenko (2007a).

***Microplitis pennatulae* Ranjith & Nasser, 2015**

Microplitis pennatulae Ranjith & Nasser.

Type information. Holotype female, DZUC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Microplitis perelegans* (Bingham, 1906)**

Microgaster perelegans Bingham, 1906.

Type information. Holotype female, OUMNH (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NT, QLD, WA).

Notes. Our species concept is based on Austin and Dangerfield (1992, 1993).

***Microplitis pipus* Austin & Dangerfield, 1993**

Microplitis pipus Austin & Dangerfield, 1993.

Type information. Holotype male, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

***Microplitis plutellae* Muesebeck, 1922**

Microplitis plutellae Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA, OTL, PAL.

NEA: Canada (AB, ON, PE, QC, SK), USA (CA, CO, ID, IA, MI, MN, NY, ND, OH, SC, TX, UT); **OTL:** China (TW); **PAL:** Egypt, Russia (MUR).

***Microplitis prodeniae* Rao & Kurian, 1950**

Microplitis prodeniae Rao & Kurian, 1950.

Microplitis bicoloratus Chen, 2004 [*M. bicoloratus* Chen, 2004 is also a primary homonym of *Microplitis bicoloratus* Xu & He, 2003].

Microplitis kovalevskayae Kittel, 2016 [unnecessary replacement name for *M. bicoloratus* Chen, 2004].

Type information. Holotype female, NZSI (not examined but subsequent treatment of the species checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: China (GD, GX), India, Vietnam.

Notes. Our species concept is based on Gupta (2013a), Gupta & Fernandez-Triana (2014), and Ranjith et al. (2015a). The status of *Microplitis bicoloratus* (Chen, 2004) as a synonym of *M. prodenia* Rao & Kurian, 1950, and as a junior synonym of *M. bicoloratus* Xu & He, 2003 was established by Zhang et al. (2017). Thus,

there is no need to replace the name *Microplitis bicoloratus* (Chen, 2004) with *Microplitis kovalevskayae* Kittel, 2016 as proposed by Kittel (2016).

***Microplitis pseudomurinus* Abdinbekova, 1969**

Microplitis pseudomurina Abdinbekova, 1969.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Azerbaijan.

Geographical distribution. PAL.

PAL: Azerbaijan, Bulgaria, Georgia, Greece, Hungary, Kazakhstan, Moldova, Russia (ZAB, PRI), Turkey.

Notes. Our species concept is based on Papp (1984c), Tobias (1986), and Kotenko (2007a). The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and must match the gender of the genus name.

***Microplitis pseudochraceus* Alexeev, 1977**

Microplitis pseudochraceus Alexeev, 1977.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

***Microplitis quadridentatus* (Provancher, 1886)**

Microgaster 4-dentatus Provancher, 1886.

Microplitis terminatus Weed, 1888.

Type information. Lectotype male, ULQC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (ON), USA (IL, IN, MA, NH, NY, SD).

***Microplitis quintilis* Viereck, 1917**

Microplitis quintilis Viereck, 1917.

Type information. Holotype male, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CT, MO).

***Microplitis ratzeburgii* (Ruthe, 1858)**

Microgaster ratzeburgii Ruthe, 1858.

Microgaster spinolae Ratzeburg, 1852 [homonym of *Microgaster spinolae* Nees, 1834].

Microplitis cerurae Matsumura, 1921.

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Bulgaria, Denmark, Finland, France, Germany, Israel, Italy, Japan, Poland, Russia (ZAB, PRI, SAK), Serbia, Ukraine.

Notes. Our species concept is based on Shenefelt (1973: 756-757). Nixon (1970) referred to this species as *ratzeburgi* but the original and correct spelling is *ratzeburgii* (Ruthe 1858: 6).

***Microplitis retentus* (Papp, 1984)**

Microgaster retenta Papp, 1984.

Type information. Holotype female, ZSM (not examined but subsequent treatment of the species checked). Country of type locality: France.

Geographical distribution. PAL.

PAL: France.

Notes. Our species concept is based on Papp (1984c) and Shaw et al. (2009).

***Microplitis rufipes* Dutu-Lacatusu, 1961**

Microplitis rufipes Dutu-Lacatusu, 1961.

Type information. Holotype female, depository unknown (not examined). Country of type locality: Romania.

Geographical distribution. PAL.

PAL: Romania.

Notes. The information about the holotype is taken from Shenefelt (1973: 757).

***Microplitis rufiventris* Kokujev, 1914**

Microplitis rufiventris Kokujev, 1914

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Uzbekistan.

Geographical distribution. OTL, PAL.

OTL: China (HN); **PAL:** Afghanistan, Cyprus, Egypt, Iran, Israel, Jordan, Romania, Russia (NC, S), Turkey, Turkmenistan, Uzbekistan.

Notes. Our species concept is based on Papp (1984c) and Tobias (1986).

***Microplitis schmidti* Austin & Dangerfield, 1993**

Microplitis schmidti Austin & Dangerfield, 1993.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NT, South WA).

***Microplitis scrophulariae* Szépligeti, 1898**

Microplitis scrophulariae Szépligeti, 1898.

Type information. Lectotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Bulgaria, Croatia, Czech Republic, France, Georgia, Greece, Hungary, Iran, Kazakhstan, Korea, Mongolia, Romania, Russia (ZAB, IRK, KEM, SPE, YAR), Serbia, Slovakia, Sweden, Turkey, United Kingdom.

Notes. Our species concept is based on Papp (2004).

***Microplitis scutellatus* Muesebeck, 1922**

Microplitis scutellatus Muesebeck, 1922.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, ON), USA (ID, IA, KS, MI, MT, NY, OR, SD, WA).

Notes. The female holotype has the scutellar disc with deep impressions close to and around the margins (like *Snellenius* species that have that feature not so pronounced); however, there is no epicnemial carina nor deeply marked notauli, so we retain this species in *Microplitis*.

***Microplitis semicircularis* (Ratzeburg, 1844)**

Microgaster semicircularis Ratzeburg, 1844.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Germany, Hungary.

Notes. Our species concept is based on the descriptions and comments from Ratzeburg (1844), Fahringer (1937) and Papp (1984c). See comments under the species *Microplitis fordi* Nixon above, and also Broad et al. (2016) for more details on these two species.

***Microplitis similis* Lyle, 1921**

Microplitis similis Lyle, 1921.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: Bangladesh, India, Indonesia, Vietnam.

***Microplitis sofron* Nixon, 1970**

Microplitis sofron Nixon, 1970.

Type information. Holotype female, NHMUK (examined). Country of type locality: Sweden.

Geographical distribution. NEA, PAL.

NEA: Greenland; **PAL:** Armenia, Azerbaijan, Bulgaria, Denmark, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Italy, Kazakhstan, Netherlands, Norway, Russia (ZAB, SPE), Serbia, Spain, Sweden, Switzerland, Turkey, Turkmenistan, United Kingdom.

Notes. Papp (1984c) suggested that this species might be a junior synonym of *Microplitis stigmaticus* (Ratzeburg, 1844), but nevertheless maintained the species as valid (also Broad et al. 2016), a decision we follow here. The species distribution in Armenia and Turkmenistan is based in Belokobylskij et al. (2019).

***Microplitis sordipes* (Ziegler, 1834)**

Microgaster sordipes Ziegler, 1834.

Microgaster tau Ratzeburg, 1852.

Type information. Holotype male, lost (not examined but subsequent treatment of the species checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Albania, Armenia, Austria, Azerbaijan, Belgium, Czech Republic, Finland, France, Georgia, Germany, Hungary, Italy, Kazakhstan, Lithuania, Moldova, Mongolia, Poland, Romania, Russia (IRK, KL, KIR, KDA, RYA, SPE, VOR, YAR), Slovakia, Sweden, Switzerland, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan, Yugoslavia.

Notes. Our species concept is based on Papp (2016), who also provided details and emendation of the species author name (the species author name was previously considered to be Nees, 1834 by most references, e.g., Yu et al. 2016).

***Microplitis spectabilis* (Haliday, 1834)**

Microgaster spectabilis Haliday, 1834.

Microgaster fossulatus Bouché, 1834.

Microgaster parvulus Ruthe, 1860.

Microgaster seuratii Marshall, 1898.

Dapsilotoma testaceipes Cameron, 1906.

Type information. Lectotype female, NMID (not examined but authoritatively identified specimens examined). Country of type locality: Ireland.

Geographical distribution. OTL, PAL.

OTL: Pakistan; **PAL:** Armenia, Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Israel, Italy, Kazakhstan, Latvia, Lithuania, Madeira Islands, Malta, Moldova, Mongolia, Morocco, Poland, Romania, Russia (AD, ZAB, DA, IRK, KIR, KDA, PRI, RYA, SAK, VOR, YAR), Slovakia, Sweden, Switzerland, Tajikistan, Tunisia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

Notes. We examined the type of *Microgaster parvulus* Ruthe. The species distribution in Israel is based in Belokobylskij et al. (2019).

***Microplitis spinolae* (Nees, 1834)**

Microgaster spinolae Nees, 1834.

Microplitis sapporoensis Ashmead, 1906.

Microplitis radiorimatus Telenga, 1955.

Type information. Neotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Ireland, Italy, Japan, Kazakhstan, Korea, Kyrgyzstan, Lithuania, Macedonia, Moldova, Netherlands, Poland, Romania, Russia (KAM, KDA, NGR, PRI, SAK, SPE, VOR, YAR, ZAB), Serbia, Slovakia, Sweden, Switzerland, Tajikistan, Turkey, Ukraine, United Kingdom, Uzbekistan.

Notes. Our species concept is based on Nixon (1970), Tobias (1986), Kotenko (2007a) and Shaw (2012b).

***Microplitis spodopterae* Rao & Kurian, 1950**

Microplitis spodopterae Rao & Kurian, 1950.

Type information. Holotype female, NZSI (not examined but subsequent treatment of the species checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Our species concept is based on Gupta (2013a), Gupta & Fernandez-Triana (2014), and Ranjith et al. (2015a).

***Microplitis steinbergi* Tobias, 1964, restored combination**

Microplitis steinbergi Tobias, 1964.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Kazakhstan, Russia (S).

Notes. Our species concept is based on Tobias (1964, 1986) and Papp (1984c). This species was at times considered to belong to *Microgaster*, e.g., Papp (1984c) and Tobias (1986), as part of the confusion with the application and use of the *Microplitis* and *Microgaster* names, which was only solved after 1988 (see more details and comments under our introduction to the genus *Microgaster* above, p 717). The correct generic placement at present would be in *Microplitis*, which is also corroborated by the description and images in Tobias (1964, 1986). Because some of the more recent references (e.g., Yu et al. 2016) still refer to the species within *Microgaster*, for the sake of clarity we restore its status here.

***Microplitis stigmaticus* (Ratzeburg, 1844)**

Microgaster stigmaticus Ratzeburg, 1844.

Microplitis stigmaticus Ratzeburg, 1844 [secondary homonym of *Microplitis stigmaticus* Muesebeck, 1922].

Microplitis stigmativetus Shenefelt, 1973.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Finland, Germany, Italy, Kazakhstan, Latvia, Poland, Romania, Russia (ALT, KDA, SPE, SAR), Serbia, Turkmenistan, Ukraine, Uzbekistan.

Notes. Our species concept is based on Telenga (1955) and Tobias (1986).

***Microplitis storeyi* Austin & Dangerfield, 1993**

Microplitis storeyi Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

***Microplitis strenuus* Reinhard, 1880**

Microplitis strenuus Reinhard, 1880.

Microgaster gracilis Ruthe, 1860 [primary homonym of *Microplitis gracilis* Curtis, 1830].

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Afghanistan, Armenia, Azerbaijan, China (GS, SN), Croatia, Czech Republic, Germany, Hungary, Kazakhstan, Moldova, Mongolia, Netherlands, Poland, Russia (ZAB, KDA, PRI, YAR), Serbia, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, Uzbekistan.

***Microplitis suavis* Alexeev, 1971**

Microplitis suavis Alexeev, 1971.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Turkmenistan.

Geographical distribution. PAL.

PAL: Turkmenistan.

***Microplitis subsulcatus* Granger, 1949**

Microplitis subsulcatus Granger, 1949.

Type information. Holotype female, MNHN (not examined but subsequent treatment of the species checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar, Réunion.

Notes. Our species concept is based on Granger (1949) and Rouse and Gupta (2013).

***Microplitis tadzhicus* Telenga, 1949**

Microplitis tadzhicus Telenga, 1949.

Microplitis murina Telenga, 1955.

Microplitis intermedius Hedwig, 1961.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Tajikistan.

Geographical distribution. OTL, PAL.

OTL: China (JS); **PAL:** Afghanistan, Azerbaijan, China (SD), France, Hungary, Kazakhstan, Korea, Russia (UR), Tajikistan, Turkmenistan, Uzbekistan.

Notes. Our species concept is based on Telenga (1955), Papp (1984c), Tobias (1986) and Chen and Song (2004).

***Microplitis taptor* (Papp, 1987)**

Microgaster taptor Papp, 1987.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Korea.

Geographical distribution. PAL.

PAL: Korea, Russia (PRI).

Notes. Our species concept is based on Kotenko (2007a).

***Microplitis tasmaniensis* Austin & Dangerfield, 1993**

Microplitis tasmaniensis Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (TAS).

***Microplitis taylori* Austin & Dangerfield, 1993**

Microplitis taylori Austin & Dangerfield, 1993.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (ACT, NSW, QLD, VIC).

***Microplitis teba* (Kotenko, 1994)**

Microgaster teba Kotenko, 1994.

Type information. Holotype female, SIZK (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ZAB).

Notes. Our species concept is based on Kotenko (2006, 2007).

***Microplitis testaceicornis* Niezabitowski, 1910**

Microplitis testaceicornis Niezabitowski, 1910.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Poland.

Geographical distribution. PAL.

PAL: Poland.

Notes. Our species concept is based on Telenga (1955) and Papp (1984c).

***Microplitis tobiasi* Kotenko, 2007**

Microplitis tobiasi Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (PRI).

***Microplitis tristis* (Nees, 1834)**

Microgaster tristis Nees, 1834.

Microplitis dolens Marshall, 1885

Type information. Type lost (not examined but authoritatively identified specimens examined). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Azerbaijan, Belgium, Croatia, France, Germany, Hungary, Kazakhstan, Kyrgyzstan, Lithuania, Moldova, Mongolia, Netherlands, Poland, Romania, Russia (PRI), Slovakia, Switzerland, Turkey, Ukraine, United Kingdom.

Notes. We have examined the type of *Microplitis dolens* Marshall, 1885, which is deposited in the NHMUK with code 3c.18. The species distribution in Azerbaijan and Kyrgyzstan is based in Belokobylskij et al. (2019).

***Microplitis tuberculatus* (Bouché, 1834)**

Microgaster tuberculatus Bouché, 1834.

Microgaster fumipennis Ratzeburg, 1852.

Type information. Holotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Finland, Georgia, Germany, Hungary, Ireland, Israel, Italy, Moldova, Mongolia, Poland, Romania, Russia (IN, ZAB, KYA, ROS, RYA, VOR), Slovakia, Sweden, Switzerland, Ukraine, United Kingdom.

Notes. Our species concept is based on Papp (1984c), Tobias (1986) and Kotenko (2007a). The species distribution in Israel is based in Belokobylskij et al. (2019).

***Microplitis tuberculifer* (Wesmael, 1837)**

Microgaster tuberculifer Wesmael, 1837.

Microgaster calcaratus Thomson, 1895.

Microgaster trochanteratus Thomson, 1895.

Microplitis manevali Gautier & Bonnamour, 1939.

Type information. Lectotype female, RBINS (examined). Country of type locality: Belgium.

Geographical distribution. OTL, PAL.

OTL: China (FJ, GZ, HB, SN, TW, ZJ), India; **PAL:** Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, China (BJ, HE, HL, HA, JL, LN, SD, XJ), Croatia, Czech Republic, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Kyrgyzstan, Latvia, Lithuania, Moldova, Mongolia, Morocco, Netherlands, Poland, Romania, Russia (ARK, ZAB, KAM, KEM, KDA, MOS, NGR, PRI, RYA, SAK, SPE, STA, SA, YAR), Serbia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, Uzbekistan, Vietnam.

Notes. The species distribution in Iran and Israel is based in Belokobylskij et al. (2019).

***Microplitis tunetensis* Marshall, 1901**

Microplitis tunetensis Marshall, 1901.

Type information. Lectotype female, MNHN (not examined but subsequent treatment of the species checked). Country of type locality: Tunisia.

Geographical distribution. PAL.

PAL: Hungary, Tunisia.

Notes. Our species concept is based on Papp (1984c).

***Microplitis varicolor* Viereck, 1917**

Microplitis varicolor Viereck, 1917.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (MB, NB, ON, QC), USA (AL, CO, CT, DC, FL, IL, LA, MI, MO, NY, OK, PA, SC, TN, TX).

Notes. Choi and Kim (2018) reported this species from Korea, and also considered that the species was previously distributed in other countries of the Palearctic region (Bulgaria, China, Finland, Germany, Japan, Norway, and Russia), but without citing any references to support those claims. Because the illustrations of the paper clearly show a male specimen (and not a female, as referred to by the authors), there are no details on the expert identifying the specimens, and the previous distribution of the species in other Palearctic countries has no supporting evidence, we strongly suspect that Choi and Kim (2018) misidentified the species they collected and refute their claims that *varicolor* is a Palearctic species. Those specimens likely belong to *Microplitis mediator*, a widespread Palearctic species which seems morphologically and molecularly (DNA barcodes) similar to *M. varicolor* (Fernandez-Triana, unpublished data).

***Microplitis varipes* (Ruthe, 1860)**

Microgaster varipes Ruthe, 1860.

Microplitis variipes Dalla Torre, 1898 [unjustified emendation].

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Austria, Azerbaijan, China (QH, XJ), Finland, Georgia, Germany, Hungary, Italy, Kazakhstan, Malta, Moldova, Mongolia, Montenegro, Netherlands, Poland, Russia (ZAB, KDA, RYA, SPE, YAR), Serbia, Slovakia, Switzerland, Turkey, Ukraine.

Notes. The species distribution in Georgia is based in Belokobylskij et al. (2019).

***Microplitis viduus* (Ruthe, 1860)**

Microgaster viduus Ruthe, 1860.

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Croatia, Cyprus, Czech Republic, Finland, Georgia, Germany, Greece, Hungary, Iran, Israel, Italy, Kazakhstan, Macedonia, Moldova, Mongolia, Netherlands, Poland, Romania, Russia (ZAB, DA, PRI, SAR, YAR), Serbia, Switzerland, Turkey, Ukraine, United Kingdom, Uzbekistan.

Notes. The species distribution in Armenia, Georgia, Kyrgyzstan and Turkmenistan is based in Belokobylskij et al. (2019).

***Microplitis vitobiasi* Fernandez-Triana, 2019, new replacement name**

Microplitis variicolor Tobias, 1964 [junior primary homonym of *Microplitis variicolor* Viereck, 1917].

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Azerbaijan, Kazakhstan, Mongolia, Russia (S), Ukraine.

Notes. Our species concept is based on Papp (1984c) and Kotenko (2006). *Microplitis variicolor* Tobias, 1964 is a junior primary homonym of *Microplitis varicolor* Viereck, 1917 under ICZN Article 58.15 (they differ only in the presence or absence of a connecting -i before a suffix). The replacement name is a combination of the initials and last name of V.I. Tobias, the author originally describing the species.

***Microplitis xanthopus* (Ruthe, 1860)**

Microgaster xanthopus Ruthe, 1860.

Microgaster tenuipes Thomson, 1895.

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Belarus, Bulgaria, Croatia, Czech Republic, Finland, Georgia, Germany, Hungary, Iran, Ireland, Italy, Kazakhstan, Moldova, Poland, Romania, Russia (IRK, KDA, SAK, SPE, VGG, YAR), Serbia, Sweden, Switzerland, Ukraine, United Kingdom.

Notes. The species distribution in Iran is based in Belokobylskij et al. (2019).

***Microplitis zhaoi* Xu & He, 2000**

Microplitis zhaoi Xu & He, 2000.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ, ZJ), India.

Notes. Our species concept is based on Ranjith et al. (2015a).

Genus *Miropotes* Nixon, 1965

Miropotes Nixon, 1965: 200. Gender: feminine. Type species: *Miropotes creon* Nixon, 1965, by original designation.

Known from 15 described species from the Oriental, Australasian and Afrotropical regions. We have seen additional species in collections but *Miropotes* does not seem to be very speciose. There are 34 DNA-barcode compliant sequences of this genus in BOLD, representing 12 BINs.

***Miropotes austini* Fernandez-Triana & Whitfield, 2014**

Miropotes austini Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NSW).

***Miropotes boothis* Austin, 1990**

Miropotes boothis Austin, 1990.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

***Miropotes burringbaris* Austin, 1990**

Miropotes burringbaris Austin, 1990.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS, OTL.

AUS: Australia (ACT, NSW, QLD, TAS, VIC), Papua New Guinea; **OTL:** Indonesia.

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

***Miropotes cadgeis* Austin, 1990**

Miropotes cadgeis Austin, 1990.

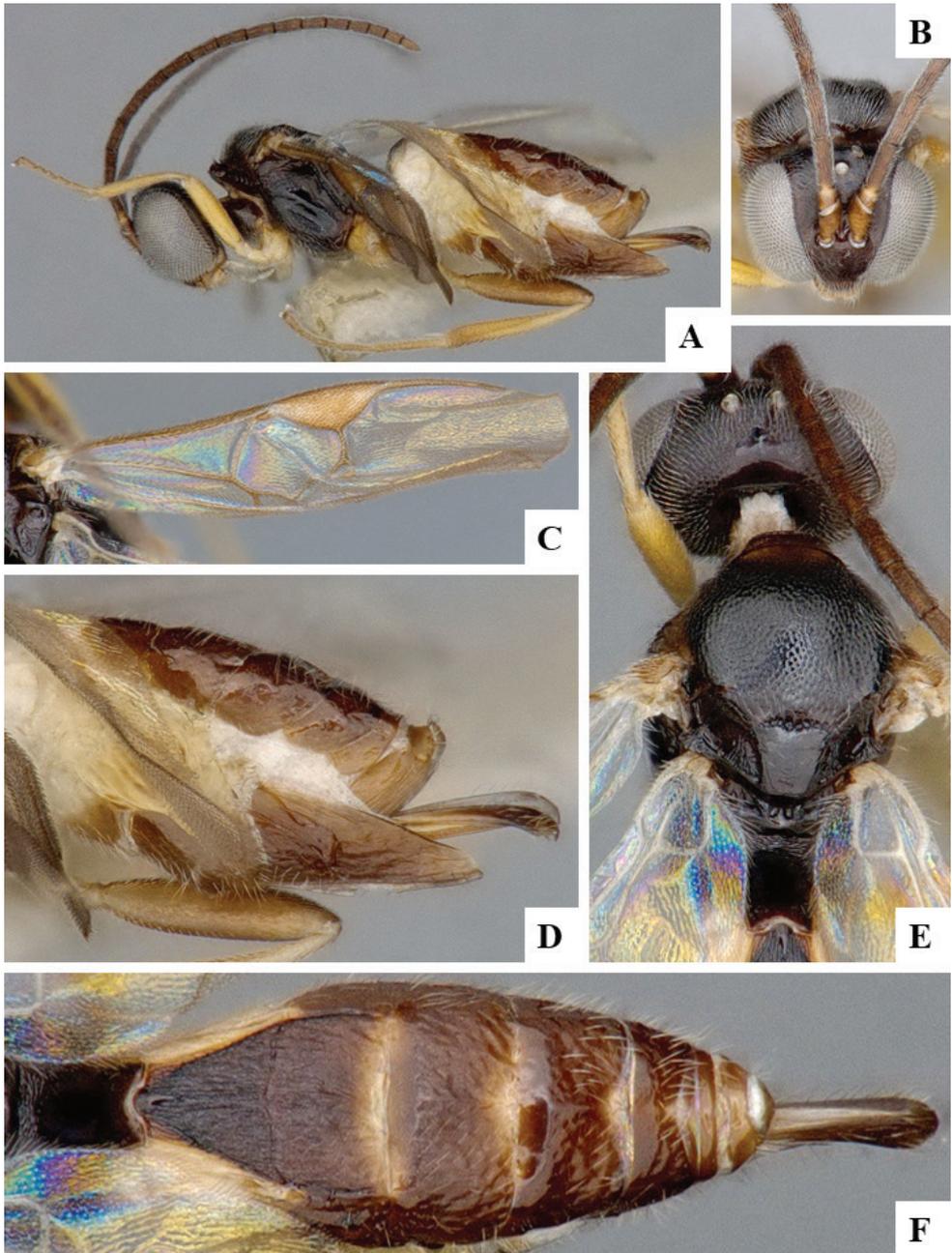


Figure 157. *Miropotes austini* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, lateral **E** Head and mesosoma, dorsal **F** Metasoma, dorsal.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NSW, QLD).

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

***Miropotes chookolis* Austin, 1990**

Miropotes chookolis Austin, 1990.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

***Miropotes creon* Nixon, 1965**

Miropotes creon Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (TAS).

***Miropotes goobitis* Austin, 1990**

Miropotes goobitis Austin, 1990.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NT, QLD, WA).

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

***Miropotes inexpectatus* van Achterberg & Fernandez-Triana, 2017**

Miropotes inexpectatus van Achterberg & Fernandez-Triana, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

***Miropotes katois* Austin, 1990**

Miropotes katois Austin, 1990.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (SA).

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

***Miopotes kilkulunis* Austin, 1990**

Miopotes kilkulunis Austin, 1990.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NT).

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

***Miopotes lordhowensis* Fernandez-Triana & Whitfield, 2014**

Miopotes lordhowensis Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NSW, TAS).

***Miopotes neglectus* Fernandez-Triana & Whitfield, 2014**

Miopotes neglectus Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

***Miopotes orientalis* Fernandez-Triana & van Achtenberg, 2014**

Miopotes orientalis Fernandez-Triana & van Achtenberg, 2014.

Type information. Holotype female, RMNH (examined). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Thailand, Vietnam.

***Miopotes petiolaris* (Szépligeti, 1905)**

Microgaster petiolaris Szépligeti, 1905.

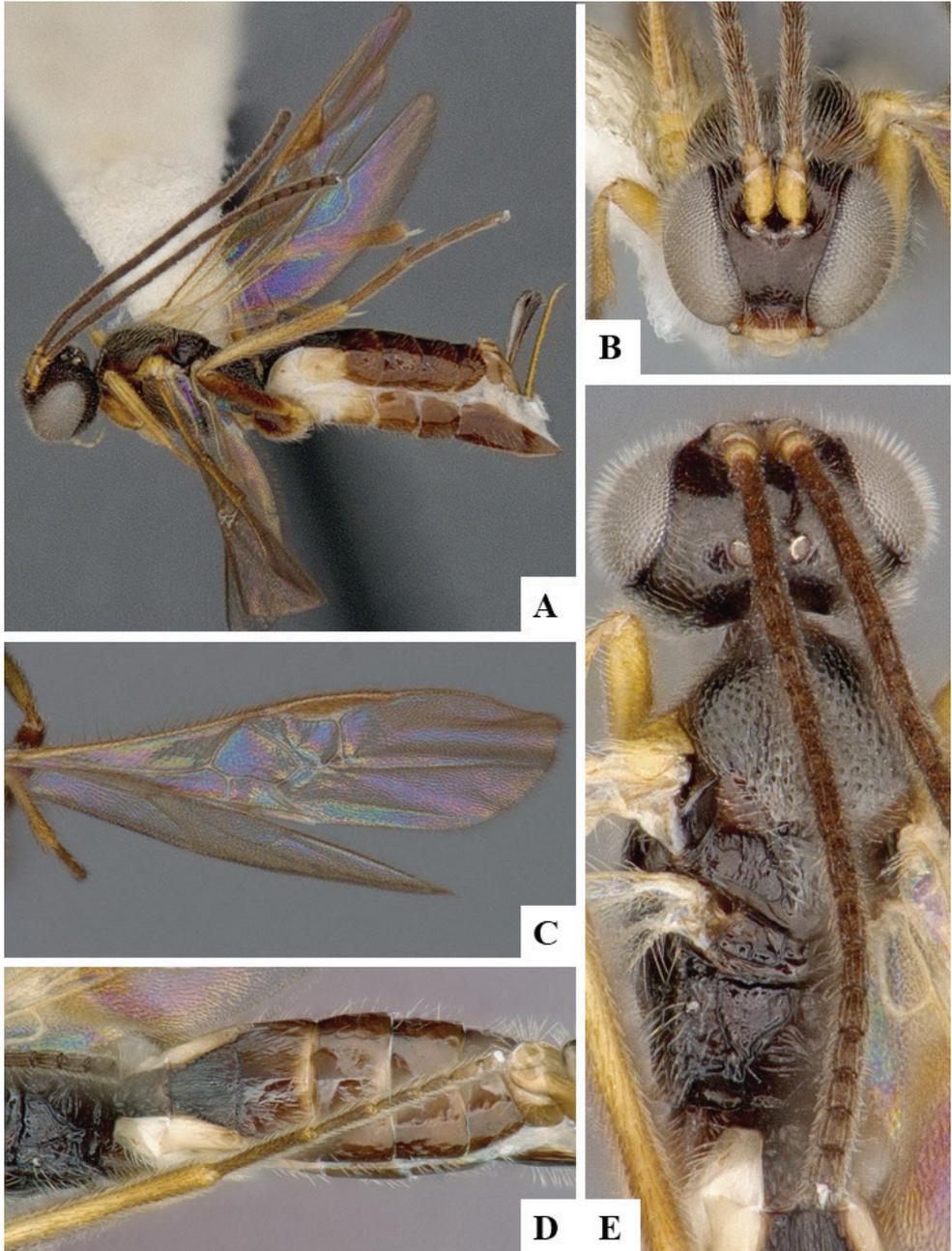


Figure 158. *Miropotes lordhowensis* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal.

Type information. Lectotype lost (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (ACT, NSW, NT, QLD, SA, WA).

Notes. Our species concept is based on Fernandez-Triana et al. (2014d). The female lectotype is considered to be lost (Austin and Dangerfield 1993: 1156).

***Miopotes thuraris* Austin, 1990**

Miopotes thuraris Austin, 1990.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NSW, NT, QLD, SA, TAS, VIC, WA), New Caledonia, Papua New Guinea, Vanuatu.

Notes. Our species concept is based on Fernandez-Triana et al. (2014d).

Genus *Napamus* Papp, 1993

Napamus Papp, 1993: 168. Gender: masculine. Type species: *Apanteles vipio* Reinhard, 1880, by original designation.

Known from two described species (Papp 1993), but the limits of this genus are not clear at present. One of the species has been reared from Scythrididae and Tineidae. There are no DNA barcode sequences of *Napamus* in BOLD.

***Napamus vipio* (Reinhard, 1880)**

Apanteles vipio Reinhard, 1880.

Type information. Syntypes female and male, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Austria, Croatia, France, Germany, Hungary, Israel, Italy, Romania, Russia (C), Spain, Turkey.

Notes. Our species concept is based on Papp (1993). The species distribution in Israel is based in Belokobylskij et al. (2019).

***Napamus zomborii* Papp, 1993**

Napamus zomborii Papp, 1993.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Armenia.

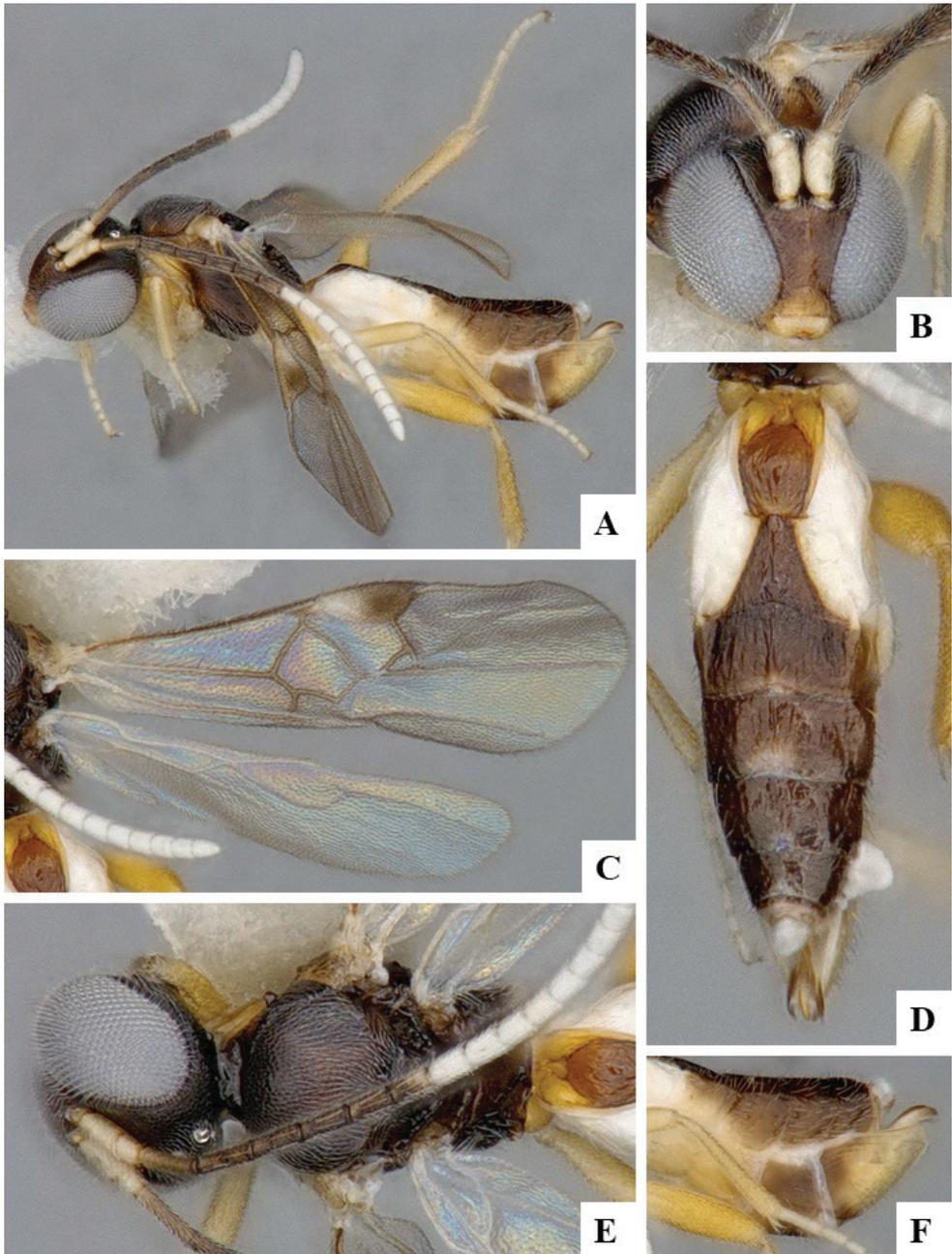


Figure 159. *Miropotes orientalis* female paratype CNCH2114 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Mesosoma, dorsal **F** Apex of metasoma, lateral.

Geographical distribution. PAL.

PAL: Armenia.

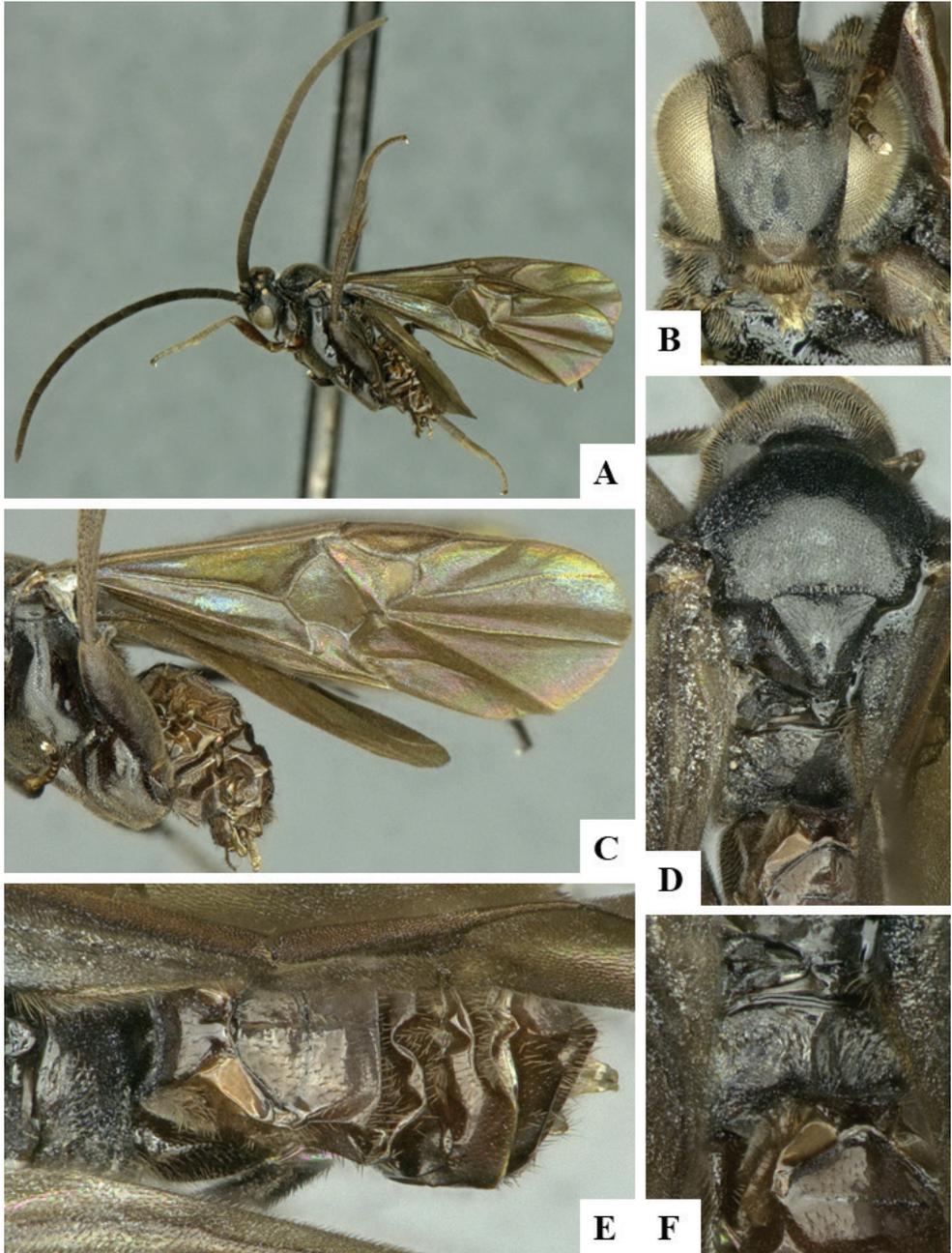


Figure 160. *Napamus* sp. male CNCHYM01899 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Metasoma, dorsal **F** Propodeum, dorsal.

Genus *Neoclarkinella* Rema & Narendran, 1996

Neoclarkinella Rema & Narendran, 1996: 264. Gender: feminine. Type species: *Apanteles nilamburensis* Sumodan & Narendran, 1990, by original designation.

There are seven described species of *Neoclarkinella*, all from the Oriental region, but the genus has never been revised and we have seen many undescribed species in collections, including species from the Afrotropical, Oriental, and Palearctic regions. No host data are currently available for this genus. There are 130 DNA-barcode compliant sequences of this genus in BOLD, representing 32 BINs.

***Neoclarkinella ariadne* (Nixon, 1965), new combination**

Apanteles ariadne Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: China (GX), India, Sri Lanka.

Notes. This species was transferred to *Iconella* by Mason (1981) based on its strong median longitudinal carina on the propodeum. However, the propodeum also has a transverse carina (near the anterior margin), T1 has a wide depression in the anterior half (in addition to a median, longitudinal sulcus throughout the entire tergite), and the veins r and 2RS have the characteristic shape found in *Neoclarkinella* (e.g., Figs 161C, 162C, 163D, 164C, 165C). Based on these characters, we here transfer the species to that genus.

***Neoclarkinella curvinervus* (Song & Chen, 2014), new combination**

Choeras curvinervus Song & Chen, 2014.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ, GD, GZ, HI, HN, SN, YN, ZJ).

Notes. Transferred to *Neoclarkinella* based on the curved veins r and 2RS in the fore wing, shape of T1, and propodeum carination.

***Neoclarkinella janakikkadensis* Veena, 2014**

Neoclarkinella janakikkadensis Veena, 2014.

Type information. Holotype female, DZUC (not examined but original description checked). Country of type locality: India.

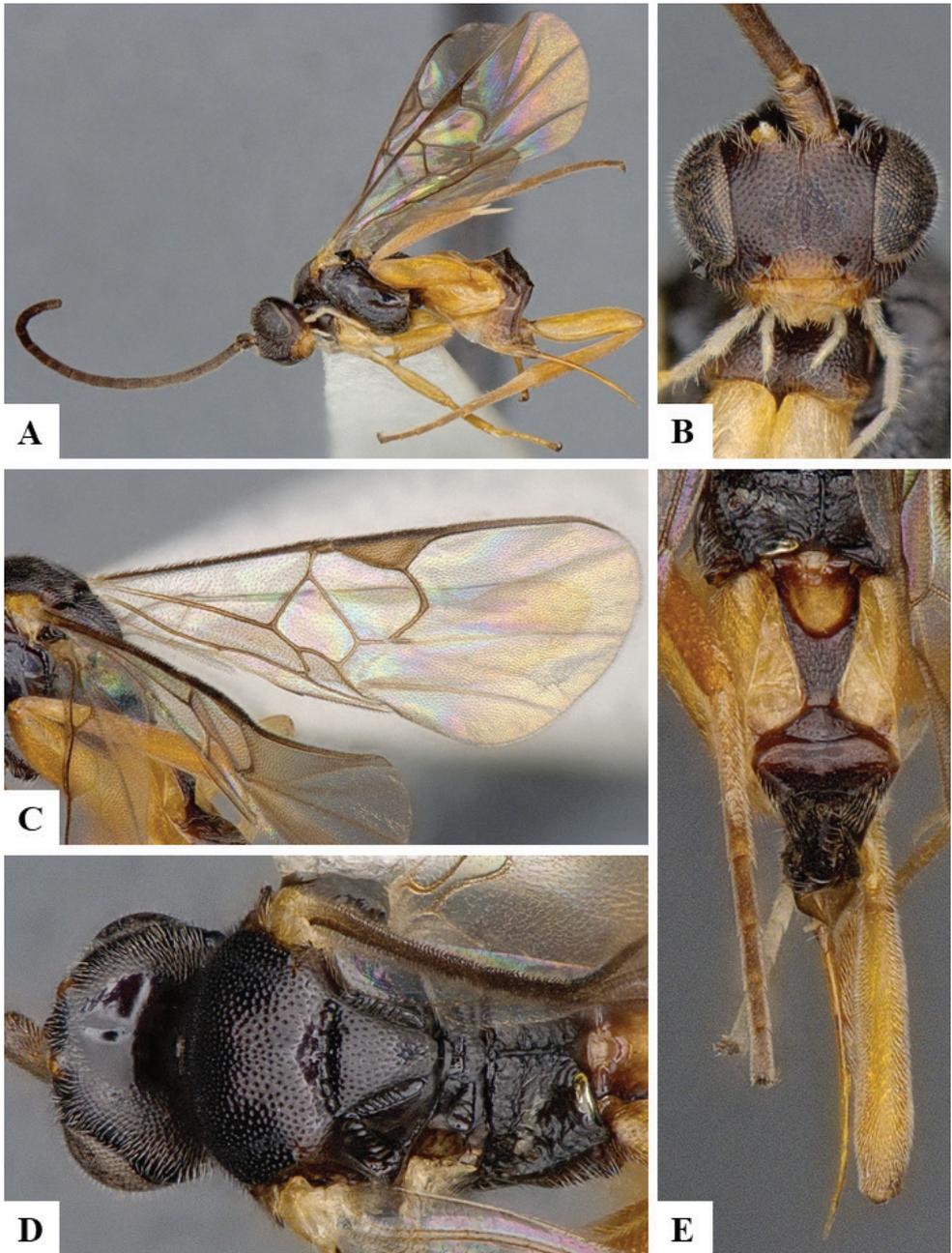


Figure 161. *Neoclarkinella ariadne* female CNCHYM01447 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Metasoma, dorsal.

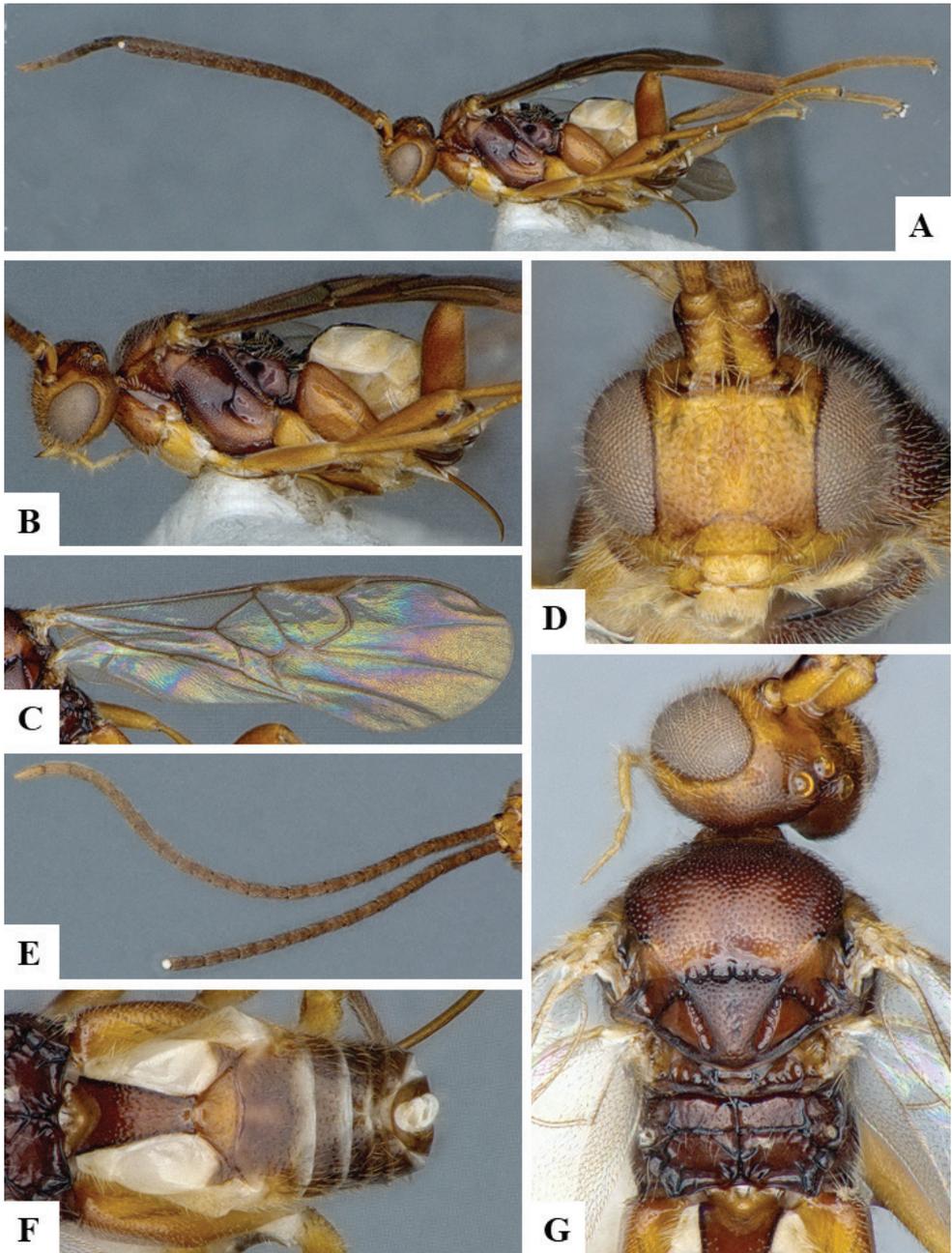


Figure 162. *Neoclarkinella* sp. female CNC924600 **A** Habitus, lateral **B** Habitus magnified, lateral **C** Fore wing **D** Head, frontal **E** Antennae **F** Metasoma, dorsal **G** Mesosoma, dorsal.

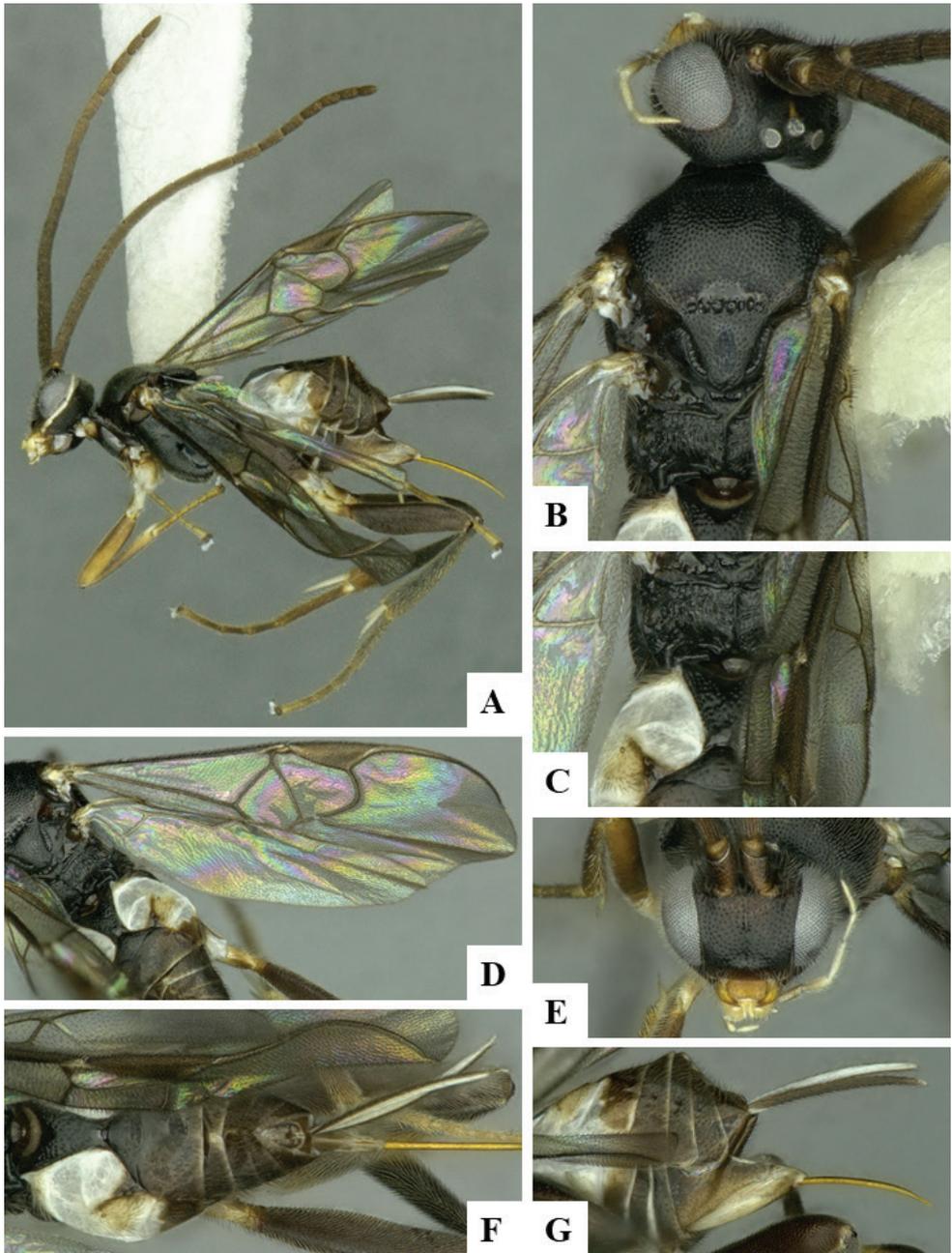


Figure 163. *Neoclarkinella* sp. female CNCH1454 **A** Habitus, lateral **B** Mesosoma, dorsal **C** Propodeum, dorsal **D** Fore wing and hind wing **E** Head, frontal **F** Metasoma, dorsal **G** Ovipositor and ovipositor sheaths.

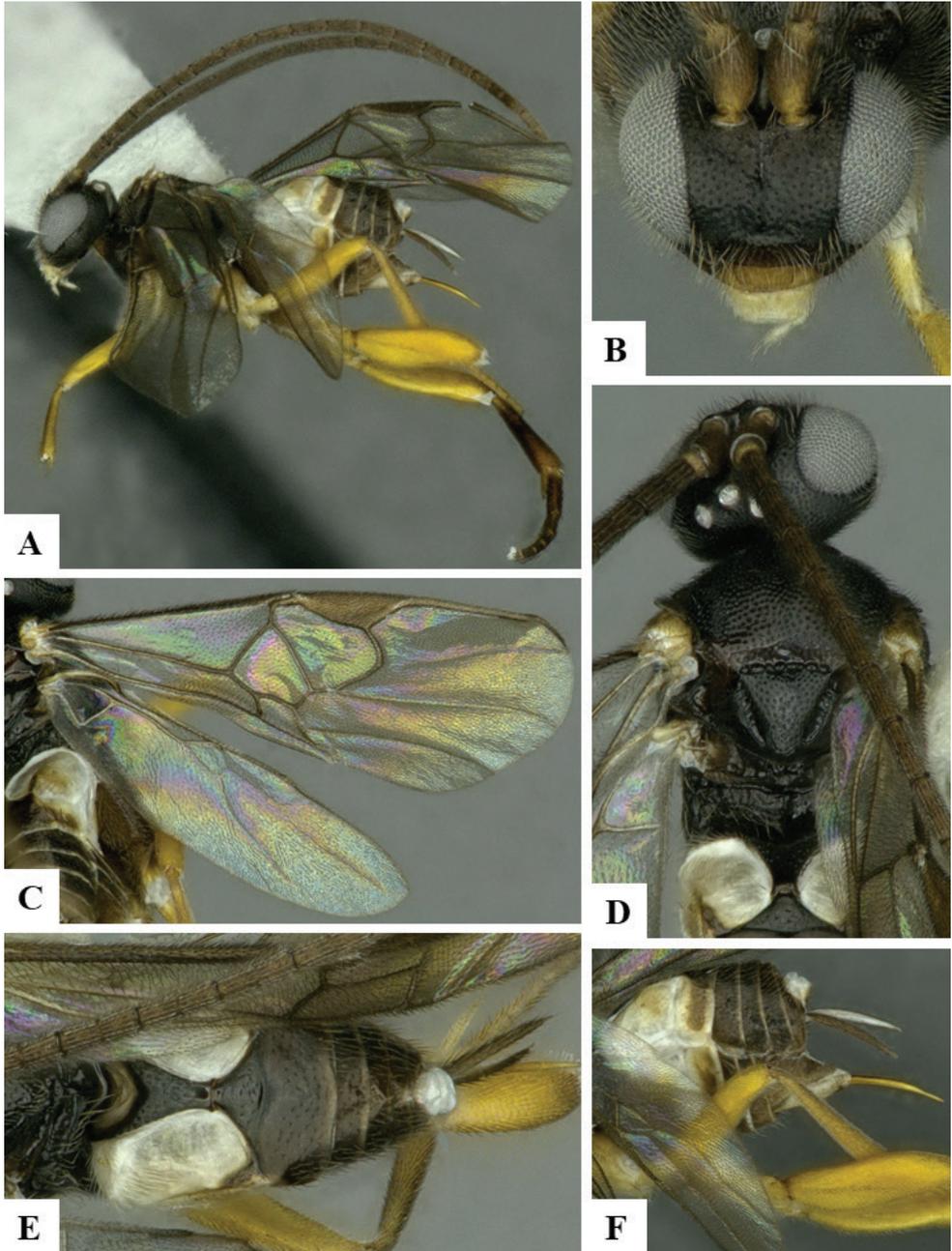


Figure 164. *Neoclarkinella* sp. female CNCH2005 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

Geographical distribution. OTL.

OTL: India.

***Neoclarkinella narendrani* Veena, 2014**

Neoclarkinella narendrani Veena, 2014.

Type information. Holotype female, DZUC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Neoclarkinella punctata* Ahmad, Pandey, Haider & Shujauddin, 2005**

Neoclarkinella punctata Ahmad, Pandey, Haider & Shujauddin, 2005.

Type information. Holotype female, AMUZ (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Neoclarkinella sundana* (Wilkinson, 1930), new combination**

Apanteles sundanus Wilkinson, 1930.

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

Geographical distribution. OTL.

OTL: Indonesia.

Notes. This species was transferred to *Iconella* by Mason (1981), based on the median longitudinal carina on the propodeum. However, we have examined the holotype and there is also an almost complete transverse carina (only interrupted centrally), and the fore wing venation and shape of T1 clearly show this species is better placed in *Neoclarkinella*.

***Neoclarkinella vitellinipes* (You & Zhou, 1990)**

Apanteles vitellinipes You & Zhou, 1990.

Apanteles nilamburensis Sumodan & Narendran, 1990.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ, GX, HB, YN), India.

Notes. Our species concept is based on van Achterberg and Narendran (1997), Chen and Song (2004), Veena et al. (2014) and Gupta & Fernandez-Triana (2014).

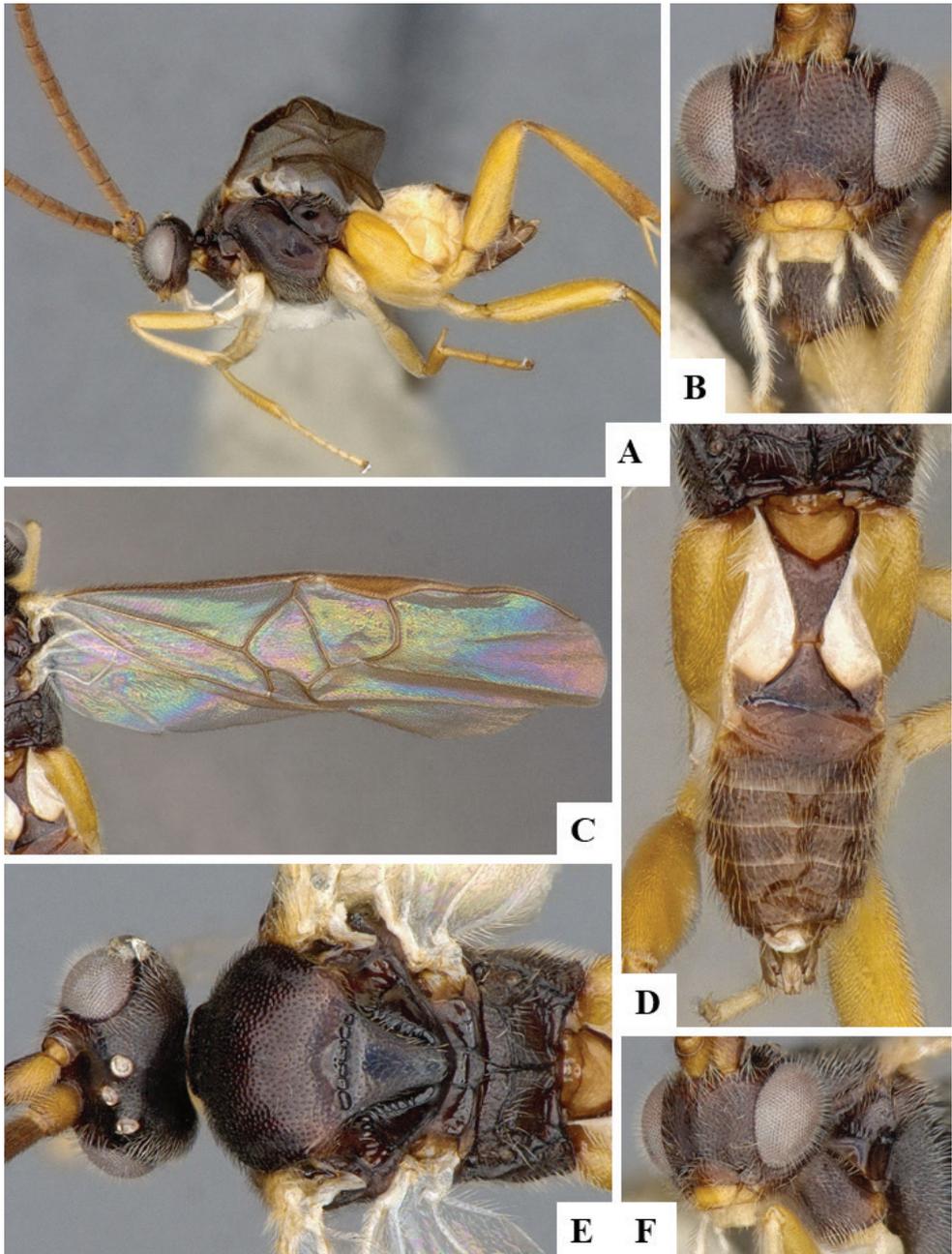


Figure 165. *Neoclarkinella sundanus* male CNCHYM01464 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal **F** Head, frontolateral.

Genus *Nyereria* Mason, 1981

Nyereria Mason, 1981: 108. Gender: feminine. Type species: *Apanteles mlanje* Wilkinson, 1929, by original designation.

There are 29 described species of *Nyereria*, but the genus has never been revised and we have seen many undescribed species in collections, including species from the Afrotropical, Oriental and Palearctic regions. Five families of Lepidoptera have been recorded as hosts of *Nyereria*, but they require further verification. There are 26 DNA-barcode compliant sequences of this genus in BOLD, representing five BINs.

***Nyereria achaeus* (de Saeger, 1944)**

Apanteles achaeus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *achaeus*.

***Nyereria albicentrus* (Long & van Achterberg, 2008)**

Protapanteles albicentrus Long & van Achterberg, 2008.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Nyereria ankaratrensis* (Granger, 1949)**

Apanteles ankaratrensis Granger, 1949.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

***Nyereria areatus* (Granger, 1949)**

Apanteles areatus Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *areatus*.

***Nyereria bicolorata* Long & van Achterberg, 2015**

Nyereria bicolorata Long & van Achterberg, 2015.

Type information. Holotype female, VNMN (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Nyereria bifissa* (de Saeger, 1944)**

Apanteles bifissus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

***Nyereria circinus* (de Saeger, 1944)**

Apanteles circinus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *circinus*.

***Nyereria epaphus* (de Saeger, 1944)**

Apanteles epaphus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *epaphus*.

***Nyereria flavotorquata* (Granger, 1949)**

Apanteles flavotorquatus Granger, 1949.

Type information. Syntypes female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

***Nyereria forensis* (Tobias, 1977)**

Apanteles forensis Tobias, 1977.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Korea, Russia (KHA).

Notes. Our species concept is based on Kotenko (2007a). The species name was misspelled as *forensic* by Belokobylskij et al. (2019).

***Nyereria ganges* Rouse & Gupta, 2013**

Nyereria ganges Rouse & Gupta, 2013.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Réunion.

Geographical distribution. AFR.

AFR: Réunion.

***Nyereria geometrae* (Granger, 1949)**

Apanteles geometrae Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

***Nyereria hiero* (de Saeger, 1944)**

Apanteles hiero de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

***Nyereria ituriensis* (de Saeger, 1941), new combination**

Apanteles ituriensis de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. The original description and drawing of T1 and T2 are clear enough to allow us to place the species within the genus *Nyereria*.

***Nyereria mayurus* Rousse & Gupta, 2013**

Nyereria mayurus Rousse & Gupta, 2013.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Réunion.

Geographical distribution. AFR.

AFR: Réunion.

***Nyereria menuthias* (Wilkinson, 1935)**

Apanteles menuthias Wilkinson, 1935.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

***Nyereria mlanje* (Wilkinson, 1929)**

Apanteles mlanje Wilkinson, 1929.

Apanteles mlanje flaviventris Risbec, 1951.

Apanteles mlanje pallidus Risbec, 1951.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malawi.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Malawi, Senegal.

Notes. This species has long been considered to be very variable. In the original description of *Apanteles mlanje nigricoxis*, Wilkinson (1932a) provided details on some of the differences, mostly in colour, between the new taxon (from Uganda) and the type series of *A. mlanje* (which was also described by Wilkinson in 1929, from Malawi), but for some reason he decided to retain *nigricoxis* as a subspecies of *mlanje*. Other authors working on the African fauna of Microgastrinae also found specimens related to (but morphologically different from) *mlanje*. De Saeger (1944) described three taxa from the Democratic Republic of Congo, which he considered the same as Wilkinson species (*mlanje*) but awarded them infraspecific status as “aberrations”; those three names were mentioned by Shenefelt (1972: 573-574) but treated as excluded names in his Braconidae catalogue. Similarly, Risbec (1951) mentioned at least two “groups” or “forms” from Senegal, which he called *Apanteles mlanje flaviventris* and *Apanteles mlanje pallidus*; those two names were not referred to by Shenefelt (1972). Both de Saeger and Risbec found considerable variation within *mlanje sensu*

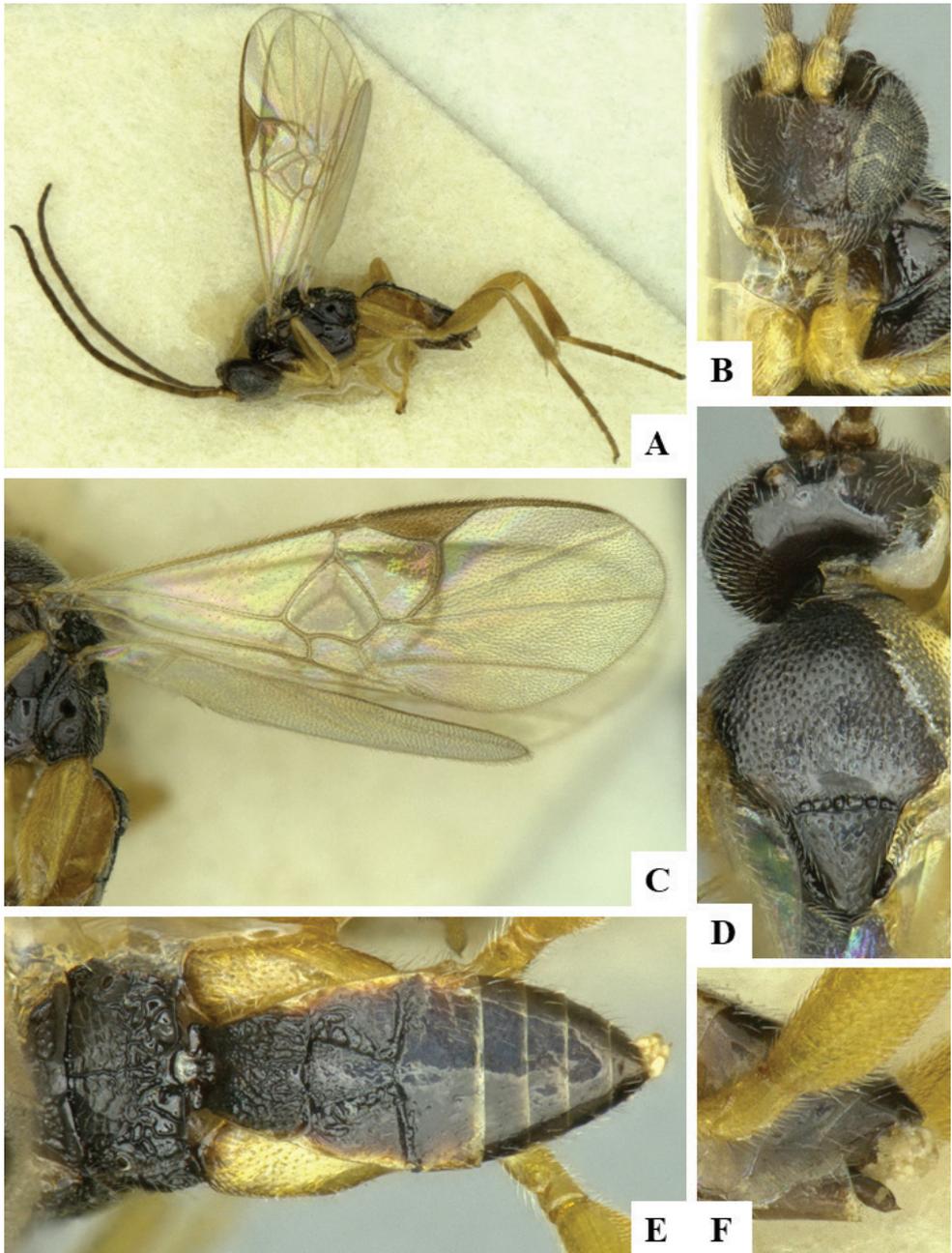


Figure 166. *Nyereria mlanje* female CNCHYM01901 **A** Habitus, lateral **B** Head, frontolateral **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor sheaths.

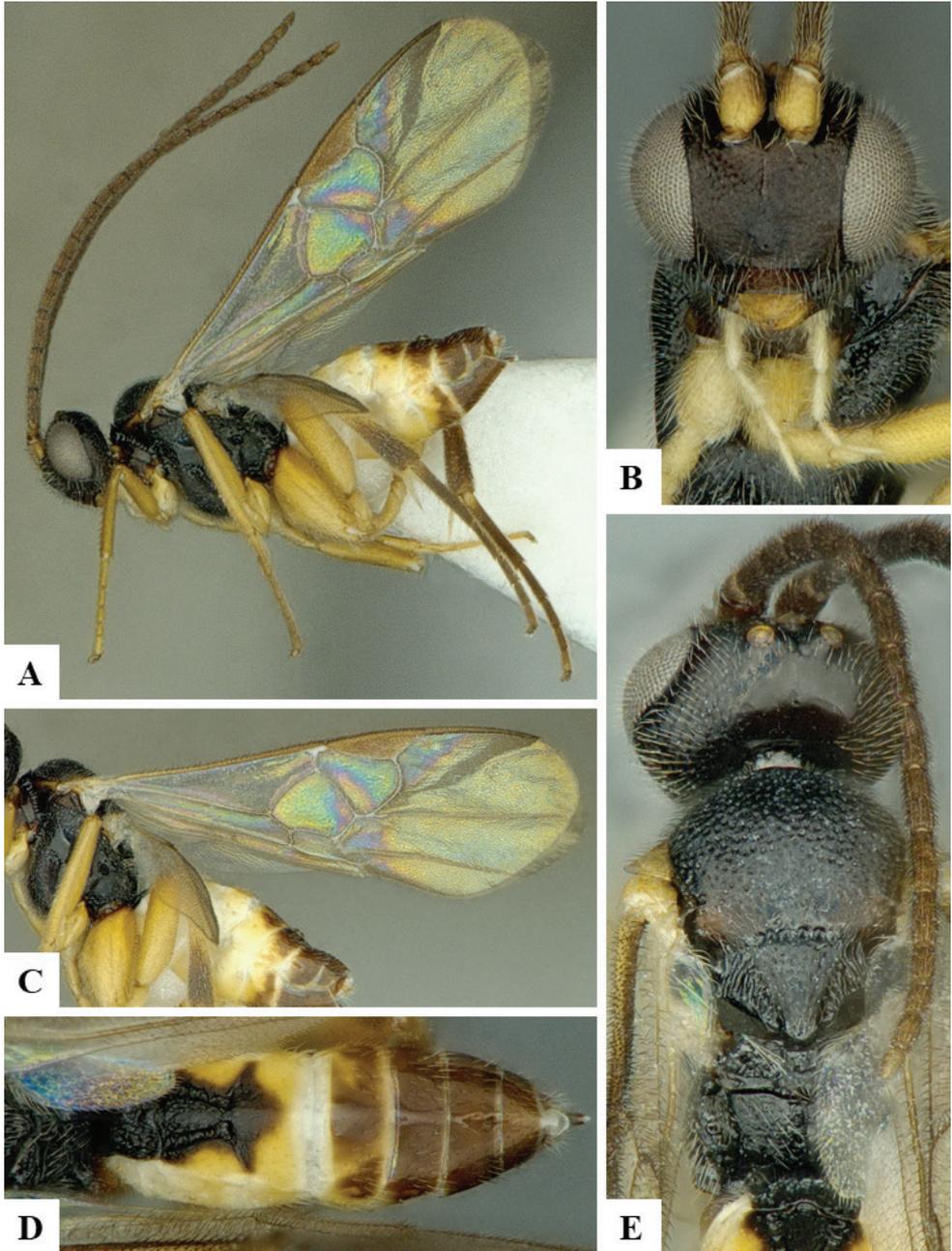


Figure 167. *Nyereria* sp. female CNCH0835 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Meta-soma, dorsal **E** Head and mesosoma, dorsal.

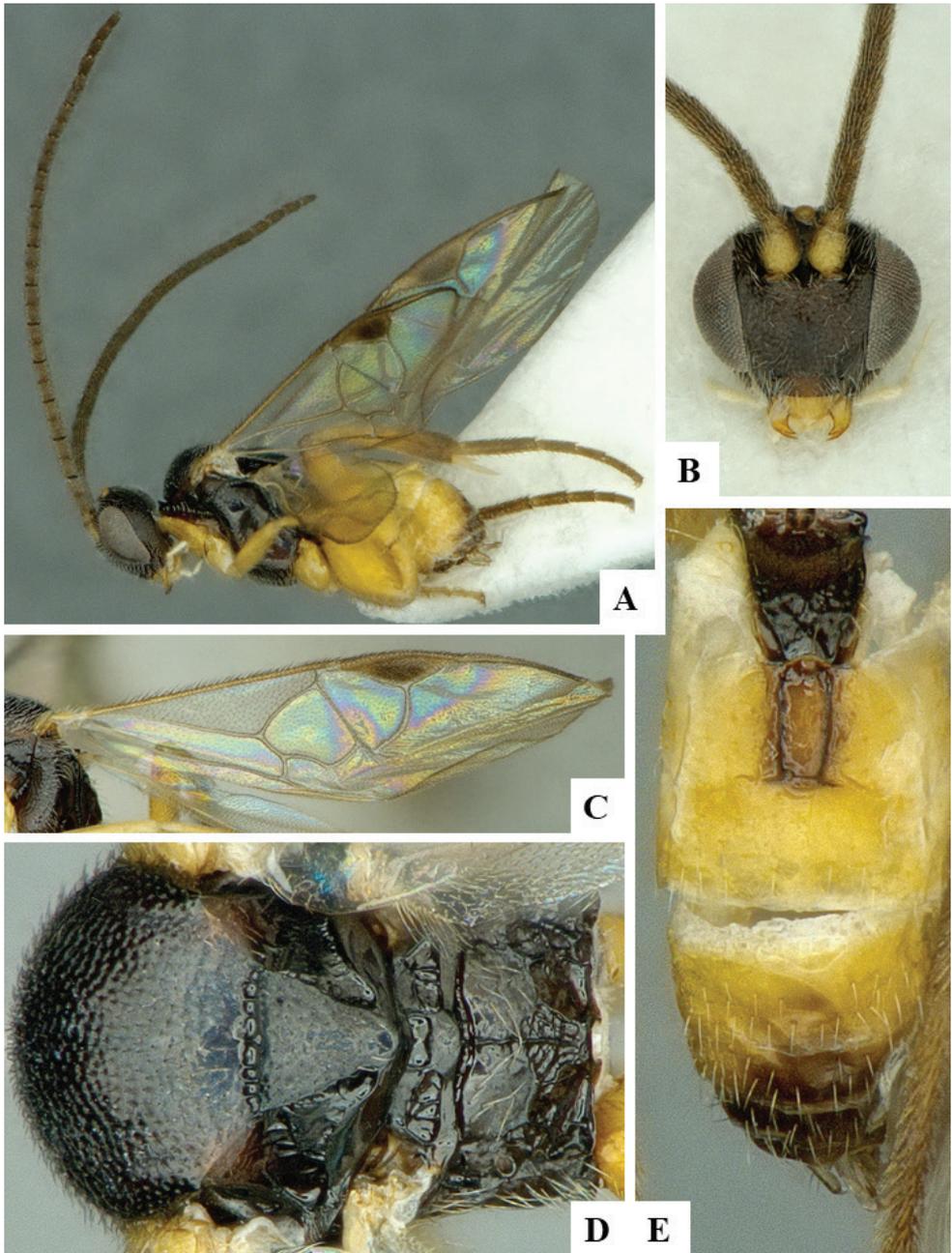


Figure 168. *Nyereria* sp. male CNCH0837 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Metasoma, dorsal.

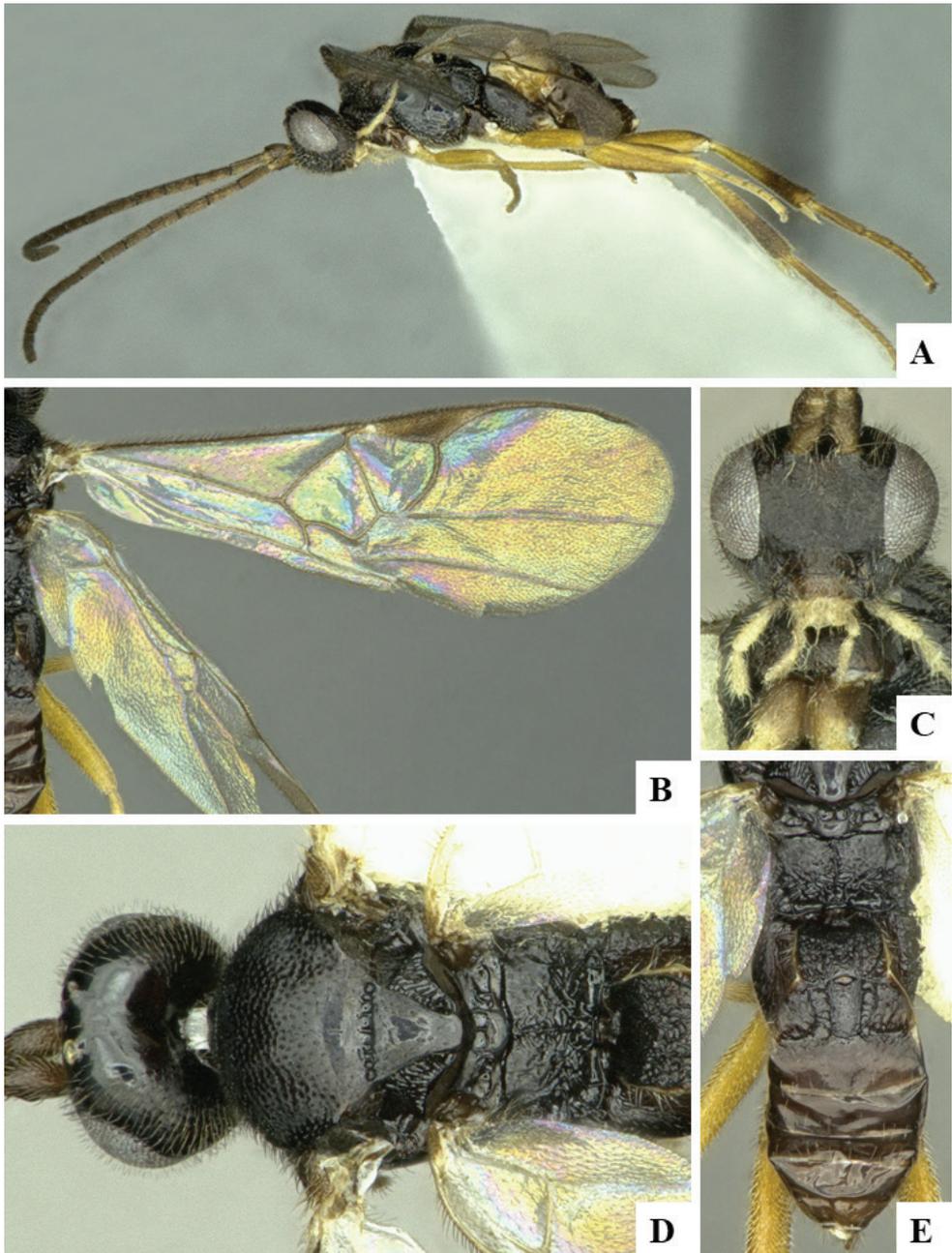


Figure 169. *Nyereria* sp. female CNCHYM01906 **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

lato, and they detailed differences beyond colouration, e.g., sculpture, fore wing venation, shape of T2; Risbec (1951: 431) even acknowledged that the range of variation in the species seemed to be considerably more than in other species of Microgastrinae. Regardless of that, until now these specimens have all been kept as one species. After examining the holotypes of *Apanteles mlanje* Wilkinson, 1929 (from Malawi) and *A. mlanje nigricoxis* Wilkinson, 1932 (from Uganda), both deposited in the NHMUK, we consider them to represent distinct species. The differences in colour are substantial, and the variation in shapes of T1 and T2 (especially the shape of the raised, central area of T2) are also significant. Thus, we elevate *nigricoxis* to species status (see below, under that species, for more details; p 822, 823). As for the other forms or subspecies proposed by de Saeger and Risbec, we suspect some may represent additional species (especially the specimens from Senegal, in Western Africa, which are far from all other specimens in Central Africa and seem to have lighter colouration). However, we cannot make any decisions based only on the original descriptions alone; until we have studied these specimens we prefer to leave them as *Nyereria mlanje*.

***Nyereria neavei* (Wilkinson, 1929)**

Apanteles neavei Wilkinson, 1929.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malawi.

Geographical distribution. AFR, OTL.

AFR: Democratic Republic of Congo, Malawi; **OTL:** China (FJ, YN).

***Nyereria neleus* (de Saeger, 1944)**

Apanteles neleus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Because the name is to be considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *neleus*.

***Nyereria nigricoxis* (Wilkinson, 1932), status revised**

Apanteles mlanje nigricoxis Wilkinson, 1932.

Type information. Holotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Uganda.

Notes. Until now this was considered a subspecies of *Nyereria mlanje* (Wilkinson, 1929). After comparing the holotypes of both taxa, we consider them to be distinct species (see more comments above under *mlanje*). *Nyereria nigricoxis* has darker

legs (especially metacoxa and metatibia), T1 narrower at the posterior margin, and T2 with a median raised area much thinner than in *mlanje*. The fore wing venation also differs, specially the proportional lengths of veins r and 2RS.

***Nyereria nioro* (Risbec, 1951), new combination**

Apanteles nioro Risbec, 1951.

Type information. Syntypes female and male, depository unknown (not examined but original description checked). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Senegal.

Notes. From the original description and drawings there, it is clear that this species is not an *Apanteles*. The best generic placement at present is in *Nyereria*, based on the shape and sculpture of T2, and also on comments made by Risbec (1951) on its closest relatives (which are also *Nyereria* species).

***Nyereria osiris* (de Saeger, 1944)**

Apanteles osiris de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Cameroon, Democratic Republic of Congo, Rwanda.

***Nyereria proagynus* (Hedqvist, 1965), new combination**

Apanteles proagynus Hedqvist, 1965.

Type information. Holotype male, MZH (examined). Country of type locality: Cape Verde.

Geographical distribution. AFR.

AFR: Cape Verde.

Notes. Forshage et al. (2016) considered the type material to be lost; however, it was found by the senior author of this paper in another section of the MZH collection. We examined the holotype and paratype, both male specimens in relatively good condition. They clearly belong to the genus *Nyereria* based on the carination pattern of propodeum and the median field in T2. Because the name is considered as a noun under ICZN Article 31.2.1, it must retain its original spelling and remain as *proagynus*.

***Nyereria rageshri* Sathe, 1988**

Nyereria rageshri Sathe, 1988.

Type information. Holotype female, NZSI (not examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Nyereria taoi* (Watanabe, 1935), new combination**

Apanteles taoi Watanabe, 1935.

Type information. Holotype female, EIHU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (JX, ZJ); **PAL:** China (SD).

Notes. Here transferred to *Nyereria* based in the original description mentioning T2 having sulci enclosing a smooth median area, short ovipositor sheaths, acute hypopygium, and the author's statement that *taoi* closely resembles *Apanteles mlanje* Wilkinson, a species long placed in *Nyereria*.

***Nyereria tereus* (de Saeger, 1944)**

Apanteles tereus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Rwanda.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Because the name is to be considered as a noun under ICDN Article 31.2.1, it must retain its original spelling and remain as *tereus*.

***Nyereria triptolemus* (de Saeger, 1944)**

Apanteles triptolemus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Ivory Coast, Rwanda.

Notes. Because the name is to be considered as a noun under ICDN Article 31.2.1, it must retain its original spelling and remain as *triptolemus*.

***Nyereria vallatae* (Watanabe, 1934), new combination**

Apanteles vallatae Watanabe, 1934.

Type information. Syntypes female and male, EIHU (examined). Country of type locality: Japan.

Geographical distribution. PAL.

PAL: Japan.

Notes. The original description (Watanabe 1934: 132–133) was based on five female specimens and did not designate a holotype. We have examined four of those specimens, in the EIHU collection, all with red labels that have the word Type written, and also a second, smaller, white label that reads Cotype. Thus, we consider that they are all syntypes (and that there is no holotype, as stated by other sources, e.g., Shenefelt 1972: 658; Yu et al. 2016). Furthermore, one of the specimens is a male, its relatively small genitalia might have been difficult to see clearly in 1934. There is also a fifth pin with the cocoon mass on a plant twig. One of the syntypes had lost its metasoma, but the other three have their metasomae intact; in two of those cases T2 is relatively narrow and delimited by strong, parallel sulci, clearly similar to other *Nyereria* species. That agrees with Watanabe's statement, in his original description, that the species belongs to Wilkinson's *mlanje* subgroup (which is currently considered to belong to the genus *Nyereria*). The third syntype has an intact metasoma has T2 with a slightly different shape (slightly widening towards posterior margin), but overall is very similar to the other two specimens.

***Nyereria yenthuyensis* (Long & van Achterberg, 2008)**

Protapanteles yenthuyensis Long & van Achterberg, 2008.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

Genus *Ohenri* Fernandez-Triana, 2018

Ohenri Fernandez-Triana, 2018: 98. Gender: neuter. Type species: *Ohenri gouletorum* Fernandez-Triana & Boudreault, 2018, by original designation.

Known from a single species from the Afrotropical region, which was recently described (Fernandez-Triana and Boudreault 2018). No host data are currently available for this genus. There are no DNA barcode sequences of *Ohenri* in BOLD.

***Ohenri gouletorum* Fernandez-Triana & Boudreault, 2018**

Ohenri gouletorum Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, CNC (examined). Country of type locality: Nigeria.

Geographical distribution. AFR.

AFR: Nigeria.

Genus *Papanteles* Mason, 1981

Papanteles Mason, 1981: 47. Gender: masculine. Type species: *Papanteles peckorum* Mason, 1981, by original designation.

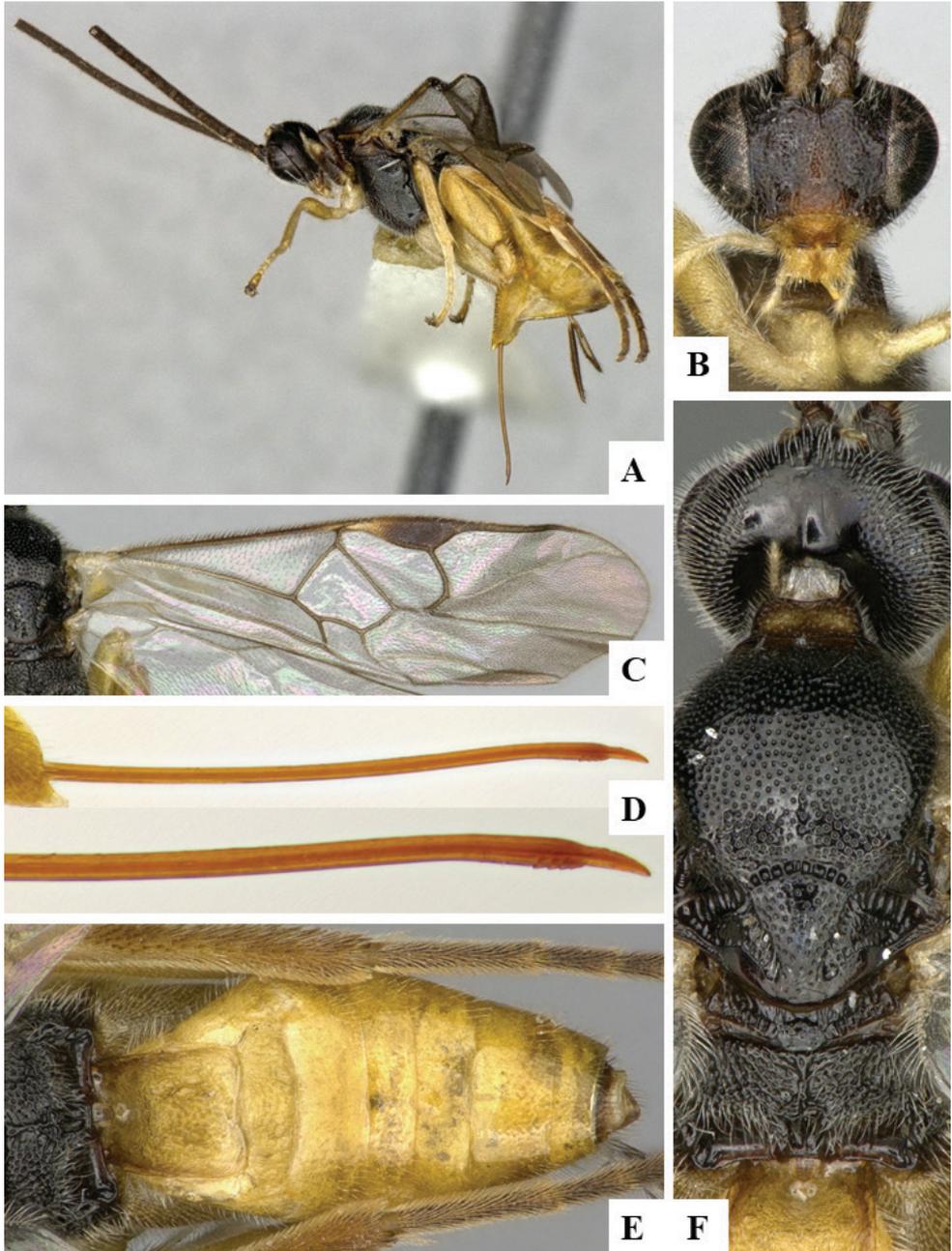


Figure 170. *Obenri gouletarum* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Ovipositor and apex of ovipositor **E** Propodeum and metasoma, dorsal **F** Head and mesosoma, dorsal.

Known from two described species from the Neotropics; we have seen a few more in collections but the genus does not seem to be species rich. Although no host information has ever been published for *Papanteles*, the ACG caterpillar database records a few

species of Crambidae as hosts. There are 56 DNA-barcode compliant sequences of this genus in BOLD, representing three BINs.

***Papanteles peckorum* Mason, 1981**

Papanteles peckorum Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Belize, Brazil (RJ), Ecuador, Mexico, Panama, Trinidad & Tobago.

***Papanteles virbius* (Nixon, 1965)**

Hypomicrogaster virbius Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

Genus *Parapanteles* Ashmead, 1900

Parapanteles Ashmead, 1900: 131. Gender: masculine. Type species: *Apanteles aletiae* Riley, 1881, by original designation and monotypy.

A recent revision of the genus (Valerio et al. 2009) is now considered to be outdated, as we recognize 62 described species of *Parapanteles* (including a relatively large number transferred in the present paper). However, the limits of this genus are highly controversial (see discussion above on section Brief diagnosis of all Microgastrinae genera as they are understood in this paper, for more details on p 41), and it is difficult to estimate the potential species richness. Regardless of that, we have seen many undescribed species in collections, from all regions. Approximately a dozen Lepidoptera host families have been recorded in the literature, but many of those records may be wrong. There are almost 1,000 DNA-barcode compliant sequences of this genus in BOLD, representing 97 BINs, but many of those sequences are likely to represent other genera.

***Parapanteles aethiopicus* (Wilkinson, 1931), new combination**

Dolichogenidea aethiopicus Wilkinson, 1931.

Apanteles procerae Risbec, 1951.

Type information. Holotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Cameroon, Democratic Republic of Congo, Egypt, Ethiopia, Ivory Coast, Kenya, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Tanzania, Uganda.

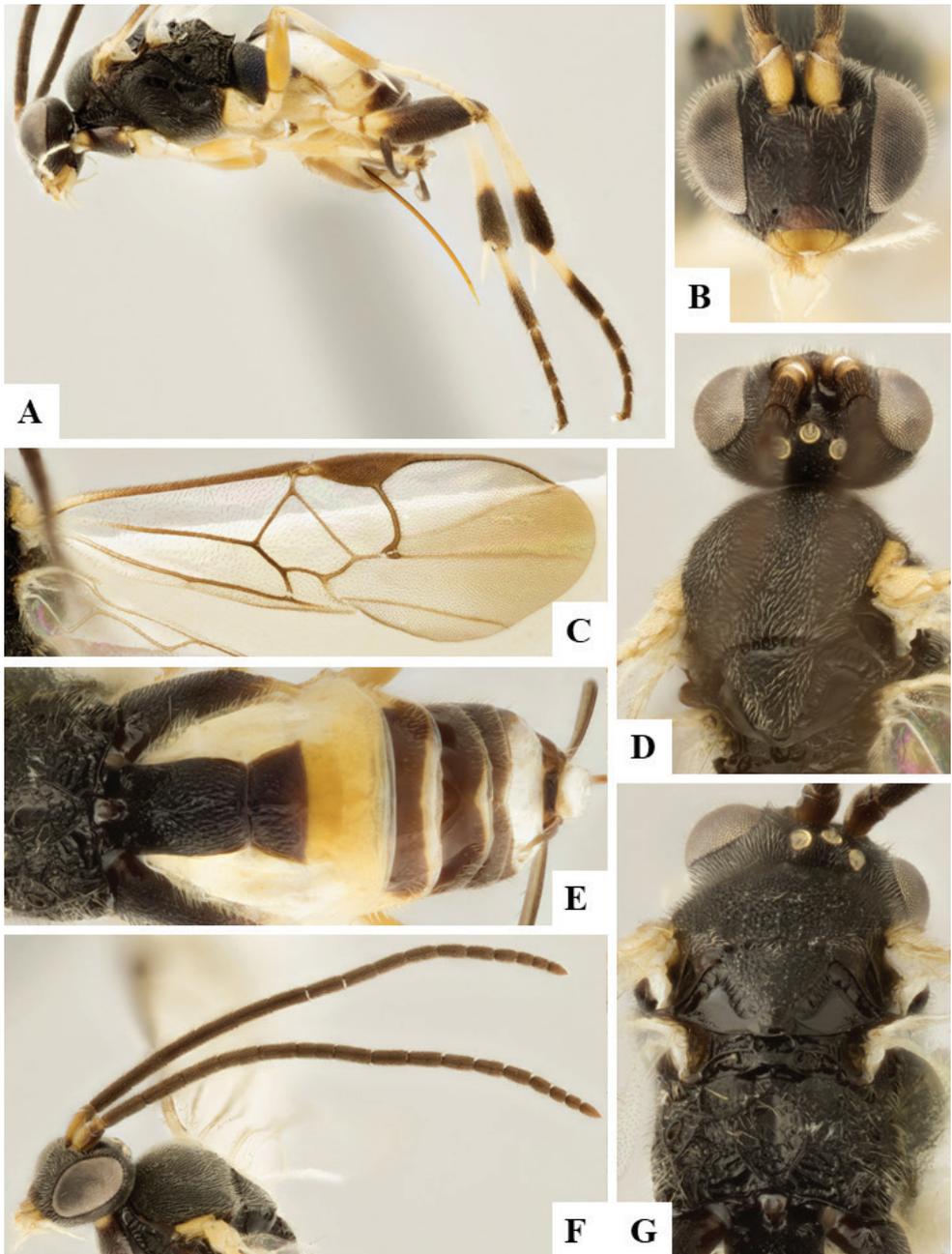


Figure 171. *Papanteles peckorum* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal **F** Antennae **G** Propodeum, dorsal.

Notes. Based on the relatively short ovipositor sheaths (approximately one third as long as metatibia length), inflexible hypopygium, and fully areolated propodeum, this species is placed in *Parapanteles*.

***Parapanteles aletiae* (Riley, 1881)**

Apanteles aletiae Riley, 1881.

Type information. Syntypes female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: USA (AL, FL); **NEO:** Cuba, Puerto Rico.

Notes. Valerio et al. (2009: 12) mentioned a female holotype and two paratypes of this species in the USNM. We have examined the same material and found that the three specimens (mounted on individual points) are all on the same pin, which also contains a fourth point with the three cocoons. The red label attached to that pin shows that it is USNM Type number 2771, which agrees with both Valerio et al. (2009) and Shenefelt's catalogue (1972). None of the available labels associated with those specimens (nor any other data or published papers that we are aware of) suggest that a lectotype was designated from among the three syntypes, so we consider them all to be syntypes; in any case, it is obvious that there cannot be a holotype for this species. At the time one of us (JFT) examined the syntypes, in October 2017, the first specimen (the top point) was almost entirely missing, with only parts of two legs glued to that point. The other two specimens were both missing the entire metasoma (and one of them was also missing one antenna). That leaves the entire type series as currently having only two syntypes with missing metasomae. Additionally, the drawing of the propodeum from Mason (1981), reproduced by Valerio et al. (2009), does not entirely reflect the two syntypes we examined, which have the areola wider at the posterior end, i.e., the carinae meet the nucha more separated from each other than is depicted by Mason or Valerio.

***Parapanteles alternatus* (Papp, 1973), new combination**

Apanteles alternatus Papp, 1973.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description and drawings provided there clearly show that this species belongs to *Parapanteles*.

***Parapanteles arka* Gupta, 2014**

Parapanteles arka Gupta, 2014.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

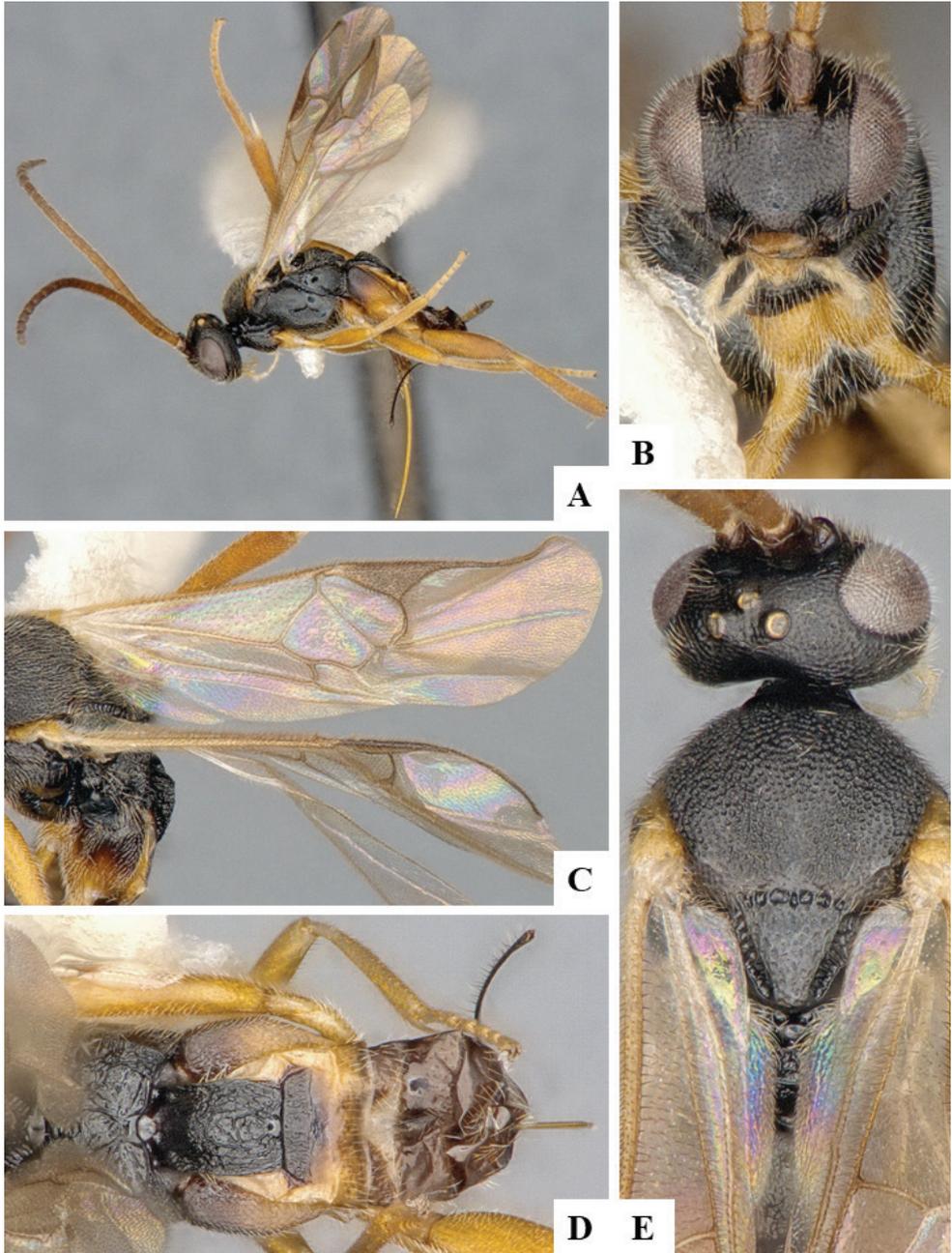


Figure 172. *Parapanteles aletiae* female CNCHYM01930 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Propodeum and metasoma, dorsal **E** Mesosoma, dorsal.

***Parapanteles aso* (Nixon, 1967), new combination**

Apanteles aso Nixon, 1967.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: China (YN), India.

Notes. This species was transferred from *Apanteles* to *Dolichogenidea* by Chen and Song (2004). However, we have examined the holotype, which has an inflexible hypopygium and very short ovipositor sheaths (less than $0.3 \times$ metatibia length). Those characters suggest this species is better placed in *Parapanteles*, as is the case with two related taxa (*Apanteles hyposidrae* Wilkinson, 1928 and *Apanteles cleo* Nixon, 1967). These three species were keyed out together in the same section of the key to Indo-Australian species of the *ultor* group by Nixon (1967) and are all transferred to *Parapanteles* in the present paper.

***Parapanteles atellae* (Wilkinson, 1932), new combination**

Apanteles atellae Wilkinson, 1932.

Type information. Holotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Uganda.

Notes. Based on the relatively short ovipositor sheaths (approximately one third as long as metatibia length), inflexible hypopygium and fully areolated propodeum, this species is placed in *Parapanteles*.

***Parapanteles athamasae* Gupta, Khot & Chorge, 2014**

Parapanteles athamasae Gupta, Khot & Chorge, 2014.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Parapanteles bagicha* (Narayanan & Subba Rao, 1961), new combination**

Apanteles bagicha Narayanan & Subba Rao, 1961.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Based on the original description and drawings included there, this species is better placed within *Parapanteles*, based on the areolated propodeum but very short ovipositor sheaths.

***Parapanteles cleo* (Nixon, 1967), new combination**

Apanteles cleo Nixon, 1967.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India, Vietnam.

Notes. This species was transferred from *Apanteles* to *Dolichogenidea* by Long and Belokobylskij (1990). However, we have examined the holotype, which has an inflexible hypopygium and very short ovipositor sheaths (less than $0.3 \times$ metatibia length). Those characters suggest this species is better placed in *Parapanteles*, as is the case with two related taxa (*Apanteles hyposidrae* Wilkinson, 1928 and *Apanteles aso* Nixon, 1967). These three species were keyed out together in the same section of the key to Indo-Australian species of the *ultor* group by Nixon (1967) and are all transferred to *Parapanteles* in the present paper.

***Parapanteles complexus* Valerio & Janzen, 2009**

Parapanteles complexus Valerio & Janzen, 2009.

Type information. Holotype male, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles continuus* Valerio & Whitfield, 2009**

Parapanteles continua Valerio & Whitfield, 2009.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Notes. The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Parapanteles covino* Rousse, 2013**

Parapanteles covino Rousse, 2013.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Réunion.

Geographical distribution. AFR.

AFR: Réunion.

***Parapanteles cyclorhaphus* (de Saeger, 1944), new combination**

Apanteles cyclorhaphus de Saeger, 1944.

Type information. Syntypes female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description, the best generic placement is in *Parapanteles*.

***Parapanteles darignac* Rouse, 2013**

Parapanteles darignac Rouse, 2013.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Réunion.

Geographical distribution. AFR.

AFR: Réunion.

***Parapanteles demades* (Nixon, 1965), new combination**

Apanteles demades Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia, Vietnam.

Notes. Based on the propodeal areola, hypopygium mostly inflexible and unpleated (but with small area postero-ventrally slightly translucent) and short ovipositor sheaths, this species is better placed in the genus *Parapanteles*.

***Parapanteles echeriae* Gupta, Pereira & Churi, 2013**

Parapanteles echeriae Gupta, Pereira & Churi, 2013.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Parapanteles em* Valerio & Whitfield, 2009**

Parapanteles em Valerio & Whitfield, 2009.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles endymion* (Wilkinson, 1932), new combination**

Apanteles endymion Wilkinson, 1932.

Type information. Holotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Uganda.

Notes. Based on the relatively short ovipositor sheaths (approximately one third as long as metatibial lengths), inflexible hypopygium and fully areolated propodeum, this species is placed in *Parapanteles*.

***Parapanteles epiplemicidus* (de Saeger, 1941), new combination**

Apanteles epiplemicidus de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Transferred to *Parapanteles* based on the propodeum with pentagonal areolet and very short ovipositor sheaths.

***Parapanteles eros* Gupta, 2014**

Parapanteles eros Gupta, 2014.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Parapanteles esha* Gupta, 2014**

Parapanteles esha Gupta, 2014.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Parapanteles expulsus* (Turner, 1919), new combination**

Apanteles expulsus Turner, 1919.

Apanteles mendanae Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Fiji.

Geographical distribution. AUS, OTL.

AUS: Fiji, Marquesas Islands, Western Samoa; **OTL:** China (FJ, GD, GX, HI, ZJ), Sri Lanka, Vietnam.

Notes. The holotype has an inflexible ovipositor, very short ovipositor sheaths (less than 0.3 x metatibial lengths), and the propodeum has a complete areola defined by strong carinae. All of this suggests this species is better placed in *Parapanteles*. We have also examined the type of *A. mendanae* Wilkinson, in the NHMUK. The species distribution in China is based in Liu et al. (2019).

***Parapanteles fallax* (de Saeger, 1944), new combination**

Apanteles fallax de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description, the best generic placement is in *Parapanteles*.

***Parapanteles folia* (Nixon, 1965), new combination**

Apanteles folia Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. AUS, OTL.

AUS: Australia (QLD), Papua New Guinea; **OTL:** China (GD, TW), India, Malaysia, Philippines.

Notes. The holotype is missing the antennae and the micropin is full of rust, but nevertheless most of the morphological features are visible. Based on the propodeal areola, hypopygium mostly inflexible and unpleated (but with small area posteroventrally slightly translucent), and short ovipositor sheaths, this species is better placed in the genus *Parapanteles*. This species most likely contains a complex of species, also suggested by Nixon (1965).

***Parapanteles furax* (de Saeger, 1944), new combination**

Apanteles furax de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Based on the original description, the best generic placement would be in *Parapanteles*.

***Parapanteles gerontogae* Donaldson, 1991**

Parapanteles gerontogae Donaldson, 1991.

Type information. Holotype female, TMSA (not examined but original description checked). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

***Parapanteles hemitheae* (Wilkinson, 1928), new combination**

Apanteles hemitheae Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL, PAL.

OTL: China (FJ, GD, GX, TW, ZJ), Malaysia, Vietnam; **PAL:** China (JS).

Notes. This species was transferred to *Dolichogenidea* by Long and Belokobylskij (2004), as part of their listing of Braconidae from Vietnam. We have examined the holotype and consider it would be better placed in a different genus. The ovipositor sheaths are very short (shorter than 0.3 x metatibia length), the hypopygium is mostly inflexible (with only a small translucent area near the apex, where no pleat is discernible), and T1, T2 and the anterior half of T3 are strongly sculptured. Those characters are very unusual (if at all present) in *Dolichogenidea*. Although some features would suggest *Pholetesor*, the host caterpillar recorded by Wilkinson (1928b) for the type series is Geometridae, a Lepidoptera family that has never been reported as host for *Pholetesor*. Thus, we believe that the best generic placement at present would be in *Parapanteles*, based on the complete areola on the propodeum, inflexible hypopygium, short ovipositor sheaths and known host. More studies of this and other Oriental species of *Parapanteles* may change that in the future (a similar situation might also apply to the species *Parapanteles exclusus* and *P. hyposidrae*). The species distribution in China is based in Liu et al. (2019).

***Parapanteles hyposidrae* (Wilkinson, 1928), new combination**

Apanteles hyposidrae Wilkinson, 1928.

Type information. Holotype female, NHMUK (examined). Country of type locality: Indonesia.

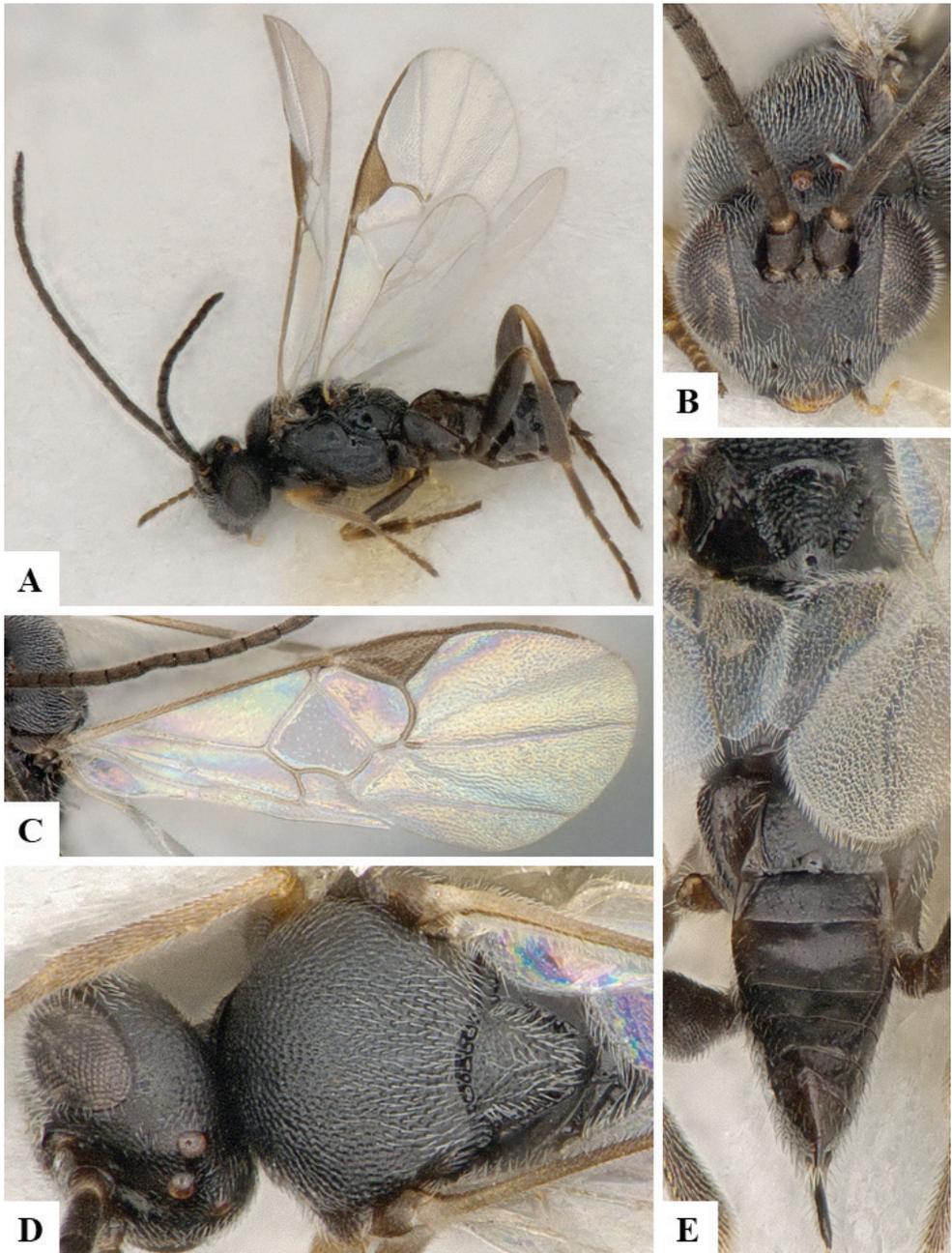


Figure 173. *Parapanteles gerontogae* female CNC309845 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Metasoma, dorsal.

Geographical distribution. AUS, OTL.

AUS: Australia (QLD), Papua New Guinea; **OTL:** China (FJ, GD, GX, HB, HN, TW, YN, ZJ), India, Indonesia, Malaysia, Myanmar, Vietnam.

Notes. This species was considered to belong to Dolichogenidea by Yu et al. (2016) and Liu et al. (2019). However, we have examined the holotype and it has an inflexible hypopygium, very short ovipositor sheaths (less than 0.2 x metatibia length), and the propodeum has a complete areola defined by strong carinae; these features suggest this species is better placed in *Parapanteles*.

***Parapanteles indicus* (Bhatnagar, 1950), new combination**

Apanteles indica Bhatnagar, 1950.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Transferred to *Parapanteles* based on the propodeum with a quadrate areola and ovipositor sheaths very short (Bhatnagar, 1950: 178–179). The year of publication of the Bhatnagar paper was until recently commonly cited as 1948 and/or 1950 (e.g., Chen and Song 2004, Yu et al. 2016), probably following Shenefelt (1972) who referred to this paper as “Bhatnagar (1948) 1950”. While the intended year for Volume X, Parts I & II of the Indian Journal of Entomology was 1948, the actual dates of publication were June 1950 (Part I) and October 1950 (Part II), as clearly shown on the cover page of the Volume, which we have checked. Because the dates of publication are the ones to be considered, and for the sake of clarity, we hereby revise the species year of description to 1950.

***Parapanteles javensis* (Rohwer, 1919), new combination**

Apanteles javensis Rohwer, 1919.

Type information. Holotype female, USNM (examined). Country of type locality: Indonesia.

Geographical distribution. OTL, PAL.

OTL: China (FJ, GX, HB, SN), India, Indonesia, Sri Lanka, Thailand, Vietnam;

PAL: Japan.

Notes. The holotype is more reddish, when compared to the paratype illustrated in Gupta & Fernandez-Triana (2014), which looks more black. The holotype also has transverse striation on the middle of the hypopygium (very unusual and nothing to do with the hypopygium pleats, as it is actually oriented perpendicular to the hypopygium margin). Based on the inflexible hypopygium lacking pleats, we transfer this species to *Parapanteles*.

***Parapanteles jhaverii* (Bhatnagar, 1950), new combination**

Apanteles jhaverii Bhatnagar, 1950.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.**OTL:** India.

Notes. Transferred to *Parapanteles* based on the propodeum with an areola, T1 with longitudinal carina, and very short ovipositor sheaths (Bhatnagar, 1950: 172–174). The year of publication of the Bhatnagar paper was until recently commonly cited as 1948 and/or 1950 (e.g., Chen and Song 2004, Yu et al. 2016), probably following Shenefelt (1972) who referred to this paper as “Bhatnagar (1948) 1950”. While the intended year for Volume X, Parts I & II of the Indian Journal of Entomology was 1948, the actual dates of publication were June 1950 (Part I) and October 1950 (Part II), as clearly shown on the cover page of the Volume, which we have checked. Because the dates of publication are the ones to be considered, and for the sake of clarity, we hereby revise the species year of description to 1950.

Parapanteles lincolnii* Valerio & Whitfield, 2009Parapanteles lincolnii* Valerio & Whitfield, 2009.

Type information. Holotype male, INHS (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.**NEA:** USA (MO).***Parapanteles maculipalpis* (de Saeger, 1941), new combination***Apanteles maculipalpis* de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.**AFR:** Democratic Republic of Congo.

Notes. Transferred to *Parapanteles* based on the relatively very short ovipositor sheaths, areolated propodeum, and also the comments by de Saeger (1941b: 261) about *maculipalpis* being very close to *Apanteles atellae* Wilkinson, a species that we have also transferred to *Parapanteles* in this paper, after examining its holotype.

Parapanteles mariae* Valerio & Whitfield, 2009Parapanteles mariae* Valerio & Whitfield, 2009.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.**NEO:** Costa Rica.***Parapanteles masoni* Austin & Dangerfield, 1992***Parapanteles masoni* Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NT).

***Parapanteles maynei* (de Saeger, 1941), new combination**

Apanteles maynei de Saeger, 1941.

Type information. Holotype male, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Senegal.

Notes. Transferred to *Parapanteles* based on the relatively short ovipositor sheaths, areolated propodeum, and also the comments by de Saeger (1941b: 256) about *maynei* being close to *Apanteles aethipicus* Wilkinson and *Apanteles prosper* Wilkinson, two species that we have also transferred to *Parapanteles* in this paper, after examining their holotypes.

***Parapanteles neocajani* (Yousuf & Ray, 2010), new combination**

Apanteles neocajani Yousuf & Ray, 2010.

Type information. Holotype female, IFRI (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description and drawings included there show a hind wing with vannal lobe fully setose, an inflexible hypopygium, and very short ovipositor sheaths (its length equal to the first segment of the metatarsus). Based on those characters, this species is clearly not an *Apanteles* but is better placed in *Parapanteles*.

***Parapanteles neohyblaeae* (Ray & Yousuf, 2009), new combination**

Apanteles neohyblaeae Ray & Yousuf, 2009.

Type information. Holotype female, IFRI (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The species was described as *Apanteles*, but the very small ovipositor and ovipositor sheaths indicate it does not belong to that genus. The original description does not provide any details about the propodeum, which would have helped considerably to assess the genus to which this species belongs. Without examining the specimens, the best generic placement at present is in *Parapanteles*.

***Parapanteles nephos* Valerio & Whitfield, 2009**

Parapanteles nephos Valerio & Whitfield, 2009.

Type information. Holotype female, USNM (examined). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: Peru.

***Parapanteles noae* Valerio & Whitfield, 2009**

Parapanteles noae Valerio & Whitfield, 2009.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles nydia* (Nixon, 1967), new combination**

Apanteles nydia Nixon, 1967.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. This species exemplifies the sometimes-blurred lines separating *Dolichogenidea* from *Parapanteles*. The holotype has the hind wing vannal lobe entirely setose, the anteromesoscutum punctures do not fuse near the scutoscutellar sulcus, the ovipositor sheaths are approximately half the length of the metatibia, and the hypopygium is mostly inflexible (although with a minor fold, seen as a translucent area ventro-posteriorly, but with no pleats marked). With the current understanding of both genera we think at present there is more support for the species to be transferred to *Parapanteles*, a decision we adopt here, but we note that future research on Microgastrinae may change that.

***Parapanteles paradoxus* (Muesebeck, 1958)**

Apanteles paradoxus Muesebeck, 1958.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles polus* Valerio & Whitfield, 2009**

Parapanteles polus Valerio & Whitfield, 2009.

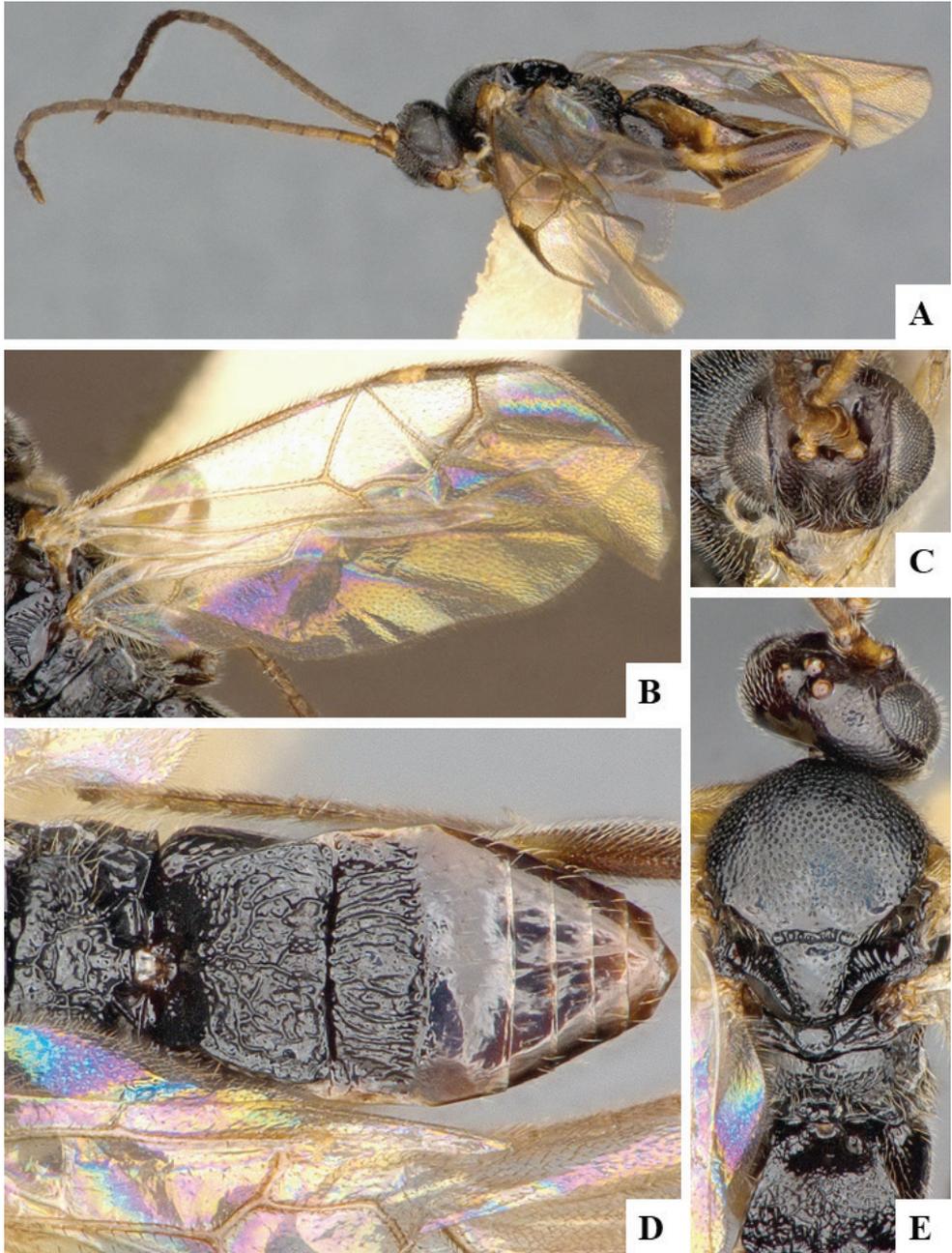


Figure 174. *Parapanteles paradoxus* female CNCHYM01936 **A** Habitus, lateral **B** Fore wing and hind wing **C** Head, frontal **D** Propodeum and metasoma, dorsal **E** Mesosoma, dorsal.

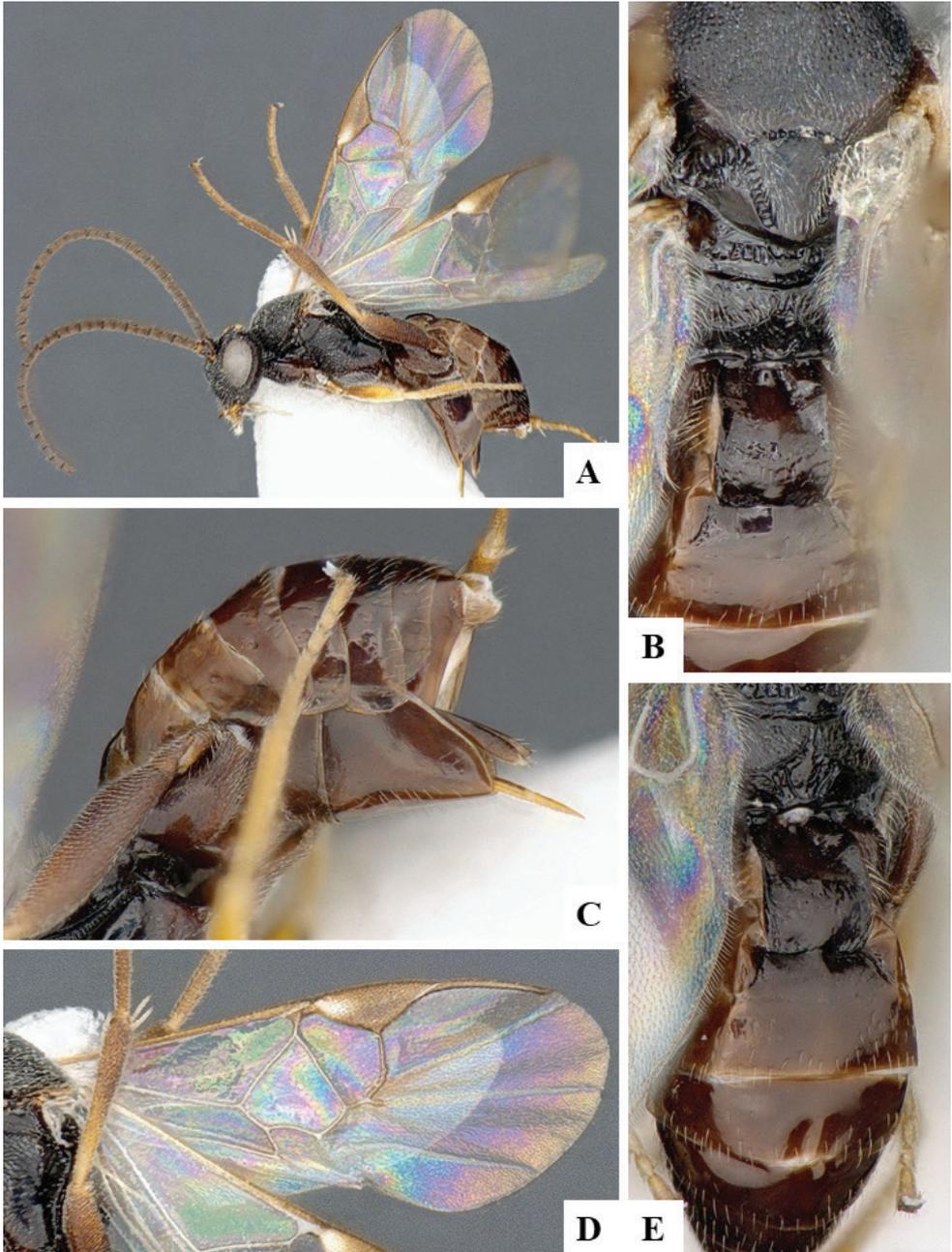


Figure 175. *Parapanteles* sp. female WAM 0186 **A** Habitus, lateral **B** Mesosoma and tergites 1–3, dorsal **C** Metasoma, lateral **D** Fore wing **E** Propodeum and metasoma, laterodorsal.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles prosper* (Wilkinson, 1932), new combination**

Apanteles prosper Wilkinson, 1932.

Type information. Holotype female, NHMUK (examined). Country of type locality: Uganda.

Geographical distribution. AFR.

AFR: Uganda.

Notes. Based on the relatively very short ovipositor sheaths (less than $0.3 \times$ metatibia length), inflexible hypopygium, and areolated propodeum (although the areola is poorly defined anteriorly), this species is placed in *Parapanteles*.

***Parapanteles prosymna* (Nixon, 1965), new combination**

Apanteles prosymna Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia.

Notes. Based on the propodeal areola, hypopygium mostly inflexible and short ovipositor sheaths, this species is better placed in the genus *Parapanteles*.

***Parapanteles punctatissimus* (Granger, 1949), new combination**

Apanteles punctatissimus Granger, 1949.

Type information. Syntypes female and male, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. Transferred to *Parapanteles* based on the original description mentioning the propodeum with a complete areola, ovipositor sheaths very short, and T1–T3 shape and sculpture, as illustrated and described in Granger (1949: 269–270, fig. 280).

***Parapanteles rarus* Valerio & Whitfield, 2009**

Parapanteles rarus Valerio & Whitfield, 2009.

Type information. Holotype female, INHS (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles regale* Gupta, 2014**

Parapanteles regale Gupta, 2014.

Type information. Holotype female, NBAIR (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Parapanteles regalis* (de Saeger, 1941), new combination**

Apanteles regalis de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Transferred to *Parapanteles* based on the original description mentioning the propodeum with a complete areola (in addition to a partially defined median carina), ovipositor sheaths very short, and T1–T3 shapes and sculptures as illustrated and described in de Saeger (1941: 218–220, fig. 7). The presence of a partial median carina would suggest *Cotesia* as another possible genus; however, the shapes of T1 (anterior 0.4 more or less parallel-sided, posterior 0.6 strongly narrowing towards posterior margin of tergite) and T2 (subtriangular) precludes the species to be considered in that genus, and *Parapanteles* is a much better generic placement. Future study of this species may be needed.

***Parapanteles rooibos* Valerio, Whitfield & Kole, 2005**

Parapanteles rooibos Valerio, Whitfield & Kole, 2005.

Type information. Holotype female, PPRI (not examined but original description checked). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

***Parapanteles sarpedon* (de Saeger, 1944), new combination**

Apanteles sarpedon de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Based on the original description, the best generic placement would be in *Parapanteles* because of the inflexible hypopygium, relatively short ovipositor sheaths, and propodeum with areola.

***Parapanteles sartamus* (Nixon, 1965), new combination**

Apanteles sartamus Nixon, 1965.

Type information. Holotype female, USNM (examined). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. Here transferred to *Parapanteles*, based on the propodeal areola complete and the short ovipositor sheaths (Nixon 1965).

***Parapanteles scultena* (Nixon, 1965), new combination**

Apanteles scultena Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia.

Notes. We place this species in *Parapanteles*, based on the propodeal areola, short ovipositor sheaths and hypopygium inflexible and unfolded.

***Parapanteles shivranginii* Sathe & Ingawale, 1989**

Parapanteles shivranginii Sathe & Ingawale, 1989.

Type information. Holotype female, NZSI (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Parapanteles sicpolus* Valerio & Whitfield, 2009**

Parapanteles sicpolus Valerio & Whitfield, 2009.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles sireeshaae* Ahmad & Akhtar, 2010**

Parapanteles sireeshaae Ahmad & Akhtar, 2010.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Parapanteles tessares* Valerio & Whitfield, 2009**

Parapanteles tessares Valerio & Whitfield, 2009.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles thrix* Valerio & Whitfield, 2009**

Parapanteles thrix Valerio & Whitfield, 2009.

Type information. Holotype female, INHS (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (MO).

***Parapanteles tlinea* Valerio & Whitfield, 2009**

Parapanteles tlinea Valerio & Whitfield, 2009.

Type information. Holotype female, INHS (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Parapanteles transvaalensis* (Cameron, 1911), new combination**

Apanteles transvaalensis Cameron, 1911.

Type information. Holotype female, TMSA (not examined but subsequent treatment of the species checked). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: Malawi, South Africa.

Notes. Our species concept is based on Wilkinson (1932a: 320–321), who re-described the species after examining the female holotype (the only specimen known). Transferred to *Parapanteles* based on the relatively very short ovipositor (shorter than the first segment of the metatarsus), truncate hypopygium, and fully areolated propodeum.

***Parapanteles turri* (Rao & Chalikwar, 1976), new combination**

Apanteles turri Rao & Chalikwar, 1976.

Type information. Holotype female, BAMU (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The drawings in the original description suggest that this species is better placed in *Parapanteles*, based on its short ovipositor sheaths and unpleated hypopygium. The authors even considered the species to have a “superficial resemblance with *Apanteles folia* (Nixon, 1965)” (Rao and Chalikwar 1976a: 185), which is an indirect confirmation of the generic placement, since *Apanteles folia* is also transferred to *Parapanteles* in the present paper.

***Parapanteles xanthopholis* (de Saeger, 1944), new combination**

Apanteles xanthopholis de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Rwanda.

Notes. Based on the original description (de Saeger 1944), the best generic placement would be in *Parapanteles*.

Genus *Parenion* Nixon, 1965

Parenion Nixon, 1965: 208. Gender: feminine. Type species: *Microgaster kokodana* Wilkinson, 1936, by original designation.

Three described species are known from Australasia, but we have seen a few more in collections. No host data are currently available for this genus. There are four DNA-barcode compliant sequences of this genus in BOLD, representing one BIN. The gender of *Parenion* is not stated in the original description, but it is here assumed to be feminine based on the way Nixon (1965) treated the name of the only species known (at the time the genus was described).

***Parenion beelaronga* Austin & Dangerfield, 1992**

Parenion beelaronga Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

***Parenion bootha* Austin & Dangerfield, 1992**

Parenion bootha Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

***Parenion kokodana* (Wilkinson, 1936)**

Microgaster kokodana Wilkinson, 1936.

Type information. Holotype female, NHMUK (examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Australia (QLD), Papua New Guinea.

Genus *Paroplitis* Mason, 1981

Paroplitis Mason, 1981: 68. Gender: masculine. Type species: *Paroplitis beringianus* Mason, 1981, by original designation.

Five described species were recently revised (Fernandez-Triana et al. 2013b) but we have seen more species in collections. The genus is essentially Holarctic, but occasionally reaching the northern limits of the Oriental region. Host records representing four Lepidoptera families have been reported for one species of *Paroplitis*, but only Crambidae (Scopariinae) has been confirmed (Shaw 2012b). There are 32 DNA-barcode compliant sequences of this genus in BOLD, representing one BIN.

***Paroplitis beringianus* Mason, 1981**

Paroplitis beringianus Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC), USA (AK).

***Paroplitis luzonicus* Mason, 1981**

Paroplitis luzonicus Mason, 1981.

Type information. Holotype female, AEIC (not examined but subsequent treatment of the species checked). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

Notes. Our species concept is based on Fernandez-Triana et al. (2013b).

***Paroplitis rugosus* Papp, 1991**

Paroplitis rugosus Papp, 1991.

Type information. Holotype female, HNHM (not examined but subsequent treatment of the species checked). Country of type locality: Austria.

Geographical distribution. PAL.

PAL: Austria.

Notes. Our species concept is based on Fernandez-Triana et al. (2013b).

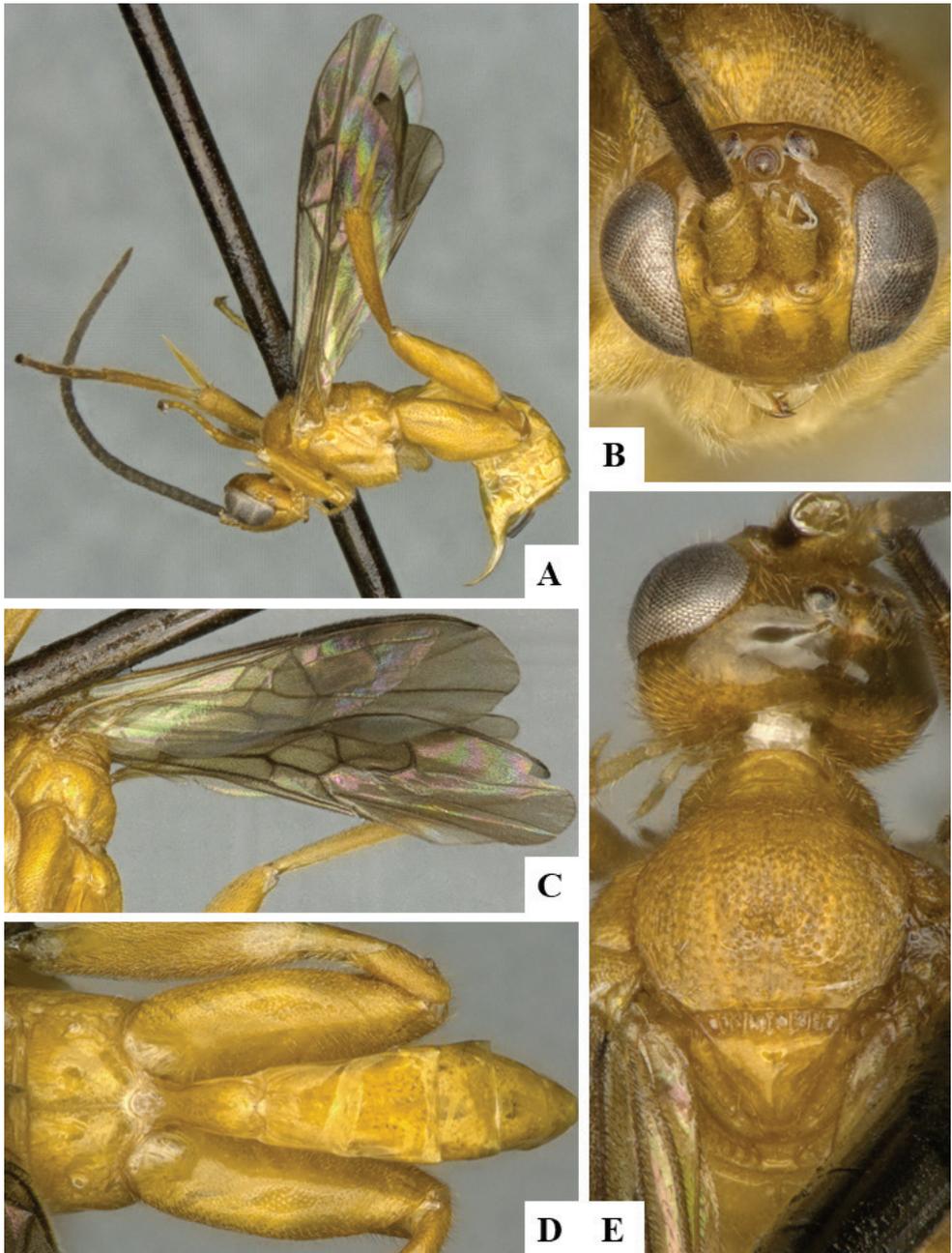


Figure 176. *Parenion kokodana* female CNCHYM01939 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal.

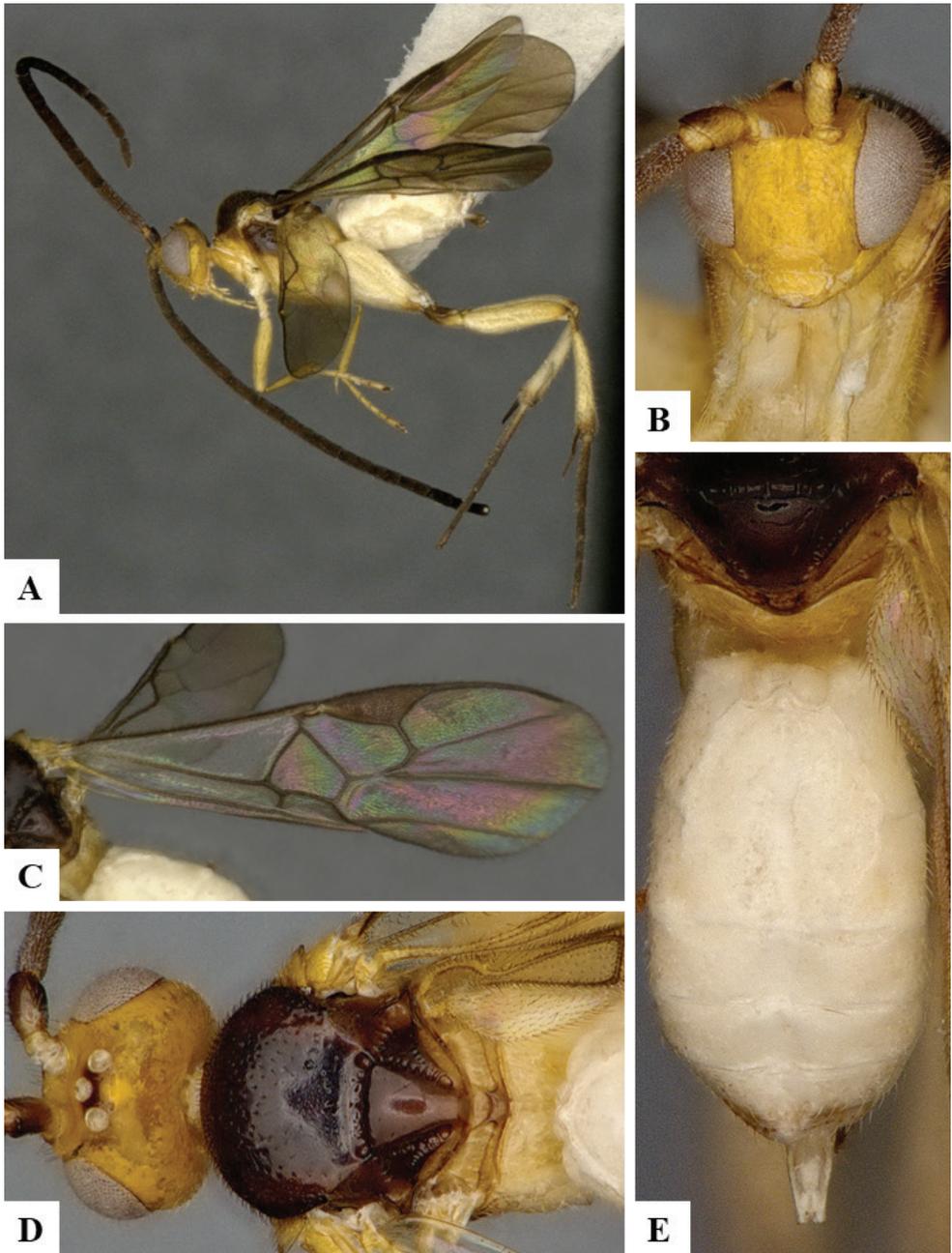


Figure 177. *Parenion* sp. male CNCHYM01945 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

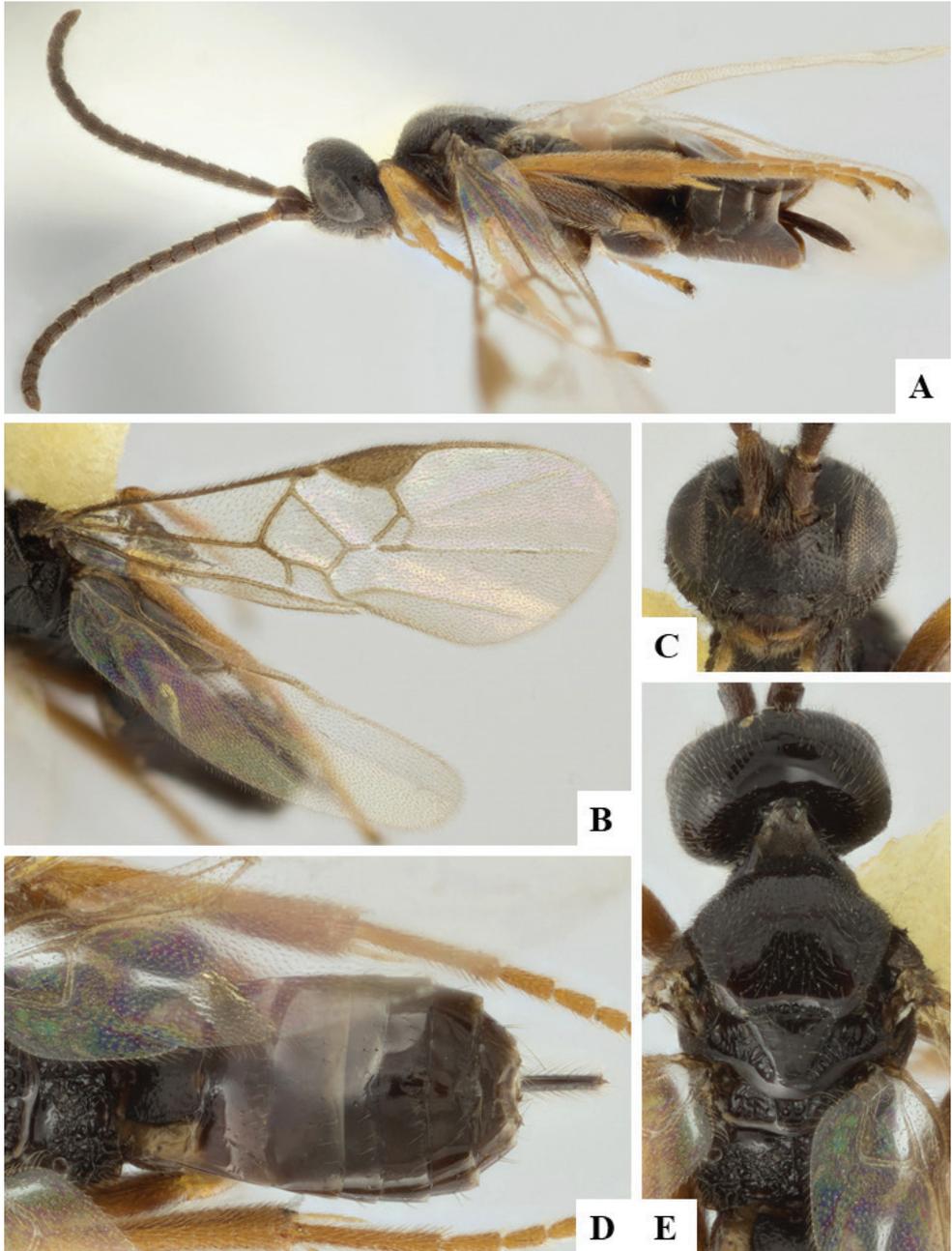


Figure 178. *Paroplitis beringianus* female holotype **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Metasoma, dorsal **E** Head and mesosoma, dorsal.

***Paroplitis vietnamensis* van Achterberg & Fernandez-Triana, 2013**

Paroplitis vietnamensis van Achterberg & Fernandez-Triana, 2013.

Type information. Holotype female, RMNH (examined). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

Notes. A recent PhD thesis (Ahmed 2017) recorded this species from India (from two different districts in the state of Jammu and Kashmir). The accompanying images in that paper strongly indicate that this is a different, undescribed species, based on different sculpture of T1 and T2, and also the fact that the Indian localities are more than 3,500 km from the type locality in Vietnam. Thus, we here consider *P. vietnamensis* not to be present in India.

***Paroplitis wesmaeli* (Ruthe, 1860)**

Microgaster wesmaeli Ruthe, 1860.

Microgaster picipes Wesmael, 1837 [primary homonym of *Microgaster picipes* Bouché, 1834].

Type information. Holotype female, RBINS (not examined but subsequent treatment of the species checked). Country of type locality: Belgium.

Geographical distribution. PAL.

PAL: Azerbaijan, Belgium, Finland, France, Germany, Hungary, Poland, Romania, Russia (KDA), Sweden, Switzerland, Ukraine, United Kingdom.

Notes. Our species concept is based on Shaw (2012b) and Fernandez-Triana et al. (2013b).

Genus *Pelicope* Mason, 1981

Pelicope Mason, 1981: 57. Gender: feminine. Type species: *Pelicope yuccamica* Mason, 1981, by original designation.

Only known from one species in the Nearctic region. The parasitoid has been reared from Prodoxidae. There is one DNA-barcode compliant sequence of *Pelicope* in BOLD, representing one BIN.

***Pelicope yuccamica* Mason, 1981**

Pelicope yuccamica Mason, 1981.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA).

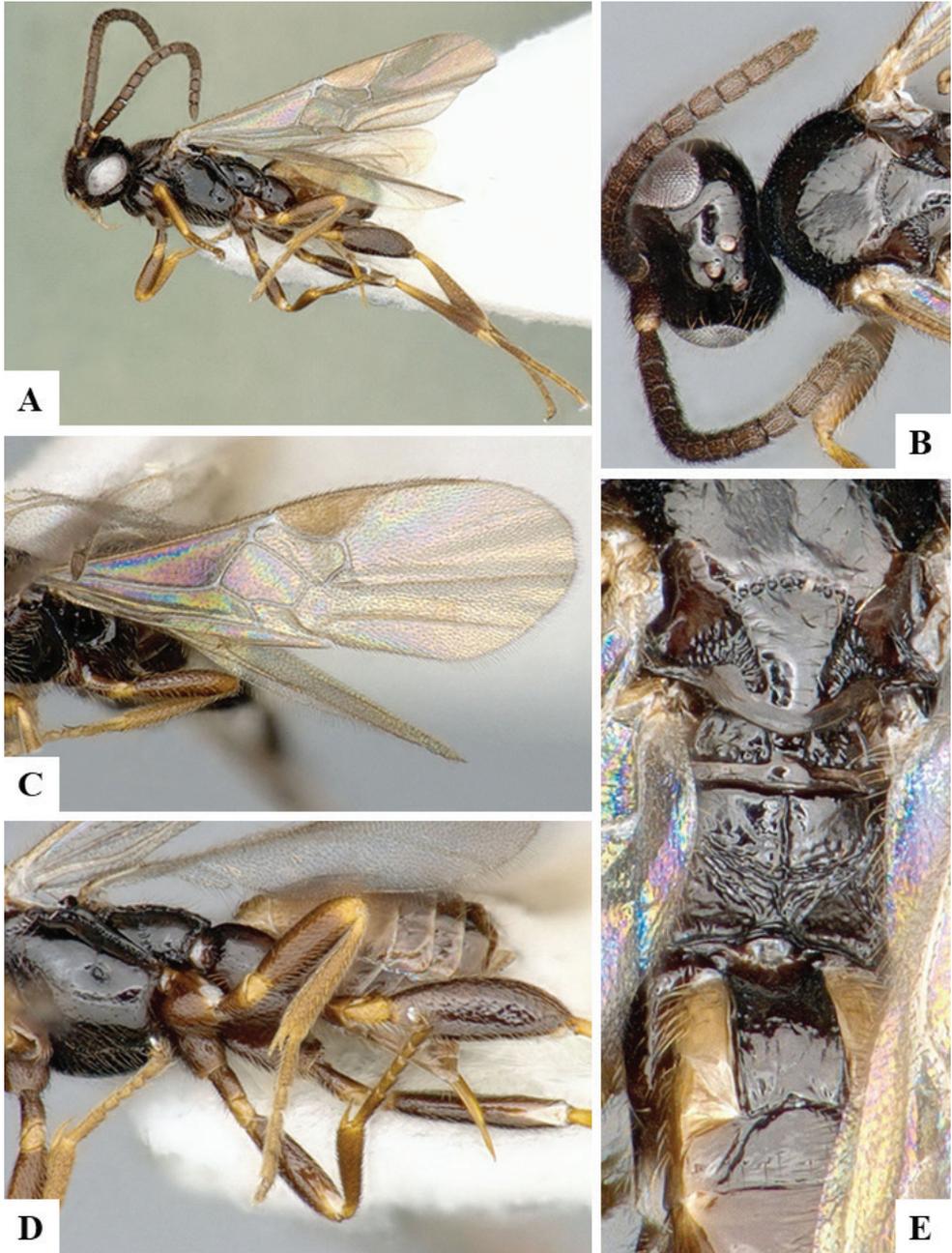


Figure 179. *Paroplitis vietnamensis* female holotype **A** Habitus, lateral **B** Head and mesosoma, dorsal **C** Fore wing **D** Mesosoma and metasoma, ventrolateral **E** Mesosoma and tergites 1–3, dorsal.

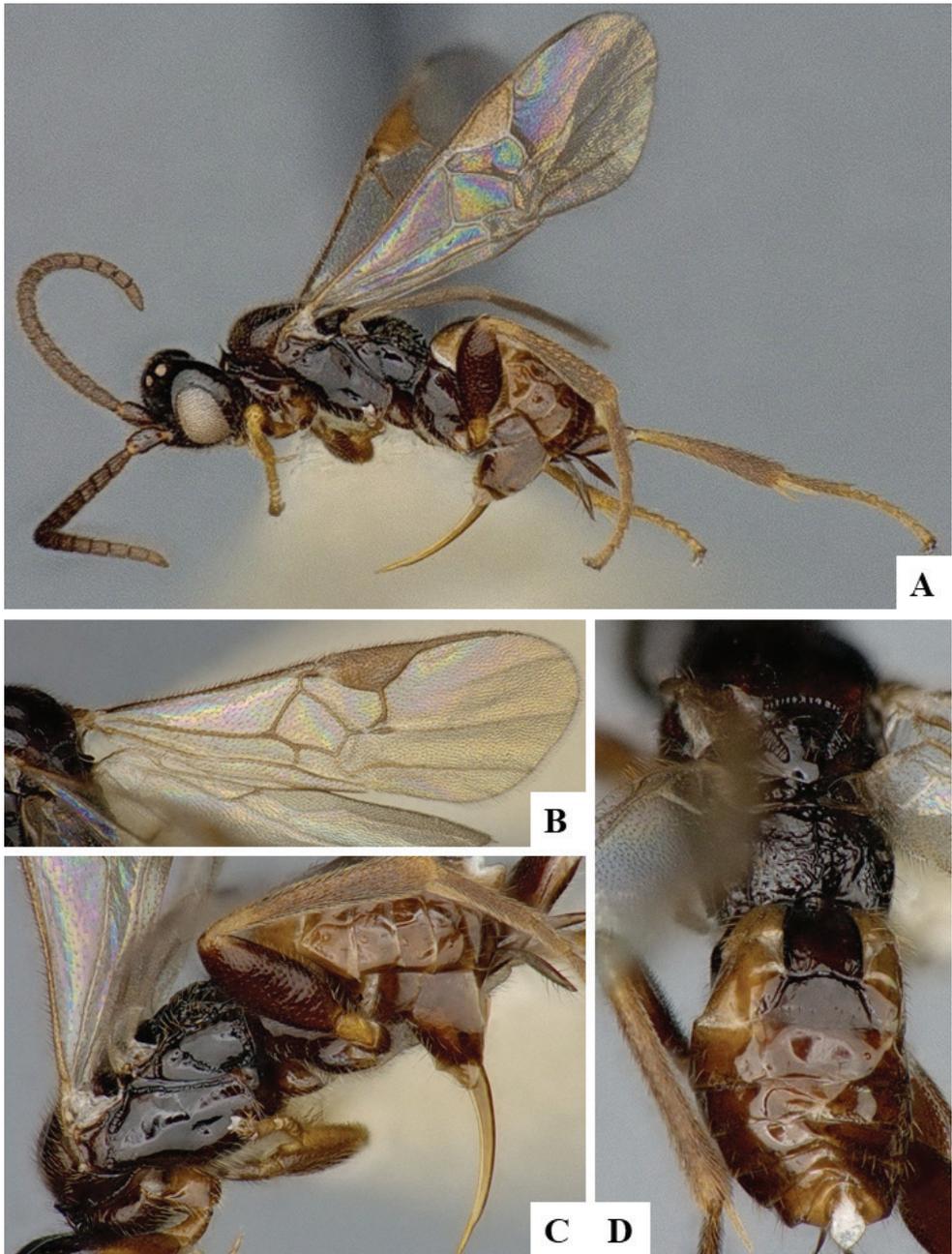


Figure 180. *Paroplitis wesmaeli* female CNCHYM01946 **A** Habitus, lateral **B** Fore wing **C** Mesosoma and metasoma, lateral **D** propodeum and metasoma, dorsal.

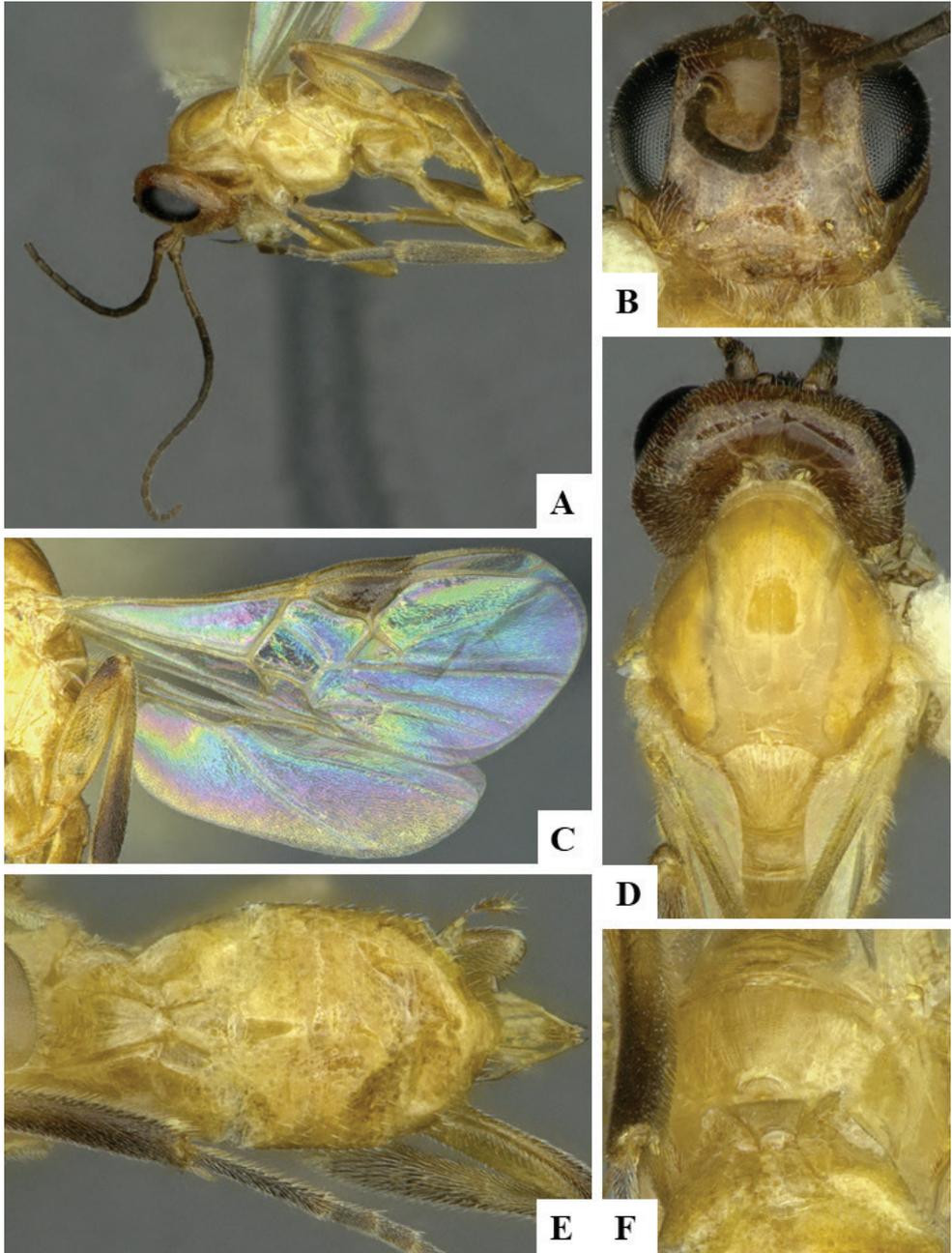


Figure 181. *Pelicope yuccamica* male CNC309859 **A** Habitus, lateral **B** Head, dorsal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Metasoma, dorsal **F** Propodeum and tergites 1–2, dorsal.

Genus *Philoplitis* Nixon, 1965

Philoplitis Nixon, 1965: 267. Gender: masculine. Type species: *Philoplitis coniferens* Nixon, 1965 by original designation and monotypy.

Philoplitis has been revised twice in the past ten years (Fernandez-Triana and Goulet 2009, Ranjith et al. 2019), with the latest paper recording nine species. We suspect a few more will be found when more collections are studied, but the genus does not seem to be species rich. *Philoplitis* species are mainly found in the Oriental region, but it also reaches the Afrotropics and one species marginally reaches the southernmost limits of the Palearctic region (Ranjith et al. 2019). No host data are currently available for this genus. There are seven DNA-barcode compliant sequences of this genus in BOLD, representing four BINs.

***Philoplitis adustipalpus* Ahmad, 2005**

Philoplitis adustipalpus Ahmad, 2005.

Type information. Holotype female, AMUZ (not examined but subsequent treatment of the species checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Our species concept is based on Fernandez-Triana and Goulet (2009) and Ranjith et al. (2019).

***Philoplitis coniferens* Nixon, 1965**

Philoplitis coniferens Nixon, 1965.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: China (GD, GX), Philippines.

Notes. Our species concept is based on Fernandez-Triana and Goulet (2009) and Ranjith et al. (2019).

***Philoplitis dzangasangha* Fernandez-Triana & Ranjith, 2019**

Philoplitis dzangasangha Fernandez-Triana & Ranjith, 2019.

Type information. Holotype male, CNC (examined). Country of type locality: Central African Republic.

Geographical distribution. AFR.

AFR: Central African Republic.

***Philoplitis keralensis* Ranjith & Fernandez-Triana, 2019**

Philoplitis keralensis Ranjith & Fernandez-Triana, 2019.

Type information. Holotype female, DZUC (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Philoplitis margalla* Fernandez-Triana & Ranjith, 2019**

Philoplitis margalla Fernandez-Triana & Ranjith, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Pakistan.

Geographical distribution. PAL.

PAL: Pakistan.

***Philoplitis masneri* Fernandez-Triana & Goulet, 2009**

Philoplitis masneri Fernandez-Triana & Goulet, 2009.

Type information. Holotype male, CNC (examined). Country of type locality: Kenya.

Geographical distribution. AFR.

AFR: Kenya.

***Philoplitis punctatus* Fernandez-Triana & Goulet, 2009**

Philoplitis punctatus Fernandez-Triana & Goulet, 2009.

Type information. Holotype male, CNC (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Thailand.

***Philoplitis striatus* Fernandez-Triana & Goulet, 2009**

Philoplitis striatus Fernandez-Triana & Goulet, 2009.

Type information. Holotype male, CNC (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: India, Sri Lanka.

***Philoplitis trifoveatus* Ranjith & Fernandez-Triana, 2019**

Philoplitis trifoveatus Ranjith & Fernandez-Triana, 2019.

Type information. Holotype female, DZUC (examined). Country of type locality: India.

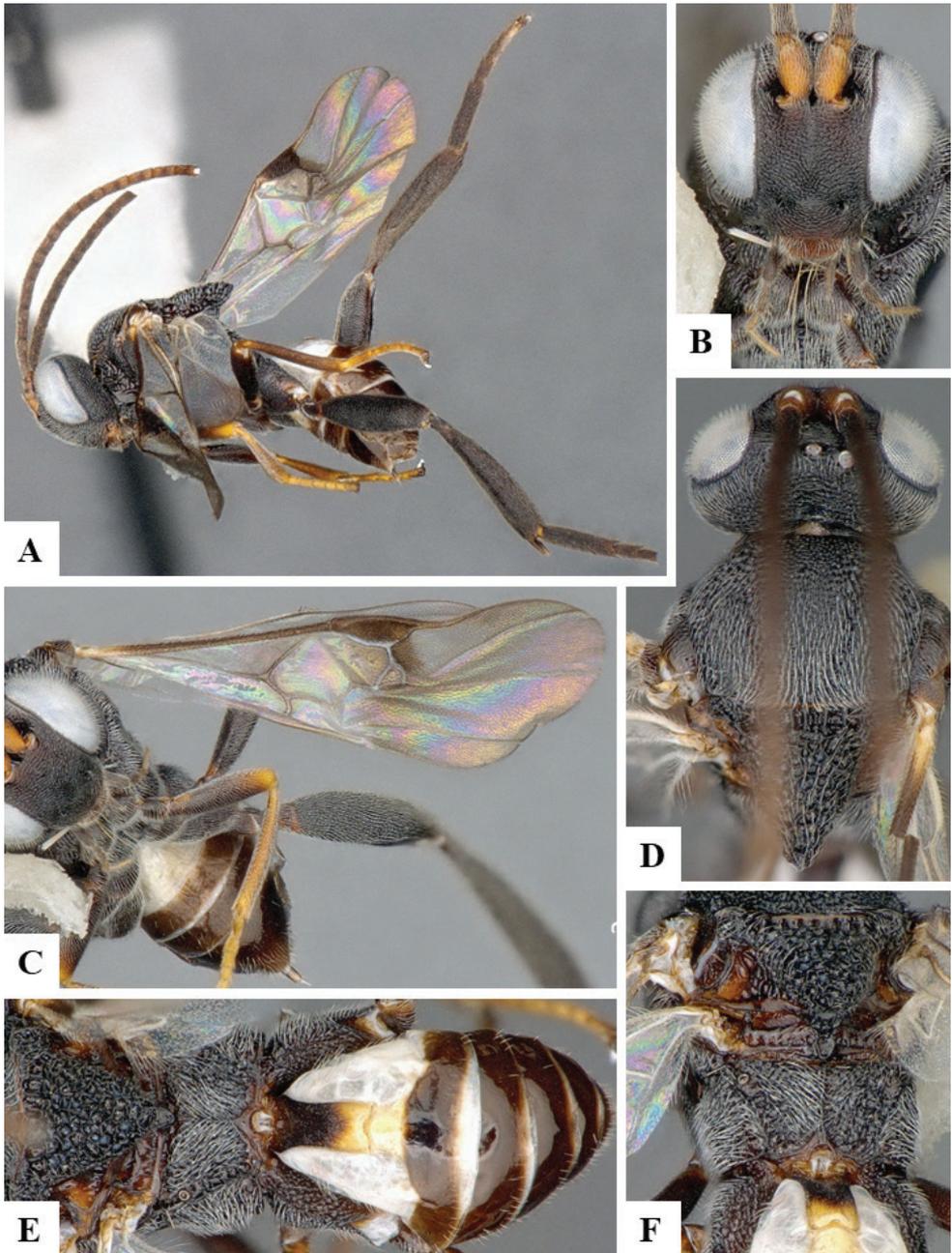


Figure 182. *Philoplitis punctatus* female CNC309861 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Propodeum and tergites 1–2, dorsal.

Geographical distribution. OTL.

OTL: India.

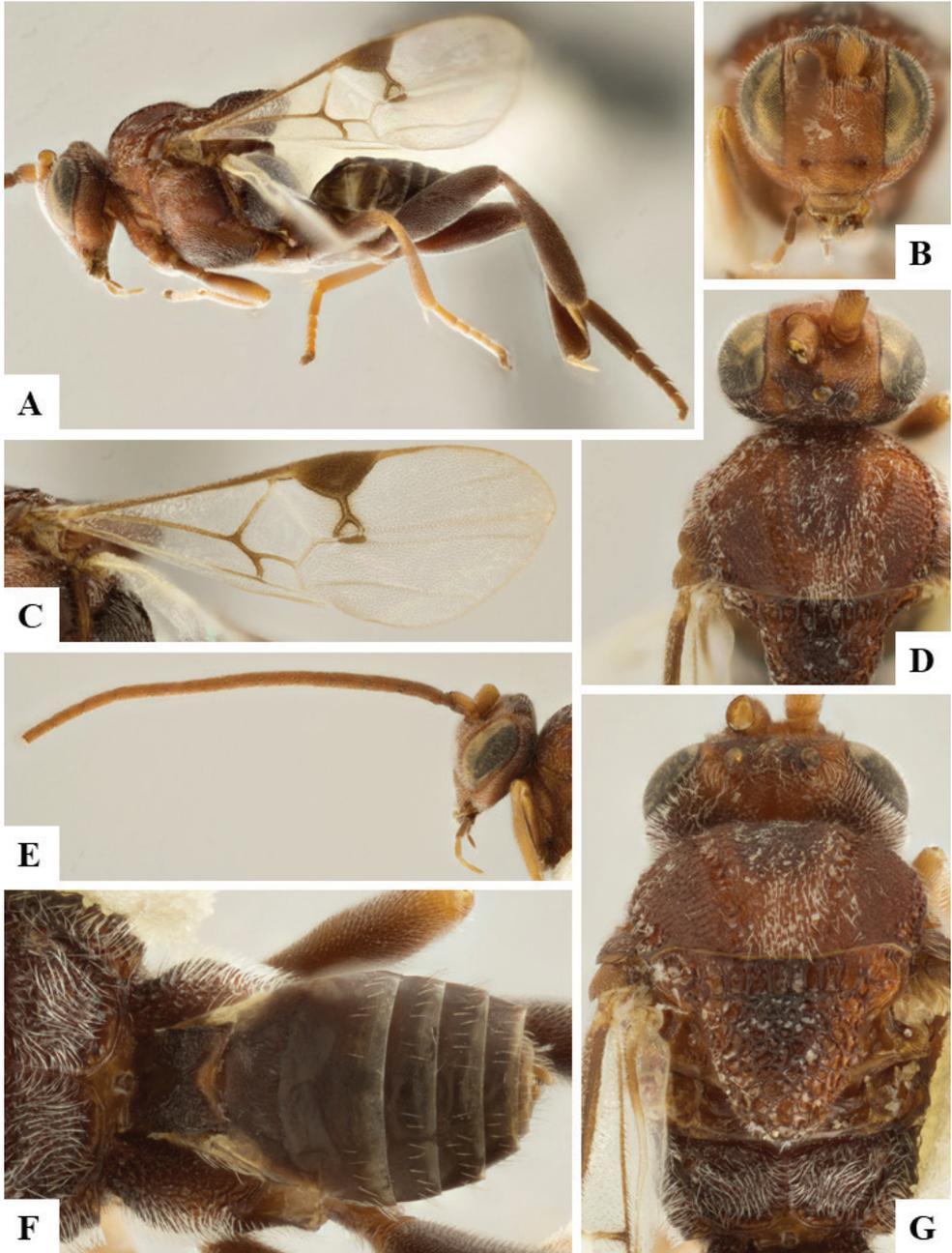


Figure 183. *Philoplitis striatus* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Antenna **F** Metasoma, dorsal **G** Mesosoma, dorsal.

Genus *Pholetesor* Mason, 1981

Pholetesor Mason, 1981: 37. Gender: masculine. Type species: *Apanteles ornigis* Weed, 1887, by original designation.

This is a cosmopolitan genus, with 57 described species, but we have seen many additional species in collections, mostly from temperate areas. There are some revisions available for the Nearctic (Whitfield 2006) and Palearctic regions (see works of Nixon and Papp in the References section below), but most can be considered as outdated because none of them take into account the hidden diversity that is revealed by DNA barcoding and biological data. Around two dozen families of Lepidoptera have been recorded as hosts for *Pholetesor*, but many records are likely to be incorrect and/or need further verification. There are 1,000+ DNA-barcode compliant sequences of this genus in BOLD, representing 50 BINs.

***Pholetesor acricauda* Liu & Chen, 2016**

Pholetesor acricauda Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (SN); **PAL:** China (HA).

***Pholetesor acutus* (Papp, 1971), new combination**

Apanteles acutus Papp, 1971.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

Notes. From the original description it is evident that this species is not *Apanteles*. Here we transfer *acutus* to *Pholetesor* based on the short length of the ovipositor sheaths, the inflexible and unpleated hypopygium, the shapes of T1 and T2, the propodeum sculpture, and the fact that Papp (1971: 311) considered the species to be closely related to *Apanteles ingenuus* (which is currently placed within *Pholetesor*). In a subsequent paper illustrating *Apanteles acutus* (Papp 1984a: 290, figure 21), the drawing seems to show much longer ovipositor sheaths, although that may be a mistake, as the key to species in that same paper places *acutus* with other species which have “Ovipositor sheath short, in lateral view at most as long as first joint of hind tarsus” (quoted from couplet 17 in Papp 1984a: 267). We suspect that many of the species placed within the *metacarpalis* group by Papp (1984a), which includes species mostly described by Papp and Tobias, belong to *Pholetesor*.

***Pholetesor ambiguus* (Papp, 1977)**

Apanteles ambiguus Papp, 1977.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

***Pholetesor argyresthiae* Liu & Chen, 2016**

Pholetesor argyresthiae Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (GS).

***Pholetesor arisba* (Nixon, 1973)**

Apanteles arisba Nixon, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. AUS, OTL, PAL.

AUS: New Zealand; **OTL:** China (FJ, GZ, ZJ); **PAL:** Austria, Bulgaria, China (NX), Czech Republic, Denmark, Egypt, Germany, Greece, Hungary, Israel, Italy, Netherlands, Norway, Russia (NC), Serbia, Spain, Ukraine, United Kingdom.

Notes. The species distribution in Israel is based in Belokobylskij et al. (2019).

***Pholetesor artusisulcus* Liu & Chen, 2016**

Pholetesor artusisulcus Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (ZJ); **PAL:** China (NX).

***Pholetesor bedelliae* (Viereck, 1911)**

Apanteles bedelliae Viereck, 1911.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. AUS, NEA, NEO, PAL.

AUS: Hawaiian Islands; **NEA:** Canada (AB, BC, MB, NS, ON, QC, SK), USA (AK, AZ, AR, CA, CT, DC, FL, IL, IA, KA, LA, MO, NJ, NY, OR, VA); **NEO:** Bermuda, Peru; **PAL:** Finland.

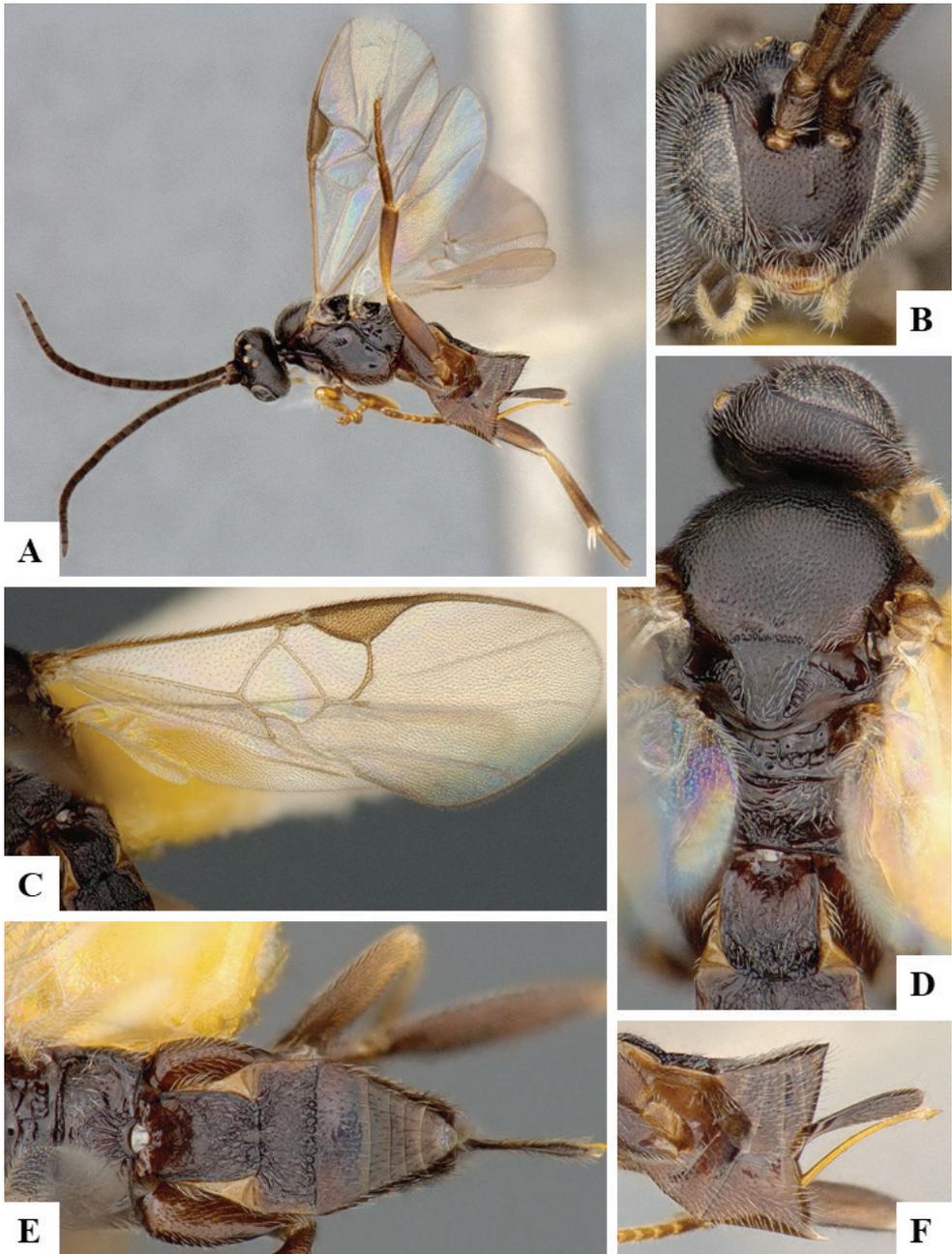


Figure 184. *Pholetesor bedelliae* female CNCHYM03137 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

Notes. This species was introduced to the Hawaiian Islands (Fullaway 1950). There is also a record from Peru (de Huiza 1995) which should be considered as suspicious, but we retain it here as we could not examine it in more detail. The species is probably Holarctic in distribution.

Pholetesor bicolor* (Nees, 1834)Microgaster bicolor* Nees, 1834.*Microgaster ardeaepenellae* Bouché, 1834.*Apanteles schillei* Niezabitowski, 1910.*Apanteles longicauda* Fahringer, 1938.*Apanteles pedias* Nixon, 1973.

Type information. Neotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. AUS, NEA, OTL, PAL.

AUS: New Zealand; **NEA:** Canada (ON); **OTL:** China (JS); **PAL:** Belgium, Bulgaria, Canary Islands, China (NX), Croatia, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Ireland, Israel, Italy, Japan, Kyrgyzstan, Lithuania, Moldova, Mongolia, Poland, Romania, Russia (KAM, MOS, PRI, SPE, YAR), Serbia, Slovakia, Spain, Switzerland, Tunisia, Turkmenistan, Ukraine, United Kingdom.

Notes. According to Papp (1983a: remark on pages 253–254, not page 267 as referenced in footnote on page 251), *Microgaster bicolor* Curtis, 1830 is a *nomen nudum*, so *Microgaster bicolor* Nees, 1834 is valid. That statement was accepted by Shaw (2012b) and Broad et al. (2016) and it is also followed here, where we consider *Pholetesor bicolor* (Nees, 1834) as a valid name and a valid species. However, Wilkinson (1938d) listed *bicolor* (= *pedias sensu* Nixon) as a synonym of *circumscriptus*, a species he interpreted widely and considered very variable in some characters. Shaw (2012b) has added strong evidence (biological and morphological data) that support *bicolor* and *circumscriptus* being considered as different species. Thus, all the synonyms listed by Wilkinson (1938d) need to be re-apportioned between *bicolor* and *circumscriptus*. Here we consider as synonyms of *bicolor*: a) *Microgaster ardeaepenellae* (Bouché, 1834), following Papp (1983a, 1988), who saw the type; b) *Apanteles schillei* (Niezabitowski, 1910) is tentatively placed (with a question mark) under *bicolor*, following Papp (1988: 148), who did not see the type of that species; c) *Apanteles longicauda* (Fahringer, 1938), following the original description (Fahringer 1938: 10); and d) *Apanteles pedias* Nixon, 1973, based on our study of the type. We consider synonyms of *circumscriptus*: e) *Microgaster exiguus* (Haliday, 1834), based on our study of the lectotype and also van Achterberg (1997); f) *Microgaster umbellatarum* (Haliday, 1834), following Papp (1988), who did not see the type of that species [but also note that van Achterberg (1997), who did not see the type either, placed *umbellatarum* as a synonym of *bicolor*]; g) *Microgaster blancardellae* (Bouché, 1834), following Papp (1983a, 1988) who saw the type; h) *Microgaster lividipes* (Wesmael, 1837), following Papp (1988), although it is not clear to us if he saw that type; i) *Microgaster flavolimbatus* (Ratzeburg, 1848), following Papp (1983a, 1988), it is not clear to us if he saw that type; j) *Apanteles lautellus* (Marshall, 1885), based on our study of the type. In addition to the above, material determined by Nixon as *exiguus* Haliday (see Nixon 1973) is a different species, the status of which is still unresolved; Shaw (2012b) thought that species (*exiguus sensu* Nixon *nec* Haliday) was probably a northern form of

laetus Marshall, partly on the basis of rearing experiments, but ongoing research involving DNA barcoding will be needed before a conclusion can be reached. Additionally, Shaw (2012b) rejected the statement by van Achterberg (1997) that *exiguus sensu* Nixon is the same as *salalicus* Mason, a position we follow here. Because of the convoluted story of the use and application of the names *bicolor* and *circumscriptus* (and corresponding synonyms), it is very difficult to determine with certainty the actual distribution of the two species which, based on current data, seem to overlap for the most part (e.g., see Yu et al. 2016). Both species seem to be rather broadly distributed in the Palearctic region, also reaching into the northern part of the Oriental region (China); however, until comprehensive studies of the specimens mentioned in the historical literature are done it will not be possible to untangle the distributional information. Similarly, there are a few references to these two species in New Zealand and North America (e.g., Bartlett et al. 1978, Valentine and Walker 1991, Fernandez-Triana 2010), mostly as introductions for biological control. DNA barcodes are equally confusing at present, as among dozens of specimens in BOLD which are labelled as either *Pholetesor circumscriptus*, *Pholetesor exiguus*, or *Pholetesor* (with some interim names), there seems to be a complex of molecularly (DNA barcodes) related species. Solving these problems is beyond the scope of the present paper, and thus we are limited here to pointing out the difficulties and unknowns related to these species. The species distribution in Israel and Kyrgyzstan are based in Belokobylskij et al. (2019).

***Pholetesor brevivalvatus* (Balevski & Tobias, 1980), new combination**

Apanteles brevivalvatus Balevski & Tobias, 1980.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Bulgaria.

Geographical distribution. PAL.

PAL: Bulgaria.

Notes. This species is clearly not an *Apanteles*, based on the short ovipositor sheaths (and, to a lesser extent, also based on the shapes of T1 and T2, which is not commonly found in *Apanteles*). Papp (1984a) considered this species to be related to *Pholetesor ingenuus* (Tobias, 1964), based on a number of features; the available drawings for both species indeed look similar. Examination of the type specimen will be needed to conclude, but for the time being we follow Papp's suggestion and transfer the species from *Apanteles* to *Pholetesor*.

***Pholetesor bucculatricis* (Muesebeck, 1921)**

Apanteles bucculatricis Muesebeck, 1921.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA).

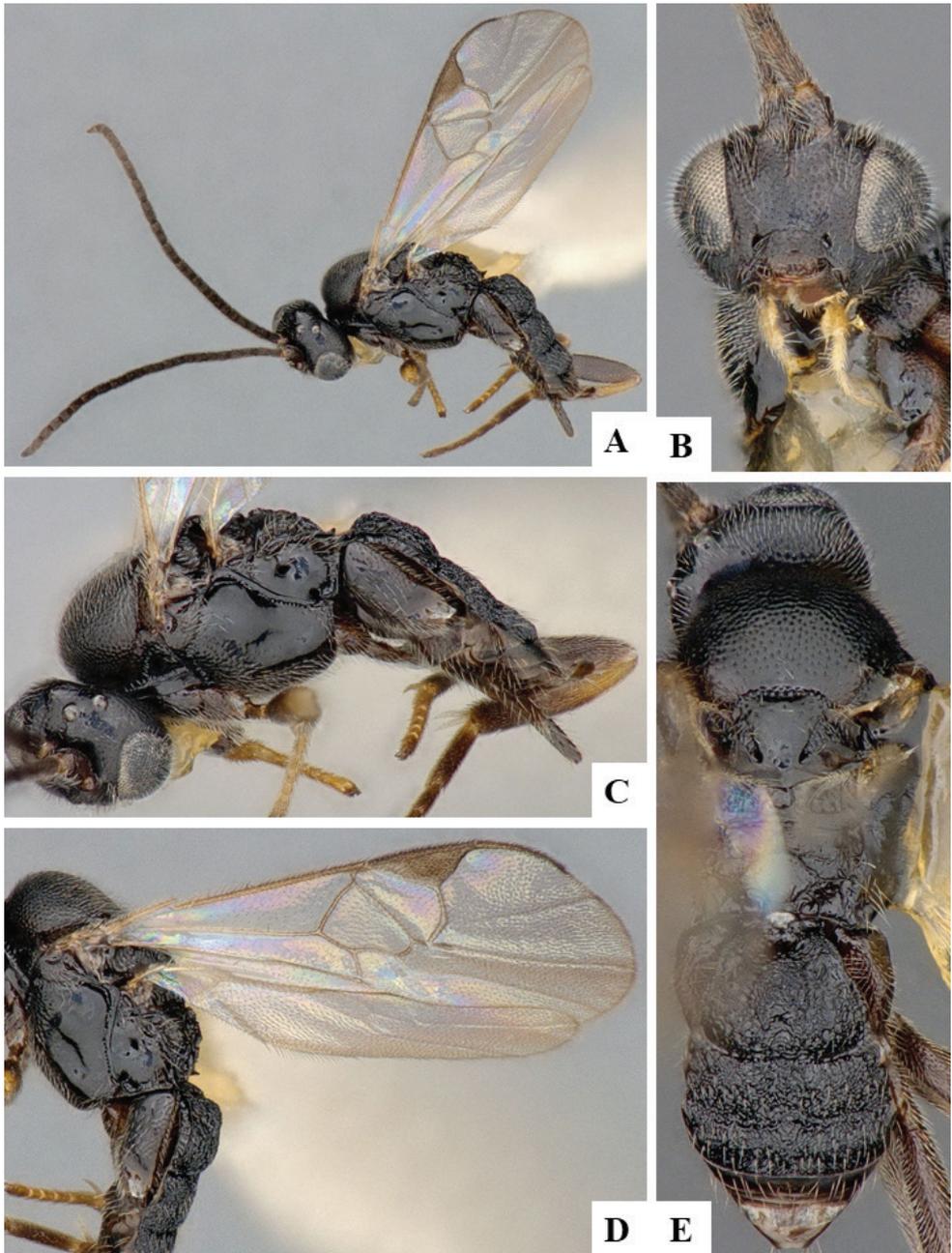


Figure 185. *Pholetesor bucculatricis* female CNCHYM03147 **A** Habitus, lateral **B** Head, frontal **C** Mesosoma and metasoma, lateral **D** Fore wing and hind wing **E** Mesosoma and metasoma, dorsal.

Pholetesor caloptiliae* Whitfield, 2006Pholetesor caloptiliae* Whitfield, 2006.**Type information.** Holotype female, CNC (examined). Country of type locality: Canada.**Geographical distribution.** NEA.**NEA:** Canada (ON), USA (CT, IN, NY, OH).***Pholetesor chiricahuensis* Whitfield, 2006***Pholetesor chiricahuensis* Whitfield, 2006.**Type information.** Holotype female, USNM (examined). Country of type locality: USA.**Geographical distribution.** NEA.**NEA:** USA (AZ, CA, CO, FL, NM).***Pholetesor circumlatus* Kotenko, 2007***Pholetesor circumlatus* Kotenko, 2007.**Type information.** Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.**Geographical distribution.** PAL.**PAL:** Russia (SAK).***Pholetesor circumscriptus* (Nees, 1834)***Microgaster circumscriptus* Nees, 1834.*Microgaster exiguus* Haliday, 1834.*Microgaster umbellatarum* Haliday, 1834.*Microgaster blancardellae* Bouché, 1834.*Microgaster lividipes* Wesmael, 1837.*Microgaster flavolimbatus* Ratzeburg, 1848.*Apanteles lautellus* Marshall, 1885.**Type information.** Neotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Germany.**Geographical distribution.** AUS, NEA, OTL, PAL.**AUS:** New Zealand; **NEA:** USA (AK); **OTL:** China (SN, YN, ZJ); **PAL:** Armenia, Austria, Azerbaijan, Belgium, Bulgaria, China (SD), Croatia, Czech Republic, Finland, Georgia, Germany, Greece, Hungary, Iran, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Latvia, Lithuania, Madeira Islands, Malta, Moldova, Netherlands, Poland, Romania, Russia (IRK, KEM, KHA, KDA, MOS, PRI, ROS, SAK, SPE, VLA, VOR), Slovakia, Spain, Switzerland, Ukraine, United Kingdom, Yugoslavia.

Notes. See notes under *Pholetesor bicolor* above for detailed explanations on the history of names used for these two species, their synonyms, distribution and molecular data. The species distribution in Japan and Kazakhstan are based in Belokobylskij et al. (2019).

***Pholetesor confusus* Liu & Chen, 2016**

Pholetesor confusus Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (LN).

***Pholetesor dixianus* Whitfield, 2006**

Pholetesor dixianus Whitfield, 2006.

Type information. Holotype female, SEMC (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (NC, TX).

***Pholetesor dmitriyi* Kotenko, 2007**

Pholetesor dmitriyi Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (PRI).

***Pholetesor elpis* (Nixon, 1973)**

Apanteles elpis Nixon, 1973.

Apanteles girkanus Tobias, 1976.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Austria, Azerbaijan, Bulgaria, Croatia, Finland, Germany, Greece, Hungary, Iran, Korea, Mongolia, Netherlands, Poland, Russia (MAG, PRI, SAK), Serbia, Slovakia, Ukraine, United Kingdom.

***Pholetesor errans* (Nixon, 1973)**

Pholetesor errans Nixon, 1973.

Apanteles arenicola Papp, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Hungary, United Kingdom.

***Pholetesor extentus* (Papp, 1977), new combination**

Apanteles extentus Papp, 1977.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Mongolia.

Notes. Based on the original description and illustrations provided there, this species is clearly not an *Apanteles*. The relatively short ovipositor sheaths and shapes of T1 and T2 strongly suggest the best generic placement would be *Pholetesor* (although future examination of the specimens in the HNHM may show *Dolichogenidea* as a possible alternative).

***Pholetesor flavigleba* Liu & Chen, 2016**

Pholetesor flavigleba Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (ZJ); **PAL:** China (HE, LN, SN).

***Pholetesor flaviparvus* Liu & Chen, 2016**

Pholetesor flaviparvus Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (JS).

***Pholetesor glacialis* (Ashmead, 1902)**

Protapanteles glacialis Ashmead, 1902.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC), USA (AK).

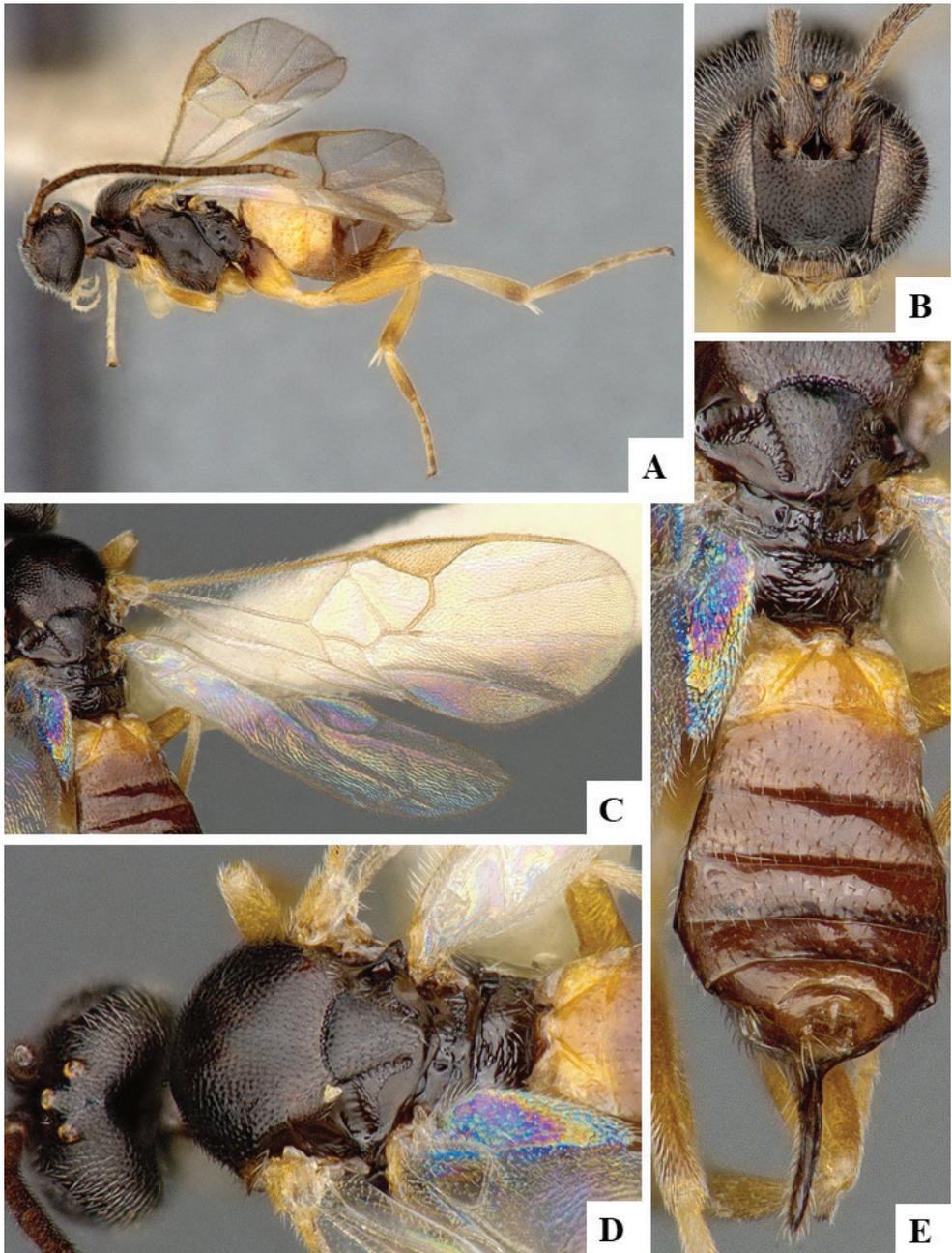


Figure 186. *Pholetesor exiguus* female CNCHYM03168 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

***Pholetesor hanniae* (Valerio & Whitfield, 2003)**

Teremys hanniae Valerio & Whitfield, 2003.

Type information. Holotype female, INBio (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pholetesor hayati* Akhtar, 2010**

Pholetesor hayati Akhtar, 2010.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Pholetesor ingenuoides* (Papp, 1971), new combination**

Apanteles ingenuoides Papp, 1971.

Apanteles frater Tobias, 1976.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Mongolia.

Geographical distribution. PAL.

PAL: Armenia, Bulgaria, Croatia, France, Germany, Greece, Hungary, Iran, Korea, Mongolia, Montenegro, Turkey.

Notes. Our concept for this species is based on Papp (1971, 1984). The descriptions and illustrations in those two papers strongly suggest this species is not an *Apanteles*. Until the type material can be examined, we consider that the best generic placement at present would be in *Pholetesor*, based on the shapes of T1 and T2, smooth propodeum, short hypopygium, and relatively short ovipositor sheaths. Another line of supporting evidence is that Papp (1971: 318) considered the species to be closely related to *ingenuus* (Tobias, 1964), which is currently placed within *Pholetesor*. However, *ingenuoides* could also be placed in *Dolichogenidea*; the two genera are closely related and unfortunately the papers we have consulted do not provide enough details to corroborate or refute that possibility.

***Pholetesor ingenuus* (Tobias, 1964)**

Apanteles ingenuus Tobias, 1964.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Hungary, Kazakhstan, Mongolia.

Notes. Our species concept is based on Papp (1984a), Tobias (1986) and Kotenko (2007a).

***Pholetesor intercedens* (Tobias, 1977)**

Apanteles intercedens Tobias, 1977.

Type information. Holotype female, ZIN (not examined). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (PRI).

***Pholetesor kuwayamai* (Watanabe, 1932), new combination**

Apanteles kuwayamai Watanabe, 1932.

Type information. Holotype female, EIHU (examined). Country of type locality: Japan.

Geographical distribution. PAL.

PAL: Japan, Korea.

Notes. This species is clearly not *Apanteles* but *Pholetesor*. Papp had recognized that (based on a label he wrote in 1992 and attached to the specimen, although that combination was never published). The female holotype is in poor condition, missing the metasoma and some legs, but two other females (supposedly paratypes, because they have the same labels) are in relatively good condition. In the same collection there is also a gelatin capsule with some other specimens and cocoons.

***Pholetesor laetus* (Marshall, 1885)**

Apanteles laetus Marshall, 1885.

Apanteles metallicus Jakimavicius, 1972.

? *Microgaster exiguus* Haliday, 1834 [misidentification by Nixon (1973)].

? *Apanteles salalicus* Mason, 1959 [misidentification by van Achterberg (1997)].

Type information. Lectotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. OTL, PAL.

OTL: China (FJ, GD, HI, HN, SN, YN, ZJ); **PAL:** Austria, Bulgaria, Germany, Hungary, Japan, Lithuania, Netherlands, Poland, Romania, Russia (ZAB, IRK, PRI, SAK), Slovenia, Switzerland, United Kingdom, Yugoslavia.

Notes. Wilkinson (1945: 155–156) designated a type for this species, which should be considered as the lectotype, but until now no reference to that specimen as the lectotype had been made. Originally, the specimen was stated to be in the

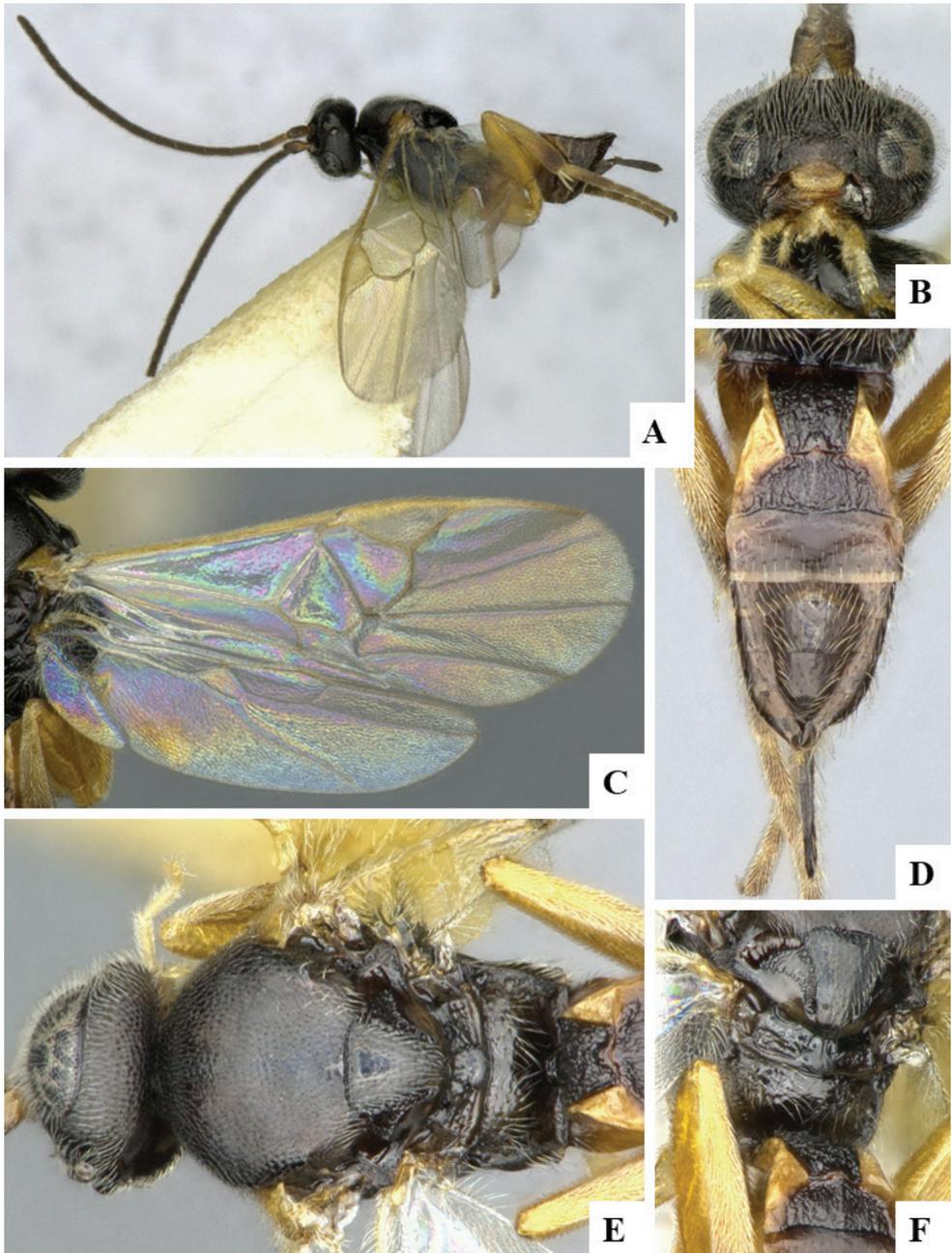


Figure 187. *Pholetesor laetus* female CNCHYM03170 **A** Habitus, lateral **B** Head, frontoventral **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Mesosoma, dorsal **F** Propodeum and tergites 1–2, dorsolateral.

Essex Museum of Natural History, but currently is in the NHMUK. For more details on *laetus* and the probable misidentifications of *exiguus* and *salalicus* see Shaw (2012b) and Broad et al. (2016).

***Pholetesor lithocolletis* Liu & Chen, 2016**

Pholetesor lithocolletis Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (SD).

***Pholetesor longicoxis* Whitfield, 2006**

Pholetesor longicoxis Whitfield, 2006.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (QC), USA (MI).

***Pholetesor lyonetae* Liu & Chen, 2016**

Pholetesor lyonetae Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (SN).

***Pholetesor maritimus* (Wilkinson, 1941)**

Apanteles maritimus Wilkinson, 1941.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. OTL, PAL.

OTL: China (JS); **PAL:** China (AH, XJ), Denmark, France, Germany, Hungary, Kyrgyzstan, Poland, Russia (C, NW), Slovakia, United Kingdom.

Notes. The species distribution in Kyrgyzstan and Russia are based in Belokobylskij et al. (2019).

***Pholetesor masneri* (Mason, 1981)**

Teremys masneri Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (ON), USA (CT).

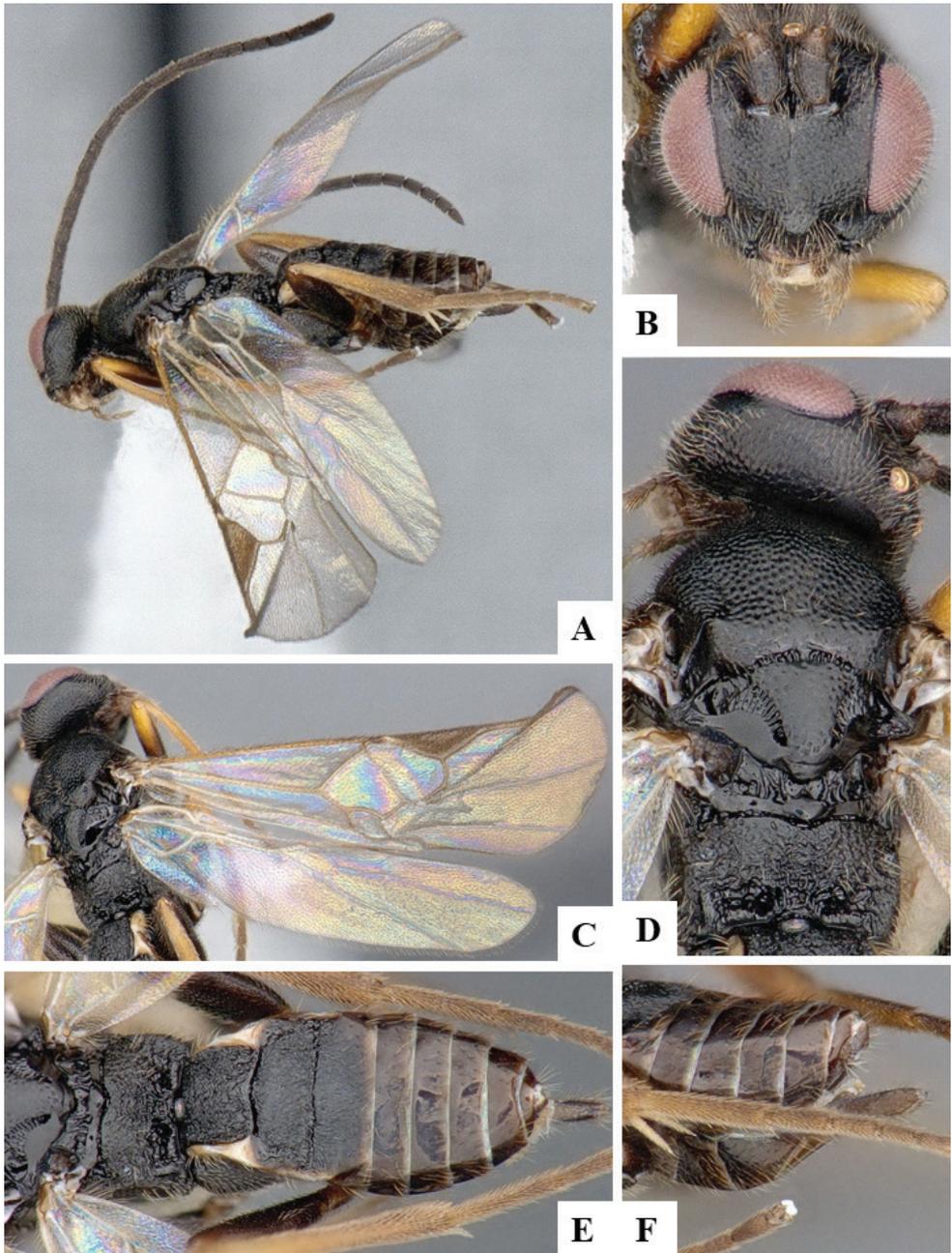


Figure 188. *Pholetesor maritimus* female MRSJFT0464 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Apex of metasoma, lateral.

***Pholetesor masoni* Whitfield, 2006**

Pholetesor masoni Whitfield, 2006.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: Canada (AB, BC, MB, NS, ON, QC, YT), USA (AZ, CA, IN, MD, MA, MI, MN, NY, NC, OH, WY); **NEO:** Mexico.

Notes. Because of its fully areolated propodeum, if this species indeed is to be placed in *Pholetesor*, then many *Parapanteles* that have similar propodeum areola could be considered to have the same generic placement. An alternative would be that *Pholetesor masoni* should be transferred to *Parapanteles*. More study on those species (including DNA and biological data) will be needed before a conclusion on the topic can be reached; for the time being we retain this species where it was originally described.

***Pholetesor moczari* Papp, 2014**

Pholetesor moczari Papp, 2014.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Tunisia.

Geographical distribution. PAL.

PAL: Tunisia.

Notes. In the original description the generic position of this species and also that of *Pholetesor rufulus* (Tobias, 1964) are discussed; it is implied that both species could equally be placed in a different genus (*Glyptapanteles*) and that the “generic assignment depends mainly on the deliberation that which generic feature composition is considered more decisive to *Pholetesor* or to *Glyptapanteles*” (Papp 2014: 164). After reading the original description and studying the drawings that are provided there, we agree that the status of those two species is ambiguous at present. However, we refrain to transfer them to *Glyptapanteles* until specimens can be examined.

***Pholetesor nanus* (Reinhard, 1880)**

Apanteles nanus Reinhard, 1880.

Apanteles szoecsi Papp, 1973.

Type information. Syntypes female and male, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. NEA, PAL.

NEA: Canada (ON); **PAL:** Austria, Czech Republic, Finland, Germany, Hungary, Italy, Lithuania, Netherlands, Poland, Romania, Russia (C, IR, KA, NW), Serbia, Sweden, Switzerland, Ukraine, United Kingdom.

Notes. Our species concept is based on Nixon (1973), Papp (1983a), Kotenko (2007a), Shaw (2012b) and Fernandez-Triana et al (2016a).

***Pholetesor ornigis* (Weed, 1887)**

Apanteles ornigis Weed, 1887.

Microgaster robiniae Fitch, 1859.

Protapanteles tortricis Ashmead, 1898.

Apanteles braunae Viereck, 1912.

Apanteles lithocolletidis Viereck, 1912.

Type information. Lectotype female, INHS (not examined but authoritatively identified specimens examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (MB, NB, NS, ON, QC), USA (AR, CA, CT, DC, IL, IN, KS, KY, MA, MI, MN, MO, NH, NY, NC, OR, PA, TX, UT, VT, VA, WV, WI).

Notes. We examined the types of *Apanteles braunae* (Viereck, 1912), a male specimen, and *Apanteles lithocolletidis* (Viereck, 1912), a male specimen, currently synonyms of *P. ornigis* and both deposited in the USNM.

***Pholetesor phaetusa* (Nixon, 1973)**

Apanteles phaetusa Nixon, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Bulgaria, Germany, Hungary, Korea, Mongolia, Netherlands, Romania, Russia (SAK), Ukraine, United Kingdom.

***Pholetesor pinifoliellae* Whitfield, 2006**

Pholetesor pinifoliellae Whitfield, 2006.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (ON, QC), USA (CA, MD).

***Pholetesor powelli* Whitfield, 2006**

Pholetesor powelli Whitfield, 2006.

Type information. Holotype female, CAS (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (CA, OR).

Notes. The female holotype has the ovipositor sheaths ca. half as long as metatibia; the hypopygium has a translucent median fold, where one or two pleats are visible (second pleat not clearly defined); the hind wing vannal lobe is convex and entirely setose; the propodeum is rugose, without areola or median carina; and T1 and T2 are rugose. Most of those features could also be interpreted as being *Dolichogenidea*, especially the hypopygium pleats, but more study will be required, so the for the time being we prefer to retain this species in *Pholetesor*.

***Pholetesor pseudocircumscriptus* Abdoli, 2019**

Pholetesor pseudocircumscriptus Abdoli, 2019.

Type information. Holotype female, TMUC (not examined but original description checked). Country of type locality: Iran.

Geographical distribution. PAL.

PAL: Iran.

***Pholetesor rhygoplitoides* Whitfield, 2006**

Pholetesor rhygoplitoides Whitfield, 2006.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, NL, ON, QC), USA (AZ, ID, MN).

***Pholetesor rohweri* (Muesebeck, 1921)**

Apanteles rohweri Muesebeck, 1921.

Apanteles nigripes Rohwer, 1913 [homonym of *Apanteles nigripes* Ratzeburg, 1844].

Type information. Holotype female, USNM (not examined but authoritatively identified specimens examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (NB, ON), USA (NY, PA, VA).

Notes. We examined the type of *Apanteles nigripes* (Rohwer, 1913), a female specimen deposited in the USNM.

***Pholetesor rufulus* (Tobias, 1964)**

Apanteles rufulus Tobias, 1964.

Apanteles rufulus Tobias, 1964 [homonym of *Apanteles rufulus* Wilkinson, 1930].

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Kazakhstan.

Geographical distribution. PAL.

PAL: Azerbaijan, Hungary, Kazakhstan, Turkey, Uzbekistan.

Notes. Our species concept is based on Papp (1983a) and Tobias (1986).

***Pholetesor salalicus* (Mason, 1959)**

Apanteles salalicus Mason, 1959.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA, OTL, PAL.

NEA: Canada (BC, QC), USA (CA, OR); **OTL:** China (GZ, JS, ZJ); **PAL:** Finland, Netherlands, Norway, United Kingdom.

Notes. Our species concept is based on Whitfield (2006).

***Pholetesor salicifoliellae* (Mason, 1959)**

Apanteles salicifoliellae Mason, 1959.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (BC, MB, NB, NS, NT, ON, QC, YT), USA (AK, CA, NY, OR, UT).

***Pholetesor spinadensus* Liu & Chen, 2016**

Pholetesor spinadensus Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GZ, SN).

***Pholetesor taiwanensis* Liu & Chen, 2016**

Pholetesor taiwanensis Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (TW).

***Pholetesor teresitergum* Liu & Chen, 2016**

Pholetesor teresitergum Liu & Chen, 2016.

Type information. Holotype female, ZJUH (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (ZJ); **PAL:** China (XJ).

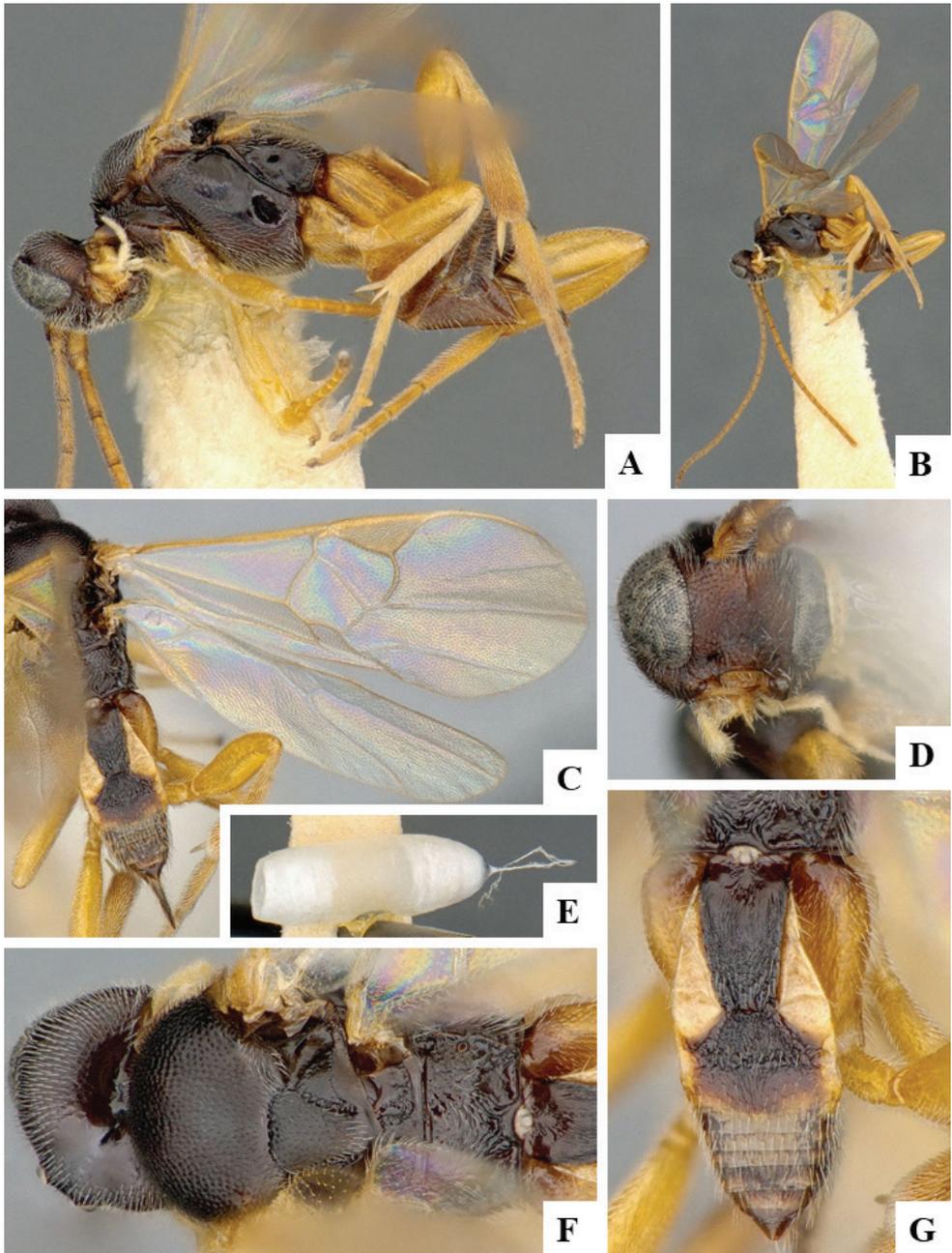


Figure 189. *Pholetesor salalicus* female CNC483619 **A** Habitus magnified, lateral **B** Habitus, lateral **C** Fore wing and hind wing **D** Head, frontal **E** Cocoon **F** Mesosoma, dorsal **G** Metasoma, dorsal.

***Pholetesor terneicus* Kotenko, 2007**

Pholetesor terneicus Kotenko, 2007.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (PRI).

***Pholetesor thuiellae* Whitfield, 2006**

Pholetesor thuiellae Whitfield, 2006.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (NB, ON, QC), USA (CT, NY).

***Pholetesor variabilis* Whitfield, 2006**

Pholetesor variabilis Whitfield, 2006.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, BC, ON, SK), USA (CA, CO, ID, MI, NV, OR, UT).

***Pholetesor viminetorum* (Wesmael, 1837)**

Microgaster viminetorum Wesmael, 1837.

Microgaster fuliginosus Wesmael, 1837.

Type information. Neotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Belgium.

Geographical distribution. NEA, OTL, PAL.

NEA: Canada (AB, BC, MB, NB, NL, NS, NT, ON, SK, YT), USA (AK, CO, ID, MI, MN, NH, SD, UT, WA, WY); **OTL:** China (SN); **PAL:** Azerbaijan, Belarus, Belgium, Croatia, Czech Republic, Estonia, Finland, France, Georgia, Germany, Hungary, Iran, Ireland, Italy, Japan, Kazakhstan, Kyrgyzstan, Moldova, Netherlands, Poland, Romania, Russia (AD, IRK, KEM, KDA, MOS, ORE, ROS, SPE, SMO, STA, VOR, YAR), Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, Uzbekistan, Yugoslavia.

Notes. Our species concept is based on Whitfield (2006). The species distribution in Japan and Kyrgyzstan is based in Belokobylskij et al. (2019).

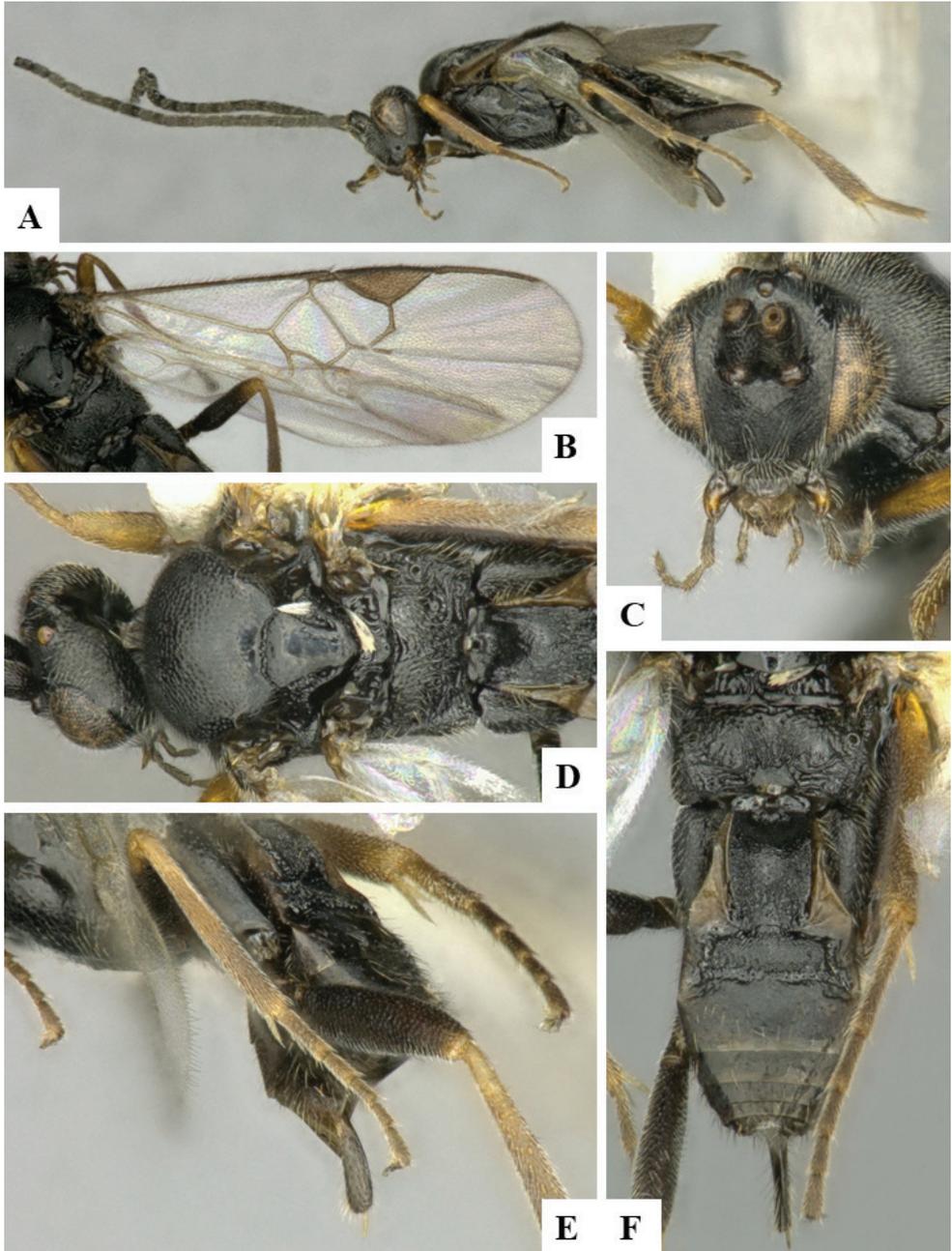


Figure 190. *Pholetesor viminetorum* female CNC678004 **A** Habitus, lateral **B** Fore wing **C** Head, frontal **D** Mesosoma, dorsal **E** Ovipositor sheaths **F** Propodeum and metasoma, dorsal.

***Pholetesor zelleriae* Whitfield, 2006**

Pholetesor zelleriae Whitfield, 2006.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (MB, ON, QC), USA (MI).

***Pholetesor zberikhini* Kotenko, 2007**

Pholetesor zberikhini Kotenko, 2007.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (PRI).

Genus *Prasmodon* Nixon, 1965

Prasmodon Nixon, 1965: 205. Gender: masculine. Type species: *Prasmodon eminens* Nixon, 1965, by original designation.

This Neotropical genus was recently revised (Fernandez-Triana et al. 2014f) and at present comprises 18 described species, but we have seen a few more in collections. Most of the host records include the family Crambidae, with other two families recorded (Fernandez-Triana et al. 2014f, and ACG data available online) which require further verification. There are 204 DNA-barcode compliant sequences of this genus in BOLD, representing 15 BINs.

***Prasmodon almasolisae* Fernandez-Triana & Whitfield, 2014**

Prasmodon almasolisae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon aureus* Fernandez-Triana & Whitfield, 2014**

Prasmodon aureus Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

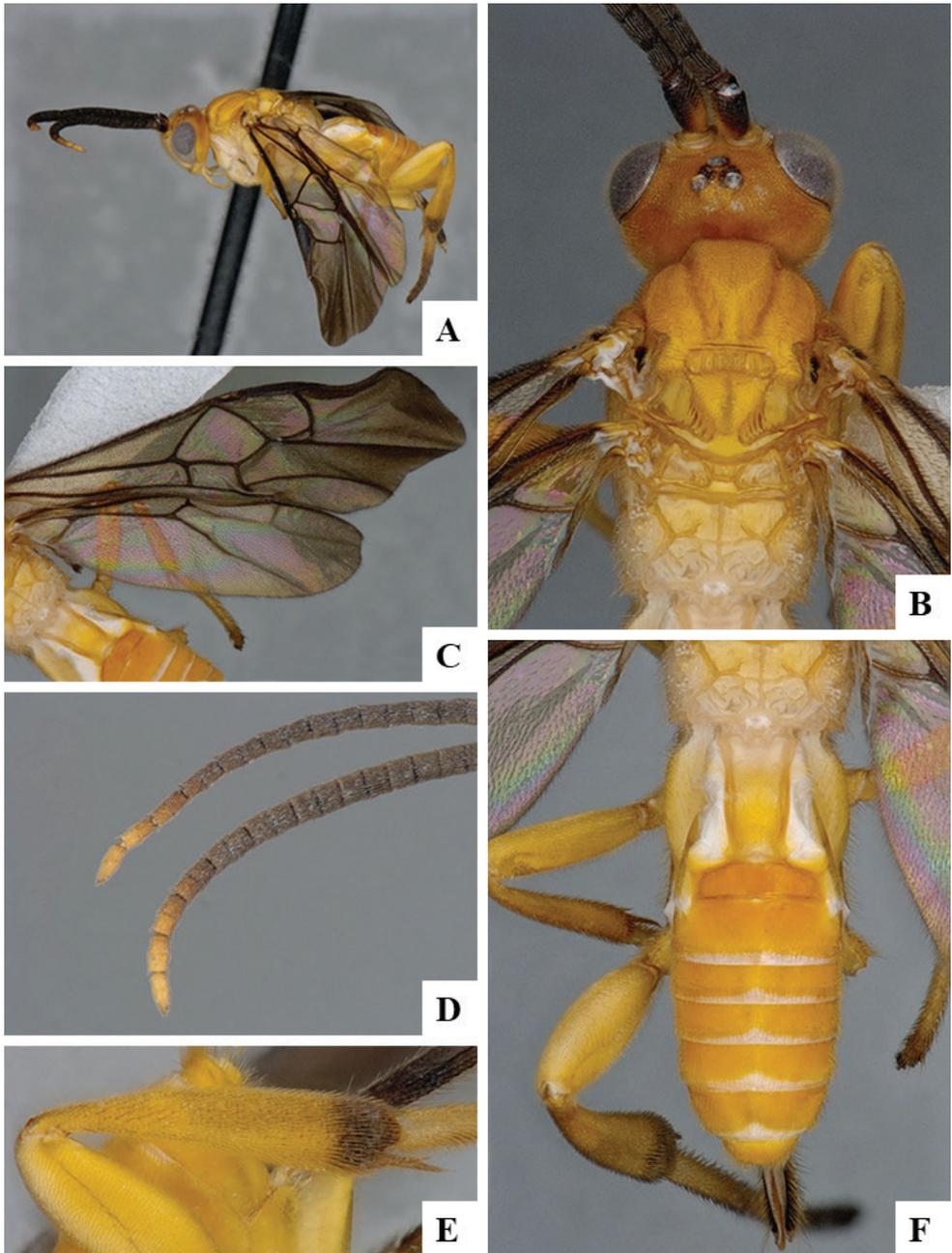


Figure 191. *Prasmodon almasolisae* female holotype **A** Habitus, lateral **B** Head and mesosoma, dorsal **C** Fore wing and hind wing **D** Apex of antennae **E** Hind tibia, lateral **F** Metasoma, dorsal.

***Prasmodon bobpooli* Fernandez-Triana & Whitfield, 2014**

Prasmodon bobpooli Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon bobrobbinsi* Fernandez-Triana & Whitfield, 2014**

Prasmodon bobrobbinsi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon dondavisi* Fernandez-Triana & Whitfield, 2014**

Prasmodon dondavisi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon eminens* Nixon, 1965**

Prasmodon eminens Nixon, 1965.

Type information. Holotype male, NHMUK (examined). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: Brazil (AM), Costa Rica, Ecuador, Peru.

***Prasmodon erenadupontae* Braet & Fernandez-Triana, 2014**

Prasmodon erenadupontae Braet & Fernandez-Triana, 2014.

Type information. Holotype female, MNHN (examined). Country of type locality: French Guiana.

Geographical distribution. NEO.

NEO: Brazil (MT), French Guiana.

***Prasmodon johnbrowni* Fernandez-Triana & Whitfield, 2014**

Prasmodon johnbrowni Fernandez-Triana & Whitfield, 2014.

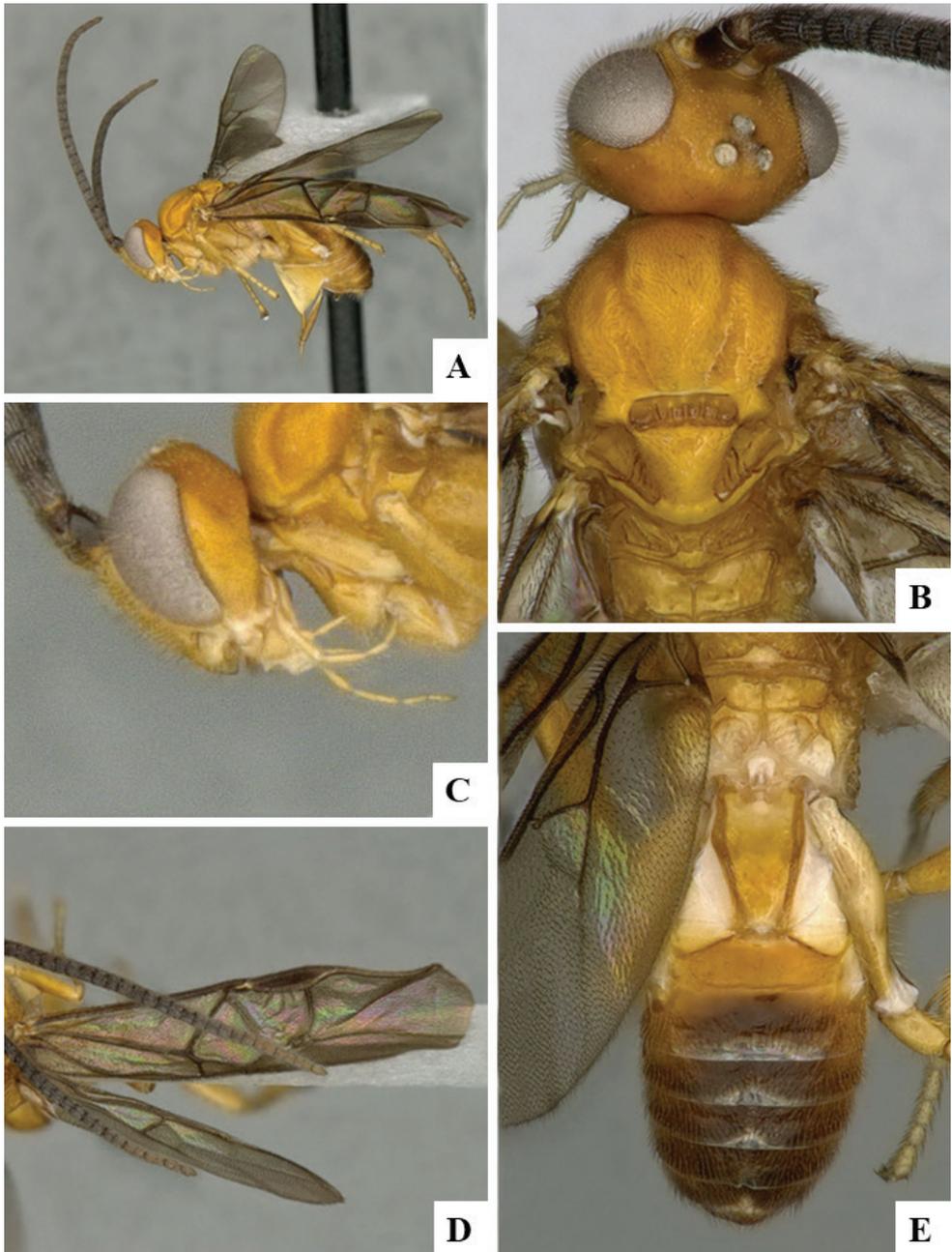


Figure 192. *Prasmodon bobrobbinsi* female holotype **A** Habitus, lateral **B** Head and mesosoma, dorsal **C** Head, lateral **D** Fore wing and hind wing **E** Propodeum and metasoma, dorsal.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon masoni* Fernandez-Triana & Whitfield, 2014**

Prasmodon masoni Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (AM, MT).

***Prasmodon mikepoguei* Fernandez-Triana & Whitfield, 2014**

Prasmodon mikepoguei Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon nixonii* Fernandez-Triana & Whitfield, 2014**

Prasmodon nixonii Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: French Guiana, Peru.

***Prasmodon paulgoldsteini* Fernandez-Triana & Whitfield, 2014**

Prasmodon paulgoldsteini Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon scottmilleri* Fernandez-Triana & Whitfield, 2014**

Prasmodon scottmilleri Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Prasmodon silvatlanticus* Fernandez-Triana & Whitfield, 2014**

Prasmodon silvatlanticus Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

***Prasmodon subfuscus* Fernandez-Triana & Whitfield, 2014**

Prasmodon subfuscus Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

***Prasmodon tijucaensis* Fernandez-Triana & Whitfield, 2014**

Prasmodon tijucaensis Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (RJ).

***Prasmodon verhoogdenokus* Braet & Fernandez-Triana, 2014**

Prasmodon verhoogdenokus Braet & Fernandez-Triana, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (MT), Colombia, Ecuador, French Guiana, Peru, Suriname.

***Prasmodon zlotnicki* Valerio & Rodriguez, 2005**

Prasmodon zlotnicki Valerio & Rodriguez, 2005.

Type information. Holotype female, INBio (not examined but subsequent treatment of the species checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Notes. Our species concept is based on Fernandez-Triana et al. (2014f).

Genus *Promicrogaster* Brues & Richardson, 1913

Promicrogaster Brues & Richardson, 1913: 499. Gender: feminine. Type species:

Promicrogaster terebrator Brues & Richardson, 1913, by original designation.

Until very recently (e.g., Fernandez-Triana et al. 2016b), this genus was considered restricted to the New World. However, during the preparation of this paper we found evidence that this taxon is cosmopolitan, reported below. Currently, there are 46 described species of *Promicrogaster*, with recent reviews of the Mesoamerican (Fernandez-

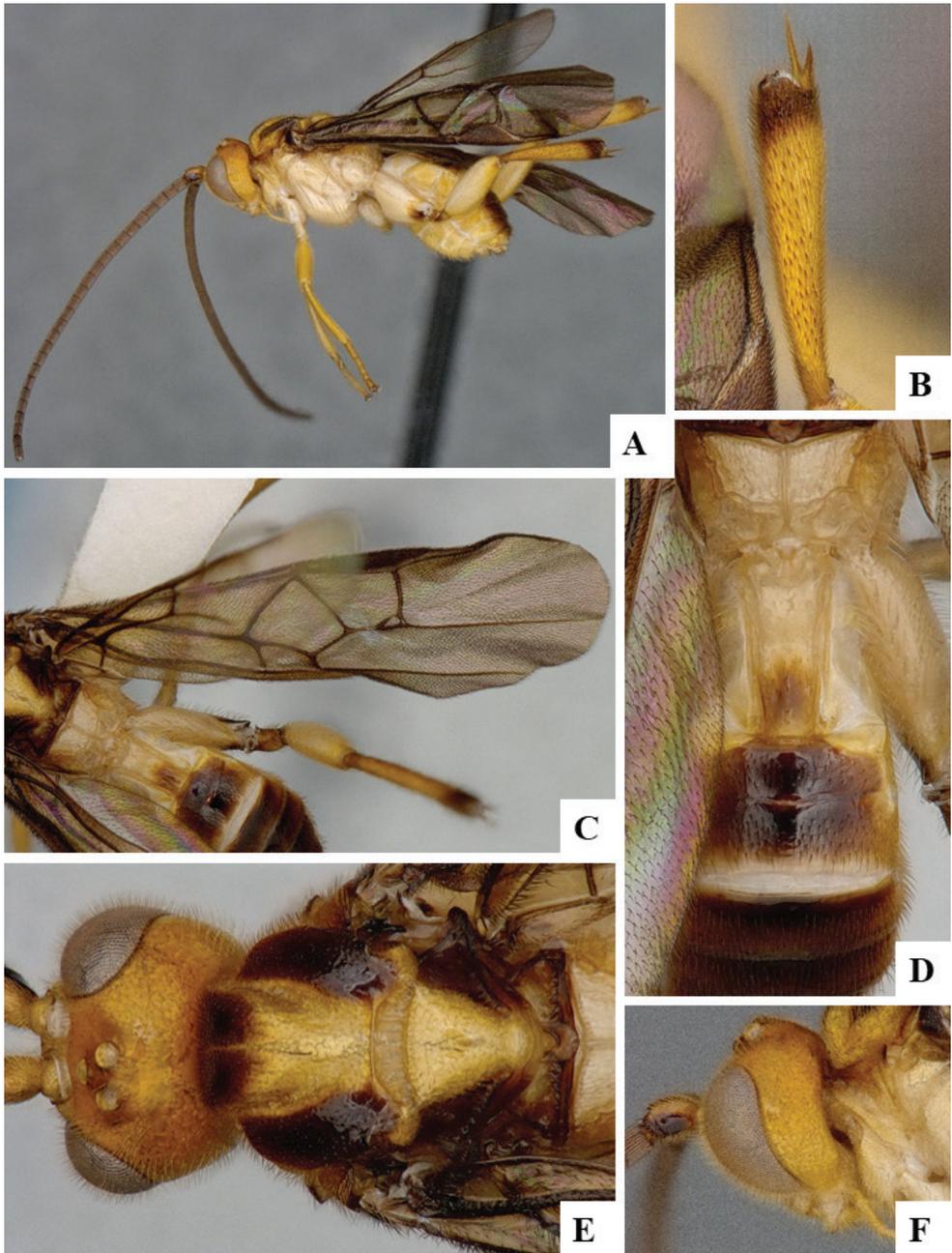


Figure 193. *Prasmodon subfuscus* male holotype **A** Habitus, lateral **B** Hind tibia, lateral **C** Fore wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal **F** Head, lateral.

Triana et al. 2016b) and North American species (Fernandez-Triana 2019). We have seen many more species in collections, mostly from the Neotropical region. Known hosts are from the families Sessidae and Tineidae. There are 134 DNA-barcode compliant sequences of this genus in BOLD, representing 37 BINs.

***Promicrogaster alexmartinezi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster alexmartinezi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster andreyvallejosi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster andreyvallejosi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster apharea* Nixon, 1965**

Promicrogaster apharea Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Brazil (SC), Mexico.

***Promicrogaster apidanus* (Nixon, 1965), new combination**

Apanteles apidanus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Although the well defined, strong median carina on the propodeum, and the species group to which Nixon (1965) assigned this species might suggest it belongs to *Iconella*, other characters indicate a different genus. The ovipositor tip is sinuate (versus straight in *Iconella*); the ovipositor and sheaths are relatively very long (versus ca. twice metatibia length, much longer than in described species of *Iconella*); and the hind wing vein cu-a is straight (versus sinuate in *Iconella*). We consider that the available evidence provides more support for this species to be placed in *Promicrogaster*.

***Promicrogaster brandondinartei* Fernandez-Triana & Boudreault, 2016**

Promicrogaster brandondinartei Fernandez-Triana & Boudreault, 2016.

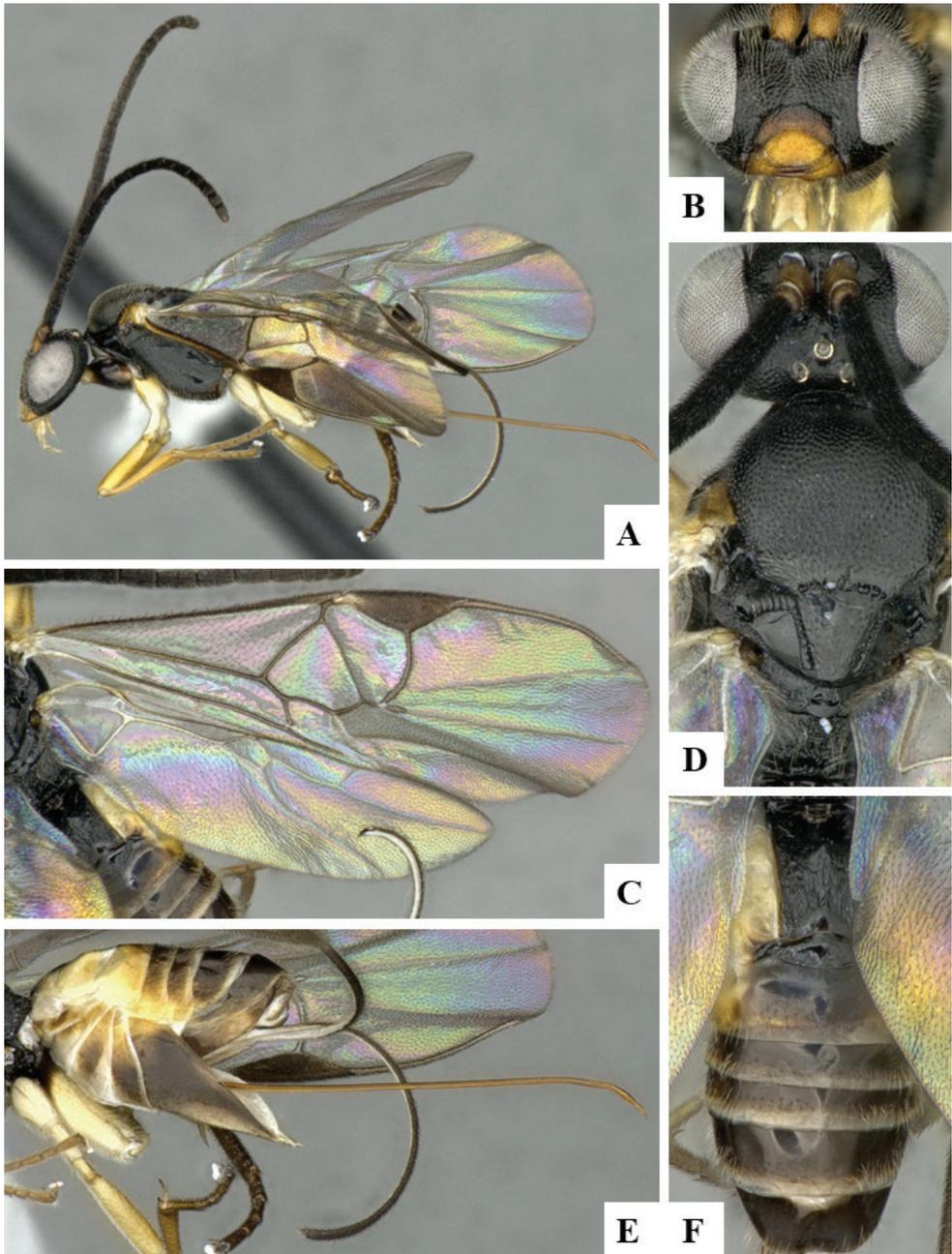


Figure 194. *Promicrogaster brandondinartei* female DHJPAR0031326 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Metasoma, lateral **F** Metasoma, dorsal.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica, Panama.

***Promicrogaster briareus* (Nixon, 1965), new combination**

Apanteles briareus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD), Vanuatu.

Notes. Austin and Dangerfield (1992) transferred this species from *Apanteles* to *Iconella*. However, *briareus* lacks the two main characters defining *Iconella*: the hind wing does not have the vein cu-a sinuate; and its propodeum does not have a median, longitudinal carina but instead has a few, shorter carinae radiating from the nucha which seem to partially define an areola (Austin and Dangerfield (1992: 36) referred to that as “more diffuse posterior striae”). After examining the holotype, we found that the ovipositor tip is sinuate, the ovipositor length is almost twice that of the metatibia, and the polished area of the lateral face of the scutellar disc occupies most of the face. All those characters suggest this species is better placed in *Promicrogaster*, a genus that was recently considered to be found only in the New World (e.g., Fernandez-Triana et al. 2016b). The report in this paper of species from the Afrotropical and Australasian regions indicate a much wider distribution of *Promicrogaster* worldwide.

***Promicrogaster cara* Nixon, 1965**

Promicrogaster carus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (BA).

Notes. The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Promicrogaster conopiae* (Watanabe, 1934), new combination**

Apanteles conopiae Watanabe, 1934.

Type information. Holotype female, EIHU (examined). Country of type locality: Japan.

Geographical distribution. OTL, PAL.

OTL: Malaysia; **PAL:** China (QH), Japan, Korea.

Notes. We have examined the holotype and several more specimens in the EIHU collection. They look similar to the described species from the New World, based on the sinuate ovipositor tip, shapes of T1 and T2, large metacoxa and relatively high polished area of the lateral face of the scutellum. The only differences we observed were that the Japanese specimens (which are relatively large, at least by *Promicrogaster* standards) do not have a bilobate glossa and the fore wing lacks an

areolet; in the New World, the currently described species all have an elongate and bilobate glossa, and all large species have a small areolet in the fore wing (with only a few small species lacking the areolet in the fore wing). These differences are minor and thus we consider that the best generic placement for this species is in *Promicrogaster*. The known host data for this species (Sesiidae) also agree with the very few host records known from the New World (Fernandez-Triana et al. 2016b).

***Promicrogaster daniellopezi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster daniellopezi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster daretrizoi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster daretrizoi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster eddycastroi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster eddycastroi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster eimyobandoae* Fernandez-Triana & Boudreault, 2016**

Promicrogaster eimyobandoae Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster emesa* (Nixon, 1965), new combination**

Apanteles emesa Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. We transfer this species to *Promicrogaster* based on the ovipositor length being more than twice the metatibia length, sinuate ovipositor tip, propodeum with irregular carinae radiating from the nucha, a large polished area of the lateral face of scutellum, and relatively large metacoxae.

***Promicrogaster erigone* Nixon, 1965**

Promicrogaster erigone Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Promicrogaster fabiancastroi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster fabiancastroi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster fabriciocambroneroi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster fabriciocambroneroi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster floridakeys* Fernandez-Triana, 2019**

Promicrogaster floridakeys Fernandez-Triana, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (FL).

***Promicrogaster gainesvillensis* Fernandez-Triana, 2019**

Promicrogaster gainesvillensis Fernandez-Triana, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

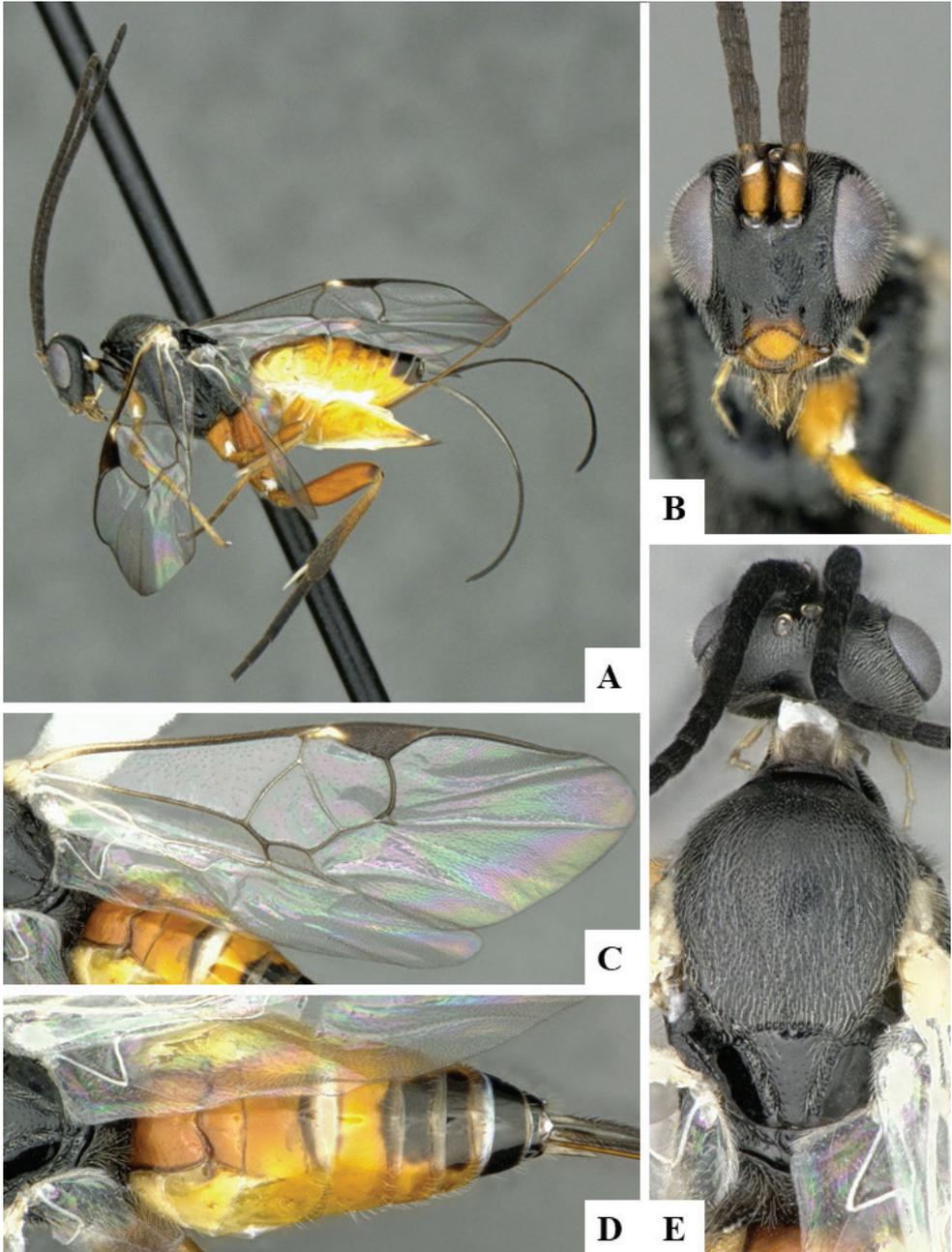


Figure 195. *Promicrogaster fabriciocambroneroi* female DHJPAR0012588 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Mesosoma, dorsal.

Geographical distribution. NEA.

NEA: USA (FL).

***Promicrogaster grandicula* (Wilkinson, 1929), new combination**

Apanteles grandiculus Wilkinson, 1929.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: China (FJ), India, Vietnam.

Notes. We transfer this species to *Promicrogaster* based on the ovipositor length ca. twice the metatibia length, sinuate ovipositor tip, propodeum with irregular carinae radiating from the nucha, a large polished area of the lateral face of the scutellum, and relatively large metacoxae. The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Promicrogaster hillaryvillafuertae* Fernandez-Triana & Boudreault, 2016**

Promicrogaster hillaryvillafuertae Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster huachuca* Fernandez-Triana, 2019**

Promicrogaster huachuca Fernandez-Triana, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (AZ).

***Promicrogaster jaymeae* Fernandez-Triana, 2019**

Promicrogaster jaymeae Fernandez-Triana, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (ON), USA (MA).

***Promicrogaster kevinmartinezi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster kevinmartinezi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster kiralycastilloae* Fernandez-Triana & Boudreault, 2016**

Promicrogaster kiralycastilloae Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster leilycastilloae* Fernandez-Triana & Boudreault, 2016**

Promicrogaster leilycastilloae Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster liagranta* Fernandez-Triana & Boudreault, 2016**

Promicrogaster liagranta Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster luismendezi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster luismendezi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster madreanensis* Fernandez-Triana, 2019**

Promicrogaster madreanensis Fernandez-Triana, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (AZ).

***Promicrogaster merella* Nixon, 1965**

Promicrogaster merella Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Promicrogaster miranda* Muesebeck, 1958**

Promicrogaster miranda Muesebeck, 1958.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Panama.

Geographical distribution. NEO.

NEO: Panama, Trinidad & Tobago.

Notes. Our species concept is based on Fernandez-Triana et al. (2016b).

***Promicrogaster monteverdensis* Fernandez-Triana & Boudreault, 2016**

Promicrogaster monteverdensis Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster munda* Muesebeck, 1958**

Promicrogaster munda Muesebeck, 1958.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Honduras.

Geographical distribution. NEO.

NEO: Costa Rica, Honduras, Mexico, Panama.

Notes. Our species concept is based on Fernandez-Triana et al. (2016b). According to those authors, *P. munda* may actually represent a species complex.

***Promicrogaster naomiduarteae* Fernandez-Triana & Boudreault, 2016**

Promicrogaster naomiduarteae Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

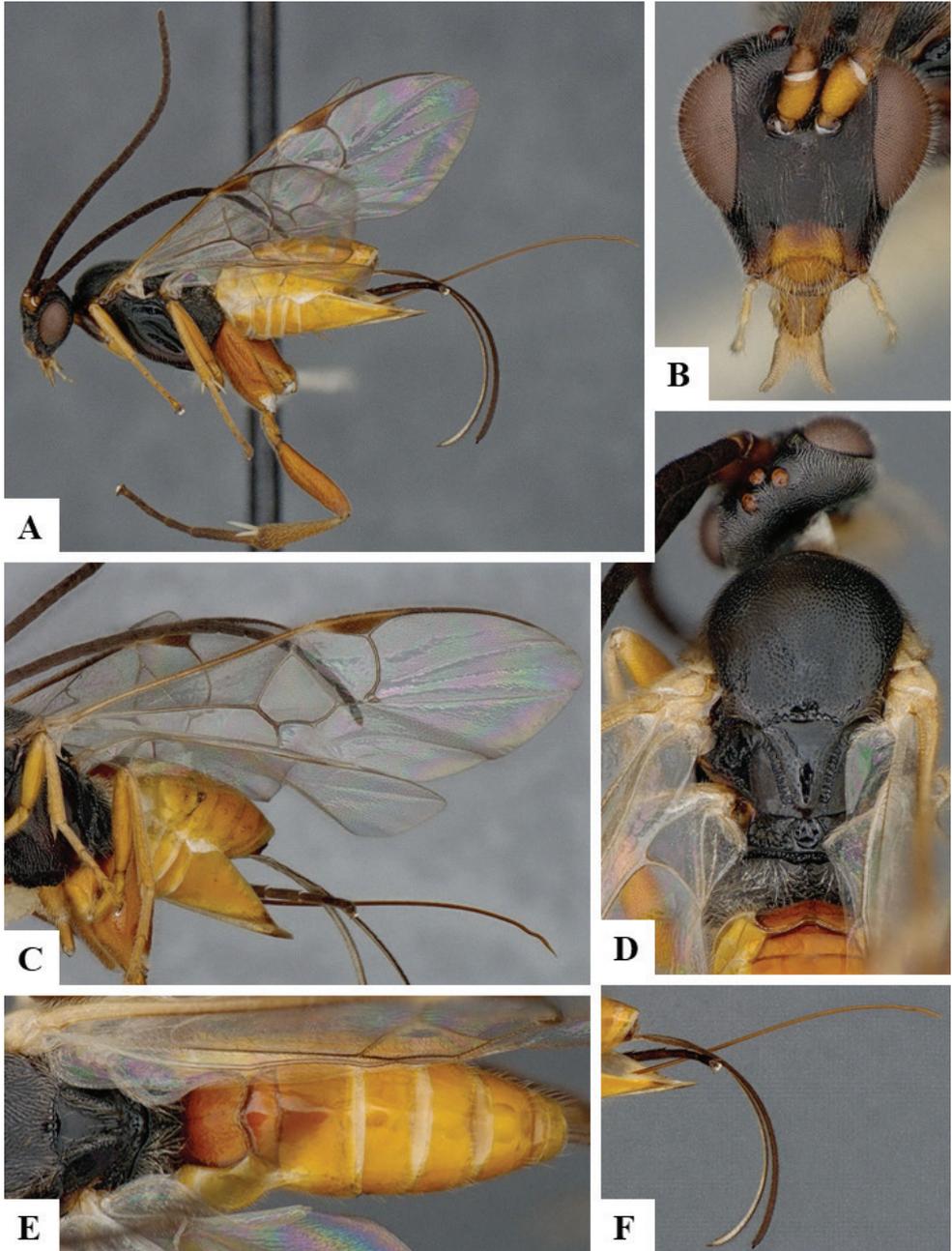


Figure 196. *Promicrogaster miranda* female CNCHYM01980 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

***Promicrogaster orsedice* (Nixon, 1965), new combination**

Apanteles orsedice Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS, OTL.

AUS: Papua New Guinea; **OTL:** Vietnam.

Notes. We transfer this species to *Promicrogaster* based on the ovipositor length more than twice the metatibia length, sinuate ovipositor tip, propodeum with irregular carinae radiating from the nucha, a large polished area of the lateral face of scutellum, and relatively large metacoxae.

***Promicrogaster polyporicola* Muesebeck, 1958**

Promicrogaster polyporicola Muesebeck, 1958.

Type information. Holotype female, USNM (examined). Country of type locality: Panama.

Geographical distribution. NEO.

NEO: Panama.

***Promicrogaster prater* Nixon, 1965**

Promicrogaster prater Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Promicrogaster repleta* (Papp, 1990), new combination**

Iconella repleta Papp, 1990.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Korea.

Geographical distribution. PAL.

PAL: Korea.

Notes. Transferred to *Promicrogaster* based on the the sinuate ovipositor tip, shape of T1–T2, large metacoxa and relatively high polished area on the lateral face of scutellum (Papp 1990b).

***Promicrogaster rondeau* Fernandez-Triana, 2019**

Promicrogaster rondeau Fernandez-Triana, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

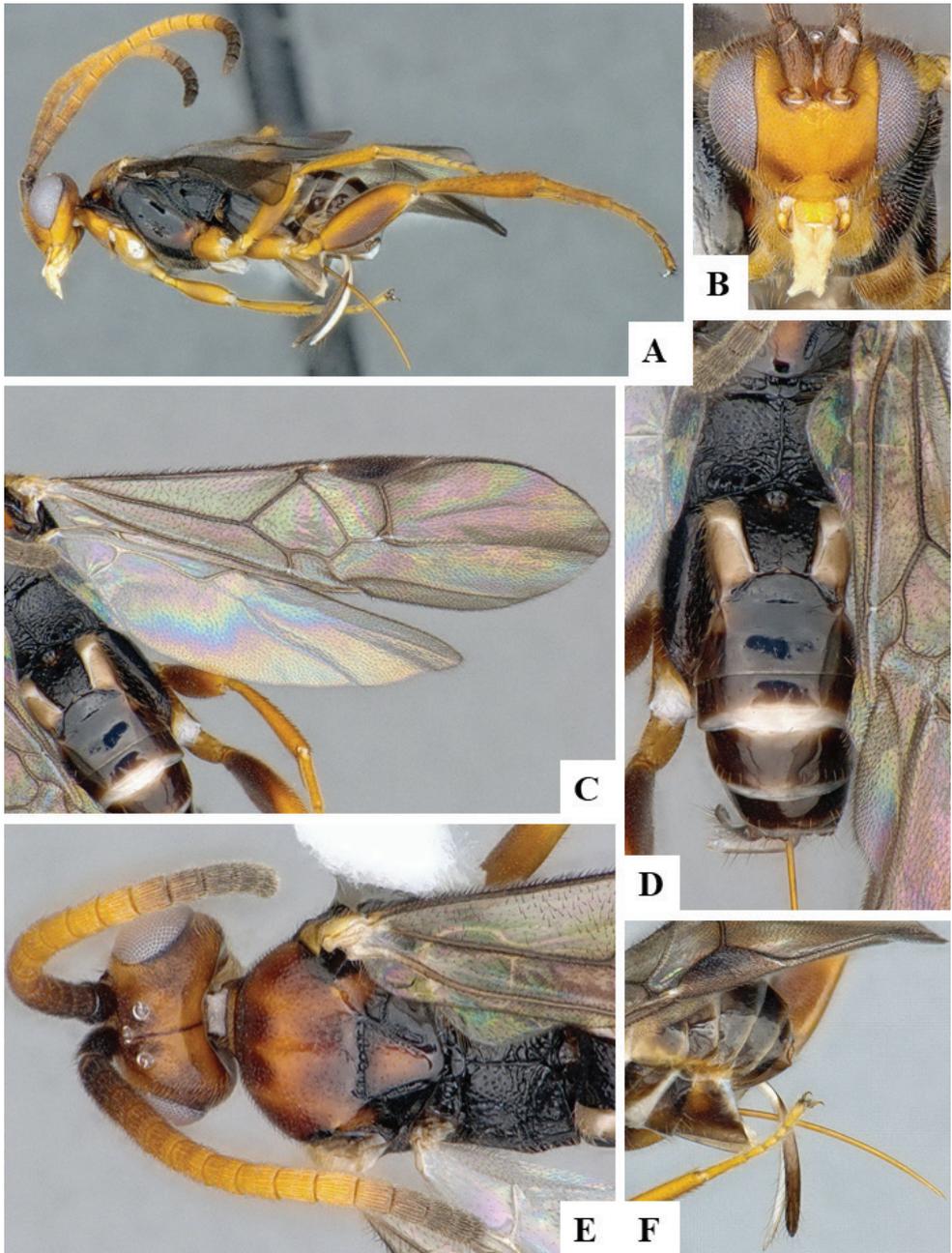


Figure 197. *Promicrogaster pablouzagai* female DHJPAR0025926 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Propodeum and metasoma, dorsal **E** Head and mesosoma, dorsal **F** Ovipositor and ovipositor sheaths.

Geographical distribution. NEA.

NEA: Canada (ON).

***Promicrogaster ronycastilloi* Fernandez-Triana & Boudreault, 2016**

Promicrogaster ronycastilloi Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster sebastiancambroneri* Fernandez-Triana & Boudreault, 2016**

Promicrogaster sebastiancambroneri Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster spiloferus* Nixon, 1965**

Promicrogaster spiloferus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Promicrogaster sterope* Nixon, 1965**

Promicrogaster sterope Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Promicrogaster terebrator* Brues & Richardson, 1913**

Promicrogaster terebrator Brues & Richardson, 1913.

Type information. Holotype female, AMNH (examined). Country of type locality: Guyana.

Geographical distribution. NEO.

NEO: Guyana.

Notes. Our species concept is based on Brues and Richardson (1913), Muesebeck (1958b) and Mason (1981).

***Promicrogaster tracyvindasae* Fernandez-Triana & Boudreault, 2016**

Promicrogaster tracyvindasae Fernandez-Triana & Boudreault, 2016.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Promicrogaster typhon* (Nixon, 1965), new combination**

Apanteles typhon Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Togo.

Geographical distribution. AFR.

AFR: South Africa, Togo.

Notes. The ovipositor tip is sinuate, the ovipositor length is almost twice that of metatibia, the propodeum has a series of short carinae radiating from the nucha, and the polished area of the lateral face of the scutellar disc occupies most of the face. These characters indicate that this species is better placed in *Promicrogaster*.

***Promicrogaster virginiana* Fernandez-Triana, 2019**

Promicrogaster virginianus Fernandez-Triana, 2019.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (VA).

Notes. The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

Genus *Protapanteles* Ashmead, 1898

Protapanteles Ashmead, 1898: 166. Gender: masculine. Type species: (*Protapanteles ephyrae* Ashmead, 1898) = *Apanteles paleacritae* Riley, 1881, by subsequent designation (Viereck 1914: 123).

We record 25 described species, although the limits of this genus are controversial (see discussion above in section Brief diagnosis of all Microgastrinae genera as they are understood in this paper for more details, p 35, 36), and it is difficult to even estimate the potential species richness. As considered in this paper, *Protapanteles* is essentially Holarctic, occasionally reaching the Oriental region. Many Lepidoptera families have been recorded as hosts but, as the limits of this genus have varied considerably (e.g., Mason, 1981, Yu et al. 2016, present paper), all records need to be verified. There are 481 DNA-barcode compliant sequences of this genus in BOLD, representing 26 BINs, but some of those sequences are likely to represent other genera.

***Protapanteles alaskensis* Ashmead, 1902, restored combination**

Protapanteles alaskensis Ashmead, 1902.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, MB, ON, QC, NL), USA (AK, CA, MI).

Notes. Both Shenefelt (1972: 437) and Yu et al. (2016) referred to the holotype of this species as a female specimen, and Shenefelt even recorded the type number (5704). However, examination of the holotype (which indeed has the same type number that Shenefelt mentioned) clearly shows that it is a male specimen, and thus we are correcting that information here. Yu et al. (2016) listed this species as belonging to the genus *Cotesia*, without any valid (published) paper to support that change. After studying the holotype and other specimens, we think this species is better placed in *Protapanteles*, based on the propodeum mostly smooth, with a few short striae near the nucha, T1 smooth and mostly parallel-sided (but slightly narrowing on posterior 0.2), and T2 subtriangular to trapezoidal in shape and with a smooth, poorly defined median area. For the sake of clarity, we restore the species combination here.

***Protapanteles anchisiades* (Nixon, 1973)**

Apanteles anchisiades Nixon, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Bulgaria, Czech Republic, Finland, Germany, Hungary, Italy, Korea, Mongolia, Netherlands, Norway, Poland, Russia (KAM, PRI, SAK), Slovakia, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

***Protapanteles andromica* (Nixon, 1976)**

Apanteles andromica Nixon, 1976.

Type information. Holotype female, ZSM (not examined but original description checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Germany, Hungary, Poland, Russia (C, S), Slovakia.

***Protapanteles armeniacus* (Tobias, 1976)**

Apanteles armeniacus Tobias, 1976.

Type information. Holotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Armenia.

Geographical distribution. PAL.

PAL: Armenia.

Notes. Our species concept is based on Papp (1984a) and Tobias (1986).

***Protapanteles buzurae* (You, Xiong & Zhou, 1987)**

Apanteles buzurae You, Xiong & Zhou, 1987.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (YN).

Notes. Our species concept is based on Chen and Song (2004) and Kotenko (2007a).

***Protapanteles delitutus* (Papp, 1984)**

Apanteles delitutus Papp, 1984.

Type information. Holotype female, RBINS (not examined but original description checked). Country of type locality: Belgium.

Geographical distribution. PAL.

PAL: Belgium, Germany, Hungary, Netherlands, Slovakia.

***Protapanteles endemus* (Nixon, 1965)**

Apanteles endemus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: France, Hungary, Kazakhstan, Russia (ZAB, SPE), Switzerland, Ukraine, United Kingdom.

Notes. Until the limits of *Protapanteles* are clearly established (the validity of this genus is questionable), we prefer not to transfer species to other genera. But it is likely that *endemus* will be placed in *Cotesia* because it has a propodeum with a transverse carina (in addition to other sculpture), and the shapes of T1 and T2 are closer to typical *Cotesia* than to *Protapanteles*. The holotype does not have a specialized seta on the protarsus.

***Protapanteles enephes* (Nixon, 1965)**

Apanteles enephes Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Germany, Hungary, Korea, Russia (AMU, PRI, SAK), Slovakia, Sweden, Switzerland, Turkmenistan, Ukraine, United Kingdom.

Notes. Until the limits of *Protapanteles* are clearly established (the validity of this genus is questionable), we prefer not to transfer species to other genera. But it is likely that *enephes* will be placed in *Cotesia*. This species was recently recorded from Brazil (Penteado-Dias et al. 2011), which would represent a significant range expansion, as *Protapanteles enephes* was only known from the Palearctic region (e.g., Yu et al. 2016). We have examined the holotype as well as many European specimens (deposited in the CNC) versus the illustrations and description in Penteado-Dias et al. (2011), and it is clear that the Brazilian specimens, although sharing with *enephes* the relatively unusual pale spot on the gena, actually represent a completely different species. The Brazilian species remains undescribed at present, and we are not even sure of its generic status (as the images of propodeum, T1, and T2 suggest it could be a species of *Cotesia* or perhaps even *Nyereria*).

***Protapanteles hirtariae* (Kotenko & Tobias, 1986)**

Apanteles hirtariae Kotenko & Tobias, 1986.

Type information. Holotype female, SIZK (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (VGG), United Kingdom.

Notes. Our species concept is based on Tobias (1986), Papp (1988), Kotenko (2006) and Shaw (2012b).

***Protapanteles iapetus* (Nixon, 1976)**

Apanteles iapetus Nixon, 1976.

Type information. Holotype female, ZSM (not examined but original description checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Germany.

***Protapanteles immunis* (Haliday, 1834)**

Microgaster immunis Haliday, 1834.

Type information. Lectotype female, NMID (not examined but subsequent treatment of the species checked). Country of type locality: Ireland.

Geographical distribution. NEA, PAL.

NEA: Greenland; **PAL:** Armenia, Austria, Bulgaria, Croatia, Estonia, Finland, Germany, Hungary, Ireland, Italy, Kazakhstan, Korea, Lithuania, Moldova, Netherlands, Norway, Poland, Romania, Russia (ZAB, NVS, PRI, SAK, TOM, VOR), Serbia, Slovakia, Sweden, Switzerland, Tunisia, Ukraine, United Kingdom.

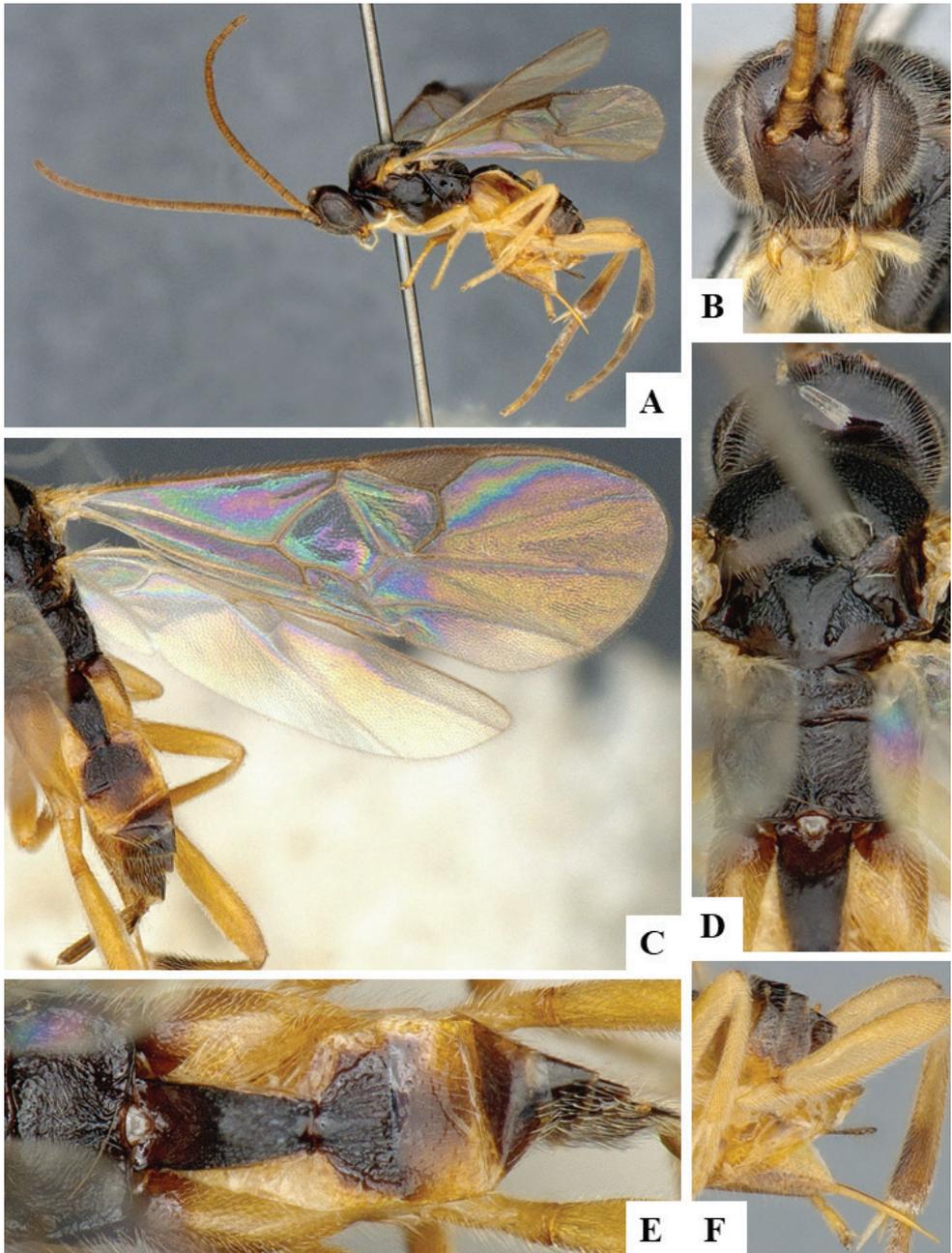


Figure 198. *Sathon fausta* female CNC474693 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Ovipositor and ovipositor sheaths.

Notes. Our species concept is based on Nixon (1976), Papp (1984a), Tobias (1986), van Achterberg (2006) and Kotenko (2007a).

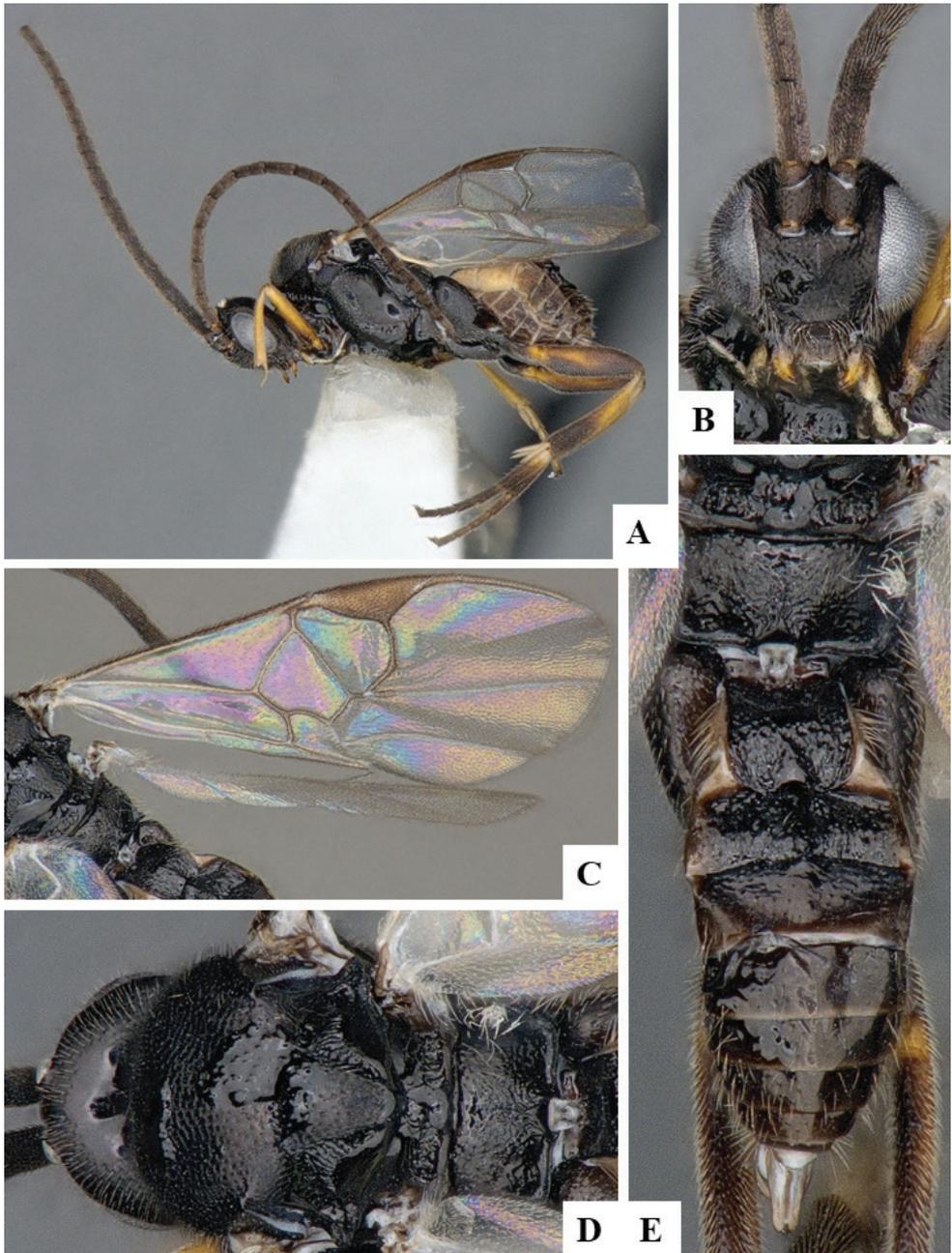


Figure 199. *Protapanteles immunis* male CNC841408 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

***Protapanteles incertus* (Ruthe, 1859)**

Microgaster incertus Ruthe, 1859.

Apanteles caberae Marshall, 1885.

Apanteles jugosus Lyle, 1916.

Apanteles mihalyii Papp, 1973.

Type information. Holotype male, NHMW (not examined but authoritatively identified specimens examined). Country of type locality: Iceland.

Geographical distribution. PAL.

PAL: Austria, Azerbaijan, Georgia, Germany, Hungary, Iceland, Italy, Mongolia, Poland, Romania, Russia (VOR), Slovakia, Sweden, Switzerland, Ukraine, United Kingdom, Yugoslavia.

Notes. We examined the female type of *Apanteles caberae* (Marshall, 1885) and the type series (syntypes) of *Apanteles jugosus* (Lyle, 1916), which are deposited in the NHMUK. The species distribution in Azerbaijan and Georgia is based on Belokobylskij et al. (2019).

***Protapanteles lymantriae* (Marsh, 1979)**

Apanteles lymantriae Marsh, 1979.

Type information. Holotype female, USNM (examined). Country of type locality: Japan.

Geographical distribution. PAL.

PAL: Japan.

Notes. This species was described as *Apanteles*, as it predated the paper by Mason (1981) where *Apanteles* was split into many genera. After the original description, Maeto (1996) referred to the species as *Protapanteles*, although he did not specify that as a new combination. Yu et al. (2016) considered the species to belong to *Cotesia*, although there is no published reference that we are aware of for the treatment of *lymantriae* in that genus. We have examined the holotype and the best generic placement at present is in *Protapanteles*, based on the sculpture of propodeum, T1, and T2, the shapes of T1 and T2, and presence of a spine on the fore tarsus. For the sake of clarity, we revise the species combination here.

***Protapanteles mandanis* (Nixon, 1965)**

Apanteles mandanis Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Finland, Germany, Hungary, Switzerland.

Notes. Until the limits of *Protapanteles* are clearly established (the validity of this genus is questionable), we prefer not to transfer species to other genera. But it is very likely that *mandanis* will be placed in *Glyptapanteles* because it has a propodeum without any strong carinae or sculpture (at most a few short carinae radiating from the nucha), and the shapes of T1 and T2 are closer to typical *Glyptapanteles* than to *Protapanteles*. Additionally, the holotype does not have a specialized seta on the protarsus.

***Protapanteles neparallelus* Kotenko, 2007**

Protapanteles neparallelus Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (ZAB).

***Protapanteles paleacritae* (Riley, 1881)**

Apanteles paleacritae Riley, 1881.

Protapanteles ephyrae Ashmead, 1898.

Type information. Lectotype male, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, MB, NL, NS, ON), USA (AR, DE, GA, IL, KS, MD, MA, MO, NH, NJ, NY, VT, VA, WV).

Notes. Shenefelt (1972: 591) designated a lectotype from the four available syntypes and stated that it was “The specimen on point no. 2 directly ahead of the cocoon on the card”. We have examined the series, and the lectotype is a male specimen, a correction reflected in the type details we present here. Of the three remaining specimens (paralectotypes) one is entirely missing (except for two legs glued to the card) and the other two are missing the metasoma. Apart from the type material of *P. paleacritae*, we also examined the male holotype of *P. ephyrae* Ashmead, 1898 (currently a synonym of *P. paleacritae*), which has the metasoma detached but glued to another card.

***Protapanteles parallelus* (Lyle, 1917)**

Apanteles parallelus Lyle, 1917.

Apanteles parallelus Lyle, 1917 [secondary homonym of *Cotesia parallelis* (Ashmead, 1900)].

Apanteles lylei Shenefelt, 1972 [new name for secondary homonym].

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Germany, Hungary, Russia (ZAB), United Kingdom.

***Protapanteles phigaliae* (Muesebeck, 1919)**

Apanteles phigaliae Muesebeck, 1919.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (NB, ON), USA (MA, NJ).

Notes. This species was transferred to *Protapanteles* by Mason (1981), also followed by Whitfield (1995a) and Fernandez-Triana (2010). However, Yu et al. (2016) considered the species to belong to *Cotesia*, although there is no published reference that we are aware of for this treatment of *phigaliae*. We have examined the holotype and the best generic placement at present is in *Protapanteles*, based on the mostly smooth propodeum, T1 and T2, as well as shape of T1 (mostly parallel-sided, but narrowing towards apex on posterior 0.3), and shape of T2 (subtriangular). For the sake of clarity, we revise the species combination here.

***Protapanteles phlyctaeniae* (Muesebeck, 1929)**

Apanteles phlyctaeniae Muesebeck, 1929.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON), USA (IL, KS, OH).

Notes. This species was transferred to *Protapanteles* by Mason (1981), also followed by Whitfield (1995a) and Fernandez-Triana (2010). However, Yu et al. (2016) considered the species to belong to *Cotesia*, although there is no published reference that we are aware of for the treatment of *phlyctaeniae* in that genus. We have examined the holotype and the best generic placement at present is in *Protapanteles*, based on the shape of T1 (mostly parallel-sided, but narrowing towards apex on posterior 0.3) and the fore tarsus with a spine. Available DNA barcodes (with sequence lengths 164–422 bp, from three authenticated specimens) also place *phlyctaeniae* close to other *Protapanteles* species and not *Cotesia*. For the sake of clarity, we revise the species combination here.

***Protapanteles popularis* (Haliday, 1834)**

Microgaster popularis Haliday, 1834.

Type information. Neotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. OTL, PAL.

OTL: China (JS); **PAL:** Finland, France, Germany, Hungary, Ireland, Mongolia, Netherlands, Romania, Russia (YAR), Slovakia, Turkmenistan, United Kingdom.

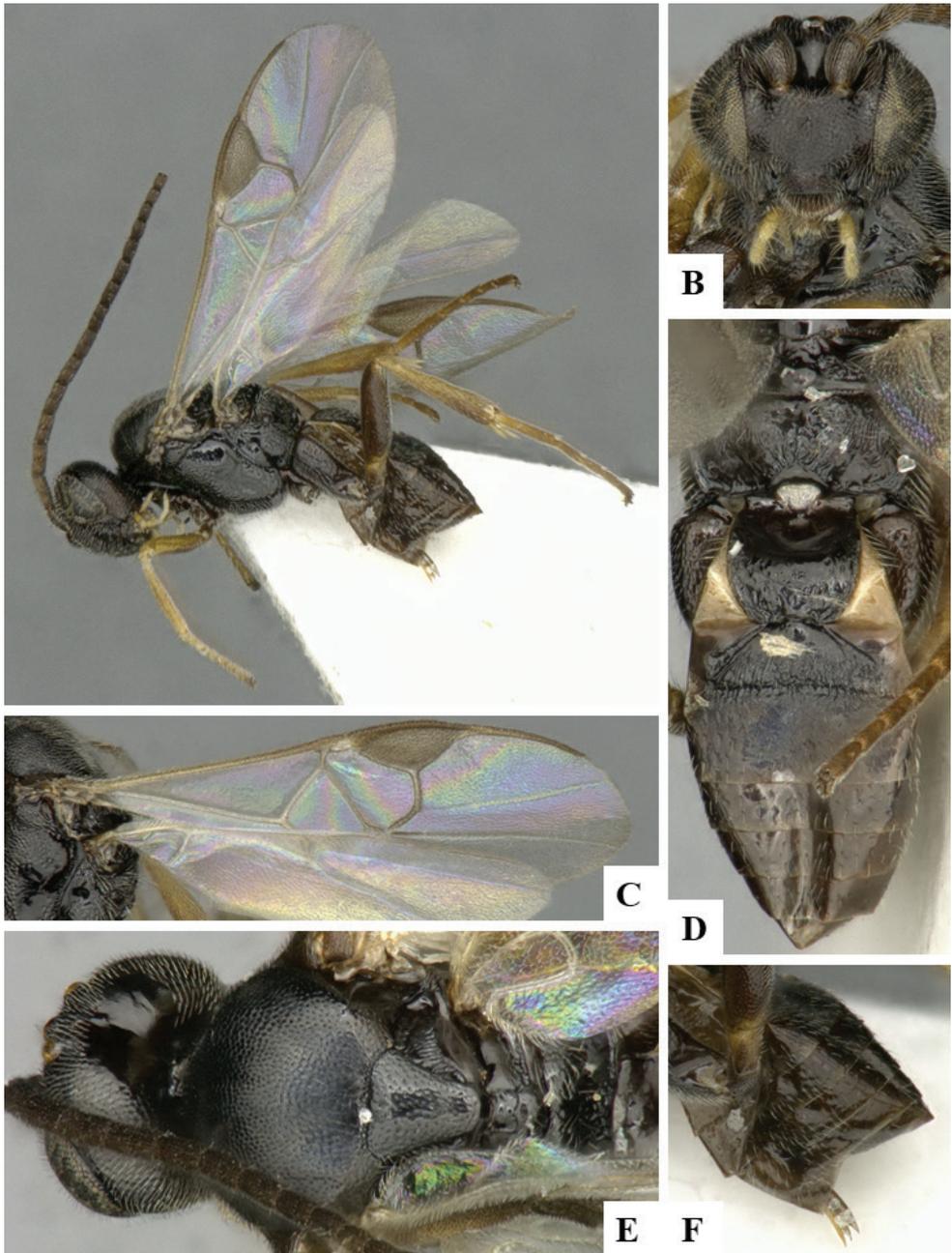


Figure 200. *Protapanteles popularis* female CNC309903 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Propodeum and metasoma, dorsal **E** Mesosoma, dorsal **F** Metasoma, lateral.

***Protapanteles praecipuus* Papp, 1993**

Protapanteles praecipuus Papp, 1993.

Type information. Holotype female, HNHM (not examined but original description checked). Country of type locality: Italy.

Geographical distribution. PAL.

PAL: Italy.

***Protapanteles querceus* (Tobias, 1986)**

Apanteles querceus Tobias, 1986.

Type information. Holotype female, ZIN (not examined but original description checked). Country of type locality: Ukraine.

Geographical distribution. PAL.

PAL: Russia (S), Ukraine.

***Protapanteles santolinae* Oltra, 1995**

Protapanteles santolinae Oltra, 1995.

Type information. Holotype female, UVS (not examined but original description checked). Country of type locality: Spain.

Geographical distribution. PAL.

PAL: Spain.

***Protapanteles triangulator* (Wesmael, 1837)**

Microgaster triangulator Wesmael, 1837.

Type information. Syntypes female and male, RBINS (not examined but subsequent treatment of the species checked). Country of type locality: Belgium.

Geographical distribution. PAL.

PAL: Belgium, Czech Republic, France, Germany, Hungary, Ireland, Italy, Poland, Romania, Russia (YAR), Serbia, Slovakia, Sweden, Ukraine, United Kingdom.

Notes. We follow Broad et al. (2016) for the generic placement of this species.

***Protapanteles yunnanensis* (You & Xiong, 1987)**

Apanteles yunnanensis You & Xiong, 1987.

Type information. Holotype female, HUNAU (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL, PAL.

OTL: China (YN); **PAL:** Korea, Russia (PRI).

Notes. Our species concept is based on Chen and Song (2004) and Kotenko (2007a). The species distribution in Korea is based on Belokobylskij et al. (2019).

Genus *Protomicroplitis* Ashmead, 1898

Protomicroplitis Ashmead, 1898: 167. Gender: masculine. Type species: *Microgaster mediatius* Cresson, 1865, by subsequent designation and monotypy (Viereck 1914: 124).

A recent review (Fernandez-Triana 2015) restricted the genus to three species in the New World. We have seen at least one other undescribed species in collections. The only known host records are from the family Noctuidae. There are six DNA-barcode compliant sequences of this genus in BOLD, representing three BINs.

***Protomicroplitis calliptera* (Say, 1836)**

Microgaster calliptera Say, 1836.

Microgaster maculipennis Cresson, 1872.

Type information. Type lost (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA, NEO.

NEA: Canada (ON), USA (AL, AR, CO, FL, GA, IN, IA, KS, LA, MD, MS, NE, NJ, NY, NC, SC, SD, TN, TX); **NEO:** Mexico.

Notes. Our species concept is based on Fernandez-Triana (2015).

***Protomicroplitis centroamericanus* Fernandez-Triana 2015**

Protomicroplitis centroamericanus Fernandez-Triana 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Costa Rica, Mexico.

***Protomicroplitis mediatius* (Cresson, 1865)**

Microgaster mediatius Cresson, 1865.

Type information. Holotype male, ANSP (not examined but subsequent treatment of the species checked). Country of type locality: Cuba.

Geographical distribution. NEA, NEO.

NEA: USA (FL); **NEO:** Bahamas, Cuba.

Notes. Our species concept is based on Fernandez-Triana (2015). The specimens recorded from Mexico in the older literature (Muesebeck 1958a, Nixon 1965) actually belong to *P. calliptera* (Fernandez-Triana 2015). We found two males from the Bahamas (San Salvador island, 12-14.vi.1978, coll. N. Elliot) in the USNM collection, which we record in this paper because they represent the first Microgastrinae ever recorded from that country. [In the USNM there are also specimens from the Florida Keys and Miami (USA, FL) and several localities in

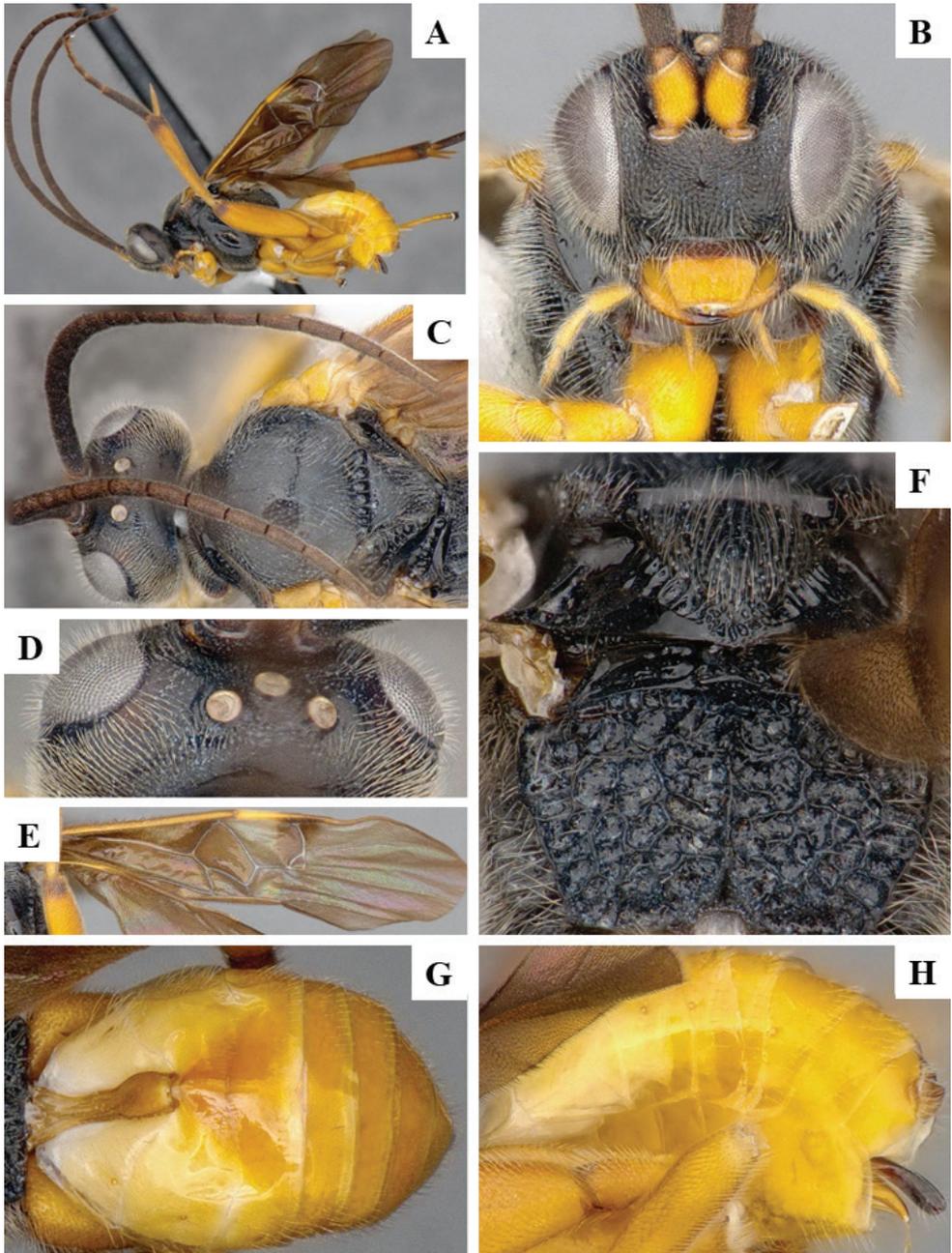


Figure 201. *Protomicroplitis calliptera* female CNCH1333 **A** Habitus, lateral **B** Head, frontal **C** Head and mesosoma, dorsal **D** Head, dorsal **E** Fore wing **F** Propodeum, dorsal **G** Metasoma, dorsal **H** Metasoma, lateral.

Cuba, all of them representing new records of the species, but those details will be published elsewhere.]

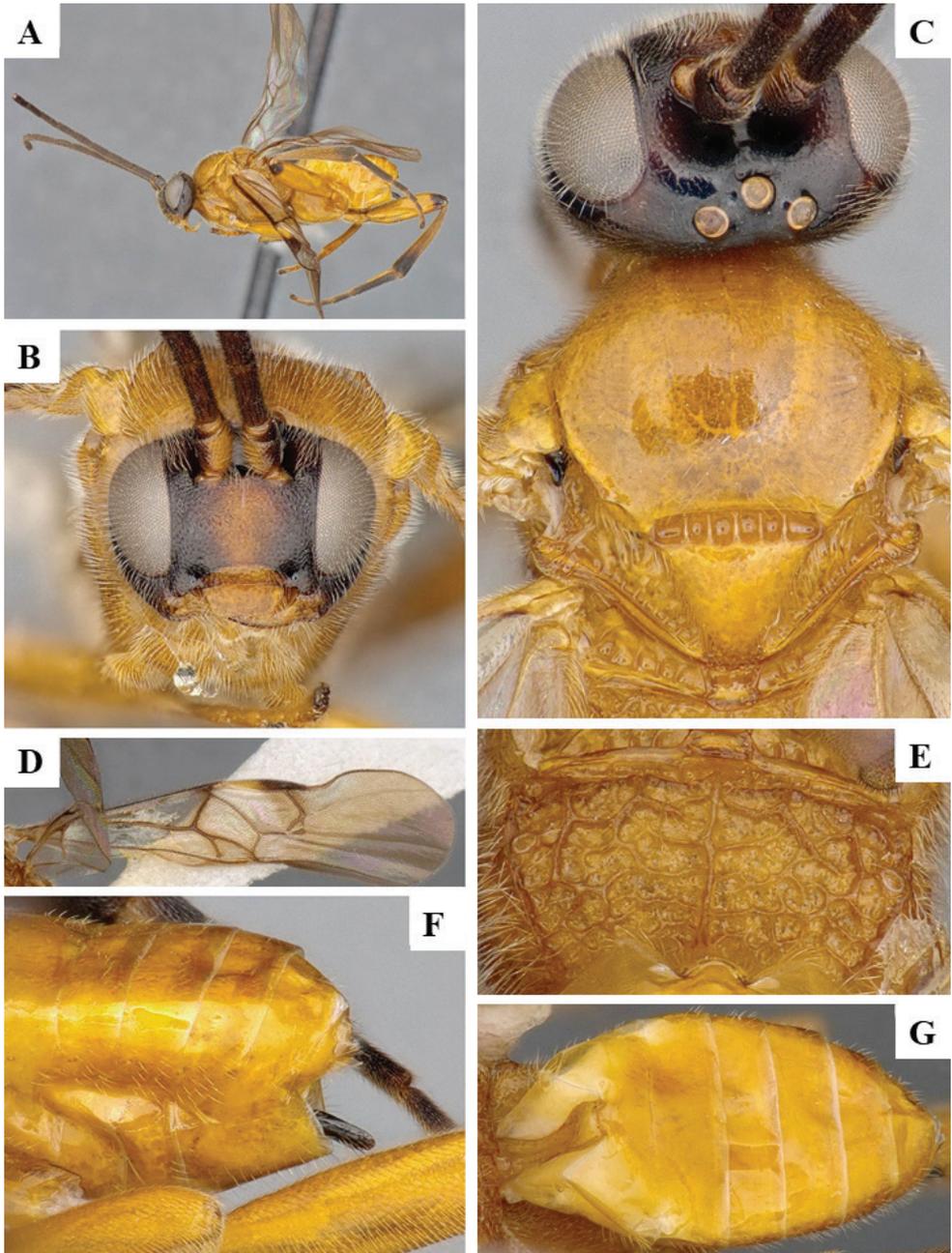


Figure 202. *Protomicropplitis centroamericanus* female holotype **A** Habitus, lateral **B** Head, frontal **C** Head and mesosoma, dorsal **D** Fore wing **E** Propodeum, dorsal **F** Apex of metasoma, lateral **G** Meta-soma, dorsal.

Genus *Pseudapanteles* Ashmead, 1898

Pseudapanteles Ashmead, 1898: 166. Gender: masculine. Type species: *Pseudapanteles annulicornis* Ashmead, 1900, by subsequent designation (Viereck 1911b: 177).

This genus is widely distributed in the New World, with most of the species found in the Neotropics and just a few extending north into the Nearctic Region. A recent paper provided a key to all 36 known species (Fernandez-Triana et al. 2014a), but we have seen dozens of undescribed species in collections, and the genus is likely to surpass one hundred species. Six Lepidoptera families have been recorded as hosts. There are 676 DNA-barcode compliant sequences of this genus in BOLD, representing 55 BINs.

***Pseudapanteles abantidas* (Nixon, 1965)**

Apanteles abantidas Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Pseudapanteles alfopivai* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles alfopivai Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles alvaroumanai* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles alvaroumanai Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles analorenaguevarae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles analorenaguevarae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles annulicornis* Ashmead, 1900, lectotype designation**

Pseudapanteles annulicornis Ashmead, 1900.

Type information. Lectotype female, NHMUK (examined). Country of type locality: Saint Vincent.

Geographical distribution. NEO.

NEO: Panama, Saint Vincent.

Notes. Fernandez-Triana et al. (2014a: 19) mentioned that they had examined the female holotype. That is incorrect, as the original description was based on four specimens, female and male (Ashmead 1900c: 292). Thus, Fernandez-Triana et al. (2014a) only examined a female syntype from the original type series, but because that specimen was fully illustrated (Fernandez-Triana et al. 2014: 48, figs 24–31), is in good condition, and perfectly matches the original description we are here designating it as the lectotype. It has the code 3c.1077.

***Pseudapanteles brunneus* Ashmead, 1900**

Pseudapanteles brunneus Ashmead, 1900.

Type information. Holotype male, NHMUK (examined). Country of type locality: Saint Vincent.

Geographical distribution. NEO.

NEO: Saint Vincent.

***Pseudapanteles carlospini* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles carlospini Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles carlosrodriguez* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles carlosrodriguez Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles christianafiguerae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles christianafiguerae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

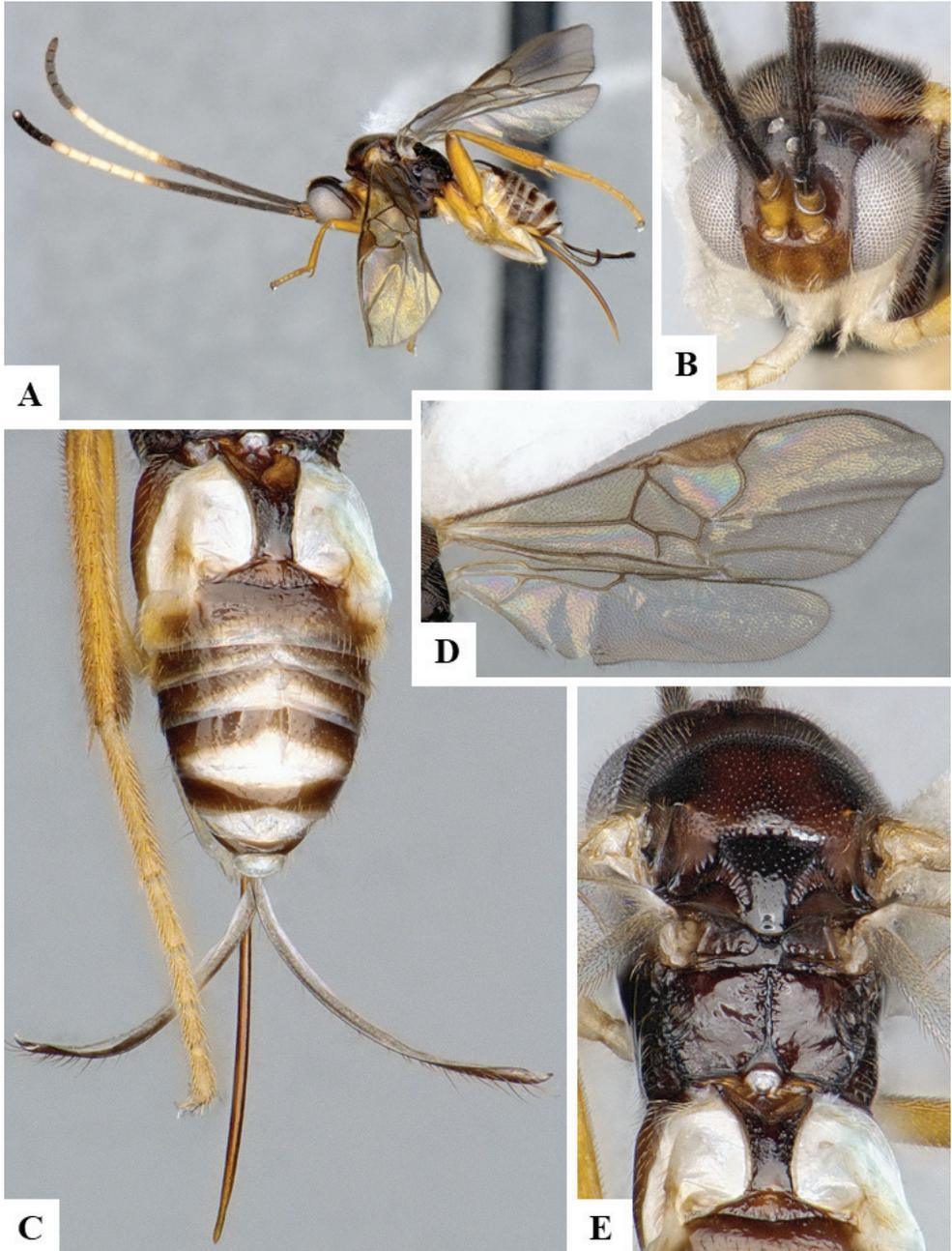


Figure 203. *Pseudapanteles christinafigueresae* female holotype **A** Habitus, lateral **B** Head, frontal **C** Metasoma, dorsal **D** Fore wing and hind wing **E** Mesosoma and tergites 1–2, dorsal.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles dignus* (Muesebeck, 1938)**

Apanteles dignus Muesebeck, 1938.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. AUS, NEA, NEO.

AUS: Hawaiian Islands; **NEA:** USA (CA, FL); **NEO:** Argentina, Bermuda, Cuba, Mexico, Puerto Rico, US Virgin Islands.

***Pseudapanteles gouleti* Fernandez-Triana, 2010**

Pseudapanteles gouleti Fernandez-Triana, 2010.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (ON, QC).

***Pseudapanteles hernanbravo*i Fernandez-Triana & Whitfield, 2014**

*Pseudapanteles hernanbravo*i Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles jorgerodriguezi* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles jorgerodriguezi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles josefigueresi* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles josefigueresi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles laurachinchillae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles laurachinchillae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles lipomeringis* (Muesebeck, 1958)**

Apanteles lipomeringis Muesebeck, 1958.

Type information. Holotype female, USNM (examined). Country of type locality: Panama.

Geographical distribution. NEO.

NEO: Panama.

***Pseudapanteles luisguillermosolisi* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles luisguillermosolisi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles margaritapenonae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles margaritapenonae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles mariobozai* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles mariobozai Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles mariocarvajali* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles mariocarvajali Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

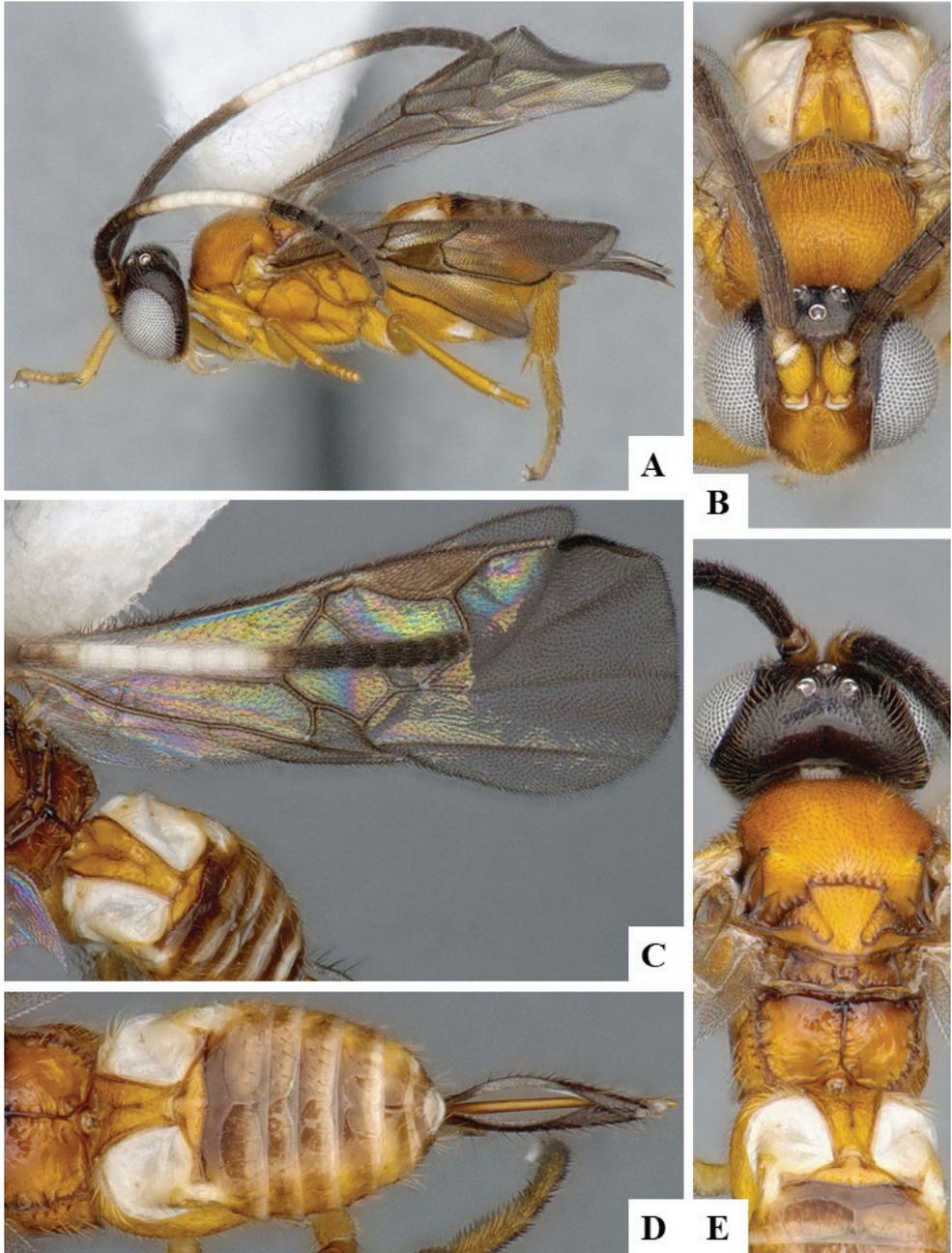


Figure 204. *Pseudapanteles margaritapenonae* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal.

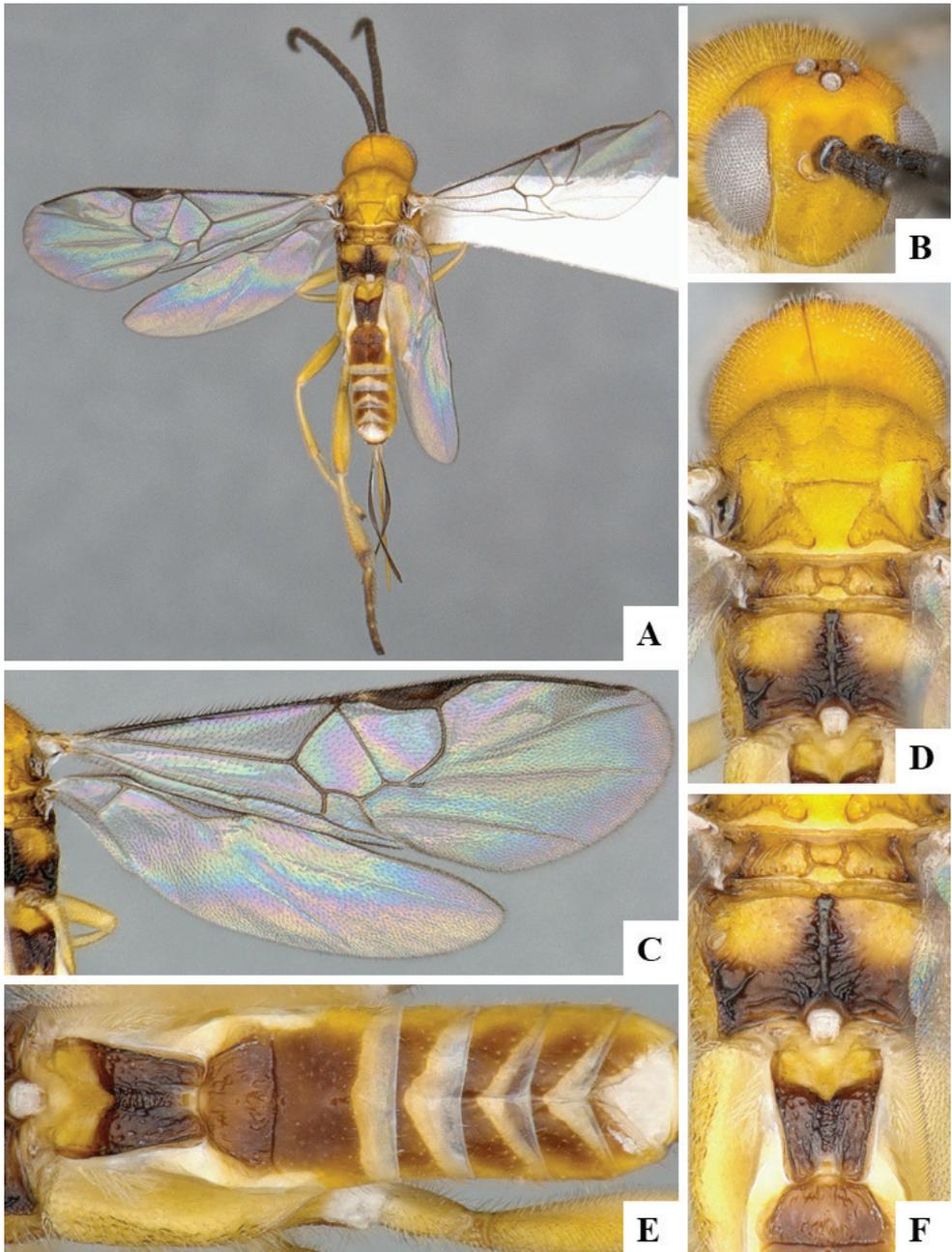


Figure 205. *Pseudapanteles mariocarvajali* female holotype **A** Habitus, dorsal **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Metasoma, dorsal **F** Propodeum and tergites 1–2, dorsal.

***Pseudapanteles maureenballesterosae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles maureenballesterosae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles moerens* (Nixon, 1965)**

Apanteles moerens Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Pseudapanteles munifigueresae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles munifigueresae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles nerion* (Nixon, 1965)**

Apanteles nerion Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Pseudapanteles nigrovariatus* (Muesebeck, 1921)**

Apanteles nigrovariatus Muesebeck, 1921.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (GA, PA).

Notes. The specimen photographed by Fernandez-Triana et al. (2014a) was not the holotype. We examined the actual holotype in 2016, and it has dark orange metanotum and propodeum, unlike the specimen studied for the 2014 paper, which had those areas black. This slightly modifies the species concept and key

presented by Fernandez-Triana et al. (2014a) but, other than that, the holotype looks mostly similar.

***Pseudapanteles oscarariasi* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles oscarariasi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles ottonsolisi* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles ottonsolisi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles pedroleoni* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles pedroleoni Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles raulsolorzano* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles raulsolorzano Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles renecastroi* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles renecastroi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

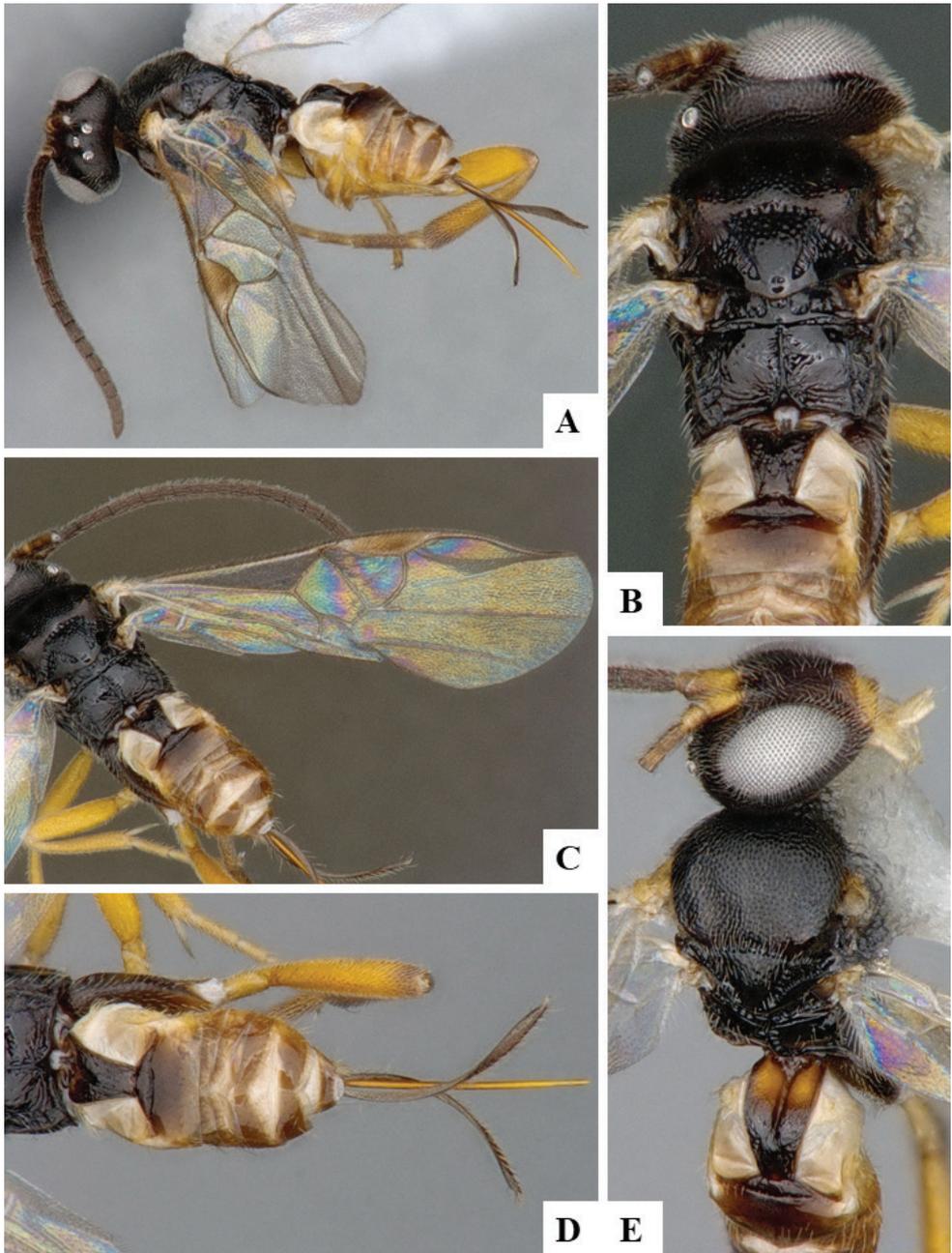


Figure 206. *Pseudapanteles renecastroi* female holotype **A** Habitus, lateral **B** Mesosoma and tergites 1–3, dorsal **C** Fore wing **D** Metasoma, dorsal **E** Mesosoma and tergites 1–3, laterodorsal.

***Pseudapanteles rodrigogamezi* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles rodrigogamezi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles rosemarykarpinskiae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles rosemarykarpinskiae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles ruficollis* (Cameron, 1911)**

Xanthomicrogaster ruficollis Cameron, 1911.

Type information. Lectotype female, NHMUK (examined). Country of type locality: Guyana.

Geographical distribution. NEO.

NEO: Costa Rica, Cuba, Guyana.

***Pseudapanteles sesiae* (Viereck, 1912)**

Apanteles sesiae Viereck, 1912.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON), USA (DC, FL, IN, NJ, TX, VA).

***Pseudapanteles soniapicadoae* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles soniapicadoae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Pseudapanteles teofilodelatorrei* Fernandez-Triana & Whitfield, 2014**

Pseudapanteles teofilodelatorrei Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Genus *Pseudofornicia* van Achterberg, 2015

Pseudofornicia van Achterberg, 2015: 91. Gender: feminine. Type species: *Pseudofornicia nigrisoma* van Achterberg & Long, 2015, by original designation.

The four described species, from the Oriental and Australasian regions, were recently revised (van Achterberg et al. 2015), but we have seen at least one additional, undescribed, species in collections. No host data are currently available for this genus. There are no DNA barcodes of *Pseudofornicia* in BOLD.

***Pseudofornicia commoni* (Austin & Dangerfield, 1992)**

Fornicia commoni Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but subsequent treatment of the species checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

Notes. Our species concept is based on van Achterberg et al. (2015).

***Pseudofornicia flavoabdominis* (He & Chen, 1994)**

Fornicia flavoabdominis He & Chen, 1994.

Type information. Holotype female, ZJUH (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (ZJ).

Notes. Our species concept is based on van Achterberg et al. (2015).

***Pseudofornicia nigrisoma* van Achterberg & Long, 2015**

Pseudofornicia nigrisoma van Achterberg & Long, 2015.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

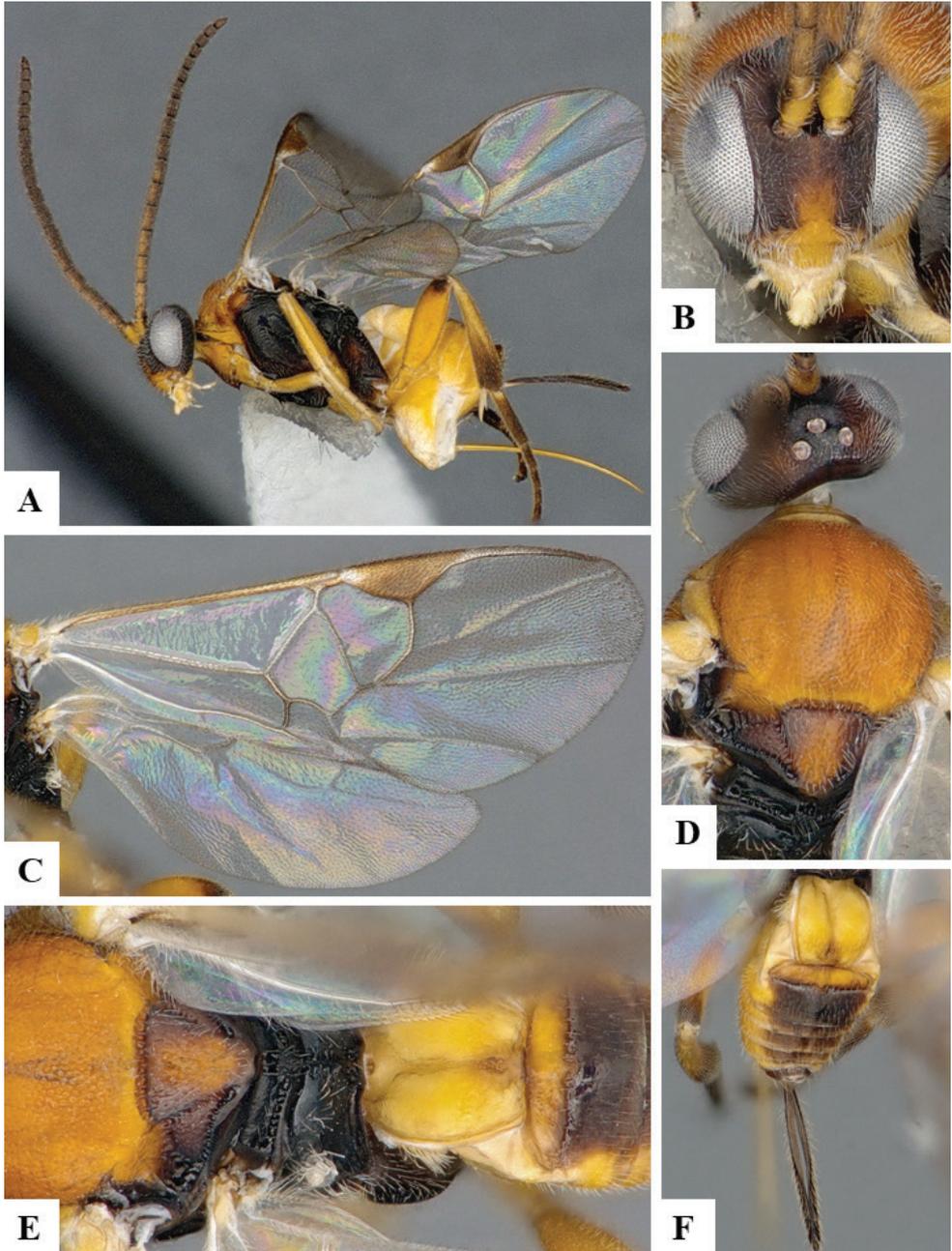


Figure 207. *Pseudapanteles teofilodelatorrei* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Tergites 1–2, dorsal **F** Metasoma, dorsolateral.

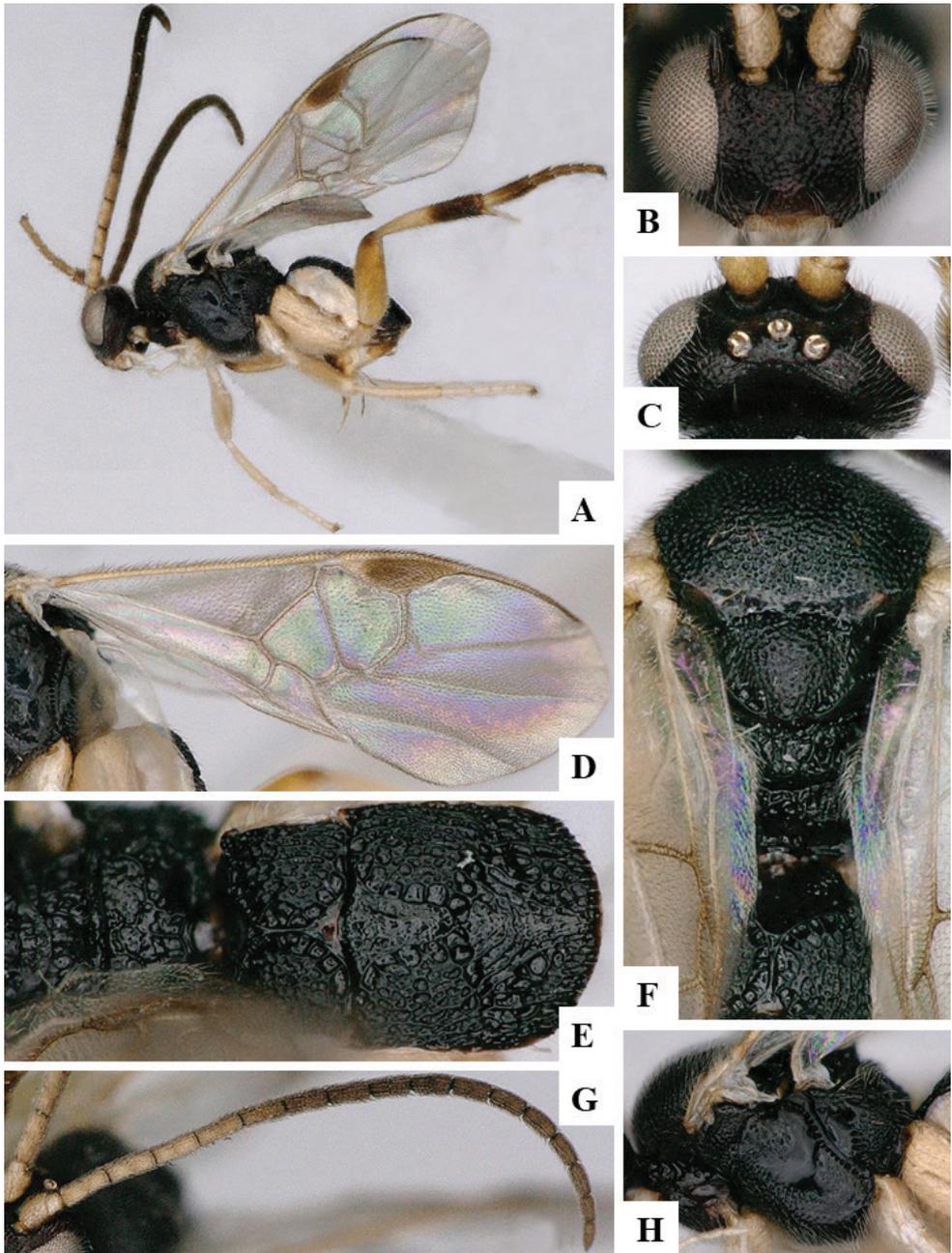


Figure 208. *Pseudofornicia nigrisoma* female holotype based on modified images from the original descriptions of the species (van Achterberg et al. 2015) **A** Habitus, lateral **B** Head, frontal **C** Head, dorsal **D** Fore wing **E** Propodeum and metasoma, dorsal **F** Mesosoma, dorsal **G** Antenna **H** Mesosoma, lateral.

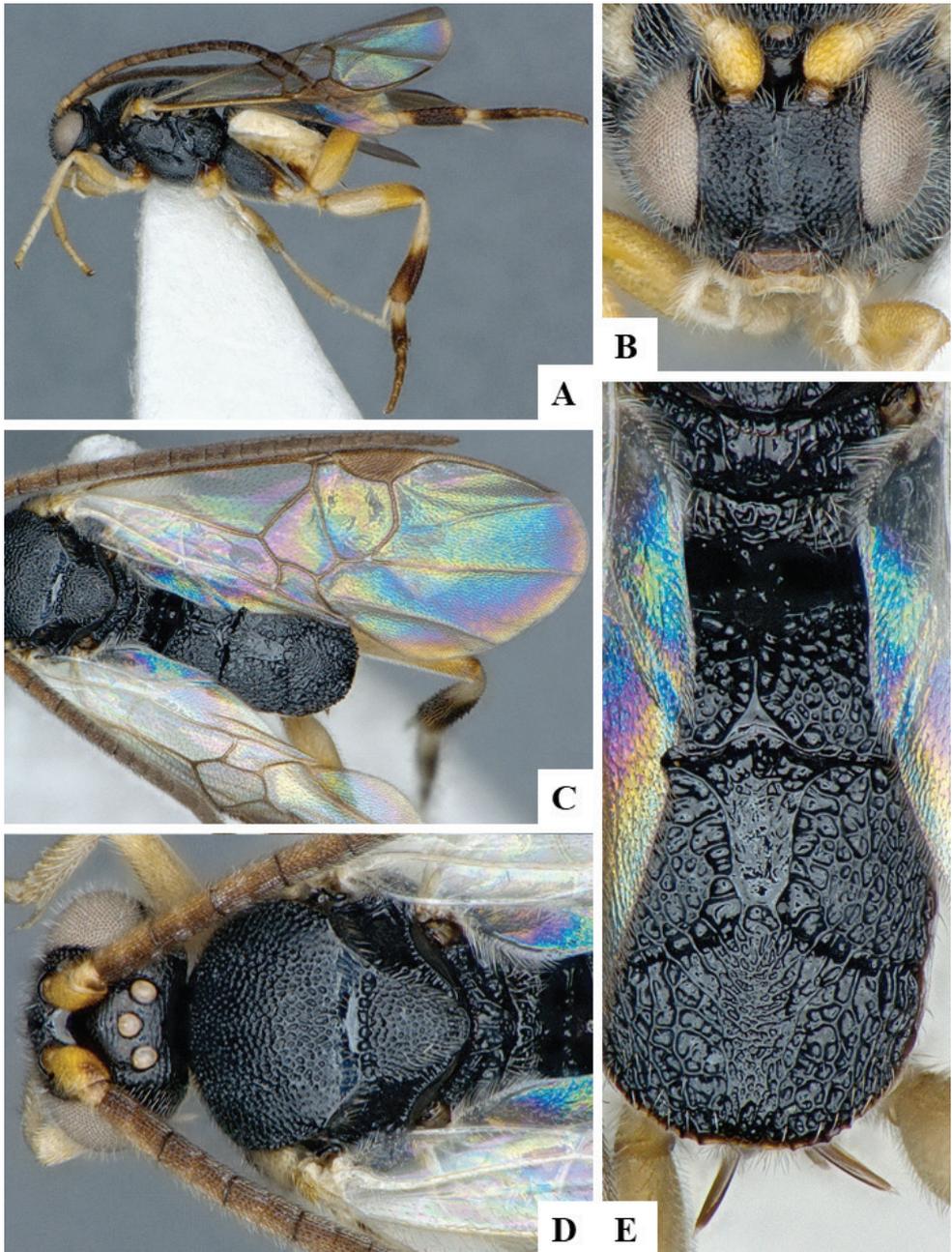


Figure 209. *Pseudoformicia* sp. female CNC92461 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal.

***Pseudofornicia vanachterbergi* Long, 2015**

Pseudofornicia vanachterbergi Long, 2015.

Fornicia achterbergi Long, 2007 [primary homonym of *Fornicia achterbergi* Yang & Chen, 2006].

Type information. Holotype female, IEBR (not examined but subsequent treatment of the species checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

Notes. Our species concept is based on van Achterberg et al. (2015).

Genus *Pseudovenanides* Xiao & You, 2002

Pseudovenanides Xiao & You, 2002: 616. Gender: masculine. Type species: *Pseudovenanides hunanus* Xiao & You, 2002, by original designation and monotypy.

Apart from the single known species, we have seen a few more in collections, from the Oriental and Palearctic regions. The described species was reared from Gelechiidae. There are no DNA barcodes of *Pseudovenanides* in BOLD.

***Pseudovenanides hunanus* Xiao & You, 2002**

Pseudovenanides hunanus Xiao & You, 2002.

Type information. Holotype female, HUNAU (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GX, HN).

Genus *Qrocodiledundee* Fernandez-Triana, 2018

Qrocodiledundee Fernandez-Triana, 2018: 101. Gender: neuter. Type species: *Qrocodiledundee outbackense* Fernandez-Triana & Boudreault, 2018, by original designation.

Only known from a single described species in the Australasian region. No host data are currently available for this genus. There are no DNA barcodes of *Qrocodiledundee* in BOLD.

***Qrocodiledundee outbackense* Fernandez-Triana & Boudreault, 2018**

Qrocodiledundee outbackense Fernandez-Triana & Boudreault, 2018.

Type information. Holotype male, CNC (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD).

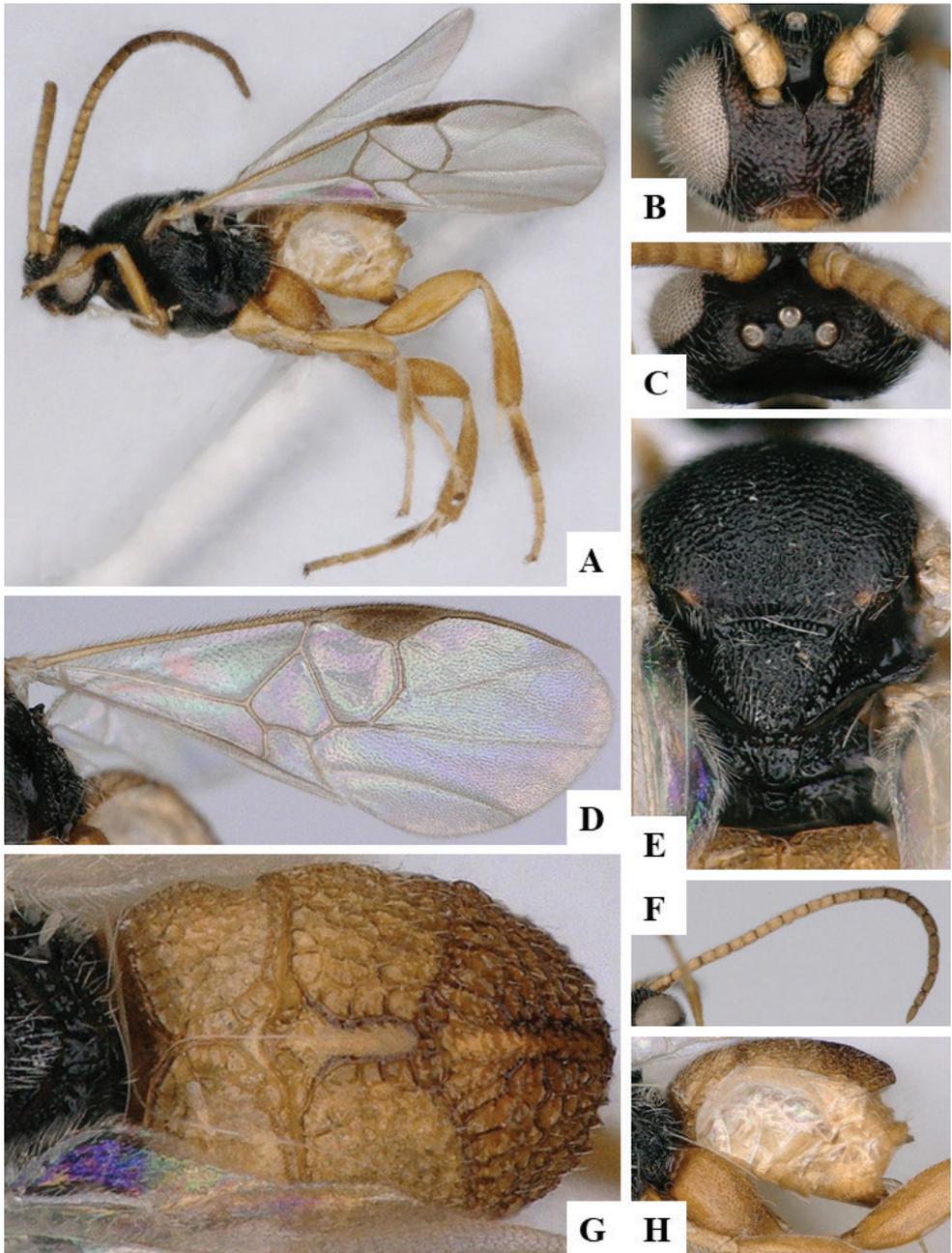


Figure 210. *Pseudofornicia vanachterbergi* female holotype based on modified images from van Achterberg et al. (2015) **A** Habitus, lateral **B** Head, frontal **C** Head, dorsal **D** Fore wing **E** Mesosoma, dorsal **F** Antenna **G** Metasoma, dorsal **H** Metasoma, lateral.

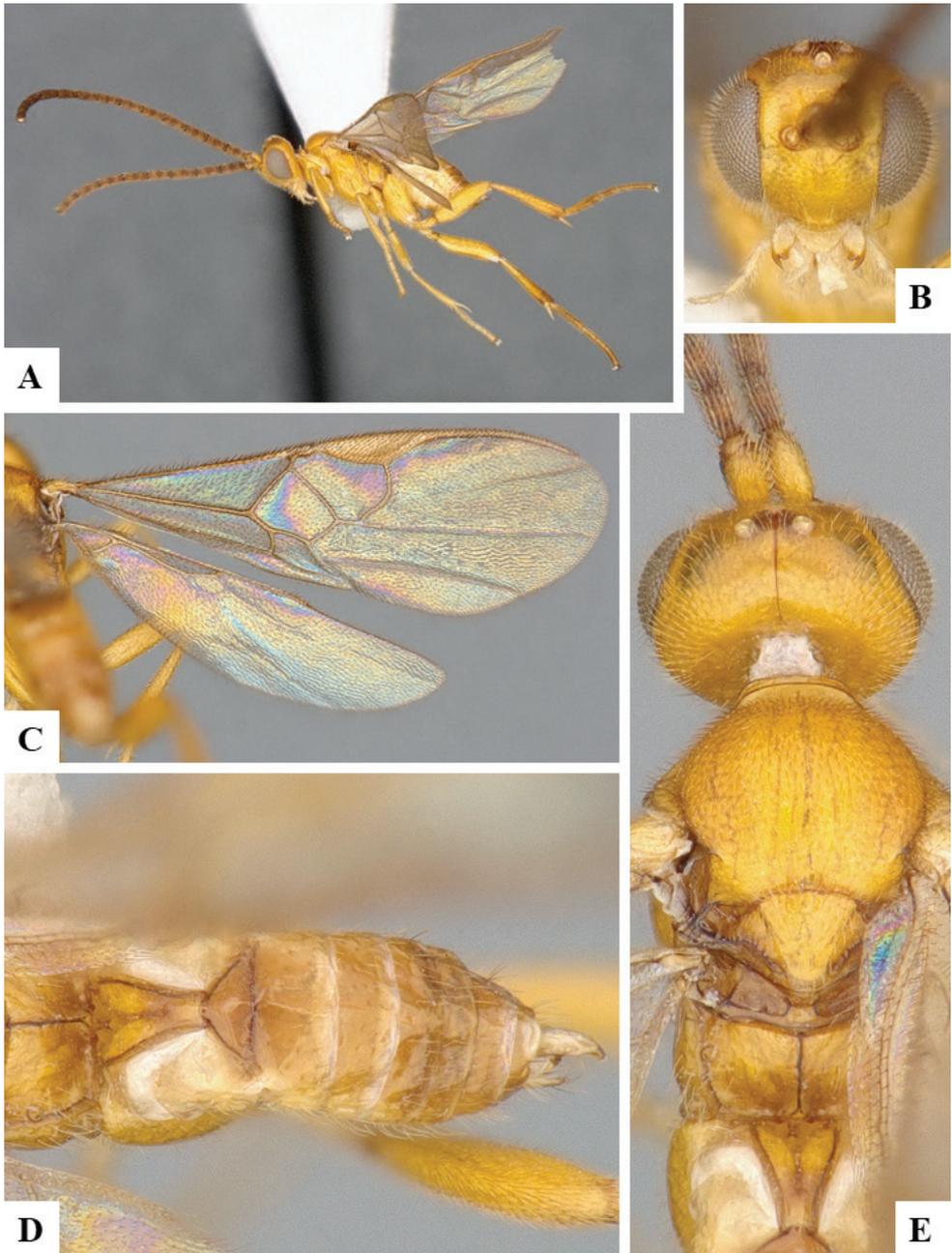


Figure 211. *Pseudovenanides* sp. male CNC661265 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal.

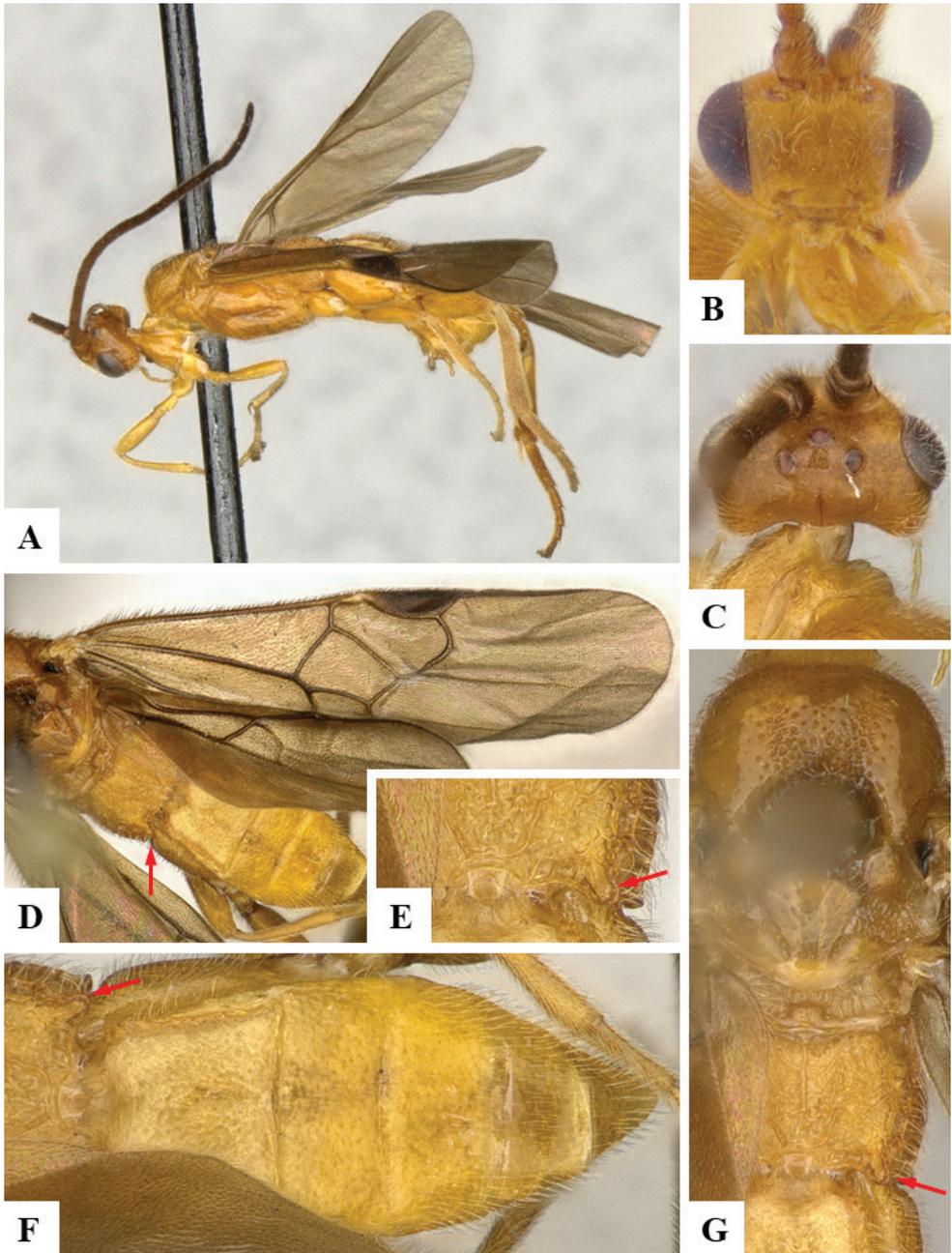


Figure 212. *Qrocodiledundee outbackense* male holotype **A** Habitus, lateral **B** Head, frontal **C** Head, dorsal **D** Fore wing **E** Propodeum, dorsal **F** Metasoma, dorsal **G** Mesosoma, dorsal. Red arrow shows the propodeal aphophysis.

Genus *Rasivalva* Mason, 1981

Rasivalva Mason, 1981: 91. Gender: feminine. Type species: *Microplitis stigmaticus* Muesebeck, 1922, by original designation.

Twelve species are recognized here, but many undescribed ones remain in collections. The genus is essentially Holarctic, occasionally reaching the Afrotropical and Oriental regions. The only known host records are all from Geometridae, but future studies may change that. There are 68 DNA-barcode compliant sequences of this genus in BOLD, representing 12 BINs, although several species and BINs are currently misidentified in BOLD as *Diolcogaster* and may actually represent *Rasivalva*.

***Rasivalva calceata* (Haliday, 1834)**

Microgaster calceatus Haliday, 1834.

Microgaster pubescens Ratzeburg, 1844.

Type information. Type lost (not examined but subsequent treatment of the species checked). Country of type locality: Ireland.

Geographical distribution. PAL.

PAL: Germany, Hungary, Ireland, Italy, Netherlands, Poland, Romania, Russia (C), Slovakia, Sweden, Switzerland, United Kingdom.

Notes. Our species concept is based on Nixon (1965), Tobias (1986), Oltra-Moscardó & Jiménez-Peydró (2005), and Kotenko (2007a).

***Rasivalva circumvecta* (Lyle, 1918)**

Diolcogaster circumvectus Lyle, 1918.

Type information. Lectotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Finland, Russia (C), United Kingdom.

Notes. The species was originally described based on four specimens (mounted on individual cards), which are all deposited in the NHMUK, and share the same type number 3c.31. There is a fifth pin with a label that has written: “Type to be selected from the above 4 specimens”. That fifth label was presumably added by Nixon, because when he dealt with that species he mentioned “Type in British Museum” (Nixon 1965: 256). In fact, one of the female specimens (the specimen occupying the top left corner in the unit tray at the NHMUK) has a Holotype round label added. Article 74.5 of the ICZN “Lectotype designations before 2000” stipulates that: “the term lectotype, or an exact translation or equivalent expression (e.g., the type), must have been used”, and also states that “a subsequent use of the term holotype does not constitute a valid lectotype designation unless the author, when wrongly using that term, explicitly indicated that he or she was selecting from the type series that particular specimen to serve as the name-bearing type.” Both situations clearly apply to Nixon (1965), as he referred to a type which he also unam

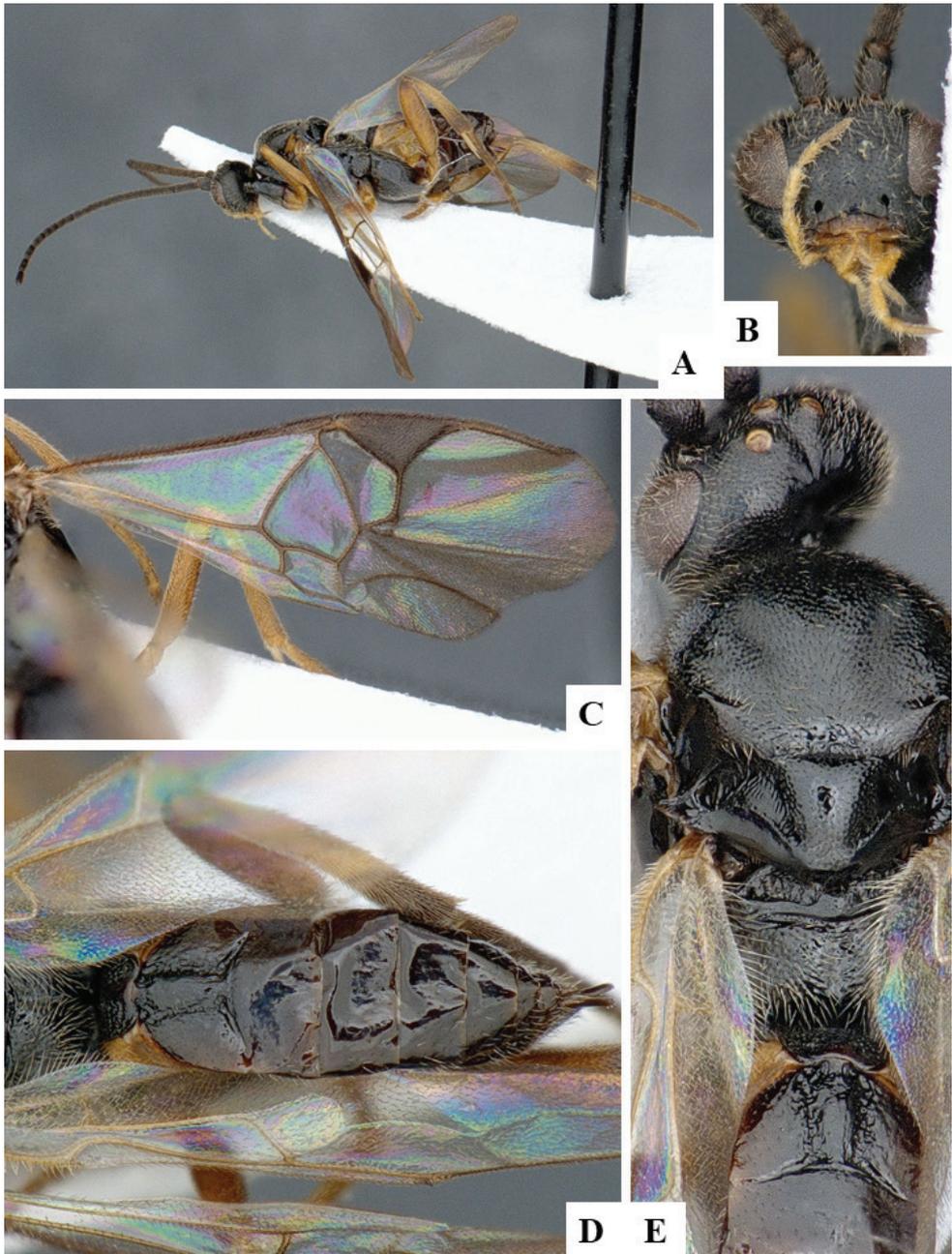


Figure 213. *Rasivalva calceata* female CNC474694 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Mesosoma and tergites 1–2, dorsal.

biguously selected among the available specimens (even adding to that specimen an extra label marked as holotype). Thus, Nixon's designation is to be considered valid, although that specimen should be considered as the lectotype and not the holotype, and the remaining three specimens are paralectotypes.

***Rasivalva desueta* Papp, 1989**

Rasivalva desueta Papp, 1989.

Type information. Holotype female, HNHM (examined). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Switzerland.

***Rasivalva karadagi* Tobias, 1986**

Rasivalva karadagi Tobias, 1986.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Russia.

Geographical distribution. PAL.

PAL: Russia (NC), Ukraine.

Notes. Our species concept is based on Oltra-Moscardó & Jiménez-Peydró (2005).

***Rasivalva leleji* Kotenko, 2007**

Rasivalva leleji Kotenko, 2007.

Type information. Holotype female, SIZK (not examined but original description checked). Country of type locality: Ukraine.

Geographical distribution. PAL.

PAL: Russia (SAK).

***Rasivalva lepellei* (Wilkinson, 1934)**

Microgaster lepellei Wilkinson, 1934.

Type information. Holotype female, NHMUK (examined). Country of type locality: Kenya.

Geographical distribution. AFR.

AFR: Kenya.

***Rasivalva longivena* Song & Chen, 2004**

Rasivalva longivena Song & Chen, 2004.

Type information. Holotype female, FAFU (not examined but original description checked). Country of type locality: China.

Geographical distribution. PAL.

PAL: China (HB).

***Rasivalva marginata* (Nees, 1834)**

Microgaster marginatus Nees, 1834.

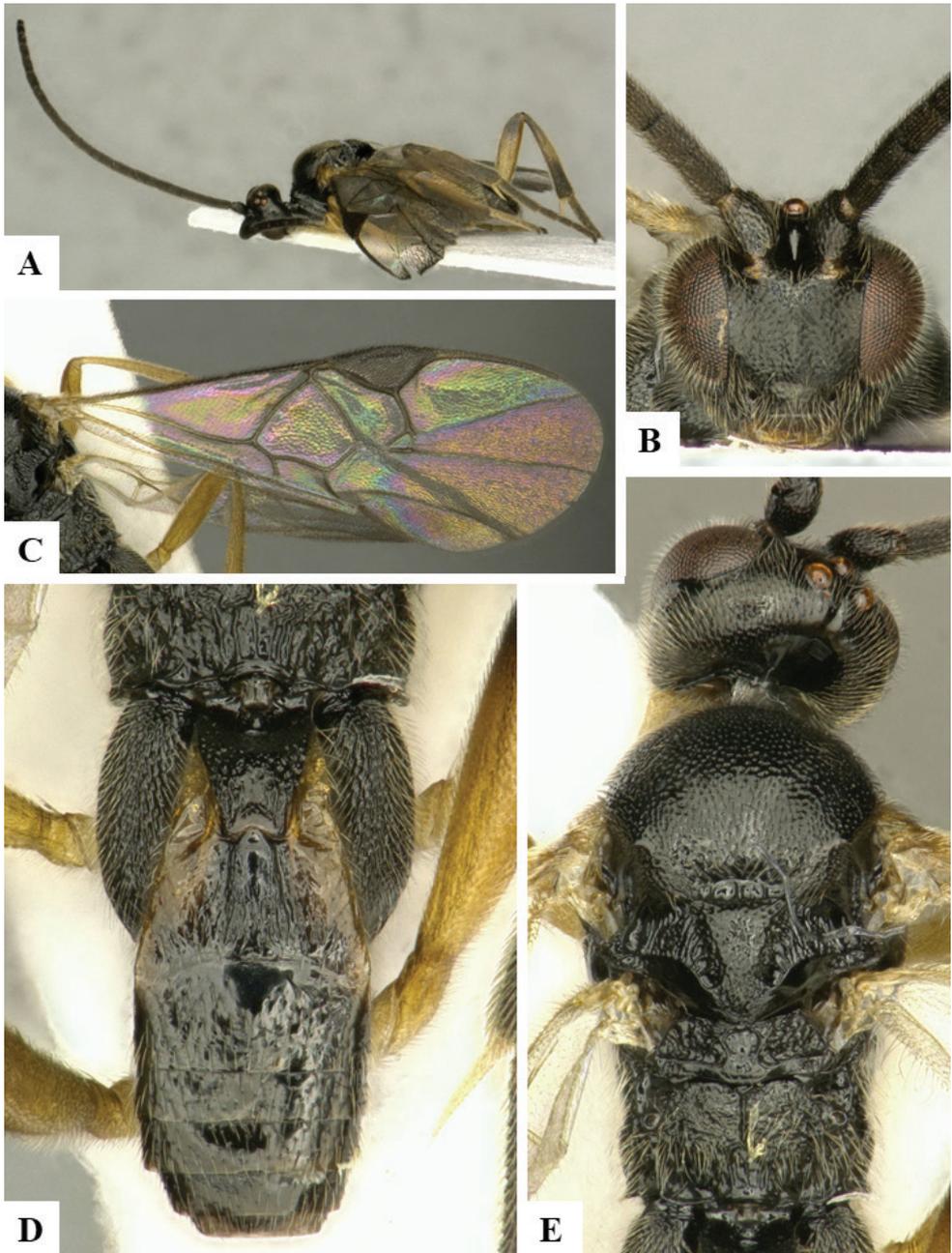


Figure 214. *Rasivalva marginata* male CNC638380 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Mesosoma, dorsal.

Type information. Holotype female, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. OTL, PAL.

OTL: Philippines; **PAL:** Austria, Finland, Germany, Hungary, Poland, Russia (KR, PRI, RYA, SPE, YAR), Slovenia, Sweden, Switzerland, United Kingdom, Yugoslavia.

Notes. Our species concept is based on Oltra-Moscardó & Jiménez-Peydró (2005).

***Rasivalva perplexa* (Muesebeck, 1922)**

Microplitis perplexus Muesebeck, 1922.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (BC, NB, ON), USA (IN, MI).

***Rasivalva pyrenaica* Oltra & Jiménez, 2005**

Rasivalva pyrenaica Oltra & Jiménez, 2005.

Type information. Holotype female, UVS (not examined but original description checked). Country of type locality: Andorra.

Geographical distribution. PAL.

PAL: Andorra.

***Rasivalva rugosa* (Muesebeck, 1922)**

Microplitis rugosus Muesebeck, 1922.

Microplitis coloradensis Muesebeck, 1922.

Type information. Holotype male, MCZC (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON, QC), USA (CO, MI, MN, NJ).

***Rasivalva stigmatica* (Muesebeck, 1922)**

Microplitis stigmaticus Muesebeck, 1922.

Microplitis muesebecki Marsh, 1974 [replacement name for *Microplitis stigmaticus* Muesebeck, 1922].

Type information. Holotype female, MCZC (not examined but original description checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, BC, QC), USA (CA, CO, ID, NH, WA).

Genus *Rhygoplitis* Mason, 1981

Rhygoplitis Mason, 1981: 81. Gender: masculine. Type species: *Apanteles (Pseudapanteles) terminalis* Gahan, 1912, by original designation.

This genus is distributed in the New World, with four described species but several more remain in collections undescribed, mostly from the Neotropical region. Known hosts are mostly Crambidae, but more studies are needed. There are 294 DNA-barcode compliant sequences of this genus in BOLD, representing 13 BINs.

***Rhygoplitis aciculatus* (Ashmead, 1900)**

Urogaster aciculatus Ashmead, 1900.

Pseudapanteles sancti-vincenti Ashmead, 1900.

Apanteles thoracicus Muesebeck, 1921.

Type information. Holotype male, NHMUK (examined). Country of type locality: Grenada.

Geographical distribution. NEA, NEO.

NEA: USA (KS, TX); **NEO:** Costa Rica, Grenada, Panama, Saint Vincent.

Notes. We have examined the female type of *P. sancti-vincenti* and indeed it is the same species as the male type of *U. aciculatus*. Thus, although the name bearer for this species is the male specimen (following the rules of the ICZN), the female specimen of *P. sancti-vincenti* should be considered as useful, if not more useful, in any further study of the genus, as most of Microgastrinae taxonomy is based on female specimens.

***Rhygoplitis choreuti* (Viereck, 1912)**

Apanteles choreuti Viereck, 1912.

Type information. Holotype female, USNM (not examined but subsequent treatment of the species checked). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (FL, IA, NJ, SC, TX, VA).

Notes. Our species concept is based on Mason (1981) and Whitfield (1995a).

***Rhygoplitis sanctivincenti* (Ashmead, 1900)**

Apanteles sanctivincenti Ashmead, 1900.

Type information. Type lost (not examined but subsequent treatment of the species checked). Country of type locality: Saint Vincent.

Geographical distribution. NEO.

NEO: Saint Vincent.

Notes. Our species concept is based on Fernandez-Triana et al. (2014e).

***Rhygoplitis terminalis* (Gahan, 1912)**

Apanteles terminalis Gahan, 1912.

Type information. Holotype male, USNM (examined). Country of type locality: USA.

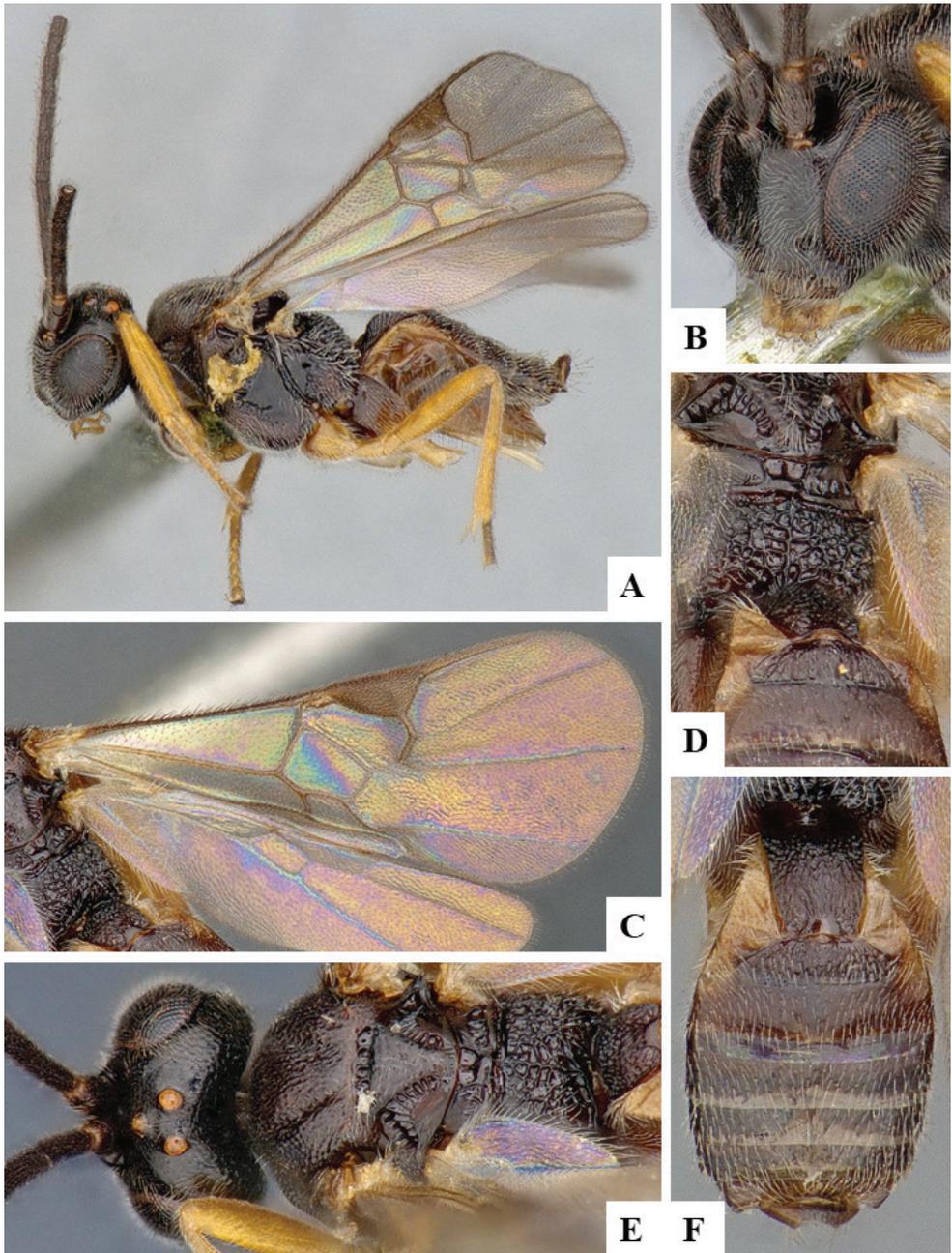


Figure 215. *Rhygoplitis aciculatus* female. The specimen photographed is the type of *Pseudapanteles sancti-vincenti* (Ashmead, 1900), which is currently a synonym of *Rhygoplitis aciculatus* (see comments under that species in this paper, as well as details in Fernandez-Triana et al. 2014e) **A** Habitus, lateral **B** Head, frontolateral **C** Fore wing and hind wing **D** Propodeum and tergites 1–3, dorsal **E** Head and mesosoma, dorsal **F** Metasoma, dorsal.

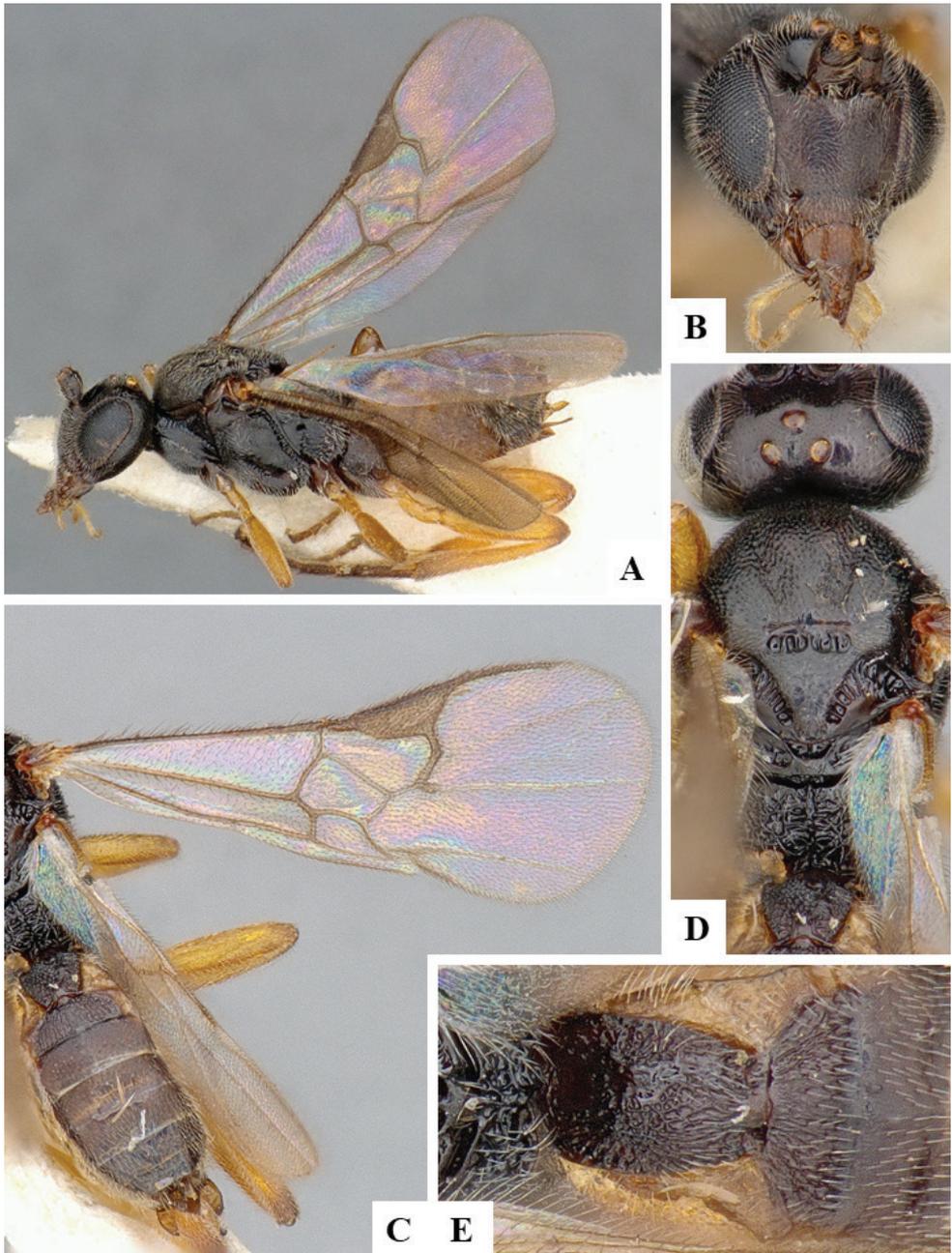


Figure 216. *Rhygoplitis aciculatus* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Tergites 1–3, dorsal.

Geographical distribution. NEA.

NEA: USA (AR, CO, FL, GA, IL, IA, KY, MD, NY, TX).

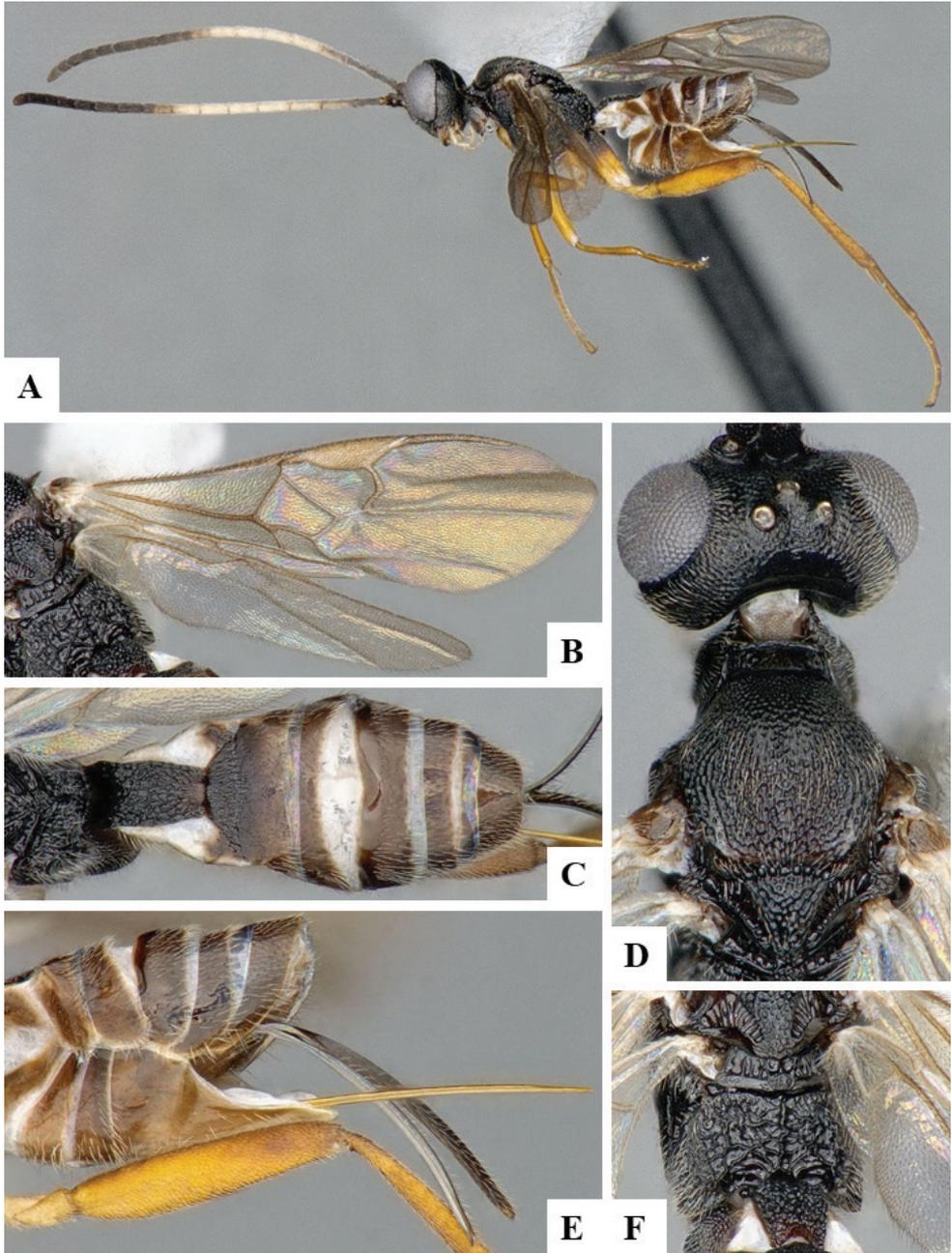


Figure 217. *Rhygoplitis* sp. female DHJPAR0012570 **A** Habitus, lateral **B** Fore wing and hind wing **C** Meta-soma, dorsal **D** Head and mesosoma, dorsal **E** Ovipositor and ovipositor sheaths **F** Propodeum, dorsal.

Genus *Sathon* Mason, 1981

Sathon Mason, 1981: 78. Gender: masculine. Type species: *Apanteles neomexicanus* Muesebeck, 1921, by original designation.

This genus is distributed in all biogeographical regions, with 23 described species, although is not highly species rich anywhere. We have seen additional species in collections, but it is difficult to estimate the actual diversity due to some species being similar to other genera (e.g., *Glyptapanteles* and *Lathrapanteles*). Williams' (1988) revision is the most up to date and comprehensive work for this genus but is now outdated. Five families of Lepidoptera have been reported as hosts, but in most cases those records need further verification. There are 266 DNA-barcode compliant sequences of *Sathon* in BOLD, representing 27 BINs.

***Sathon aggeris* Williams, 1988**

Sathon aggeris Williams, 1988.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Sathon albicoxus* Austin & Dangerfield, 1992**

Sathon albicoxus Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NSW, TAS, VIC).

***Sathon bekilyensis* (Granger, 1949), new combination**

Microgaster bekilyensis Granger, 1949.

Type information. Holotype female, MNHN (not examined but illustrations of the holotype examined). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. The generic placement of this species has been determined based on information from the original description and low-resolution images of the holotype (taken with a cell phone) which we have examined. The species is clearly not *Microgaster*, and we are transferring it to *Sathon* here based on propodeum with a median longitudinal carina, T2 subtriangular or trapezoidal and with lateral margins well defined by sulcus, ovipositor sheaths moderately long (almost half metatibia

length), and hypopygium inflexible. The type also has antenna with some central flagellomeres white-yellow, and the body is mostly yellow. This species seems to be related to *Microgaster rufotestacea* Granger, also transferred in this paper to *Sathon*. We have seen in collections several undescribed species from Africa which share similar morphological features to these two species, and the best generic placement at present would be in *Sathon*. However, future study of this group of species may change that, and we suspect that they may represent an undescribed genus.

***Sathon belippae* (Rohwer, 1919)**

Apanteles belippae Rohwer, 1919.

Type information. Holotype female, USNM (examined). Country of type locality: Indonesia.

Geographical distribution. AUS, OTL.

AUS: Fiji; **OTL:** India, Indonesia.

***Sathon cinctiformis* (Viereck, 1911)**

Apanteles cinctiformis Viereck, 1911.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (ON, QC), USA (IN, IA, MD, MI, NJ, NY, NC, OH, PA, RI, VT, VA, WI).

***Sathon circumflexus* Williams, 1988**

Sathon circumflexus Williams, 1988.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: USA (AZ, CO, NM).

***Sathon eugeni* (Papp, 1972)**

Apanteles eugeni Papp, 1972.

Apanteles magnicoxis Jakimavicius, 1972.

Type information. Holotype female, HNHM (examined). Country of type locality: Hungary.

Geographical distribution. PAL.

PAL: Austria, Bulgaria, Finland, Germany, Hungary, Italy, Latvia, Lithuania, Netherlands, Russia (C, NW), Slovakia, Sweden, Switzerland, Turkey, United Kingdom.

Notes. Our species concept is based on Williams (1988), which considered it part of the *lateralis* group (see more comments about this species group in the Notes

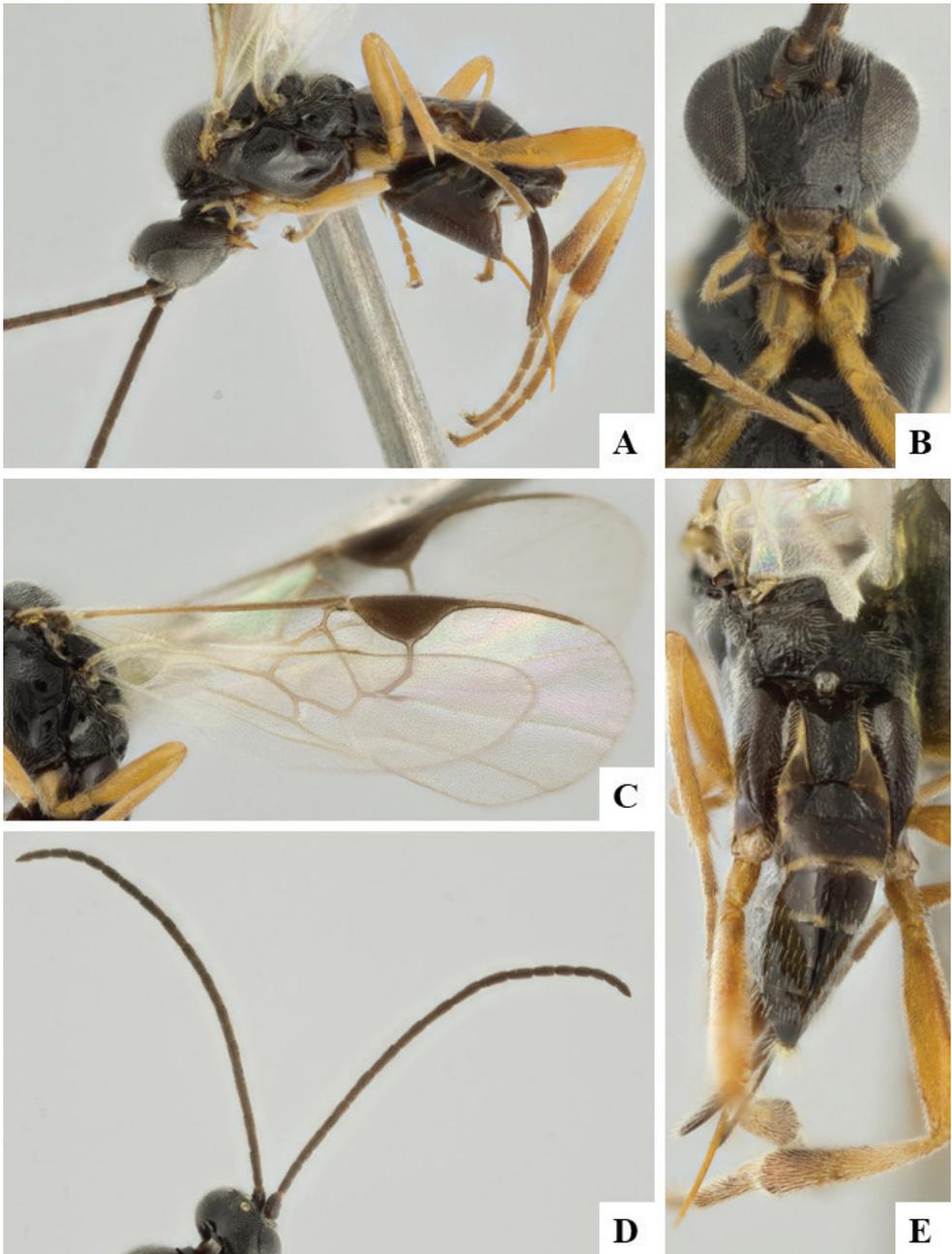


Figure 218. *Sathon circumflexus* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Antennae **E** Propodeum and metasoma, dorsal.

provided under *S. lateralis*). The species distribution in Russia is based on Belokobylskij et al. (2019).

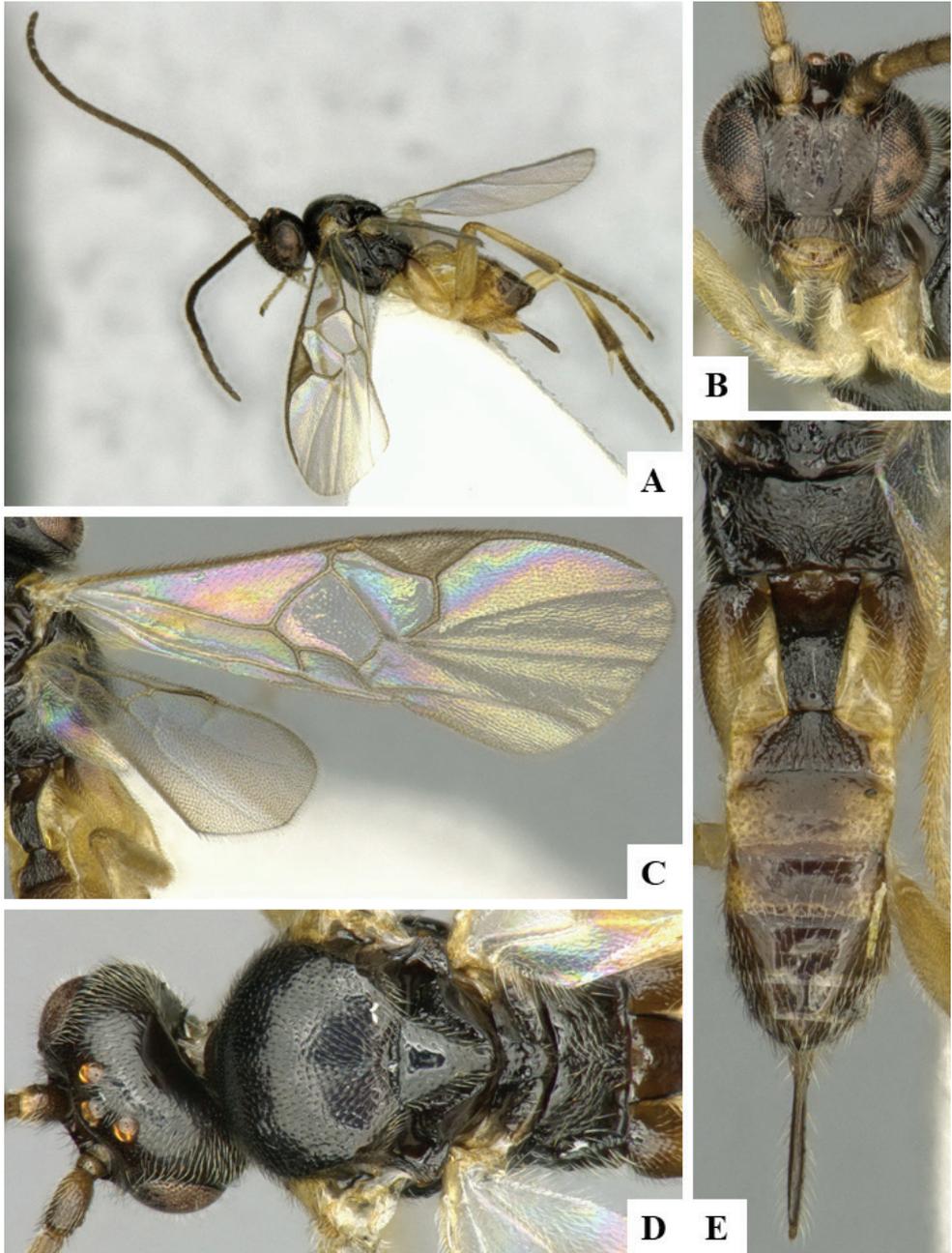


Figure 219. *Sathon eugeni* female CNCHYM01255 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

***Sathon falcatus* (Nees, 1834)**

Microgaster falcatus Nees, 1834.

Microgaster equestris Haliday, 1834.

Apanteles gladiator Szépligeti, 1901.

Apanteles priapus Gautier & Cleu, 1927.

Type information. Neotype female, ZMHB (not examined but authoritatively identified specimens examined). Country of type locality: unknown.

Geographical distribution. OTL, PAL.

OTL: Indonesia; **PAL:** Afghanistan, Austria, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, China, Croatia, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Georgia, Germany, Hungary, Ireland, Italy, Japan, Kazakhstan, Kyrgyzstan, Korea, Latvia, Lithuania, Luxembourg, Macedonia, Mongolia, Montenegro, Netherlands, Poland, Romania, Russia (ZAB, DA, IRK, KAM, KR, KIR, KYA, SAK, SPE, VLG, YAR), Serbia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Turkey, United Kingdom, Uzbekistan.

Notes. We examined the type of *M. equestris* (Haliday) which is in the NHMUK, as well as numerous authenticated specimens in the CNC, MZH and RSME. *Apanteles priapus* Gautier & Cleu was considered by Telenga (1955: 54) to be a valid species, not a synonym of *falcatus*, based on differences in body size and sculpture, as well as ovipositor size; however, Telenga did not examine specimens of the *priapus* type series (from France), his species concept was only based on the original description. Yu et al. (2016), following Telenga, also considered *priapus* to be a valid species. However, Wilkinson (1945: 133–137) actually examined two cotypes of the *priapus* series and considered them to be the same species than *falcatus*; Wilkinson also designated a neotype for *falcatus* and was able to study a large number of specimens from different localities and collections. Thus, we consider Wilkinson (1945) a more accurate account and here we accept his decision to synonymize *priapus* under *falcatus*, which has also been accepted and followed by most authors (e.g., Shenefelt 1972, Papp 1982, 1988, Williams 1998, Kotenko 2007). The species distribution in Afghanistan, Armenia, Azerbaijan, China, Georgia, Kyrgyzstan, and Tajikistan is based on Belokobylskij et al. (2019).

***Sathon fausta* (Nixon, 1973)**

Apanteles fausta Nixon, 1973.

Type information. Holotype female, NHMUK (examined). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: Austria, Finland, Germany, Slovakia, Sweden, Switzerland, United Kingdom.

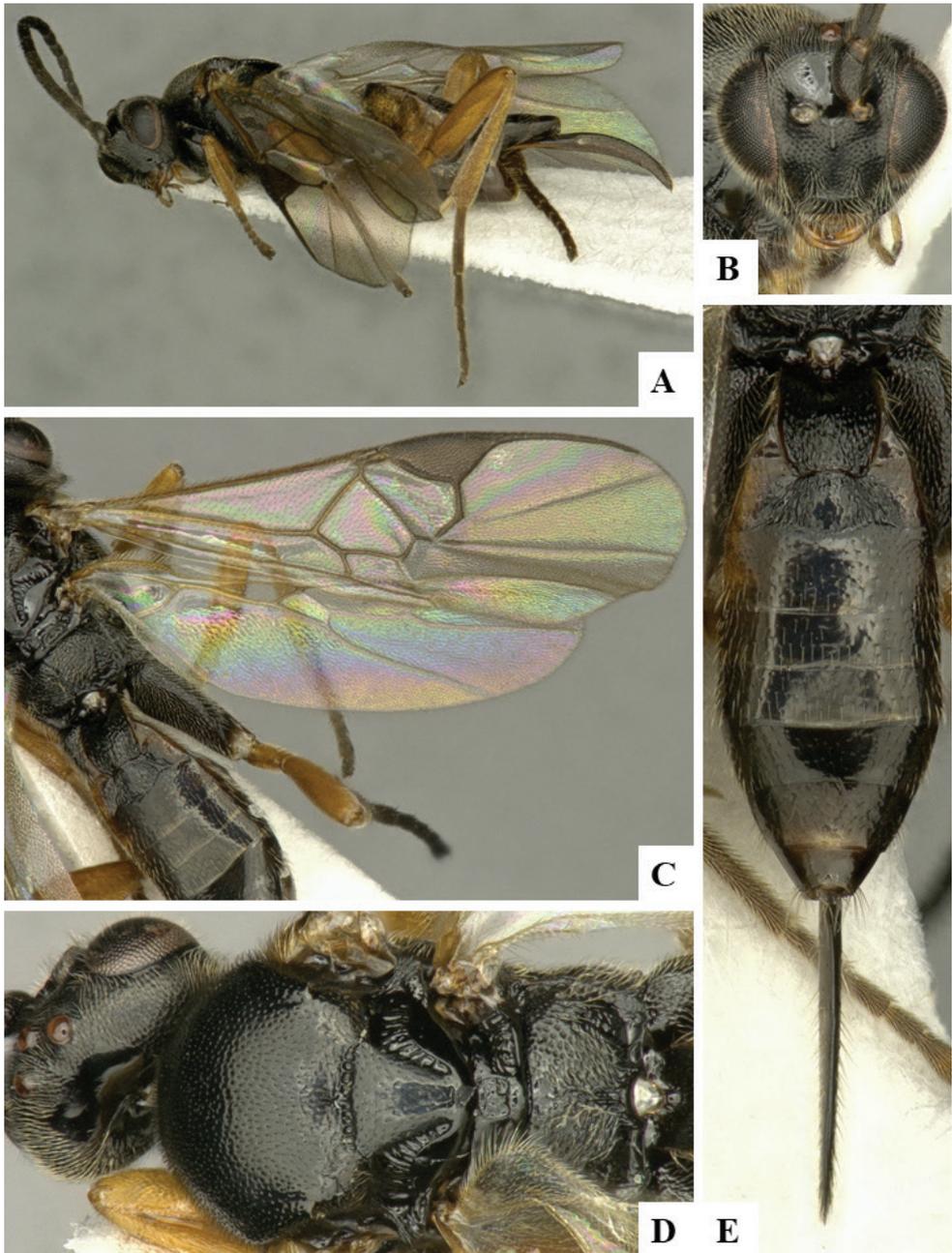


Figure 220. *Sathon falcatus* female CNC638313 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Metasoma, dorsal.

Notes. This species was placed in *Sathon* by Mason (1981) when he described the genus. The only comprehensive revision ever done of *Sathon* (Williams 1988) also treated *fausta* within the genus (although as a synonym of *S. eugeni* Papp, 1972). Since then, *fausta* has been variously treated as *Protapanteles* (van Achter-

berg 2003), *Glyptapanteles* (Papp 1988, Belokobylskij et al. 2003, Shaw 2012, Broad et al. 2016), or *Sathon* (Capek and Hofmann 1997). Here we follow Williams (1988) study and consider at present the best generic placement for *fausta* to be in *Sathon* (as part of *lateralis* group of species, see more comments about this species group in the Notes provided under *S. lateralis*). The status of *fausta* as a valid species has varied during the years (e.g., Papp 1983a, 1998), and we suspect it is only a synonym of *eugeni* (e.g., Shaw 2012, Broad et al. 2016), but because that will require further investigation, for the time being we retain it as a valid species in this paper.

***Sathon flavofacialis* (Granger, 1949), new combination**

Microgaster flavofacialis Granger, 1949.

Type information. Syntypes female, MNHN (not examined but illustrations of the holotype examined). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. The generic placement of this species has been determined based on information from the original description and low-resolution images of the holotype (taken with a cell phone) which we have examined. The species is clearly not *Microgaster*, and we are transferring it to *Sathon* here based on propodeum with median longitudinal carina, T2 subtriangular or trapezoidal and with lateral margins well defined by sulcus, ovipositor sheaths moderately long (almost half metatibia length), and hypopygium inflexible. The type also has antenna with some central flagellomeres white-yellow, and the head, propleuron, most of legs, and sternites are orange-yellow. We have seen in collections several undescribed species from Africa which share similar morphological features to this species, and the best generic placement at present would be in *Sathon*. However, future study of this group of species may change that and we suspect that they may represent an undescribed genus.

***Sathon laevidorsum* Williams, 1988**

Sathon laevidorsum Williams, 1988.

Type information. Holotype female, CNC (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

***Sathon lateralis* (Haliday, 1834)**

Microgaster lateralis Haliday, 1834.

Type information. Lectotype female, NHMUK (examined). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Armenia, Azerbaijan, Belgium, Finland, France, Georgia, Germany, Hungary, Ireland, Italy, Kazakhstan, Lithuania, Madeira Islands, Moldova, Netherlands, Romania, Russia (C, NC, S), Serbia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

Notes. This species was placed in *Sathon* by Mason (1981) when he described the genus. The only comprehensive revision ever done of the genus (Williams 1988) also considered *lateralis* to be in *Sathon*, as part of a newly created *lateralis* group of species, which also comprises three other species: *eugeni* Papp, 1972, *fausta* (Nixon, 1973), and *papilionae* Williams, 1988. These four species were differentiated from the more derived *falcatus* group, which comprises the rest of *Sathon* (*sensu* Williams 1988), based on the propodeum sculpture, shape and sculpture of T2, hypopygium shape, straight ovipositor sheaths, males without enlarged genitalia and host data. The *lateralis* group resembles *Glyptapanteles* with relatively long ovipositor sheaths (longer than the majority of the described species in that genus), which has likely influenced the decision of many subsequent authors to treat some of the species in the *lateralis* group as *Glyptapanteles* (e.g., Papp 1988, Belokobylskij et al. 2003, Shaw 2012, Broad et al. 2016) or *Protapanteles sensu lato* (van Achterberg 2003); although other authors continued to treat those species as *Sathon* (Oltra and Michelena 1988, Maetô 1996, Capek and Hofmann 1997). Until a more robust phylogenetic framework for Microgastrinae is available, we prefer to maintain the *lateralis* group in *Sathon*, as we consider Williams (1988) the most detailed study currently available. It should also be noted that in large neighbour-joining trees with thousands of Microgastrinae DNA barcodes (e.g., Smith et al. 2013), the described species of *Sathon*, from both *lateralis* and *falcatus* groups, cluster together.

***Sathon laurae* (de Saeger, 1944), new combination**

Microgaster laurae de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, South Africa.

Notes. Based on the original description (de Saeger 1944), the best generic placement at present is in *Sathon*, based on the propodeum with a strong median carina, ovipositor and ovipositor sheaths relatively long, and hypopygium supposedly unpleated. We consider the hypopygium of this species as lacking pleats because it is depicted as such in figure 22 of the paper (de Saeger 1944: 62), although that detail was not mentioned in the written part of the description. However, we deem this a fair assumption because in the same paper, illustrations of other species with pleated hypopygium were clearly drawn as such, and often also explicitly mentioned in the written part of the descriptions.

***Sathon masoni* Williams, 1988**

Sathon masoni Williams, 1988.

Type information. Holotype female, CNC (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (NT, NU), USA (AK, ID, MN).

***Sathon mikenno* (de Saeger, 1944), new combination**

Microgaster mikenno de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. Based on the original description, this species is clearly not *Microgaster*. The best generic placement at present would be in *Sathon*, as many of the characters described would correspond to that genus, e.g., ovipositor and ovipositor sheaths relatively long (as long as metatibia), inflexible hypopygium, and propodeum with strong median carina. A few characters differ from previously described species of *Sathon*: a) the male specimens from the type series studied by de Saeger (1944) were not described as having large external genitalia, one of the most distinctive traits of *Sathon*, although that trait is not always present (see Williams 1988 for a discussion of that character); b) the head (described by de Saeger as more transverse and globose than normal, and with face rugose and prominent) is not like in typical species of *Sathon*, but is similar to some species of several genera (e.g., *Cotesia*, *Diolcogaster*, *Keylimepie*, *Venanides*), where it seems to be related to some specialized activity; c) T2, as illustrated in de Saeger (1944: fig. 78) is not as in typical *Sathon*, in the sense of being more transverse. However, we do not consider these differences as sufficient to invalidate our decision to transfer *mikenno* to *Sathon*.

***Sathon morata* (Wilkinson, 1929)**

Microgaster morata Wilkinson, 1929.

Type information. Holotype female, NHMUK (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (ACT, SA, VIC, WA).

***Sathon naryciae* Austin & Dangerfield, 1992**

Sathon naryciae Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (VIC).

***Sathon neomexicanus* (Muesebeck, 1921)**

Apanteles neomexicanus Muesebeck, 1921.

Apanteles caudatus Muesebeck, 1922.

Type information. Holotype female, USNM (examined). Country of type locality: USA.

Geographical distribution. NEA.

NEA: Canada (AB, BC, MB, NL, NT, ON, PE), USA (AK, AZ, CA, CO, ID, MI, MN, MT, NV, NM, OR, SD, UT, WA, WI, WY).

***Sathon oreo* Fagan-Jeffries & Austin, 2019**

Sathon oreo Fagan-Jeffries & Austin, 2019.

Type information. Holotype female, SAMA (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (SA).

***Sathon papilionae* Williams, 1988**

Sathon papilionae Williams, 1988.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (BC), USA (AK).

Notes. Our species concept is based on Williams (1988), which considered it part of the *lateralis* group (see more comments about this species group in the Notes provided under *S. lateralis*).

***Sathon resplendens* (Wilkinson, 1929)**

Microgaster resplendens Wilkinson, 1929.

Type information. Holotype female, NHMUK (examined). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (TAS).

Notes. The holotype is in relatively poor condition, broken into several pieces all glued together, with the consequence that some morphological details are lost.

***Sathon ruandanus* (de Saeger, 1944), new combination**

Microgaster ruandana de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Rwanda.

Notes. Based on the original description, the best generic placement at present would be in *Sathon*, as many of the characters described would correspond to that genus, e.g., ovipositor and ovipositor sheaths relatively long (as long as metatibia), inflexible hypopygium, and propodeum with median carina.

***Sathon rufotestaceus* (Granger, 1949), new combination**

Microgaster rufotestacea Granger, 1949.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Notes. The generic placement of this species has been determined based on information from the original description. The species is clearly not *Microgaster*, and we are transferring it to *Sathon* based on the propodeum being mostly smooth but with a strong median longitudinal carina, T1 and T2 shapes and sculptures (as detailed in Granger 1949: 225, fig. 218), and ovipositor sheaths moderately long (as long as metafemur). This species seems to be related to *Microgaster bekilyensis* Granger, also transferred to *Sathon* in this paper. We have seen in collections several undescribed species from Africa which share similar morphological features to these two species, and the best generic placement at present would be in *Sathon*. However, future study of this group of species may change that; we suspect that they may represent an undescribed genus.

Genus *Semionis* Nixon, 1965

Semionis Nixon, 1965: 206. Gender: masculine. Type species: *Semionis rarus* Nixon, 1965, by original designation and monotypy.

There is only one extant species (Nixon 1965, Mason 1981), which is very distinctive, with a fossil species also recently described (Belokobylskij 2014). No host data are currently available for this genus. There are no DNA barcodes of *Semionis* in BOLD.

***Semionis rarus* Nixon, 1965**

Semionis rarus Nixon, 1965.

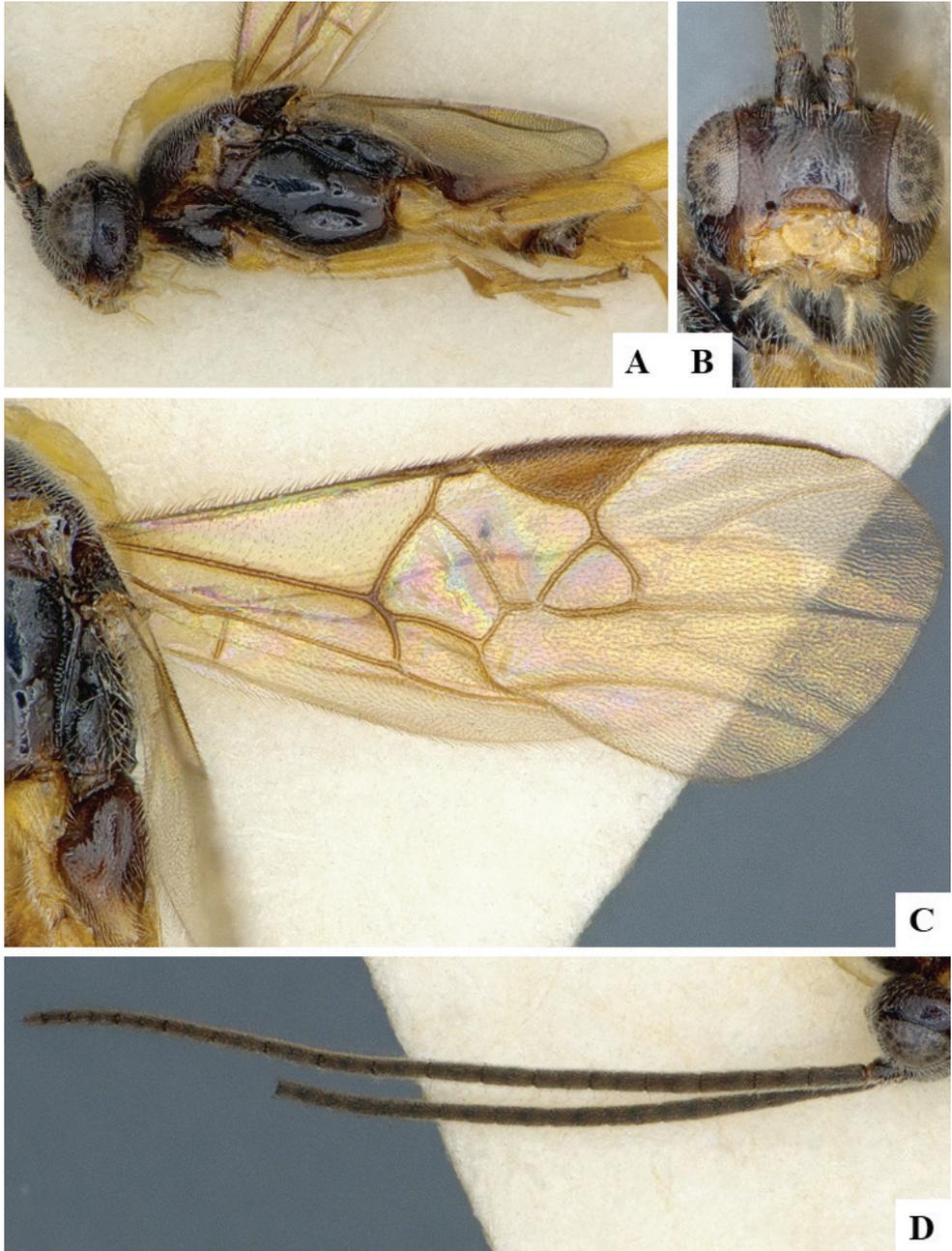


Figure 221. *Semionis rarus* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Antennae.

Type information. Holotype male, NHMUK (examined). Country of type locality: South Africa.



Figure 222. *Semionis rarus* male holotype **A** Habitus, lateral **B** Head and mesosoma, dorsal **C** Propodeum and metasoma, dorsal.

Geographical distribution. AFR.

AFR: South Africa.

Genus *Sendaphne* Nixon, 1965

Sendaphne Nixon, 1965: 203. Gender: feminine. Type species: *Sendaphne olearus* Nixon, 1965, by original designation.

This is a strictly Neotropical genus, recently revised (Fernandez-Triana et al. 2014h) with eleven species recorded, but also several additional, undescribed species in collections. No host data are currently available for *Sendaphne*. There are seven DNA-barcode compliant sequences of this genus in BOLD (with 24 additional, shorter sequences ranging from 102 to 420 bp.), representing two BINs.

***Sendaphne anitae* Fernandez-Triana & Whitfield, 2014**

Sendaphne anitae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Sendaphne bennetti* Fernandez-Triana & Whitfield, 2014**

Sendaphne bennetti Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

***Sendaphne brasiliensis* Pentead-Dias, 1995**

Sendaphne brasiliensis Pentead-Dias, 1995.

Type information. Holotype female, DCBU (not examined but subsequent treatment of the species checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (DF).

Notes. Our species concept is based on Fernandez-Triana et al. (2014h).

***Sendaphne broadi* Fernandez-Triana & Whitfield, 2014**

Sendaphne broadi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype male, CNC (examined). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

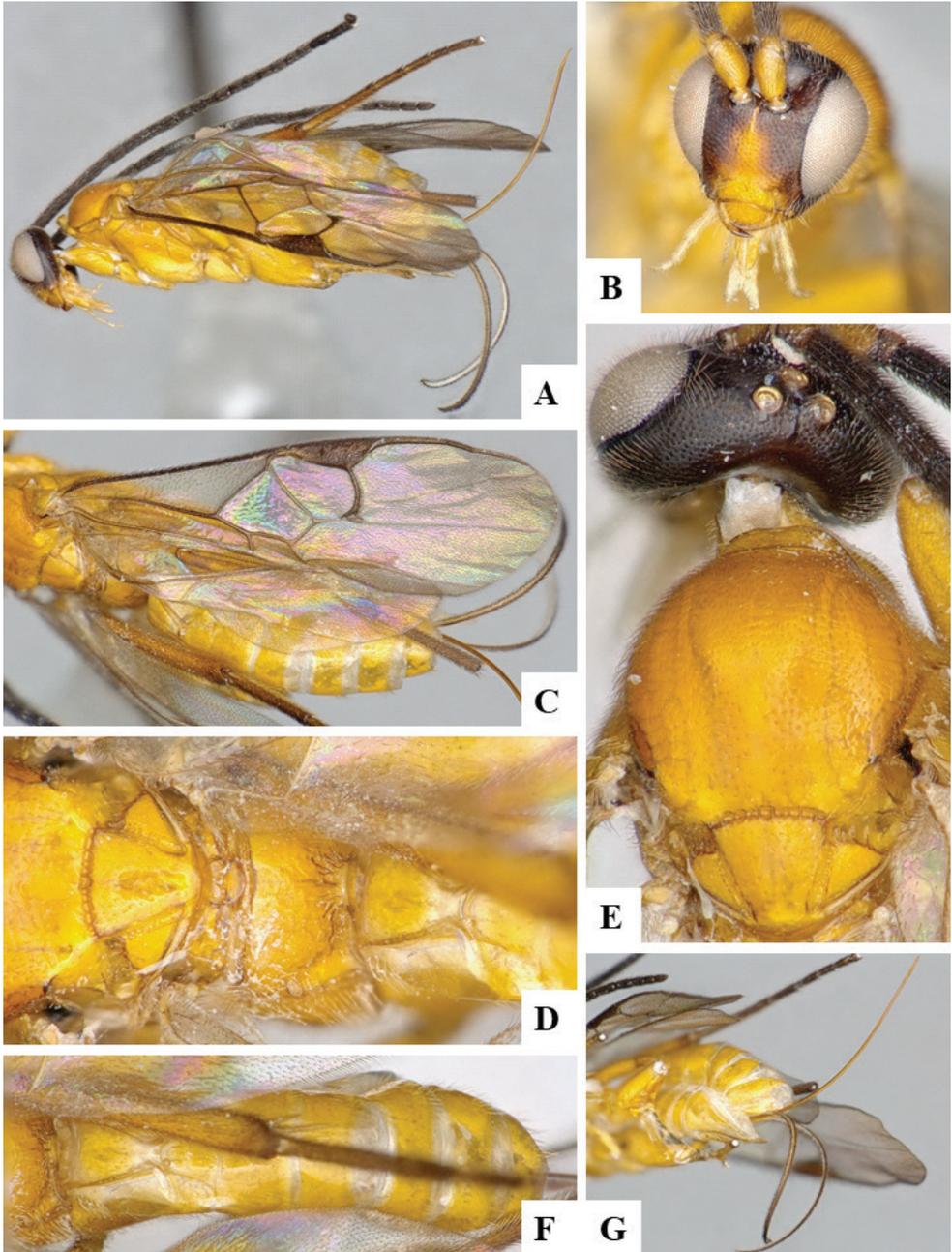


Figure 223. *Sendaphne anitae* female holotype **A** Habitus, lateral **B** Head, frontolateral **C** Fore wing **D** Propodeum and tergites 1–2, dorsal **E** Head and mesosoma, dorsal **F** Metasoma, dorsal **G** Ovipositor and ovipositor sheaths.

***Sendaphne dianariaspennae* Fernandez-Triana & Whitfield, 2014**

Sendaphne dianariaspennae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (PE, RJ, SC), Colombia.

***Sendaphne jatai* Pentead-Dias, 1995**

Sendaphne jatai Pentead-Dias, 1995.

Type information. Holotype female, DCBU (not examined but subsequent treatment of the species checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (MT, SP), Ecuador, French Guiana.

Notes. Our species concept is based on Fernandez-Triana et al. (2014h).

***Sendaphne olearus* Nixon, 1965**

Sendaphne olearus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC), French Guiana, Peru.

***Sendaphne paranaensis* Scatolini & Pentead-Dias, 1999**

Sendaphne paranaensis Scatolini & Pentead-Dias, 1999.

Type information. Holotype female, DCMF (not examined but subsequent treatment of the species checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (ES, PR, RJ), Paraguay.

Notes. Our species concept is based on Fernandez-Triana et al. (2014h).

***Sendaphne penteadodiasae* Fernandez-Triana & Whitfield, 2014**

Sendaphne penteadodiasae Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (PR).

***Sendaphne rogerblancoi* Fernandez-Triana & Whitfield, 2014**

Sendaphne rogerblancoi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Sendaphne sulmo* Nixon, 1965**

Sendaphne sulmo Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

Genus *Shireplitis* Fernandez-Triana & Ward, 2013

Shireplitis Fernandez-Triana & Ward, 2013: 556. Gender: masculine. Type species: *Shireplitis bilboi* Fernandez-Triana & Ward, 2013, by original designation.

The genus was recently described, to include six species limited to New Zealand (Fernandez-Triana et al. 2013b). We are not aware of any undescribed species in collections. No host data are currently available for *Shireplitis*. There are three DNA-barcode compliant sequences of this genus in BOLD, representing one BIN.

***Shireplitis bilboi* Fernandez-Triana & Ward, 2013**

Shireplitis bilboi Fernandez-Triana & Ward, 2013.

Type information. Holotype female, NZAC (examined). Country of type locality: New Zealand.

Geographical distribution. AUS.

AUS: New Zealand.

***Shireplitis frodoi* Fernandez-Triana & Ward, 2013**

Shireplitis frodoi Fernandez-Triana & Ward, 2013.

Type information. Holotype female, NZAC (examined). Country of type locality: New Zealand.

Geographical distribution. AUS.

AUS: New Zealand.

***Shireplitis meriadoci* Fernandez-Triana & Ward, 2013**

Shireplitis meriadoci Fernandez-Triana & Ward, 2013.

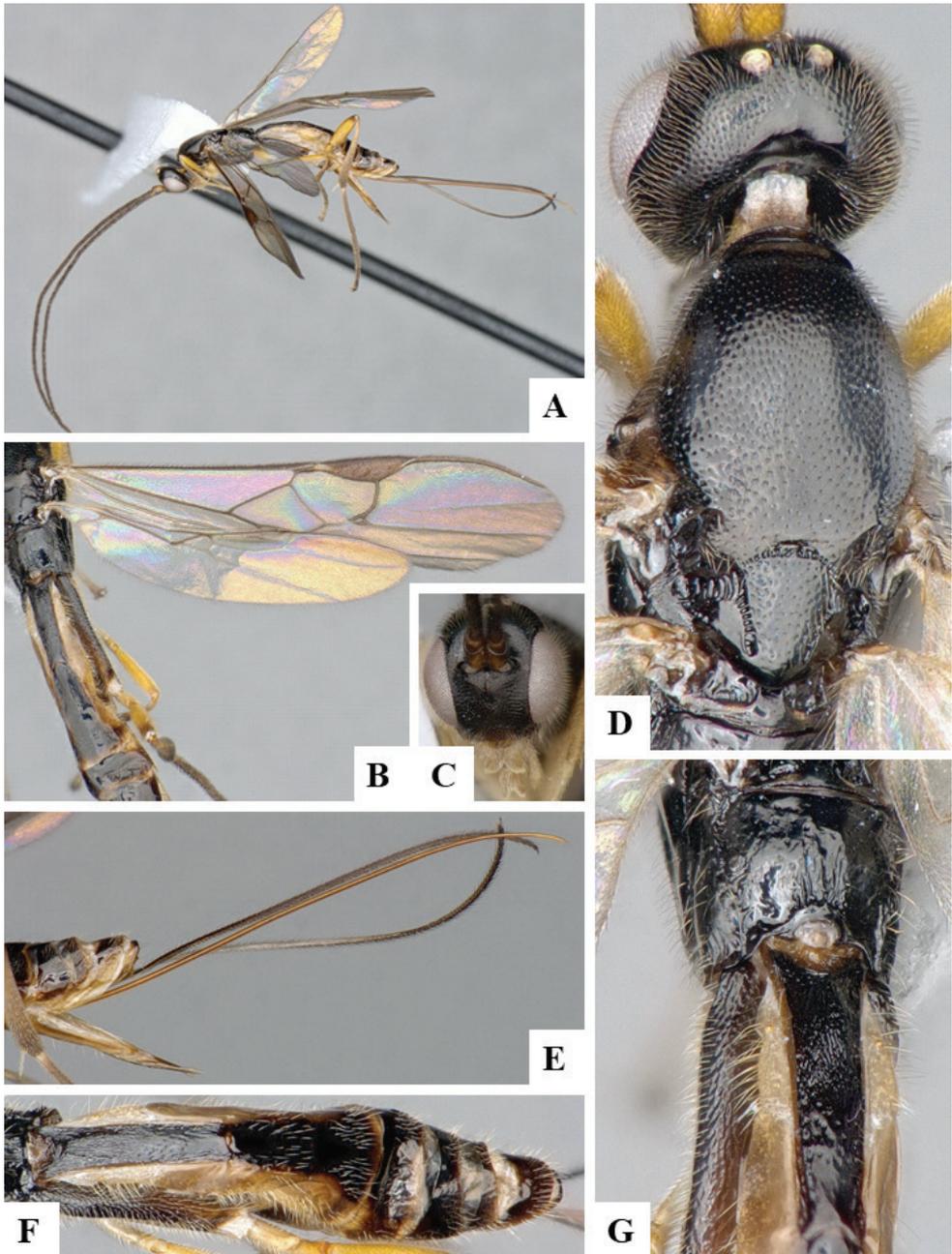


Figure 224. *Sendaphne rogerblancoi* female holotype **A** Habitus, lateral **B** Fore wing and hind wing **C** Head, frontal **D** Head and mesosoma, dorsal **E** Ovipositor and ovipositor sheaths **F** Metasoma, dorsal **G** Propodeum and tergite 1, dorsal.

Type information. Holotype female, NZAC (examined). Country of type locality: New Zealand.

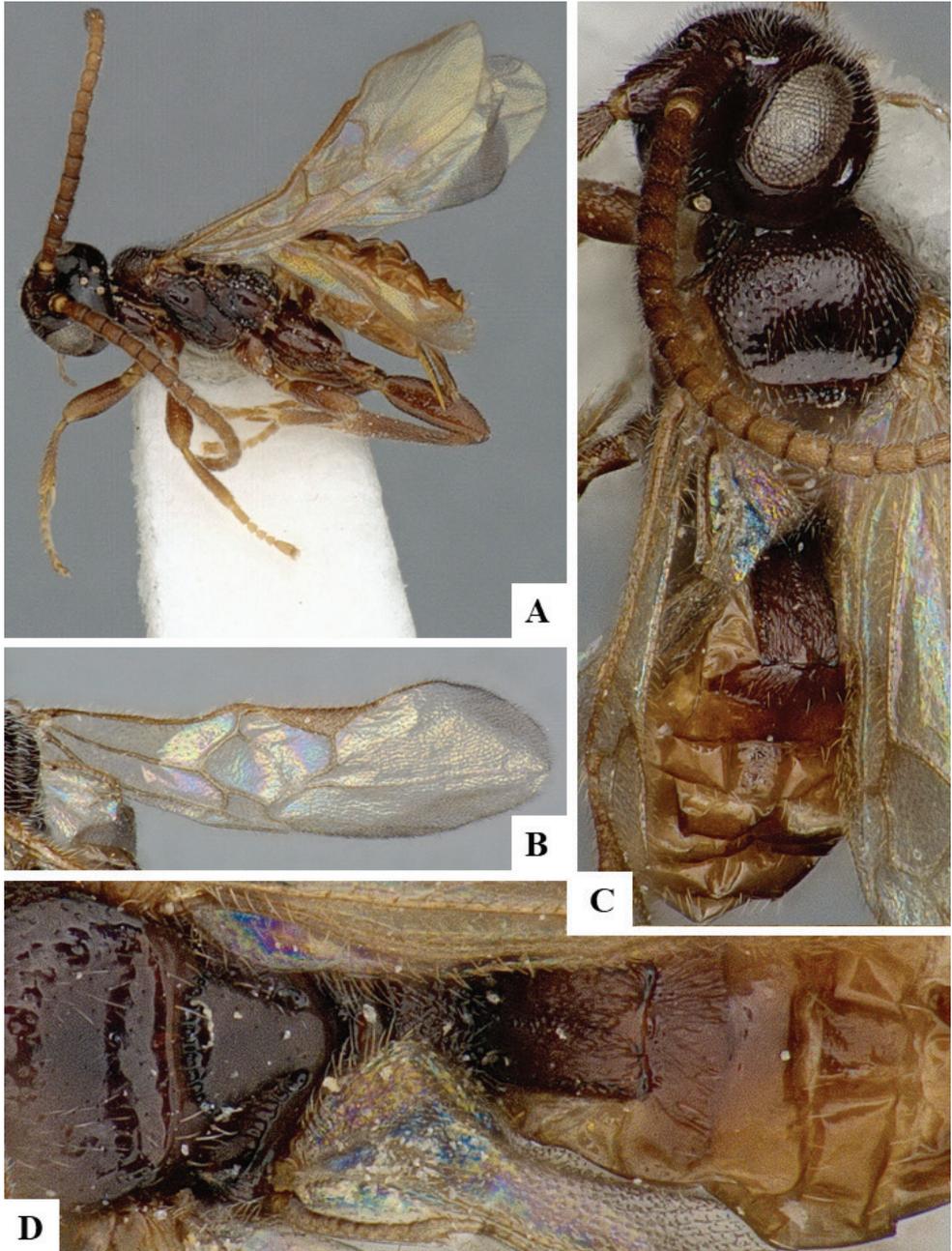


Figure 225. *Shireplitis meriadoci* female holotype **A** Habitus, lateral **B** Fore wing **C** Mesosoma and metasoma, dorsal **D** Scutellar disc, propodeum (partially), and mediotergites 1–5, dorsal.

Geographical distribution. AUS.

AUS: New Zealand.

***Shireplitis peregrini* Fernandez-Triana & Ward, 2013**

Shireplitis peregrini Fernandez-Triana & Ward, 2013.

Type information. Holotype female, NZAC (examined). Country of type locality: New Zealand.

Geographical distribution. AUS.

AUS: New Zealand.

***Shireplitis samwisei* Fernandez-Triana & Ward, 2013**

Shireplitis samwisei Fernandez-Triana & Ward, 2013.

Type information. Holotype female, NZAC (examined). Country of type locality: New Zealand.

Geographical distribution. AUS.

AUS: New Zealand.

***Shireplitis tolkieni* Fernandez-Triana & Ward, 2013**

Shireplitis tolkieni Fernandez-Triana & Ward, 2013.

Type information. Holotype female, NZAC (examined). Country of type locality: New Zealand.

Geographical distribution. AUS.

AUS: New Zealand.

Genus *Silvaspinosus* Fernandez-Triana, 2018

Silvaspinosus Fernandez-Triana, 2018: 102. Gender: neuter. Type species: *Silvaspinosus vespa* Fernandez-Triana and Boudreault 2018, by original designation.

A single species from the Afrotropical region was recently described, but in collections there is at least one additional species (Fernandez-Triana & Boudreault, 2018). No host data are currently available for this genus. There are no full DNA barcodes of *Silvaspinosus* in BOLD, but two short sequences.

***Silvaspinosus vespa* Fernandez-Triana & Boudreault, 2018**

Silvaspinosus vespa Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, CAS (examined). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Genus *Snellenius* Westwood, 1882

Snellenius Westwood, 1882: 19. Gender: masculine. Type species: *Snellenius volenhovii* Westwood, 1882, by original designation and monotypy.

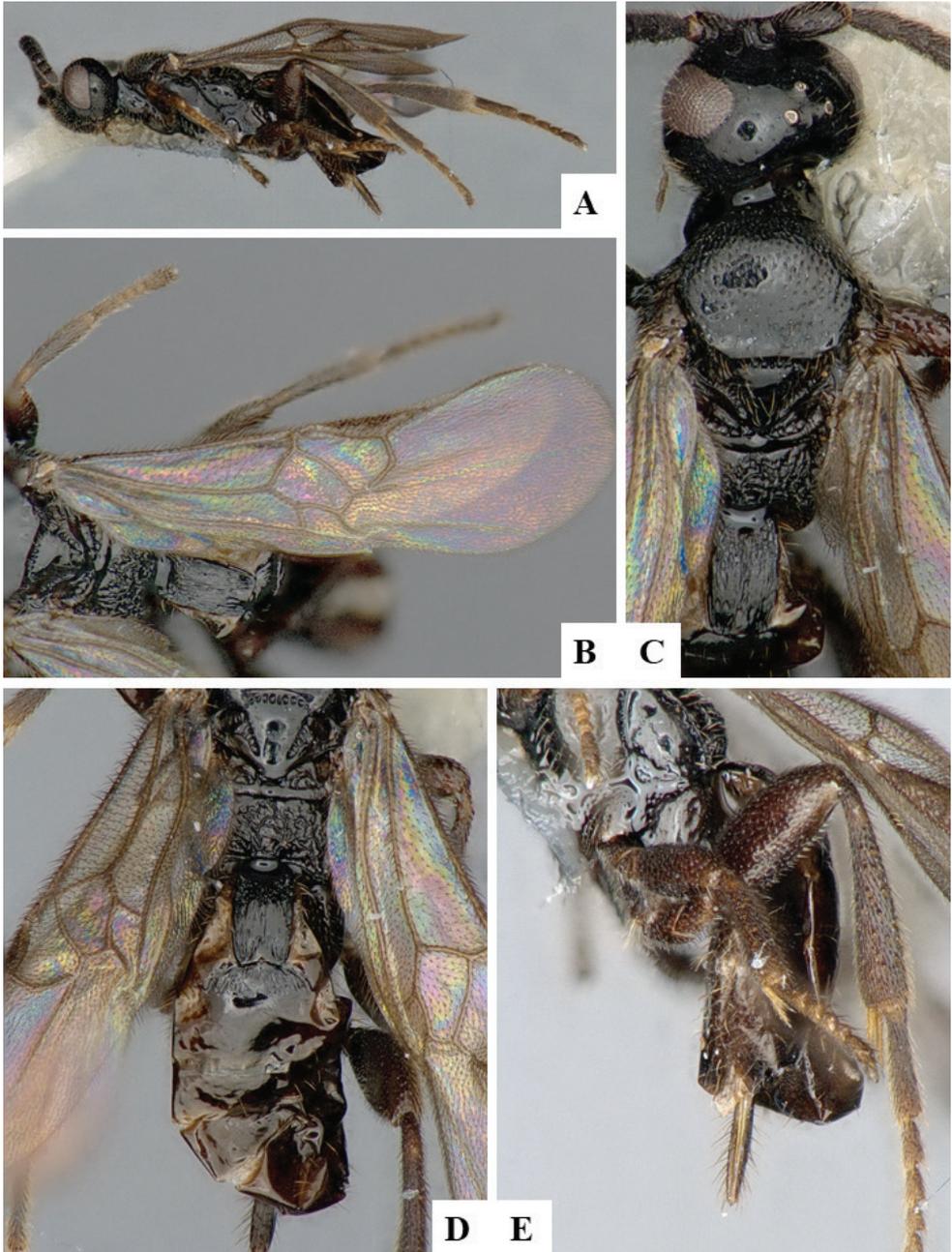


Figure 226. *Shireplitis tolkieni* female holotype **A** Habitus, lateral **B** Fore wing **C** Head and mesosoma, dorsal **D** Propodeum and metasoma, dorsal **E** Metasoma, lateral.

The 41 described species of this genus are distributed in all regions except the Nearctic (although that might be due to relatively little collecting effort and fewer studies of Microgastrinae in southwestern North America, where a few species may be found).

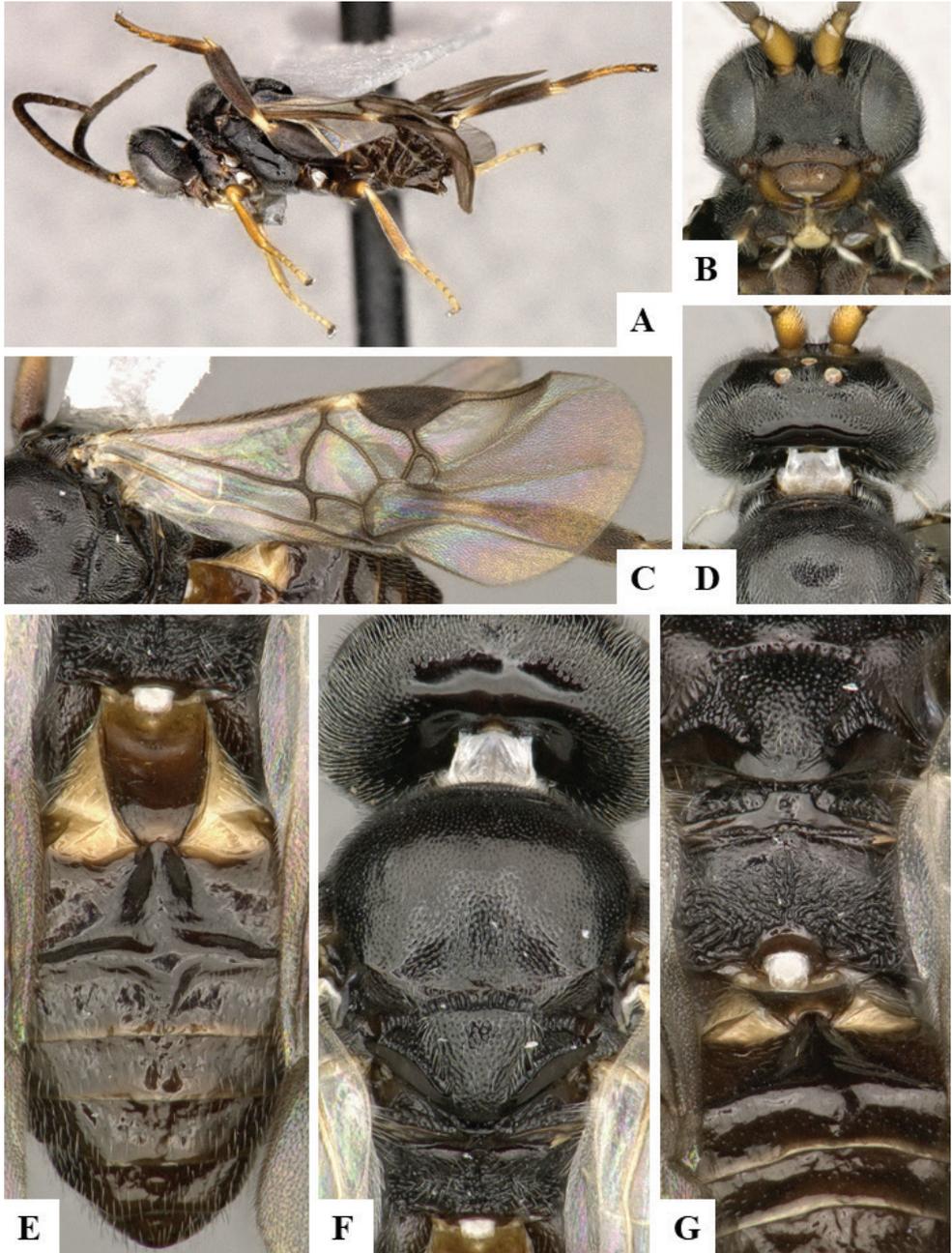


Figure 227. *Silvaspinosus vespa* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head, dorsal **E** Metasoma, dorsal **F** Mesosoma, dorsal **G** Propodeum and tergites 1–4, dorsal.

Although some revisions are available (e.g., Austin and Dangerfield 1993, Long & van Achterberg 2013, Fernandez-Triana et al. 2015b, Perez and Berta 2017) there are many undescribed species in collections and the genus is far from being completely understood from a taxonomic perspective. All known host records are from three Lepidoptera families (Erebidae, Noctuidae, Sphingidae). There are 185 DNA-barcode compliant sequences of this genus in BOLD, representing 25 BINs.

***Snellenius atratus* Shenefelt, 1968**

Snellenius atratus Shenefelt, 1968.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: Peru.

Notes. The original description (Shenefelt 1968) mentions the holotype as deposited in the collection of the author. We do not know where that collection is stored at present but suspect it might be in the USNM.

***Snellenius basalis* (Walker, 1874)**

Proterops basalis Walker, 1874.

Type information. Holotype female, NHMUK (examined). Country of type locality: Japan.

Geographical distribution. PAL.

PAL: Japan.

Notes. Van Achterberg & de Chenon (2009) transferred the species to *Snellenius*, after the authors were able to examine the holotype; at that time the authors included a synonym within that species, *Snellenius theretrae* (Watanabe, 1937). Subsequently, Long & van Achterberg (2013) revised this and removed *S. theretrae* from synonymy, to be considered as a valid species, a decision we follow here.

***Snellenius bicolor* Shenefelt, 1968**

Snellenius bicolor Shenefelt, 1968.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: Argentina, Bolivia, Peru.

Notes. The original description (Shenefelt 1968) mentions the holotype as deposited in the collection of the author. We do not know where that collection is stored at present but suspect it might be in the USNM.

***Snellenius billburgeri* Fernandez-Triana & Whitfield, 2015**

Snellenius billburgeri Fernandez-Triana & Whitfield, 2015.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius bobdressleri* Fernandez-Triana & Whitfield, 2015**

Snellenius bobdressleri Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius clavitergum* Austin & Dangerfield, 1993**

Snellenius clavitergum Austin & Dangerfield, 1993.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

***Snellenius donstonei* Fernandez-Triana & Whitfield, 2015**

Snellenius donstonei Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius felipechavarriai* Fernandez-Triana & Whitfield, 2015**

Snellenius felipechavarriai Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius gelleus* Nixon, 1965**

Snellenius gelleus Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (FJ).

***Snellenius gerardoherrerai* Fernandez-Triana & Whitfield, 2015**

Snellenius gerardoherrerai Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius guizhouensis* Luo & You, 2005**

Snellenius guizhouensis Luo & You, 2005.

Type information. Holotype female, GUGC (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GZ).

Notes. Our species concept is based on Long and van Achterberg (2013).

***Snellenius hippotionus* Austin & Dangerfield, 1993**

Snellenius hippotionus Austin & Dangerfield, 1993.

Type information. Holotype male, ANIC (not examined but original description checked). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

***Snellenius irenebakerae* Fernandez-Triana & Whitfield, 2015**

Snellenius irenebakerae Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius isidrochaconi* Fernandez-Triana & Whitfield, 2015**

Snellenius isidrochaconi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

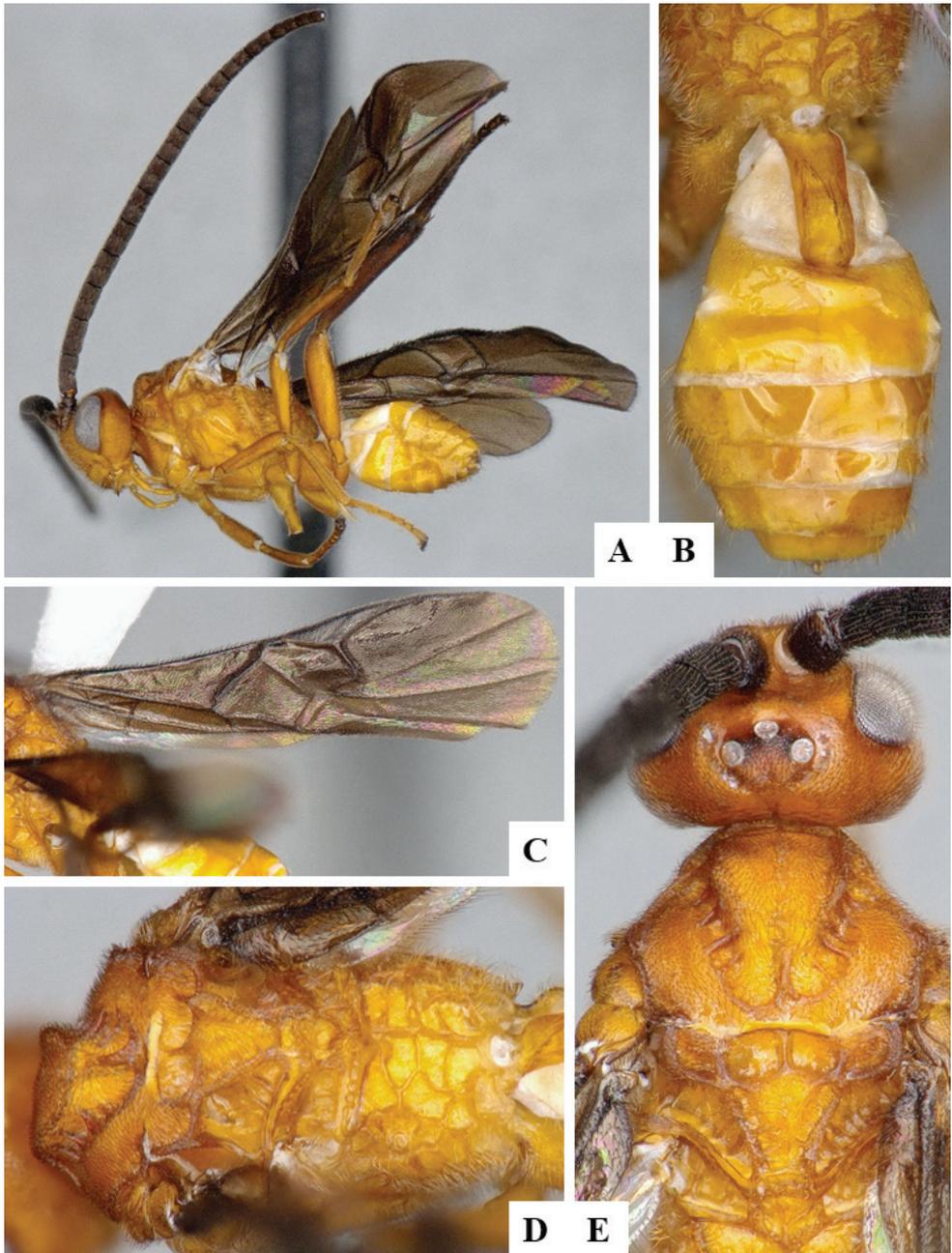


Figure 228. *Snellenius isidrochaconi* male holotype **A** Habitus, lateral **B** Metasoma, dorsal **C** Fore wing **D** Mesosoma, dorsal **E** Head and mesosoma, dorsal.

Geographical distribution. NEO.

NEO: Costa Rica, Panama.

***Snellenius johnkressi* Fernandez-Triana & Whitfield, 2015**

Snellenius johnkressi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius jorgecampabadali* Fernandez-Triana & Whitfield, 2015**

Snellenius jorgecampabadali Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, INBio (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius jorgegomezlaurittoi* Fernandez-Triana & Whitfield, 2015**

Snellenius jorgegomezlaurittoi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius josesarukhani* Fernandez-Triana & Whitfield, 2015**

Snellenius josesarukhani Fernandez-Triana & Whitfield, 2015.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius kerrydresslerae* Fernandez-Triana & Whitfield, 2015**

Snellenius kerrydresslerae Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius latigenus* Luo & You, 2005**

Snellenius latigenus Luo & You, 2005.

Type information. Holotype female, GUGC (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GZ).

Notes. Our species concept is based on Long and van Achterberg (2013).

***Snellenius lucindamcdadeae* Fernandez-Triana & Whitfield, 2015**

Snellenius lucindamcdadeae Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius luisdiegomezi* Fernandez-Triana & Whitfield, 2015**

Snellenius luisdiegomezi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica, Panama.

***Snellenius maculipennis* (Szépligeti, 1900)**

Microplitis maculipennis Szépligeti, 1900.

Microplitis eusirus Lyle, 1921.

Microplitis ophiuae Ramakrishna Ayyar, 1921.

Type information. Type lost (not examined but authoritatively identified specimens examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS, OTL.

AUS: Australia (QLD), Papua New Guinea; **OTL:** India, Thailand, Vietnam.

Notes. The female holotype is considered to be lost (see details in Austin and Dangerfield 1993: 1156). Although several authors have placed this species in *Snellenius*, Gupta (2013a) transferred the species to *Microplitis*, despite the illustrations of her paper clearly showing the presence of an epicnemial carina in that species, which would place it within *Snellenius*. Ranjith et al. (2015a) also followed Gupta (2013a). We have examined the type of *Microplitis eusirus* Lyle, and it also has an epicnemial carina, in addition to having the scutellar disc strongly impressed, as is typical of species of *Snellenius*. Thus, we revise the species combination here back to *Snellenius*.

***Snellenius mariakuzminae* Fernandez-Triana & Whitfield, 2015**

Snellenius mariakuzminae Fernandez-Triana & Whitfield, 2015.

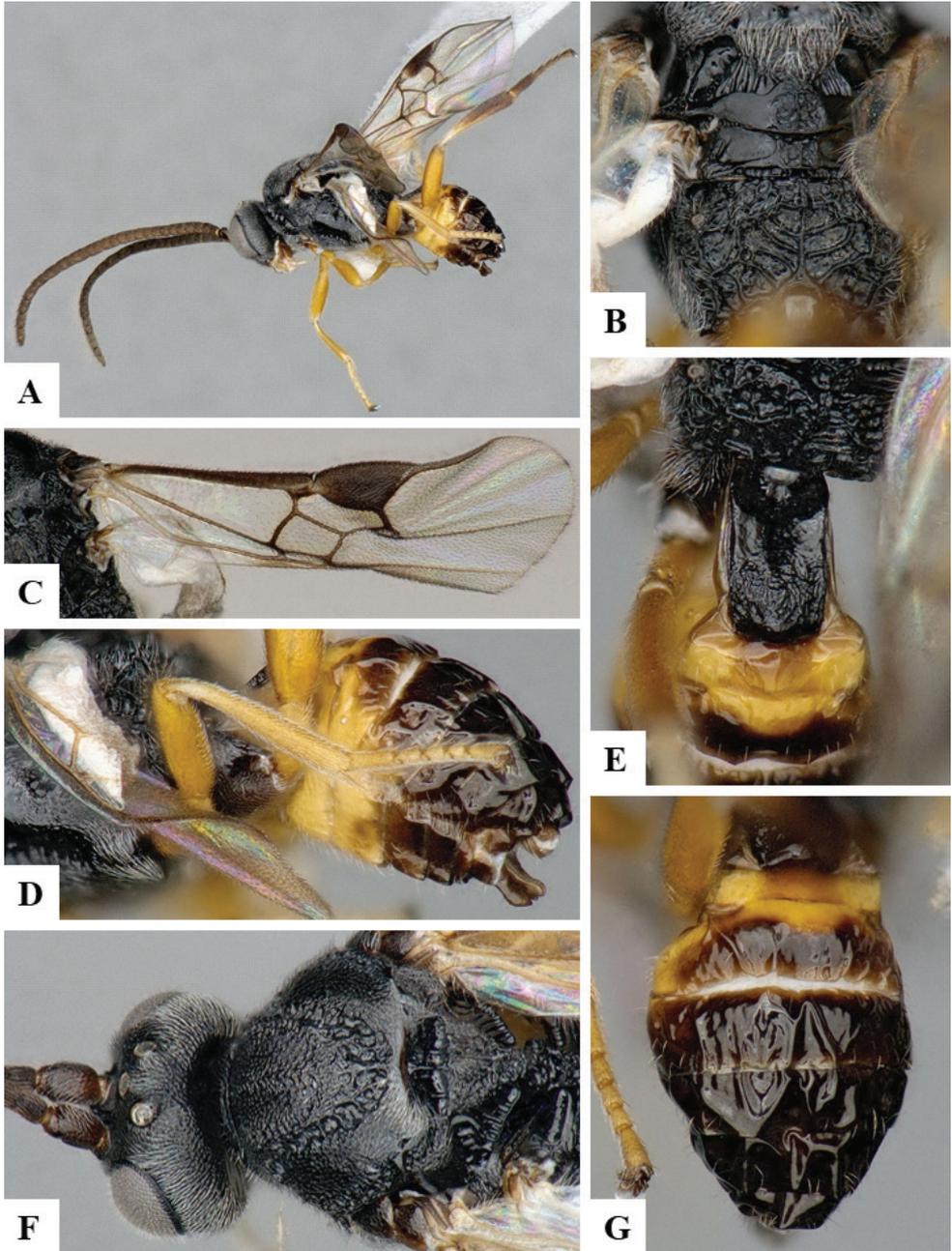


Figure 229. *Snellenius mariakuzminae* male holotype **A** Habitus, lateral **B** Propodeum, dorsal **C** Fore wing **D** Metasoma, lateral **E** Tergites 1–4, dorsal **F** Head and mesosoma, dorsal **G** Metasoma, dorsal.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius mariamartachavarriae* Fernandez-Triana & Whitfield, 2015**

Snellenius mariamartachavarriae Fernandez-Triana & Whitfield, 2015.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius nigellus* Long & van Achterberg, 2013**

Snellenius nigellus Long & van Achterberg, 2013.

Type information. Holotype male, VNMN (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Snellenius peruensis* Shenefelt, 1968**

Snellenius peruensis Shenefelt, 1968.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: Peru.

Notes. The original description (Shenefelt 1968) mentions the holotype as deposited in the collection of the author. We do not know where that collection is stored at present, but suspect it might be in the USNM.

***Snellenius phildevriesi* Fernandez-Triana & Whitfield, 2015**

Snellenius phildevriesi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius philippinensis* (Ashmead, 1904)**

Microplitis philippinensis Ashmead, 1904.

Microplitis bimaculatus Cameron, 1909.

Type information. Holotype male, USNM (not examined but subsequent treatment of the species checked). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Indonesia, Malaysia, Philippines, Vietnam.

Notes. Our species concept is based on Long and van Achterberg (2013).

***Snellenius quiricojimenezi* Fernandez-Triana & Whitfield, 2015**

Snellenius quiricojimenezi Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius radicalis* (Wilkinson, 1929)**

Microplitis radicalis Wilkinson, 1929.

Type information. Syntypes female and male, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (TW).

Notes. The information about type specimens and depository we follow here is from the original description (Wilkinson 1945: 206-207); however, Nixon (1965: 270) mentioned that the type was deposited in the NHMUK.

***Snellenius robertoespinozai* Fernandez-Triana & Whitfield, 2015**

Snellenius robertoespinozai Fernandez-Triana & Whitfield, 2015.

Type information. Holotype male, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius sandyknappae* Fernandez-Triana & Whitfield, 2015**

Snellenius sandyknappae Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius sedlaceki* Austin & Dangerfield, 1993**

Snellenius sedlaceki Austin & Dangerfield, 1993.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

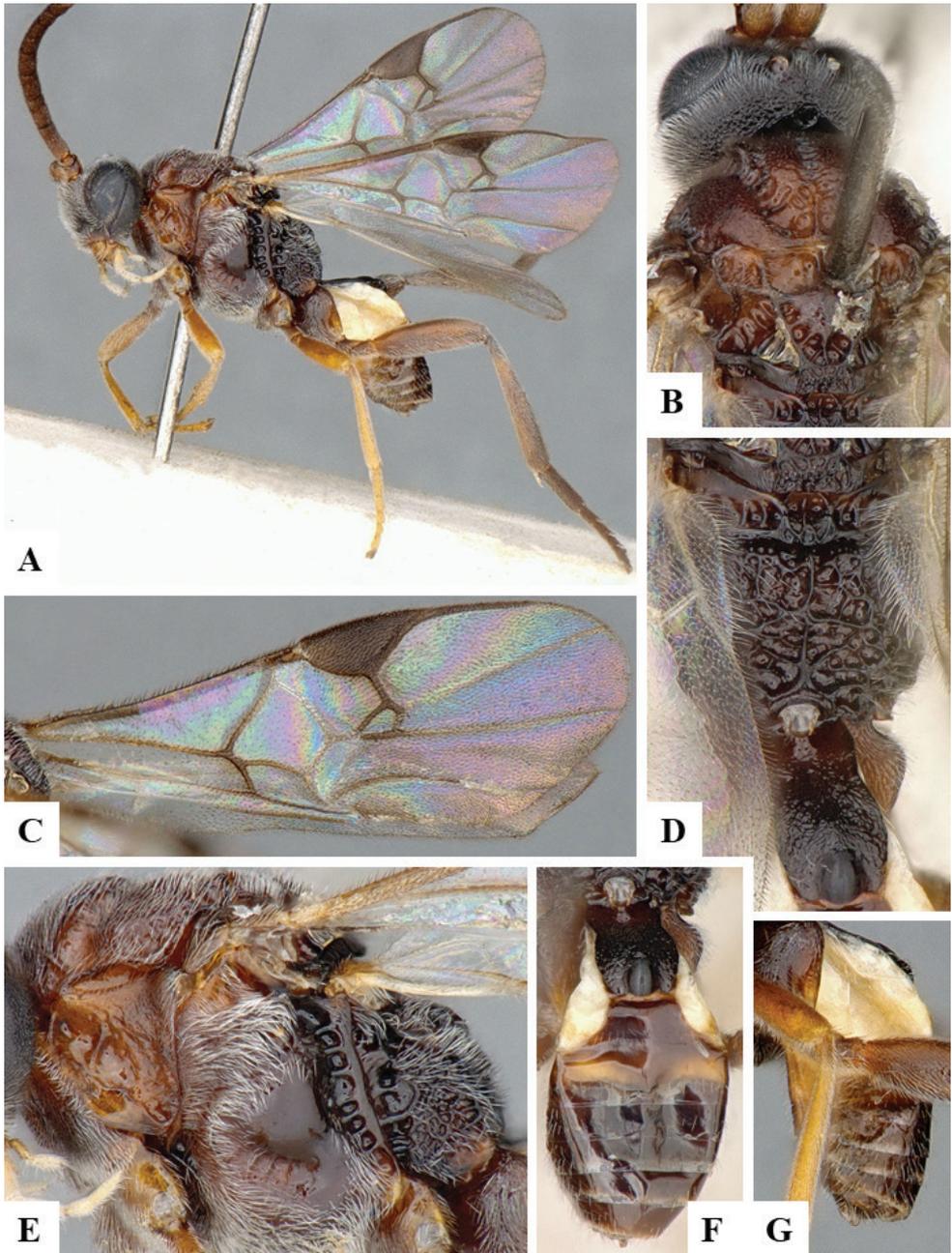


Figure 230. *Snellenius robertoespinozai* male holotype **A** Habitus, lateral **B** Mesosoma, dorsal **C** Fore wing **D** Propodeum and tergite 1, dorsal **E** Mesosoma, lateral **F** Metasoma, dorsal **G** Metasoma, lateral.

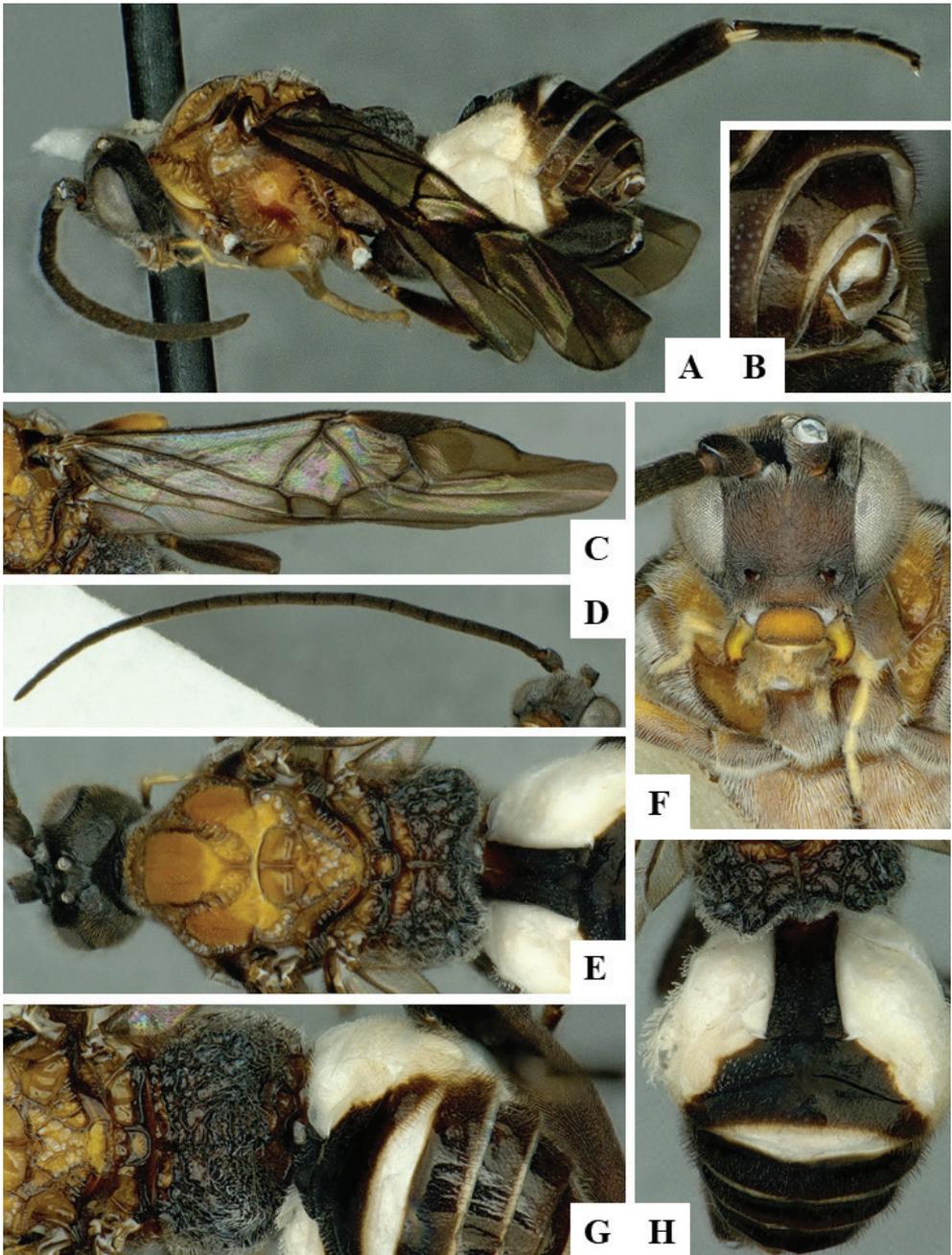


Figure 231. *Snellenius* sp. female CNCH1580 **A** Habitus, lateral **B** Apex of metasoma, dorsolateral **C** Fore wing **D** Antenna **E** Mesosoma, dorsal **F** Head, frontal **G** Propodeum and part of metasoma, dorsal **H** Metasoma, dorsal.

***Snellenius similis* Long & van Achterberg, 2013**

Snellenius similis Long & van Achterberg, 2013.

Type information. Holotype female, VNMN (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Snellenius theretrae* (Watanabe, 1937)**

Microplitis theretrae Watanabe, 1937.

Type information. Holotype female, EIHU (not examined but subsequent treatment of the species checked). Country of type locality: Japan.

Geographical distribution. PAL.

PAL: Japan, Korea.

Notes. The status of this species was revised by Long & van Achterberg (2013), who removed the species from synonymy with *Snellenius basalis* (Walker, 1874), a decision we accept and follow.

***Snellenius tricolor* Shenefelt, 1968**

Snellenius tricolor Shenefelt, 1968.

Type information. Holotype female, USNM (examined). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

***Snellenius velvaruddae* Fernandez-Triana & Whitfield, 2015**

Snellenius velvaruddae Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Snellenius vickifunkae* Fernandez-Triana & Whitfield, 2015**

Snellenius vickifunkae Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

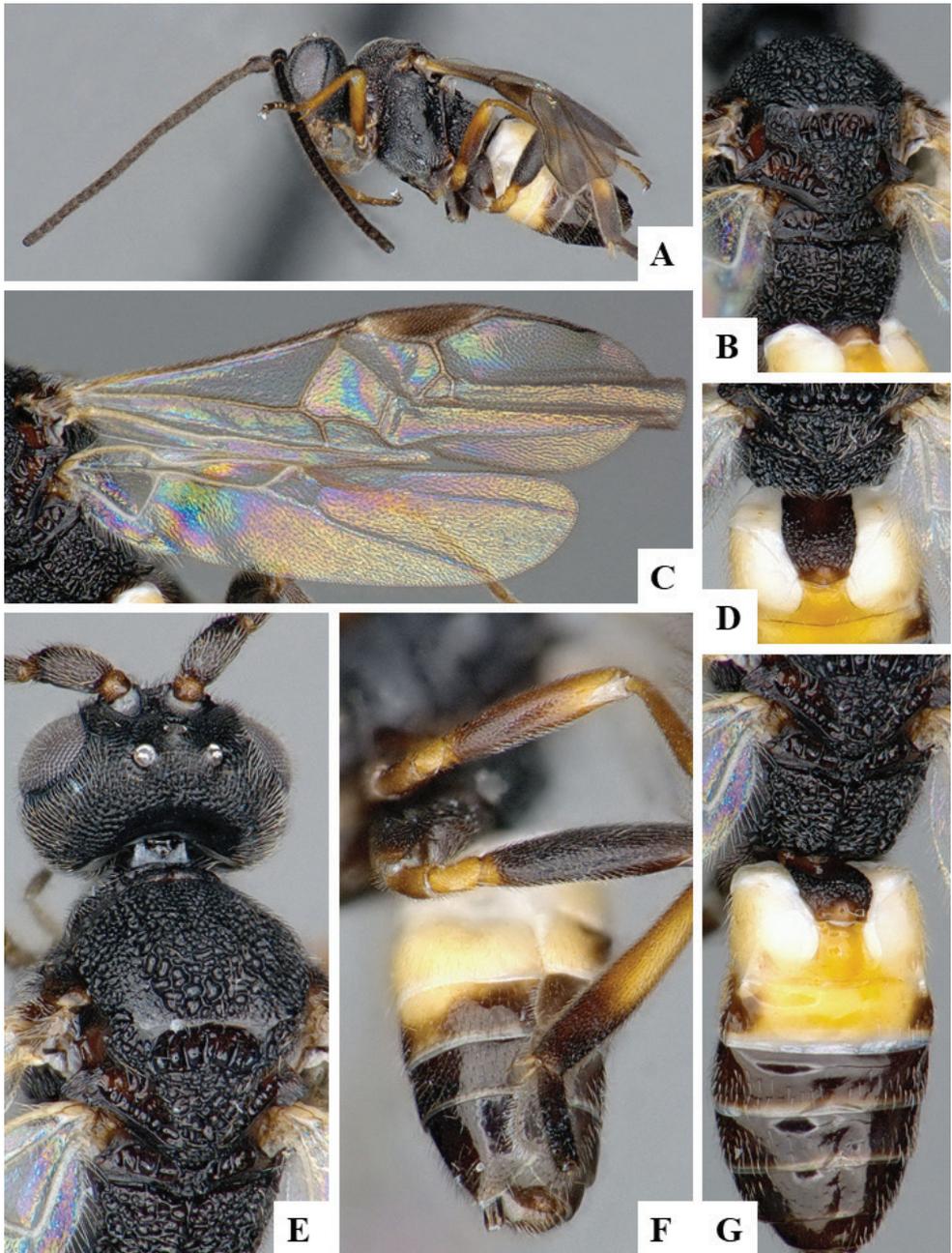


Figure 232. *Snellenius vickifunkae* female holotype **A** Habitus, lateral **B** Mesosoma, dorsolateral **C** Fore wing and hind wing **D** Propodeum and tergites 1–2, dorsal **E** Head and mesosoma, dorsal **F** Metasoma, lateral **G** Propodeum and metasoma, dorsal.

***Snellenius vollenhovii* Westwood, 1882**

Snellenius vollenhovii Westwood, 1882.

Type information. Holotype male, OUMNH (not examined but subsequent treatment of the species checked). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

Notes. Our species concept is based on Nixon (1965), Austin and Dangerfield (1993), and Long and van Achterberg (2013).

***Snellenius warrenwagneri* Fernandez-Triana & Whitfield, 2015**

Snellenius warrenwagneri Fernandez-Triana & Whitfield, 2015.

Type information. Holotype female, USNM (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Genus *Tobleronius* Fernandez-Triana, 2018

Tobleronius Fernandez-Triana, 2018: 108. Gender: neuter. Type species: *Tobleronius orientalis* Fernandez-Triana and Boudreault 2018, by original designation.

One species was recently described from the Oriental region (Fernandez-Triana & Boudreault, 2018), but at least another one may exist in collections. No host data are currently available for this genus. There are two DNA-barcode compliant sequences of *Tobleronius* in BOLD, representing two BINs (although those sequences have not been identified in BOLD as belonging to *Tobleronius*; see Fernandez-Triana and Boudreault 2018).

***Tobleronius orientalis* Fernandez-Triana & Boudreault, 2018**

Tobleronius orientalis Fernandez-Triana & Boudreault, 2018.

Type information. Holotype male, RMNH (examined). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Thailand, Vietnam.

Genus *Ungunicus* Fernandez-Triana, 2018

Ungunicus Fernandez-Triana, 2018: 113. Gender: neuter. Type species: *Ungunicus vietnamensis* Fernandez-Triana & Boudreault, 2018, by original designation.

One species was recently described from the Oriental region (Fernandez-Triana and Boudreault 2018); we are not aware of additional species in collections. No host data are currently available for this genus. There is one DNA-barcode compliant sequence

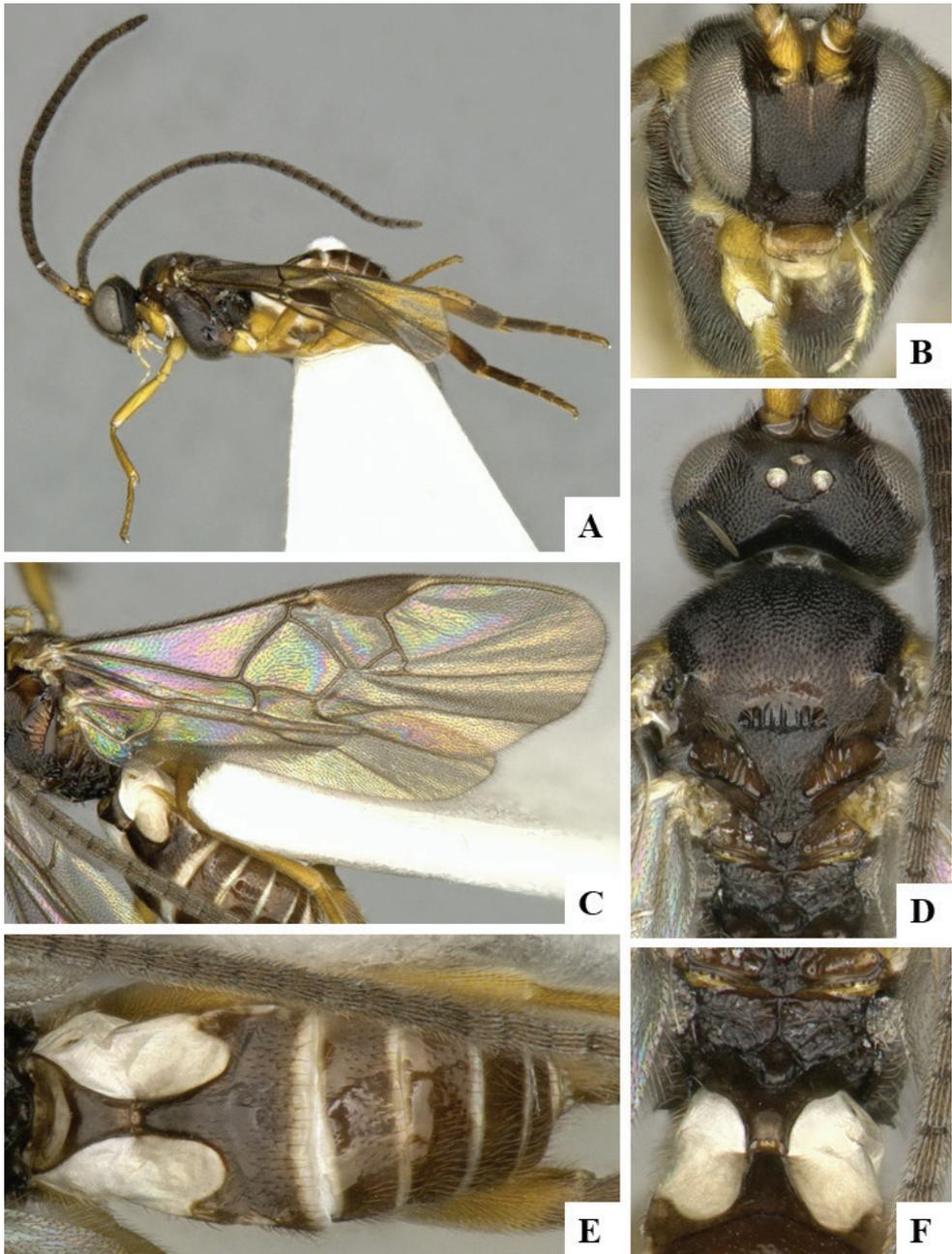


Figure 233. *Tobleronius orientalis* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal **F** Propodeum and tergites 1–2, dorsal.

of *Ungunicus* in BOLD, representing one BIN (although that sequence has not been identified in BOLD as belonging to *Ungunicus*, see Fernandez-Triana and Boudreault 2018 for that).

***Ungunicus vietnamensis* Fernandez-Triana & Boudreault, 2018**

Ungunicus vietnamensis Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, RMNH (examined). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

Genus *Venanides* Mason, 1981

Venanides Mason, 1981: 99. Gender: masculine. Type species: *Venanides xeste* Mason, 1981, by original designation.

A cosmopolitan genus, with 14 described species and several more undescribed and found in collections. No revision of this genus is currently available. Host records are from six families of Lepidoptera, but some are questionable. There are 89 DNA-barcode compliant sequences of this genus in BOLD, representing five BINs.

***Venanides astydamia* (Nixon, 1965), new combination**

Apanteles astydamia Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Transferred to *Venanides* based on pronotum laterally with a single furrow, venation of fore wing, smooth propodeum, T1 and T2 shapes, and ovipositor sheaths without setae. In the original description, Nixon (1965) did not provide any detail on the etymology of the species name. As first revisers, we thus consider its gender to be neuter.

***Venanides caspius* Abdoli, Fernandez-Triana & Talebi, 2019**

Venanides caspius Abdoli, Fernandez-Triana & Talebi, 2019.

Type information. Holotype female, TMUC (examined). Country of type locality: Iran.

Geographical distribution. PAL.

PAL: Iran.

***Venanides congoensis* (de Saeger, 1941)**

Apanteles congoensis de Saeger, 1941.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

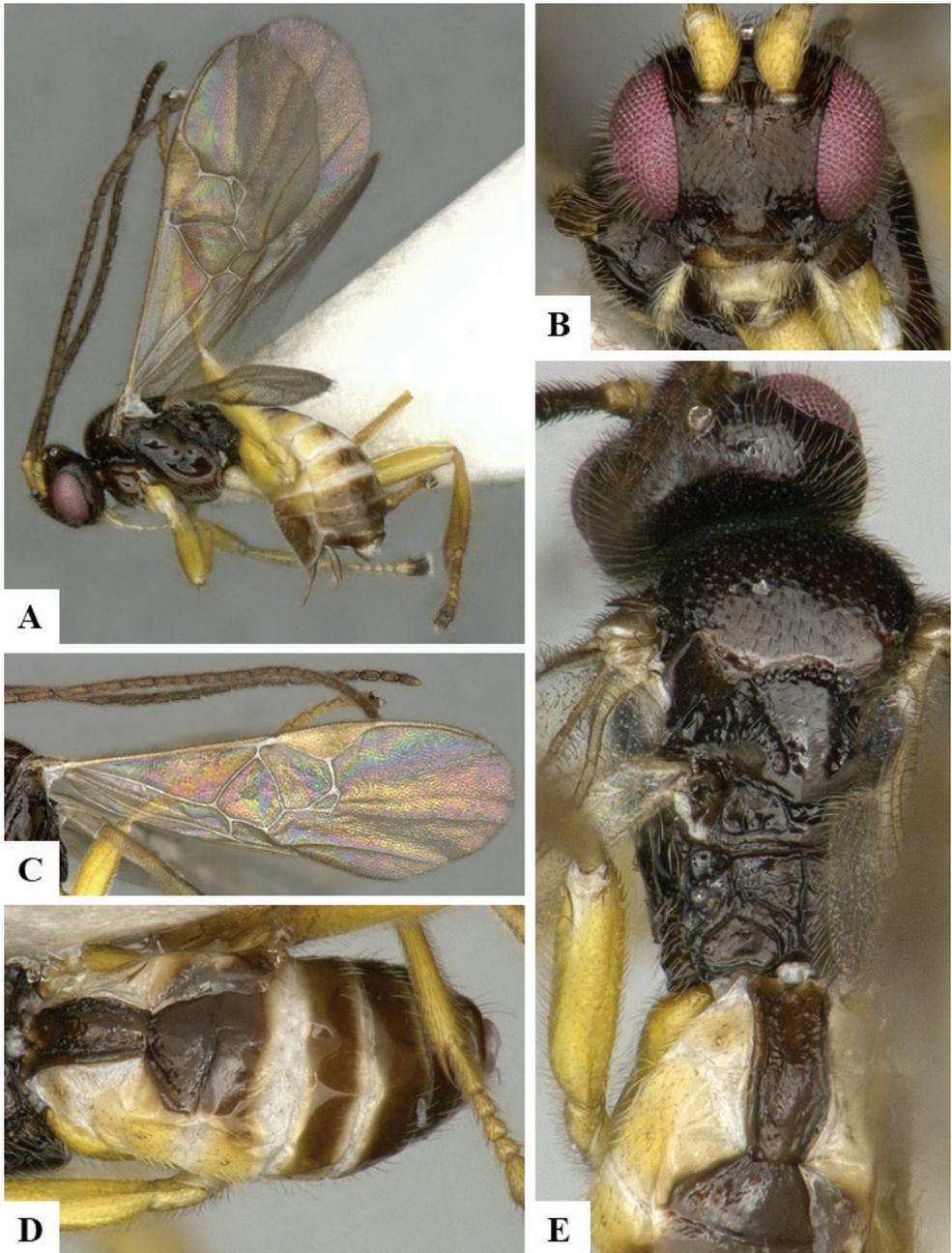


Figure 234. *Ungunicus vietnamensis* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal.

Geographical distribution. AFR.

AFR: Cameroon, Democratic Republic of Congo, Uganda.

***Venanides curticornis* (Granger, 1949)**

Apanteles curticornis Granger, 1949.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar, Réunion.

***Venanides demeter* (Wilkinson, 1934), new combination**

Apanteles demeter Wilkinson, 1934.

Type information. Holotype female, NHMUK (examined). Country of type locality: New Zealand.

Geographical distribution. AUS.

AUS: New Zealand.

Notes. This species had been transferred to *Glyptapanteles* by Mason (1981), but it is placed in *Venanides* in this work because the pronotum laterally has only one ventral sulcus (two sulci in *Glyptapanteles*) and the propodeum is mostly sculptured, including numerous, relatively long carinae radiating from nucha (propodeum not like that in *Glyptapanteles*). DNA barcodes obtained from this species suggest that it might even belong to a different genus on its own but solving that will require further study beyond the scope of this paper; for the time being the best generic placement is *Venanides*.

***Venanides longifrons* Fernandez-Triana & van Achterberg, 2017**

Venanides longifrons Fernandez-Triana & van Achterberg, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

***Venanides parmula* (Nixon, 1965), new combination**

Apanteles parmula Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Transferred to *Venanides* based on pronotum laterally with a single furrow, venation of fore wing, smooth propodeum, T1 and T2 shapes, and ovipositor sheaths without setae.

***Venanides plancina* (Nixon, 1965)**

Apanteles plancina Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: India.

Geographical distribution. OTL.

OTL: China (HN), India.

***Venanides pyrogrammae* (Nixon, 1965)**

Apanteles pyrogrammae Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Australia (QLD), Papua New Guinea.

***Venanides supracompressus* Fernandez-Triana & van Achterberg, 2017**

Venanides supracompressus Fernandez-Triana & van Achterberg, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

***Venanides symmysta* (Nixon, 1965), new combination**

Apanteles symmysta Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Transferred to *Venanides* based on pronotum laterally with a single furrow, venation of fore wing, smooth propodeum, T1 and T2 shapes, and ovipositor sheaths without setae.

***Venanides tenuitergitus* Fernandez-Triana & van Achterberg, 2017**

Venanides tenuitergitus Fernandez-Triana & van Achterberg, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

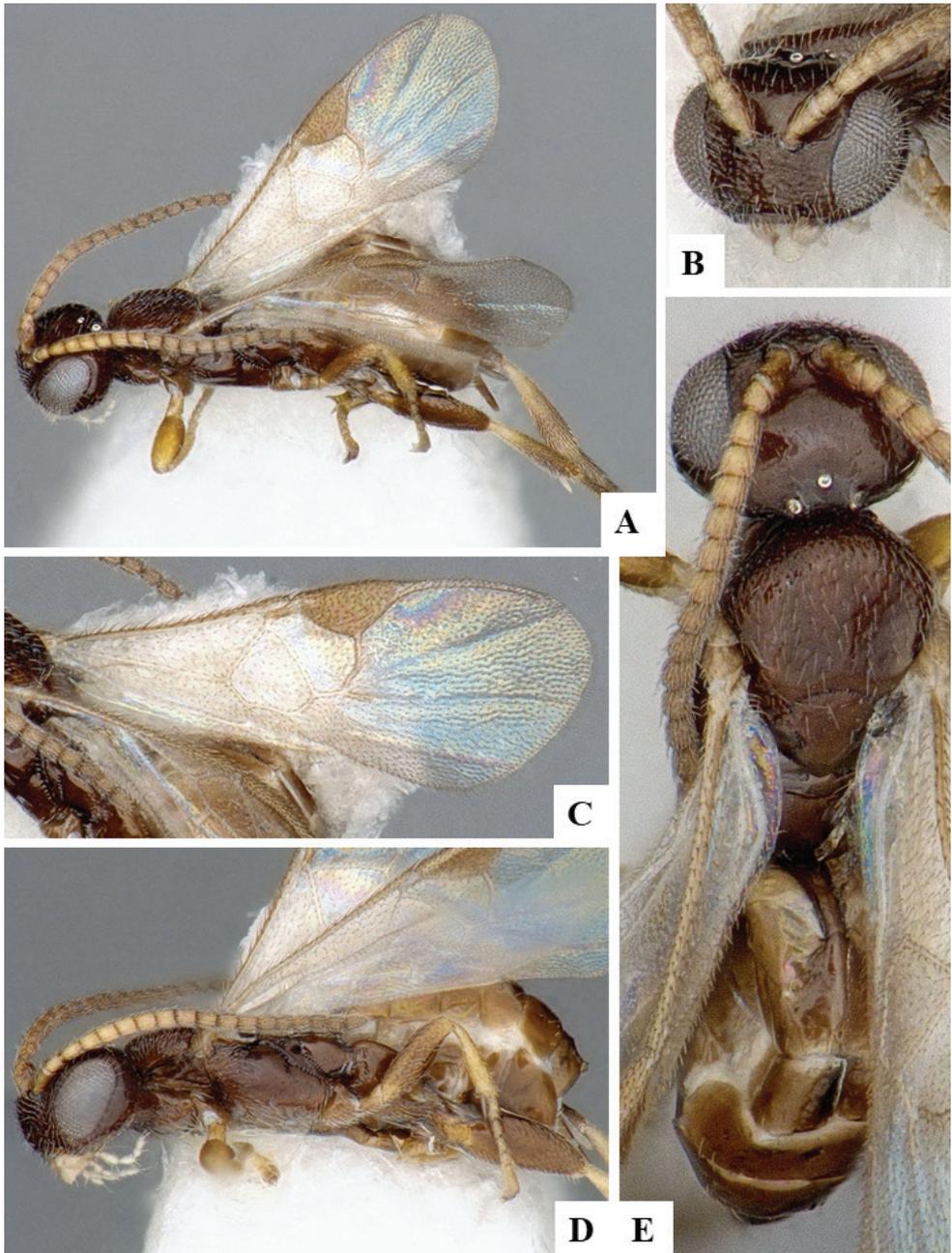


Figure 235. *Venanides supracompressus* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head, mesosoma and metasoma, lateral **E** Head, mesosoma and metasoma, dorsal.

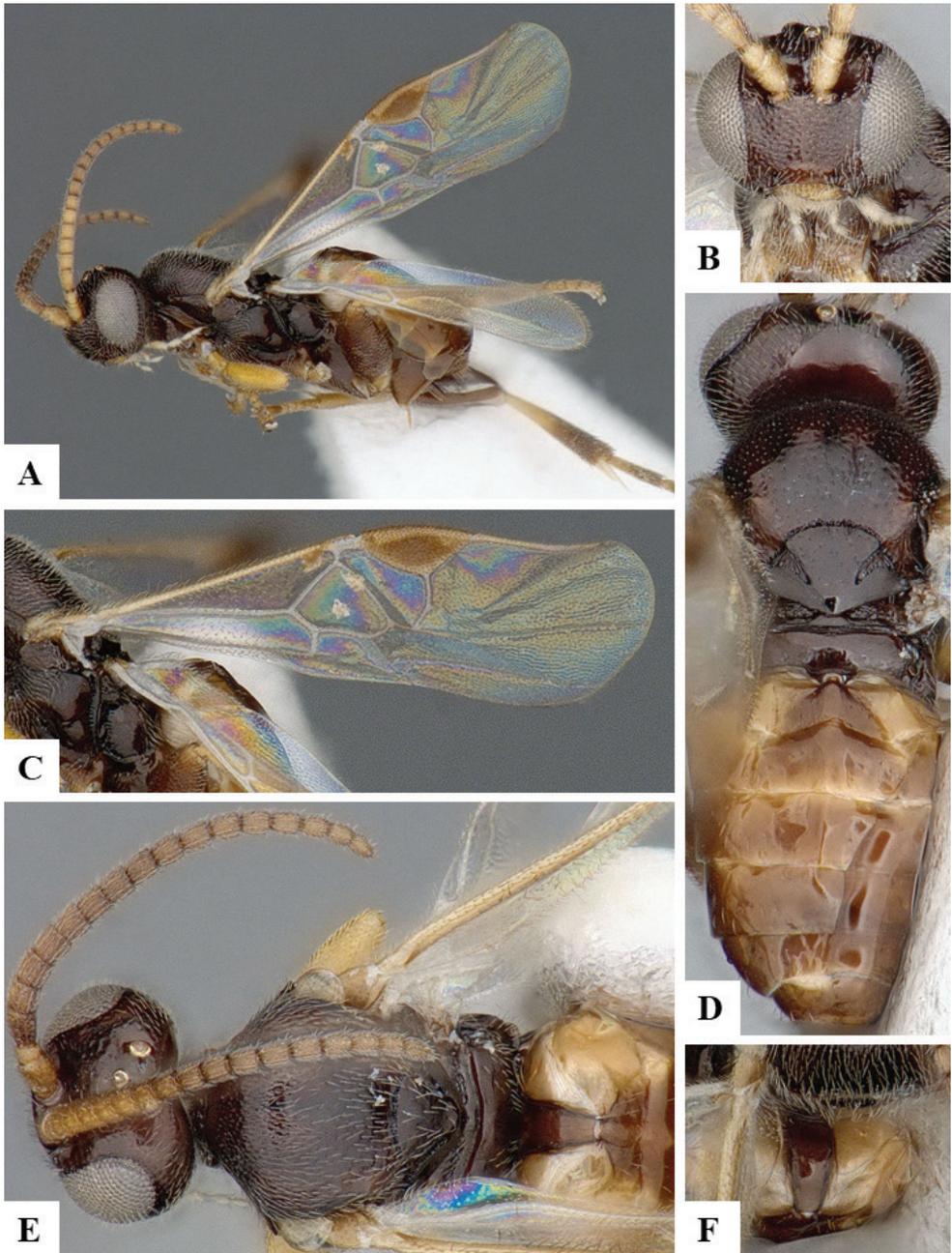


Figure 236. *Venanides tenuitergus* female paratype WAM 0128 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head, mesosoma and metasoma, dorsal **E** Head and mesosoma, dorsal **F** Tergite 1, dorsal.

***Venanides vanharteni* Fernandez-Triana & van Achterberg, 2017**

Venanides vanharteni Fernandez-Triana & van Achterberg, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

***Venanides xeste* Mason, 1981**

Venanides xeste Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA, NEO.

NEA: Canada (MB, ON), USA (AZ, AR, CT, IA, MI, MN, MO, NY, NC, TX);

NEO: Brazil (SC), Saint Lucia.

Genus *Venanus* Mason, 1981

Venanus Mason, 1981: 94. Gender: masculine. Type species: *Venanus pinicola* Mason, 1981, by original designation.

This genus seems to be restricted to the New World, with most of the eleven described species being found in the Neotropical region. A recent revision of *Venanus* (Whitfield et al. 2011) covered most of the known species, but we have seen in collections a few additional ones. Known host records include the families Gelechiidae and Gracillariidae. There are 71 DNA-barcode compliant sequences of this genus in BOLD, representing five BINs.

***Venanus chilensis* Mason, 1981**

Venanus chilensis Mason, 1981.

Type information. Holotype male, CNC (examined). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

***Venanus greeneyi* Whitfield & Arias-Penna, 2011**

Venanus greeneyi Whitfield & Arias-Penna, 2011.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

***Venanus heberti* Fernandez-Triana, 2010**

Venanus heberti Fernandez-Triana, 2010.

Type information. Holotype male, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (NS, PE, QC).

Notes. Mason (1981) described the new genus *Venanus*, with the type species being *Venanus pinicola*, a species widespread in Canada, and also Idaho, USA. Mason (1981: 97) reported *V. pinicola* as parasitizing "*Gracillaria asplenifoliella*" (Gracillaridae). Fernandez-Triana (2010) considered *V. pinicola* specimens (*sensu* Mason) to actually comprise two different species, *pinicola* (restricted to western Canada and Idaho) and a new species he described as *Venanus heberti* (from eastern Canada). Some of the *pinicola* specimens (*sensu* Mason) were transferred to *heberti*, and when doing so, Fernandez-Triana (2010) spelled the host name as "*Caloptilia asplenifoliella*"; and Fernandez-Triana (2014) repeated that same information. The actual name of the host is *Caloptilia asplenifoliatella* (Darlington, 1949), thus, both Mason (1981) and Fernandez-Triana (2010, 2014) spelled the specific name incorrectly. Summarizing, the correct identity of the known hosts for both species of *Venanus* are: *Coleotechnites milleri* (Busck, 1914) and *Coleotechnites starki* (Freeman, 1957) (both Gelechiidae) for *Venanus pinicola*; and *Caloptilia asplenifoliatella* (Darlington, 1949) for *Venanus heberti*.

***Venanus helavai* Mason, 1981**

Venanus helavai Mason, 1981.

Type information. Holotype male, CNC (examined). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia, Ecuador.

***Venanus johnnyrosalesi* Fernandez-Triana & Whitfield, 2014**

Venanus johnnyrosalesi Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Venanus kusikuylluræ* Rasmussen & Whitfield, 2011**

Venanus kusikuylluræ Rasmussen & Whitfield, 2011.

Type information. Holotype female, MUSM (not examined but original description checked). Country of type locality: Peru.

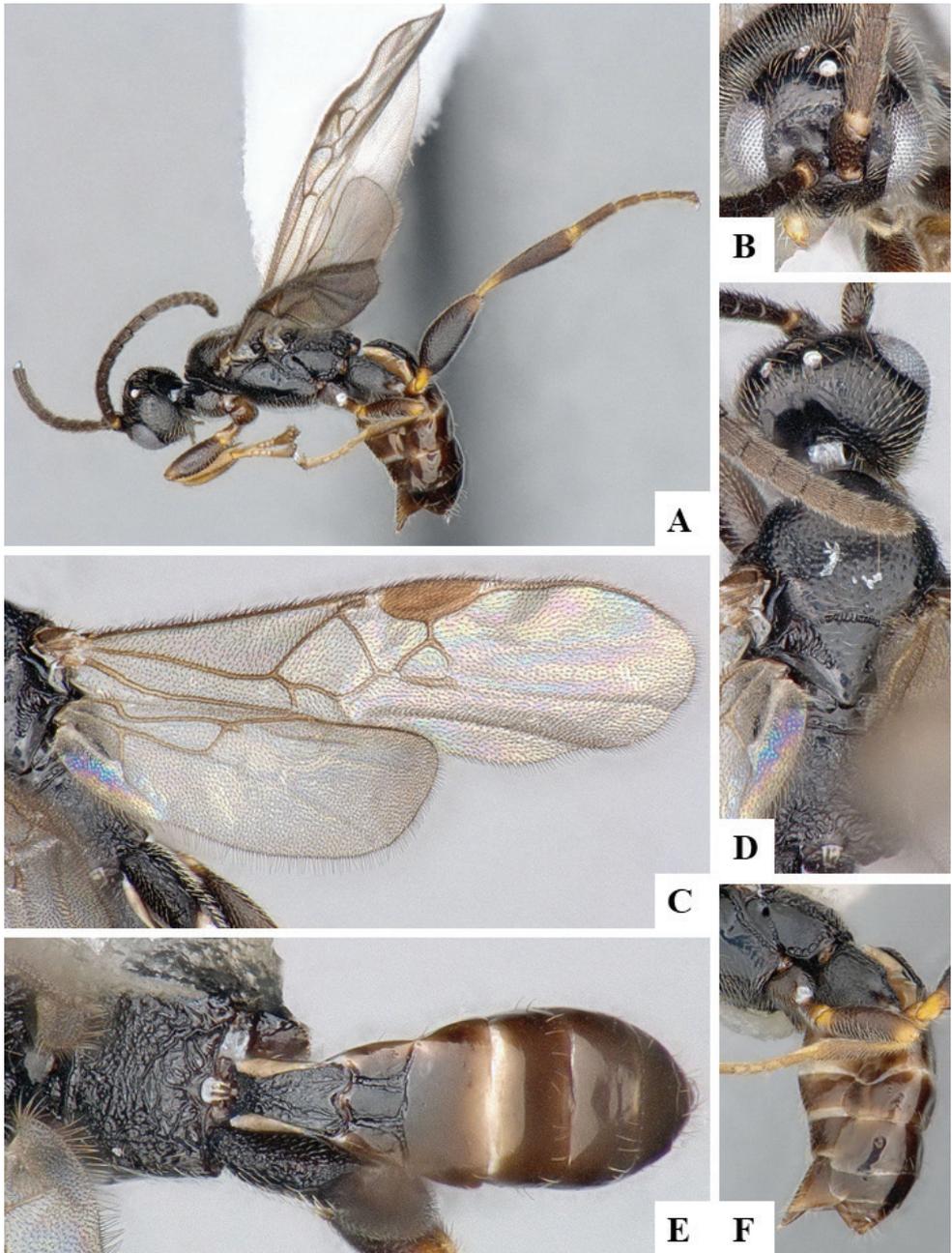


Figure 237. *Venanus johannyrosalesi* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Metasoma, lateral.

Geographical distribution. NEO.
NEO: Peru.

***Venanus minutalis* (Muesebeck, 1958)**

Microplitis minutalis Muesebeck, 1958.

Type information. Holotype female, USNM (examined). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

***Venanus peruensis* Mason, 1981**

Venanus peruensis Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Peru.

Geographical distribution. NEO.

NEO: Peru.

***Venanus pinicola* Mason, 1981**

Venanus pinicola Mason, 1981.

Type information. Holotype female, CNC (examined). Country of type locality: Canada.

Geographical distribution. NEA.

NEA: Canada (AB, BC, NS, QC, YT), USA (ID).

Notes. See notes on *Venanus heberti* above for details on the correct identity of the hosts for these two species of *Venanus*.

***Venanus randallgarciai* Fernandez-Triana & Whitfield, 2014**

Venanus randallgarciai Fernandez-Triana & Whitfield, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Venanus yanayacuensis* Arias-Penna & Whitfield, 2011**

Venanus yanayacuensis Arias-Penna & Whitfield, 2011.

Type information. Holotype female, USNM (not examined but original description checked). Country of type locality: Ecuador.

Geographical distribution. NEO.

NEO: Ecuador.

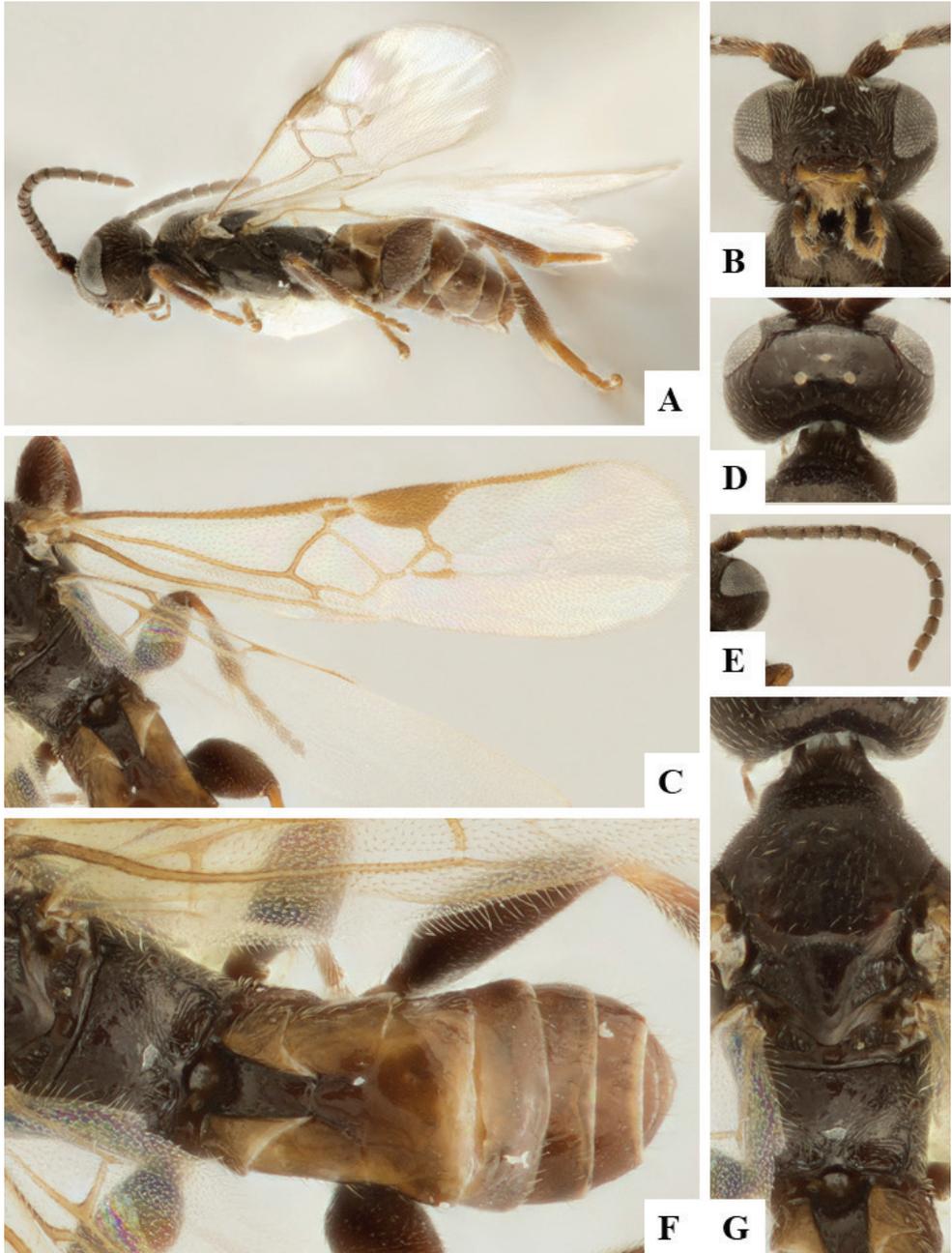


Figure 238. *Venusus peruensis* female holotype **A** Habitus, lateral **B** Head frontal **C** Fore wing and hind wing **D** Head dorsal **E** Antenna **F** Propodeum and metasoma, dorsal **G** Mesosoma dorsal.

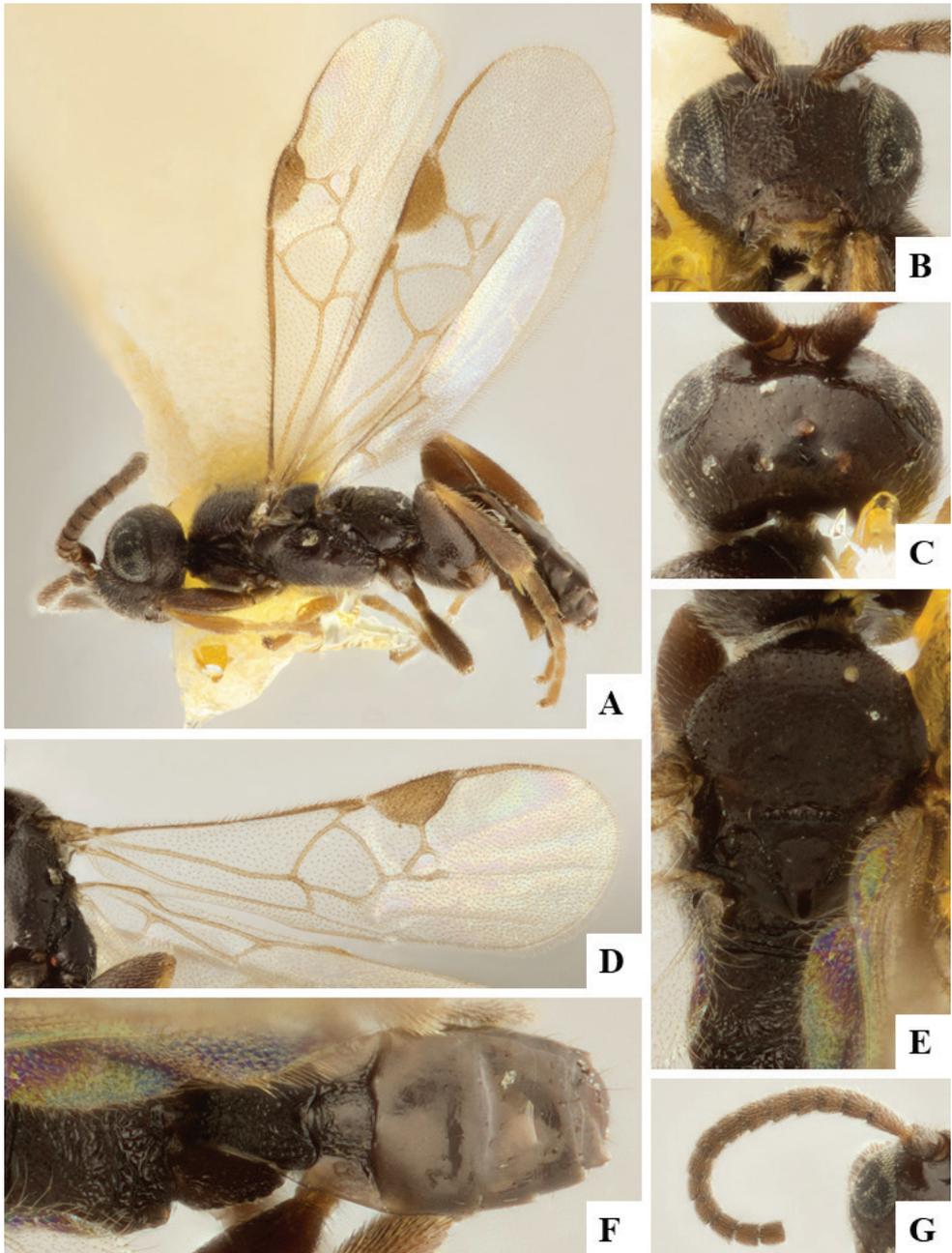


Figure 239. *Venus pinicola* female holotype **A** Habitus, lateral **B** Head, frontal **C** Head, dorsal **D** Fore wing **E** Mesosoma, dorsal **F** Propodeum and metasoma, dorsal **G** Antenna.

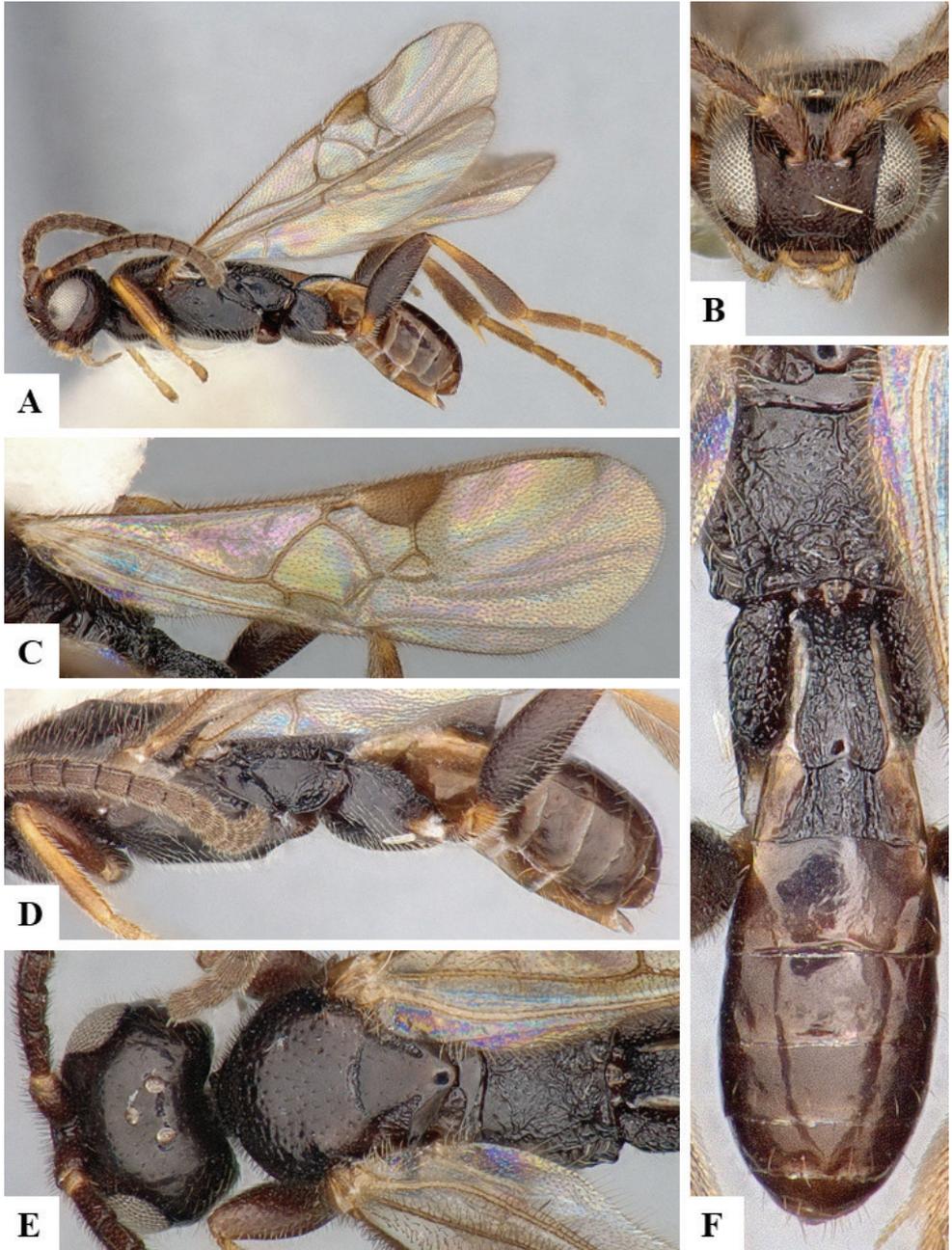


Figure 240. *Venamus randallgarciai* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Mesosoma and metasoma, lateral **E** Head and mesosoma, dorsal **F** Propodeum and metasoma, dorsal.

Genus *Wilkinsonellus* Mason, 1981

Wilkinsonellus Mason, 1981: 122. Gender: masculine. Type species: *Apanteles iphitus* Nixon, 1965, by original designation.

Several recent papers on this genus have increased the total of described species to 23, but there are still many undescribed species in collections. The genus seems to be pan-tropical. A single host record is known, from Crambidae. There are 55 DNA-barcode compliant sequences of this genus in BOLD, representing 14 BINs.

***Wilkinsonellus alexsmithi* Arias-Penna & Whitfield, 2013**

Wilkinsonellus alexsmithi Arias-Penna & Whitfield, 2013.

Type information. Holotype female, CNC (not examined but original description checked). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

***Wilkinsonellus amplus* Austin & Dangerfield, 1992**

Wilkinsonellus amplus Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (NT, QLD).

***Wilkinsonellus arabicus* van Achterberg & Fernandez-Triana, 2017**

Wilkinsonellus arabicus van Achterberg & Fernandez-Triana, 2017.

Type information. Holotype female, RMNH (examined). Country of type locality: Yemen.

Geographical distribution. AFR.

AFR: Yemen.

***Wilkinsonellus corpustriacolor* Arias-Penna, Zhang & Whitfield, 2014**

Wilkinsonellus corpustriacolor Arias-Penna, Zhang & Whitfield, 2014.

Type information. Holotype female, FNIC (not examined but original description checked). Country of type locality: Fiji.

Geographical distribution. AUS.

AUS: Fiji.

***Wilkinsonellus दौरا* (Nixon, 1965)**

Apanteles दौरا Nixon, 1965.

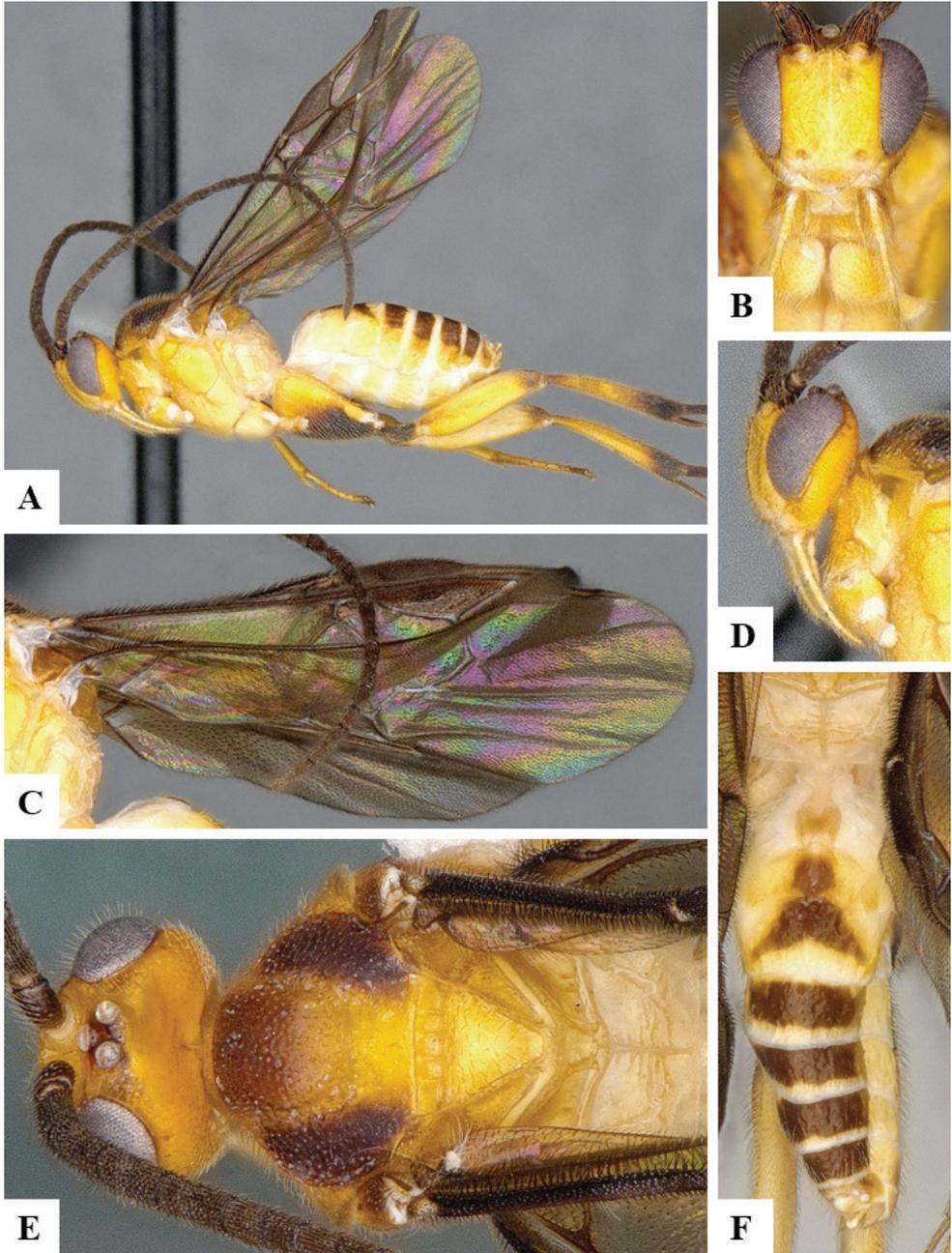


Figure 241. *Wilkinsonellus alexsmithi* male DHJPAR0047147 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head, lateral **E** Head and mesosoma, dorsal **F** Propodeum and metasoma, dorsal.

Type information. Holotype male, NHMUK (examined). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Papua New Guinea.

***Wilkinsonellus fjiensis* Arias-Penna, Zhang & Whitfield, 2014**

Wilkinsonellus fjiensis Arias-Penna, Zhang & Whitfield, 2014.

Wilkinsonellus fjiensis Arias-Penna, Zhang & Whitfield, 2014 [original misspelling].

Type information. Holotype female, FNIC (not examined but original description checked). Country of type locality: Fiji.

Geographical distribution. AUS.

AUS: Fiji.

***Wilkinsonellus flavicrus* Long & van Achterberg, 2011**

Wilkinsonellus flavicrus Long & van Achterberg, 2011.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Wilkinsonellus granulatus* Ahmad, Pandey, Haider & Shujauddin, 2005**

Wilkinsonellus granulatus Ahmad, Pandey, Haider & Shujauddin, 2005.

Type information. Holotype female, AMUZ (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

***Wilkinsonellus henicopus* (de Saeger, 1944)**

Apanteles henicopus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo, Kenya.

***Wilkinsonellus iphitus* (Nixon, 1965)**

Apanteles iphitus Nixon, 1965.

Type information. Holotype female, USNM (examined). Country of type locality: Philippines.

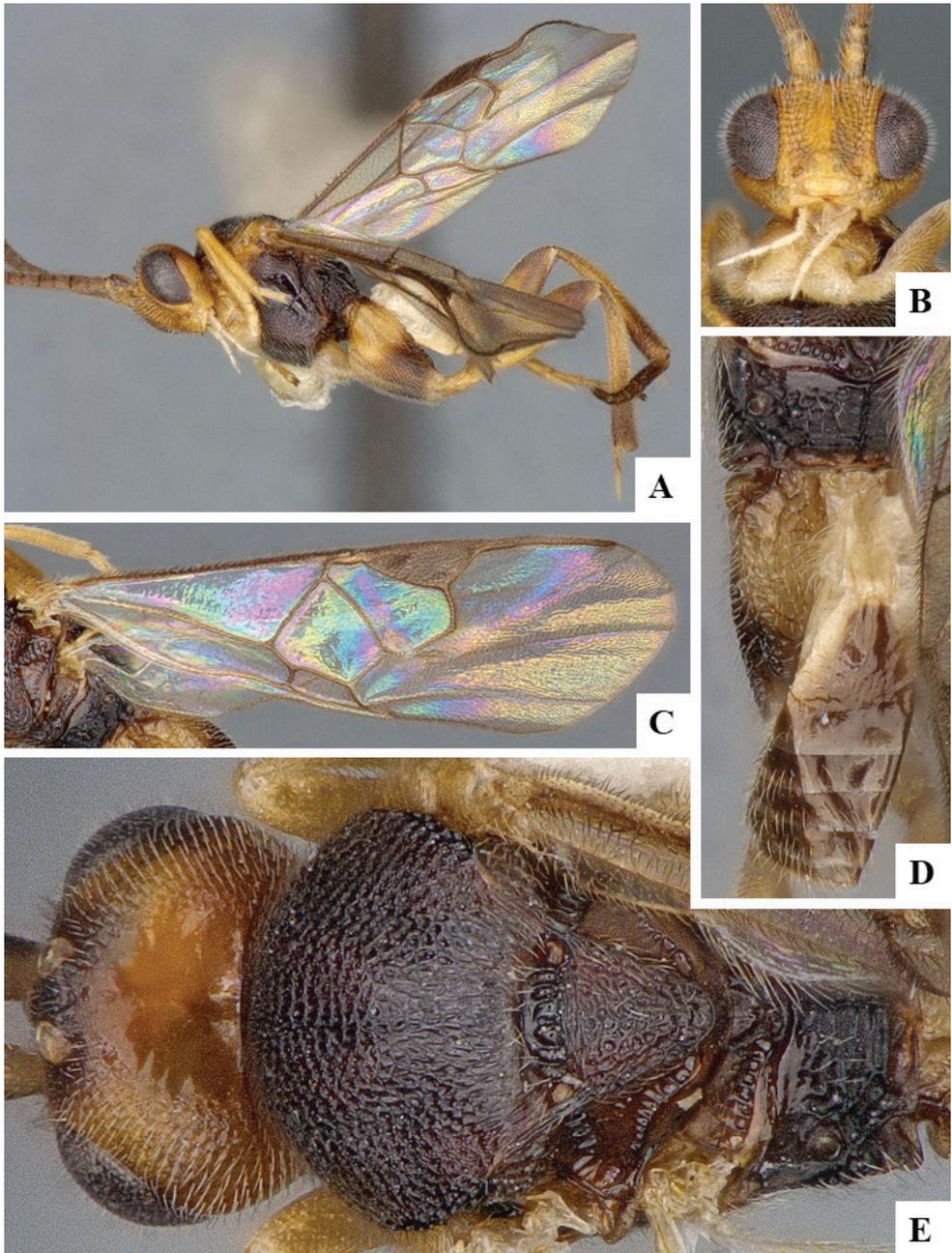


Figure 242. *Wilkinsonellus henricopus* male CNCHYM03452 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Propodeum and metasoma, dorsolateral **E** Mesosoma, dorsal.

Geographical distribution. OTL.
OTL: China (HI, TW), Philippines.

***Wilkinsonellus kogui* Arias-Penna & Whitfield, 2013**

Wilkinsonellus kogui Arias-Penna & Whitfield, 2013.

Type information. Holotype male, IAVH (not examined but original description checked). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia.

***Wilkinsonellus longicentrus* Long & van Achterberg, 2003**

Wilkinsonellus longicentrus Long & van Achterberg, 2003.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Wilkinsonellus masoni* Long & van Achterberg, 2011**

Wilkinsonellus masoni Long & van Achterberg, 2011.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Wilkinsonellus narangabus* Rousse & Gupta, 2013**

Wilkinsonellus narangabus Rousse & Gupta, 2013.

Type information. Holotype female, MNHN (not examined but original description checked). Country of type locality: Réunion.

Geographical distribution. AFR.

AFR: Réunion.

***Wilkinsonellus nesculptura* Arias-Penna, Zhang & Whitfield, 2014**

Wilkinsonellus nesculptura Arias-Penna, Zhang & Whitfield, 2014.

Type information. Holotype female, FNIC (not examined but original description checked). Country of type locality: Fiji.

Geographical distribution. AUS.

AUS: Fiji.

***Wilkinsonellus nigratus* Long & van Achterberg, 2011**

Wilkinsonellus nigratus Long & van Achterberg, 2011.

Type information. Holotype male, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Wilkinsonellus nigrocentrus* Long & van Achterberg, 2011**

Wilkinsonellus nigrocentrus Long & van Achterberg, 2011.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Wilkinsonellus panamaensis* Arias-Penna & Whitfield, 2013**

Wilkinsonellus panamaensis Arias-Penna & Whitfield, 2013.

Type information. Holotype female, CNC (not examined but original description checked). Country of type locality: Panama.

Geographical distribution. NEO.

NEO: Panama.

***Wilkinsonellus paramplus* Long & van Achterberg, 2003**

Wilkinsonellus paramplus Long & van Achterberg, 2003.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: China (GD, GX), Vietnam.

***Wilkinsonellus striatus* Austin & Dangerfield, 1992**

Wilkinsonellus striatus Austin & Dangerfield, 1992.

Type information. Holotype female, ANIC (not examined but original description checked). Country of type locality: Australia.

Geographical distribution. AUS.

AUS: Australia (QLD), Papua New Guinea.

***Wilkinsonellus thyone* (Nixon, 1965)**

Apanteles thyone Nixon, 1965.

Type information. Holotype female, USNM (examined). Country of type locality: Philippines.

Geographical distribution. OTL.

OTL: Philippines.

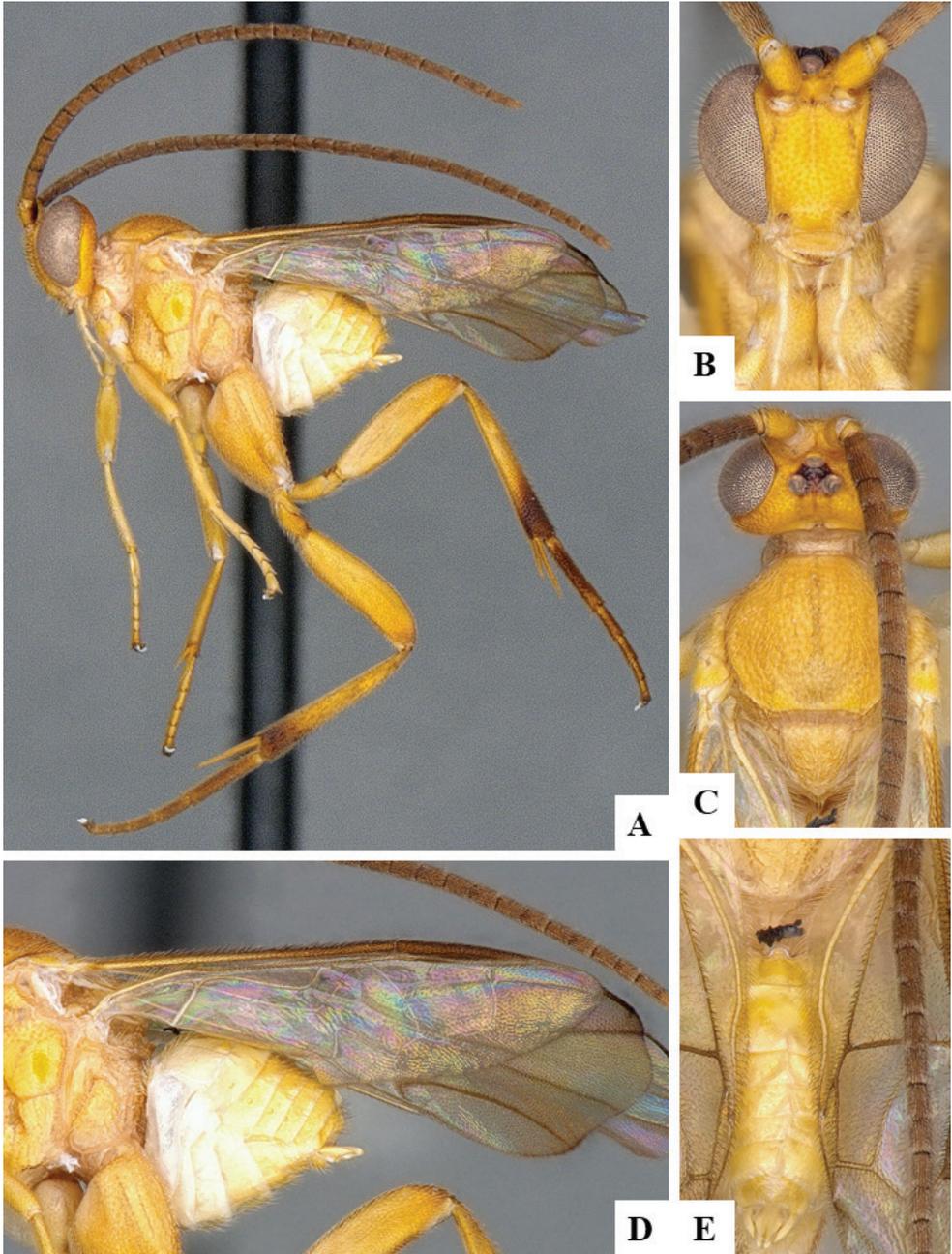


Figure 243. *Wilkinsonellus striatus* male CNCH2428 **A** Habitus, lateral **B** Head, frontal **C** Head and mesosoma, dorsal **D** Fore wing and metasoma, lateral **E** Metasoma, dorsal.

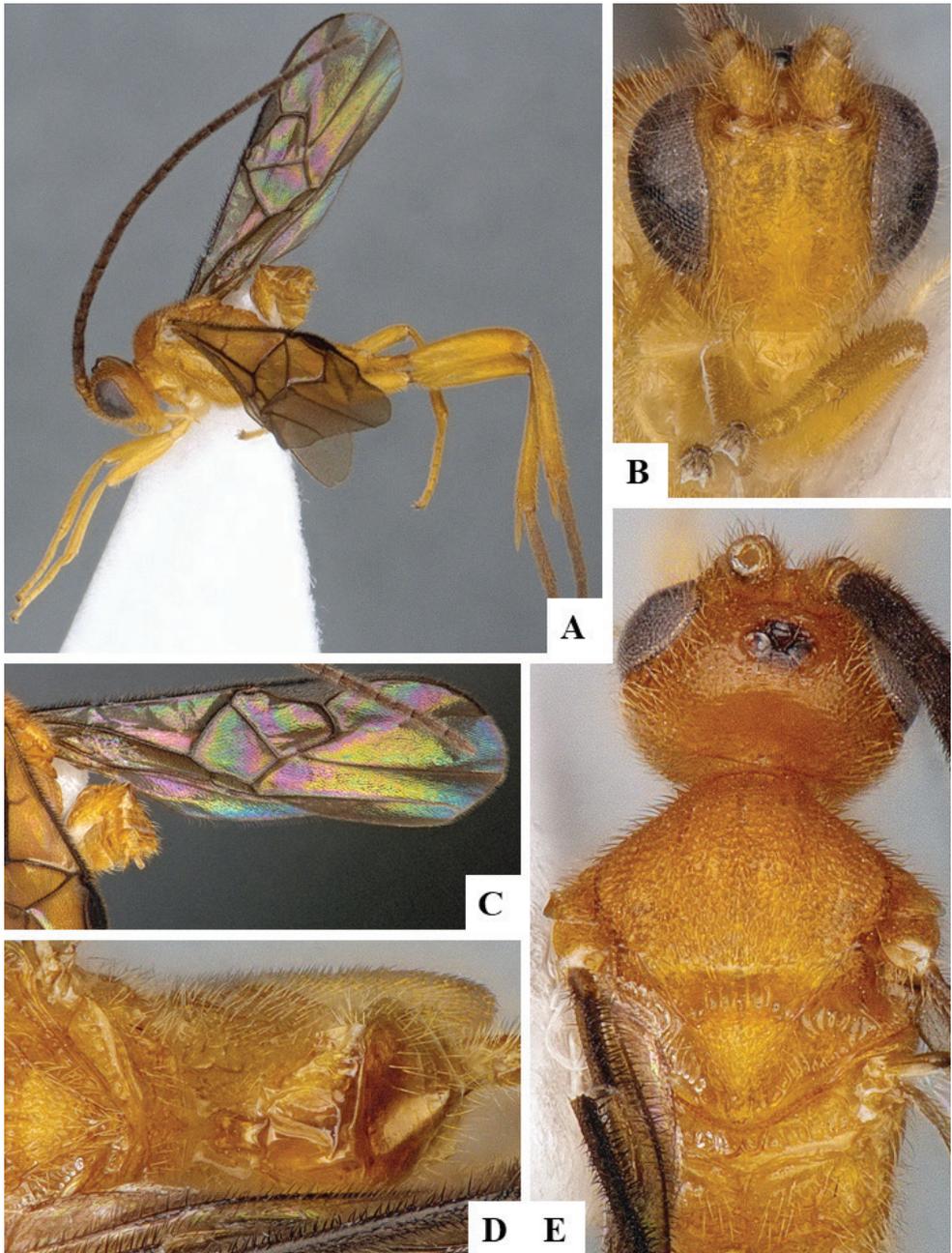


Figure 244. *Wilkinsonellustomi* male CNC309943 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Head and mesosoma, dorsal.

***Wilkinsonellus tobiasi* Long, 2007**

Wilkinsonellus tobiasi Long, 2007.

Type information. Holotype female, IEBR (not examined but original description checked). Country of type locality: Vietnam.

Geographical distribution. OTL.

OTL: Vietnam.

***Wilkinsonellus tomi* Austin & Dangerfield, 1992**

Wilkinsonellus tomi Austin & Dangerfield, 1992.

Type information. Holotype female, AEIC (not examined but original description checked). Country of type locality: Papua New Guinea.

Geographical distribution. AUS.

AUS: Australia (QLD), Papua New Guinea.

Genus *Xanthapanteles* Whitfield, 1995

Xanthapanteles Whitfield, 1995: 879. Gender: masculine. Type species: *Xanthapanteles cameronae* Whitfield, 1995, by original designation and monotypy.

Only one species is known, from the Neotropics (Whitfield 1995b). No host data are currently available for this genus. There are no DNA barcodes of *Xanthapanteles* in BOLD.

***Xanthapanteles cameronae* Whitfield, 1995**

Xanthapanteles cameronae Whitfield, 1995.

Type information. Holotype female, MCZC (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

Genus *Xanthomicrogaster* Cameron, 1911

Xanthomicrogaster Cameron, 1911: 324. Gender: feminine. Type species: *Xanthomicrogaster fortipes* Cameron, 1911, by subsequent designation (Viereck 1914).

This genus seems to be restricted to the Neotropical region. Apart from the six described species, there are many more undescribed in collections. No host data are currently available for this genus. There are 112 DNA-barcode compliant sequences of this genus in BOLD, representing 23 BINs.

***Xanthomicrogaster fortipes* Cameron, 1911**

Xanthomicrogaster fortipes Cameron, 1911.

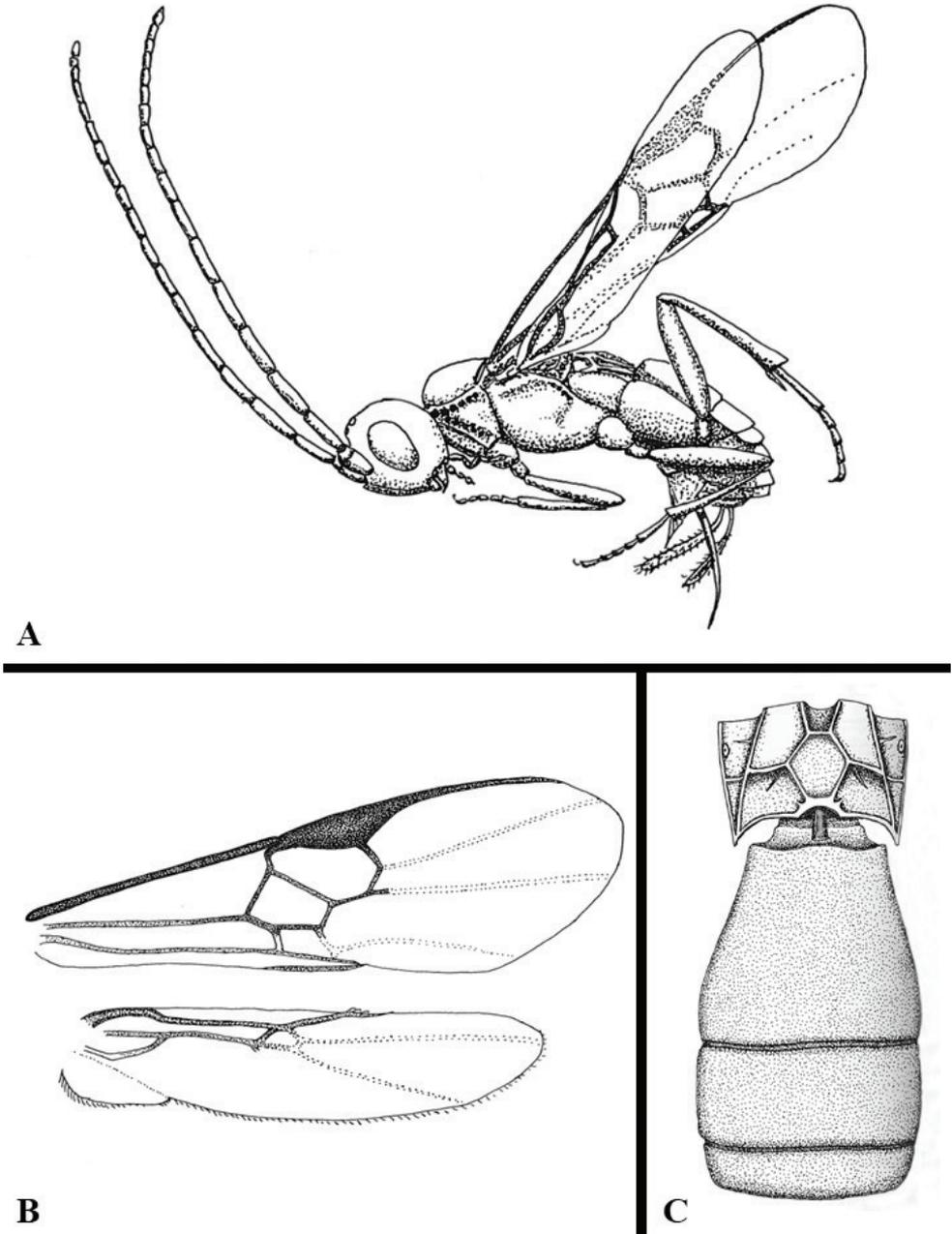


Figure 245. *Xanthapanteles cameronae* female holotype based on modified drawings from the original descriptions of the species (Whitfield 1995) **A** Habitus, lateral **B** Fore wing and hind wing **C** Propodeum and metasoma, dorsal.

Type information. Holotype female, NHMUK (examined). Country of type locality: Guyana.

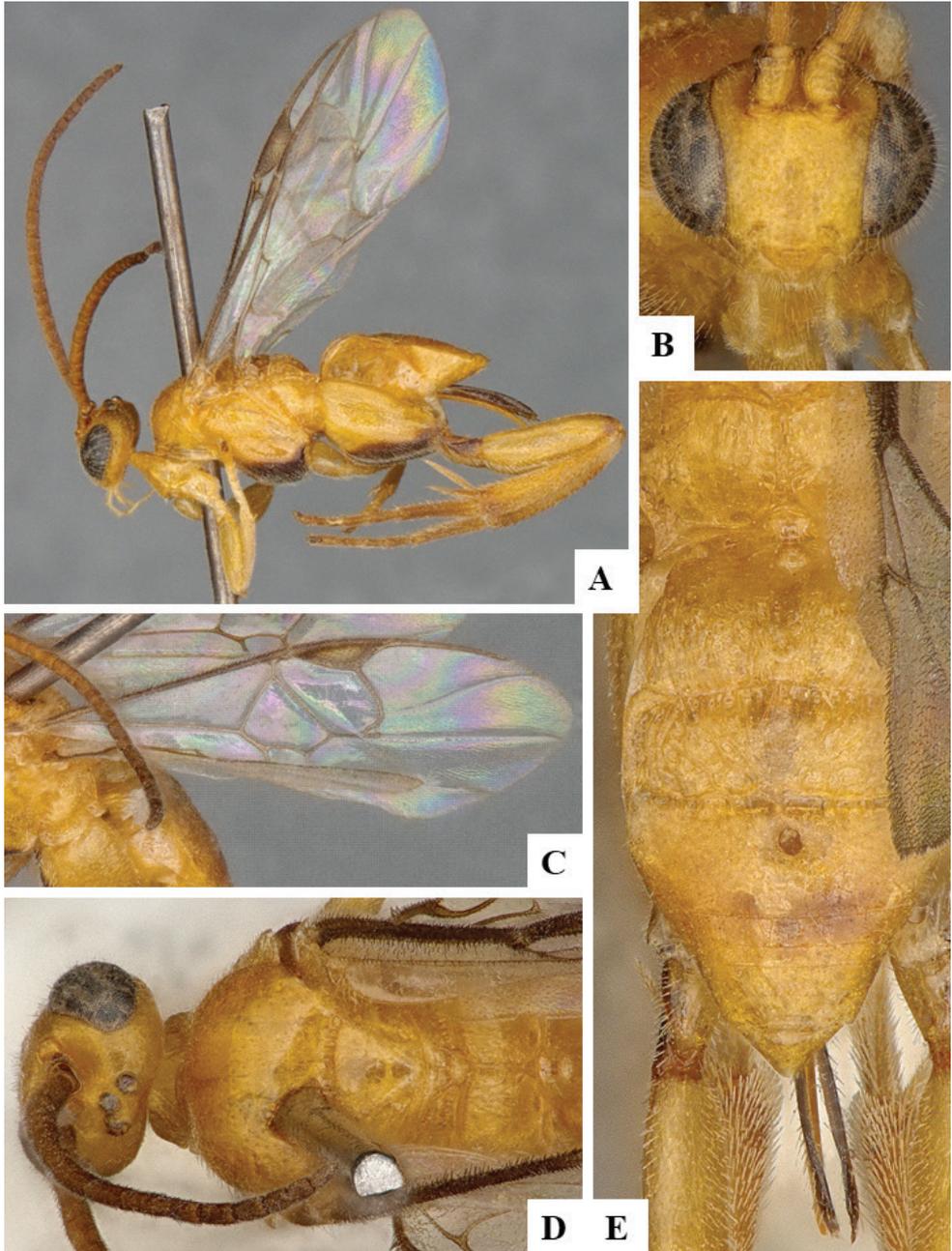


Figure 246. *Xanthomicrogaster fortipes* female CNCHYM07148 **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

Geographical distribution. NEO.

NEO: Brazil (MG, PA, SP), Guyana, Suriname.

***Xanthomicrogaster maculata* Penteado-Dias, Shimabukuro & van Achterberg, 2002**

Xanthomicrogaster maculatus Penteado-Dias, Shimabukuro & van Achterberg, 2002.

Type information. Holotype female, DCBU (not examined but original description checked). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (MG, SP).

Notes. The species name must be treated as an adjective and not as a noun (Doug Yanega, pers. comm.) and thus it must match the gender of the genus name.

***Xanthomicrogaster otamendi* Martínez, 2018**

Xanthomicrogaster otamendi Martínez, 2018.

Type information. Holotype female, MACN (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

***Xanthomicrogaster pelides* Nixon, 1965**

Xanthomicrogaster pelides Nixon, 1965.

Type information. Holotype female, NHMUK (examined). Country of type locality: Brazil.

Geographical distribution. NEO.

NEO: Brazil (SC).

***Xanthomicrogaster sayjubu* Martínez, 2018**

Xanthomicrogaster sayjubu Martínez, 2018.

Type information. Holotype female, MACN (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

***Xanthomicrogaster seres* Nixon, 1965**

Xanthomicrogaster seres Nixon, 1965.

Type information. Holotype male, NHMUK (examined). Country of type locality: Mexico.

Geographical distribution. NEO.

NEO: Mexico.

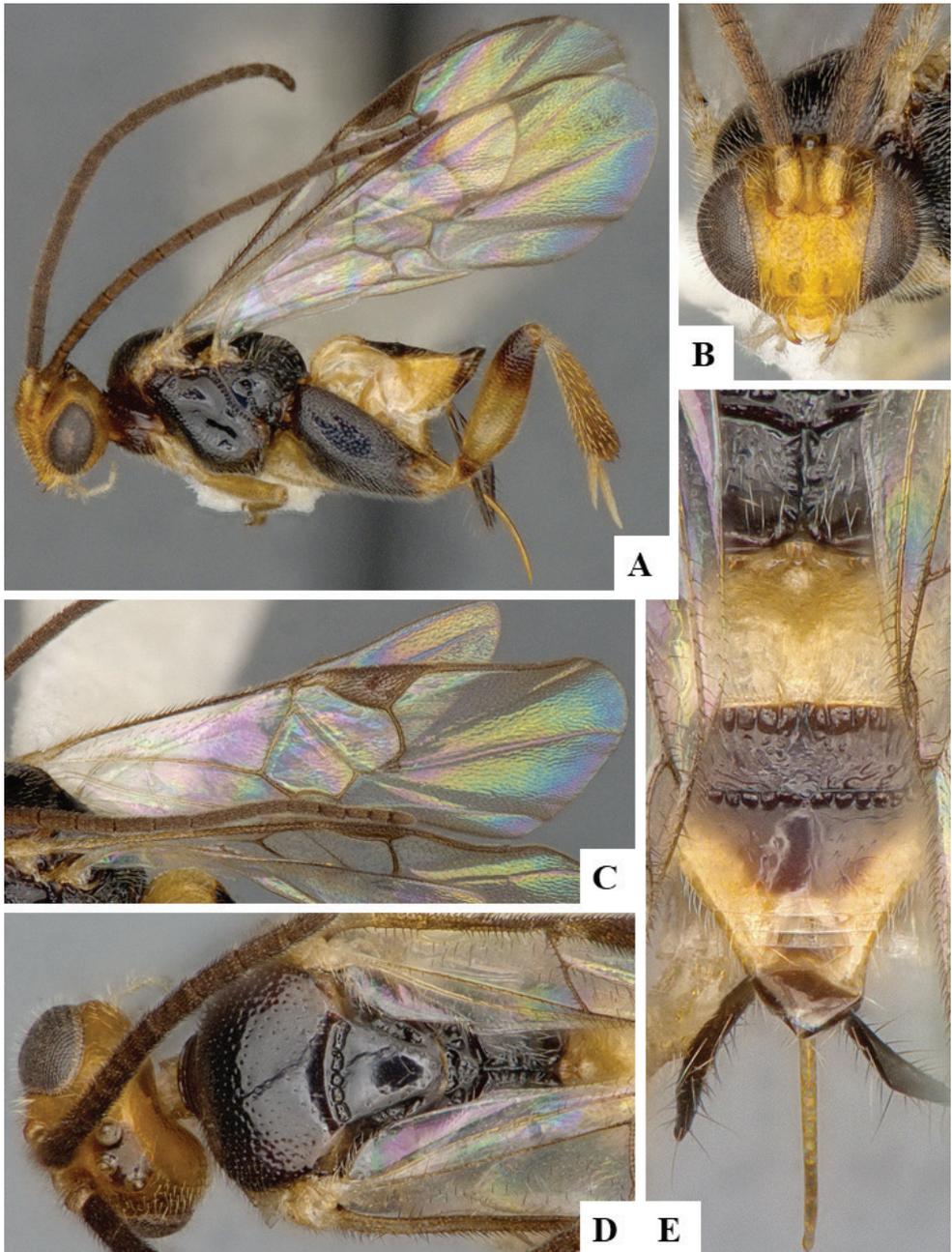


Figure 247. *Xanthomicrogaster pelides* female CNCHYM07146 **A** Habitus, lateral **B** Head frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal.

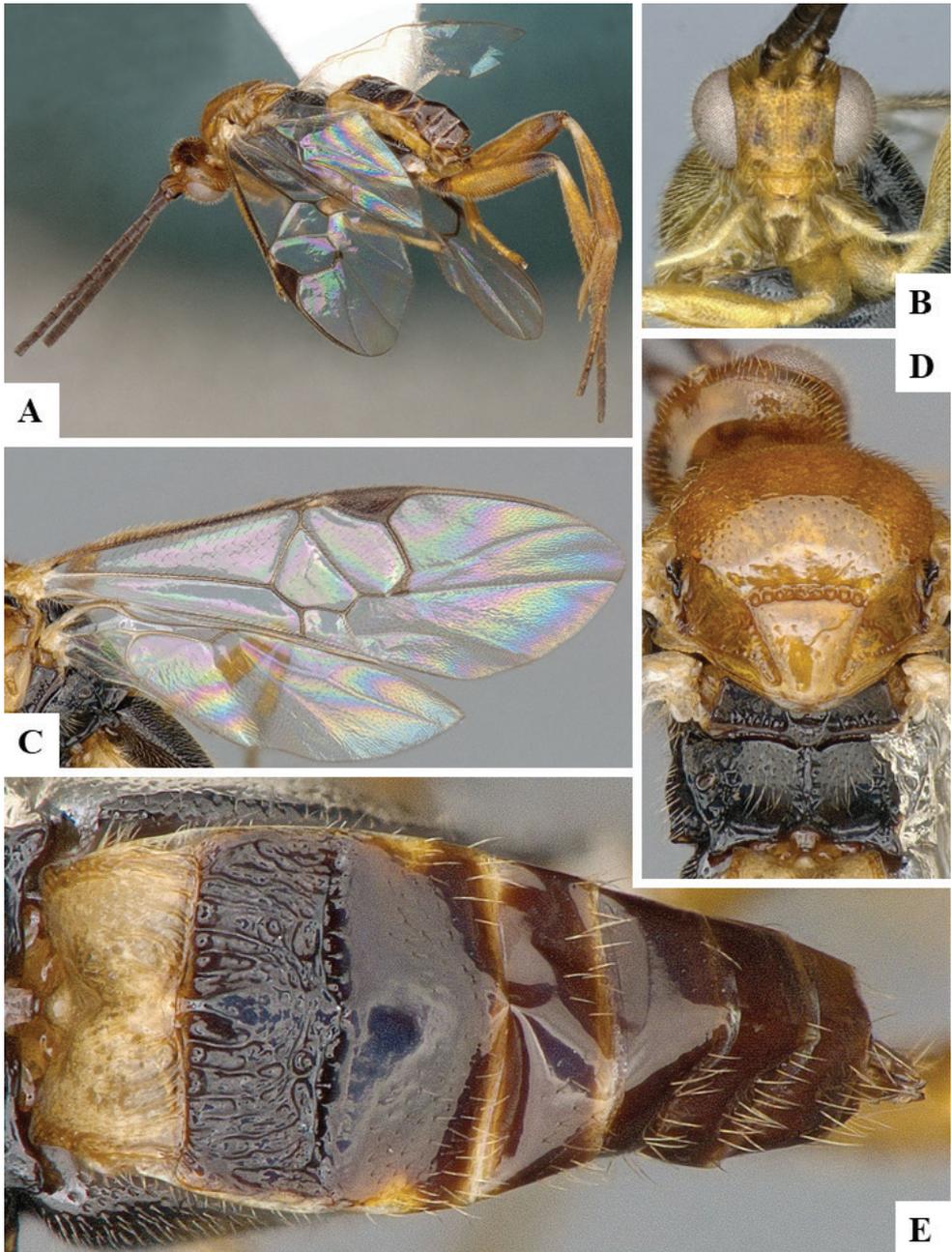


Figure 248. *Xanthomicrogaster* sp. male CNC492878 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Mesosoma, dorsal **E** Metasoma, dorsal.

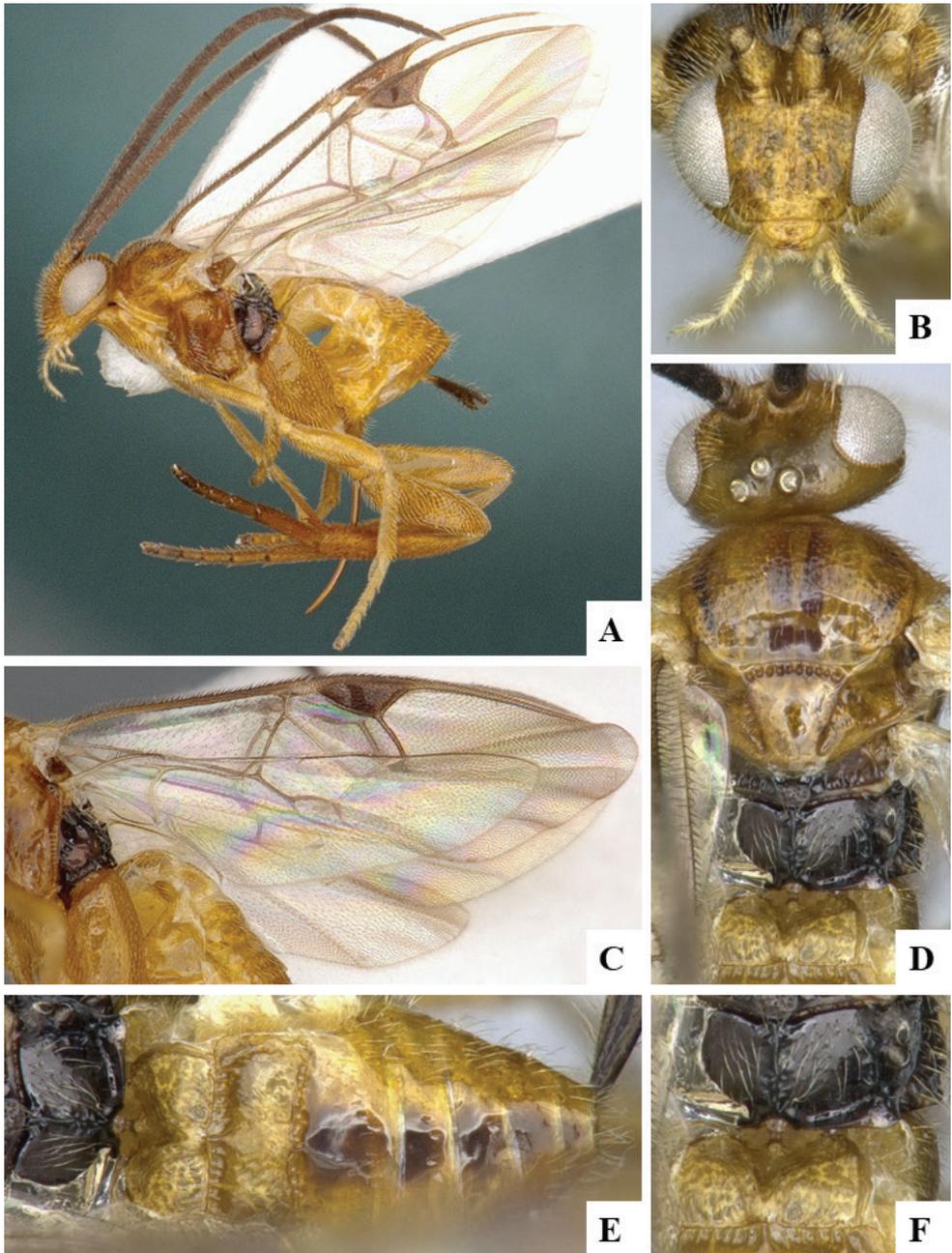


Figure 249. *Xanthomicrogaster* sp. female CNC492880 **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Head and mesosoma, dorsal **E** Propodeum and metasoma, dorsal **F** Propodeum and tergite 1, dorsal.

Genus *Ypsilonigaster* Fernandez-Triana, 2018

Ypsilonigaster Fernandez-Triana, 2018: 116. Gender: feminine. Type species: *Ypsilonigaster tiger* Fernandez-Triana & Boudreault, 2018, by original designation.

Six species were recently described (Fernandez-Triana and Boudreault 2018), but we have seen a few undescribed ones in collections. No host data are currently available for this genus. There are two DNA-barcode compliant sequences of this genus in BOLD, representing two BINs (although those sequences have not been identified in BOLD as belonging to *Ypsilonigaster*, see Fernandez-Triana and Boudreault 2018 for that). In the original description of *Ypsilonigaster*, its gender was incorrectly stated to be neuter (Fernandez-Triana & Boudreault, 2018: 117); however, all genera ending in *gaster* are feminine, without exception (Doug Yanega, pers. comm., see also Article 30.1.2 of the ICZN), so here we correct that previous mistake.

***Ypsilonigaster bumbana* (de Saeger, 1942)**

Microgaster bumbana de Saeger, 1942.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

***Ypsilonigaster naturalis* Fernandez-Triana & Boudreault, 2018**

Ypsilonigaster naturalis Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, RMNH (examined). Country of type locality: Malaysia.

Geographical distribution. OTL.

OTL: Malaysia.

***Ypsilonigaster pteroloba* (de Saeger, 1944)**

Microgaster pteroloba de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

***Ypsilonigaster sharkeyi* Fernandez-Triana & Boudreault, 2018**

Ypsilonigaster sharkeyi Fernandez-Triana & Boudreault, 2018.

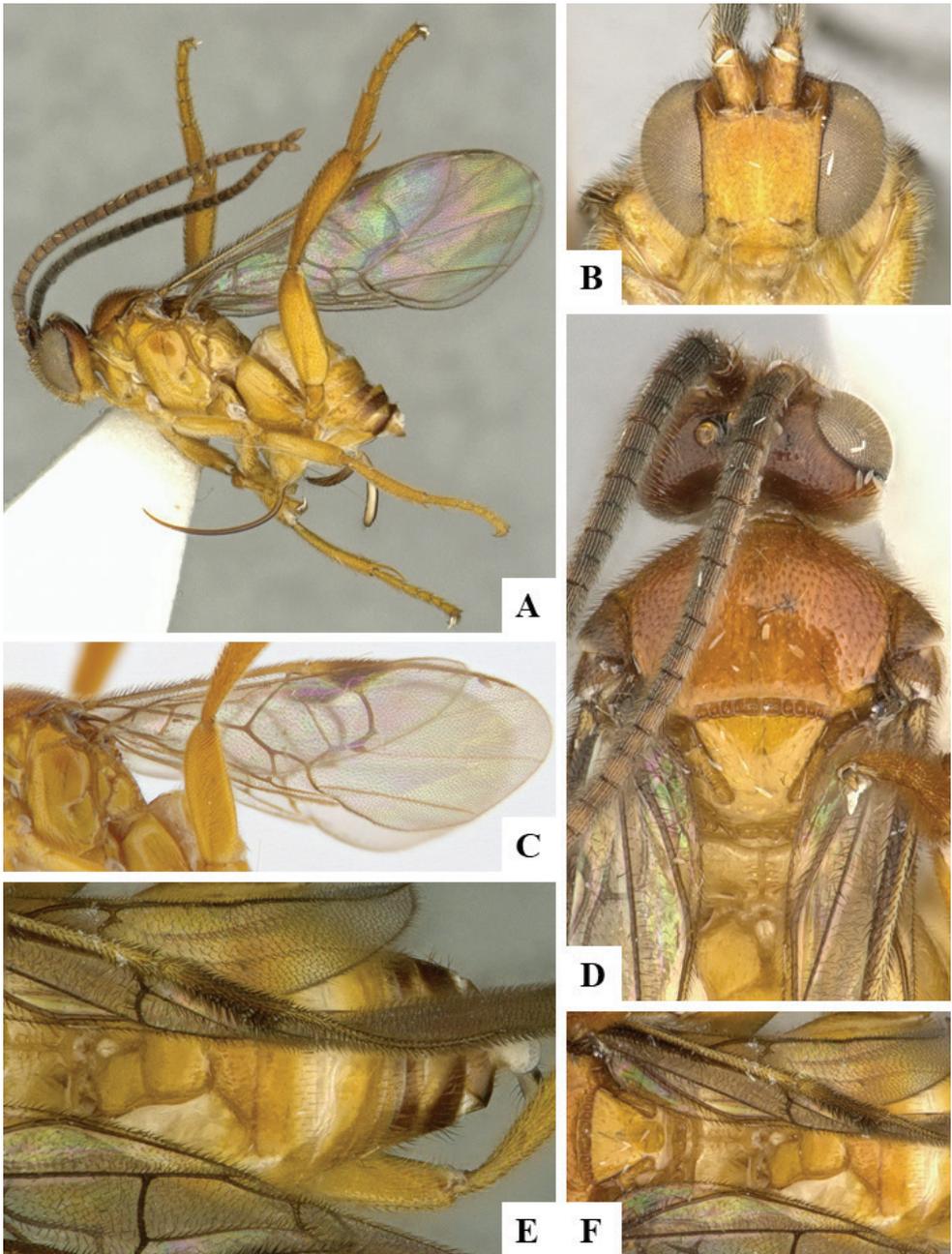


Figure 250. *Ypsilonigaster naturalis* female holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Head and mesosoma, dorsal **E** Metasoma, dorsal **F** Propodeum, dorsal.

Type information. Holotype male, CNC (examined). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of the Congo.

***Ypsilonigaster tiger* Fernandez-Triana & Boudreault, 2018**

Ypsilonigaster tiger Fernandez-Triana & Boudreault, 2018.

Type information. Holotype female, QSBG (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Thailand.

***Ypsilonigaster zuparkoi* Fernandez-Triana & Boudreault, 2018**

Ypsilonigaster zuparkoi Fernandez-Triana & Boudreault, 2018.

Type information. Holotype male, CAS (examined). Country of type locality: Madagascar.

Geographical distribution. AFR.

AFR: Madagascar.

Genus *Zachterbergius* Fernandez-Triana, 2018

Zachterbergius Fernandez-Triana, 2018: 129. Gender: neuter. Type species: *Zachterbergius tenuitergum* Fernandez-Triana & Boudreault, 2018, by original designation.

Only one species is known, from the Oriental region. No host data are currently available for this genus. There is a single DNA-barcode compliant sequence of this genus in BOLD, representing one BIN (although that sequence has not been identified in BOLD as belonging to *Zachterbergius*, see Fernandez-Triana and Boudreault 2018 for that).

***Zachterbergius tenuitergum* Fernandez-Triana & Boudreault, 2018**

Zachterbergius tenuitergum Fernandez-Triana & Boudreault, 2018.

Type information. Holotype male, QSBG (examined). Country of type locality: Thailand.

Geographical distribution. OTL.

OTL: Thailand.

Species inquirendae

Below we treat 36 species for most of which we could not examine the types or any other specimens; the original descriptions, if available to us, were insufficient to determine a correct generic placement (in the case of *Apanteles sanctivicenti* Ashmead, 1900, the type

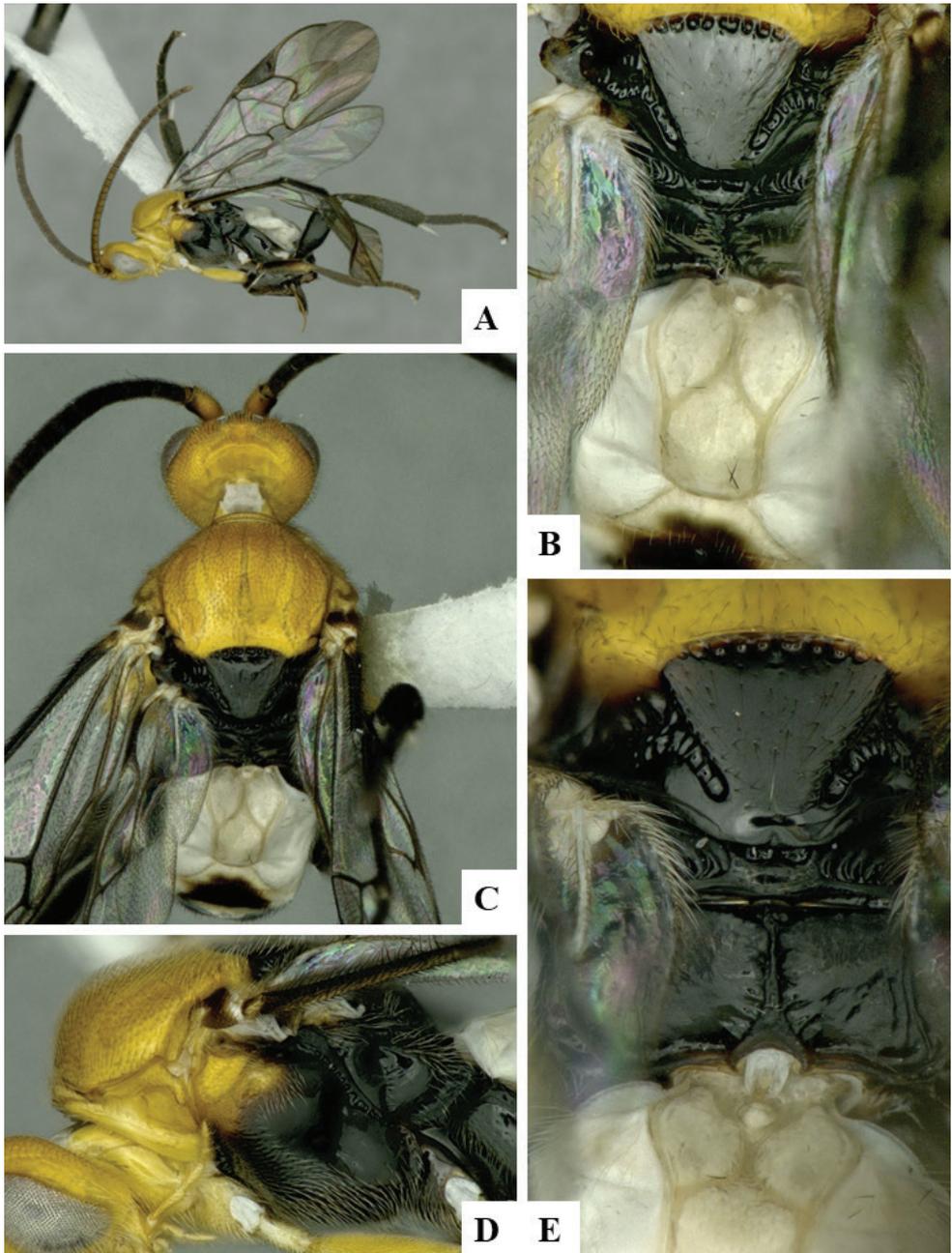


Figure 251. *Ypsilonigaster tiger* female holotype **A** Habitus, lateral **B** Tergite 1, dorsal **C** Mesosoma, dorsal **D** Mesosoma, lateral **E** Propodeum, dorsal.

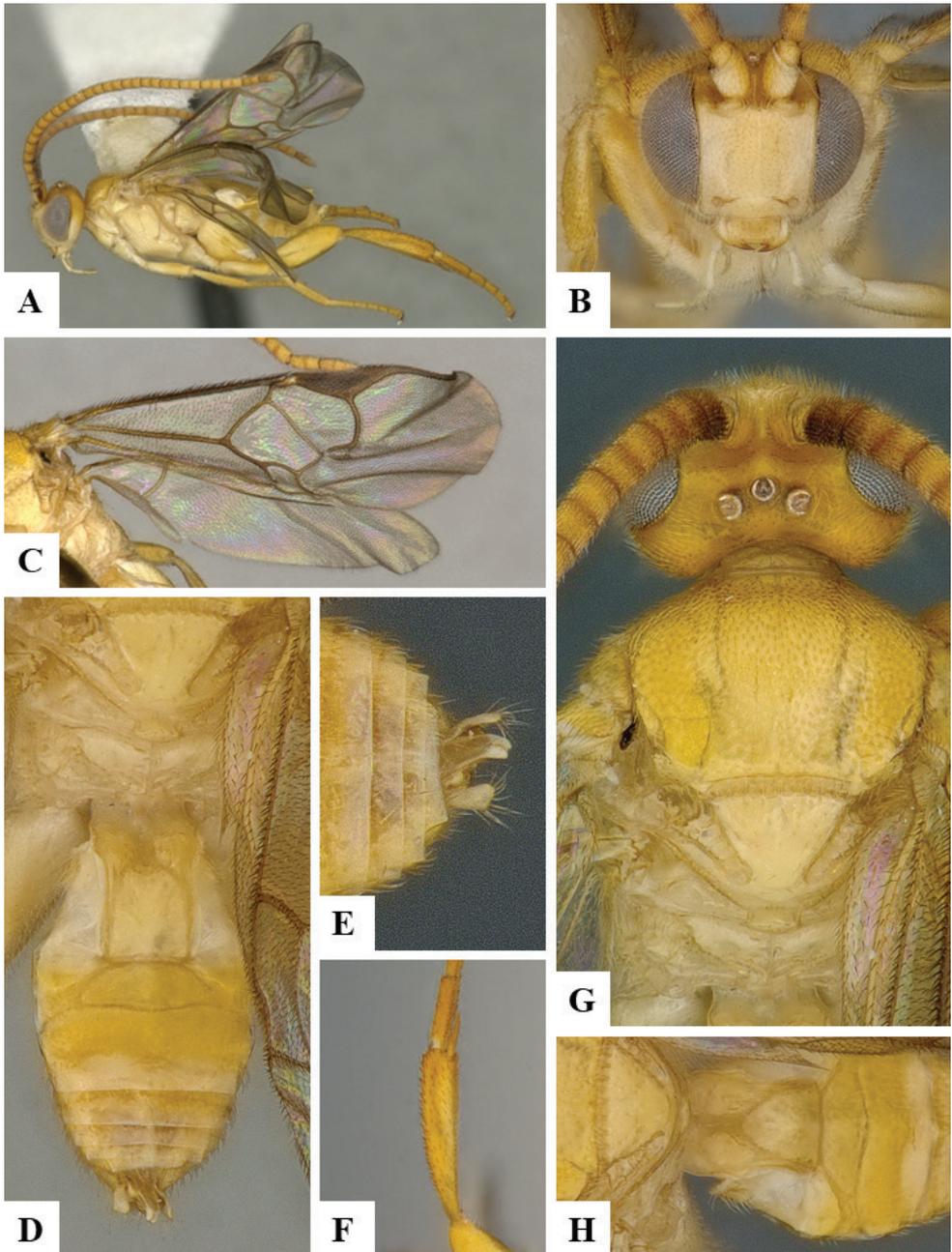


Figure 252. *Ypsilonigaster zuparkoi* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing and hind wing **D** Metasoma, dorsal **E** Genitalia **F** Metatibia, lateral **G** Head and mesosoma, dorsal **H** Tergites 1–2, dorsal.

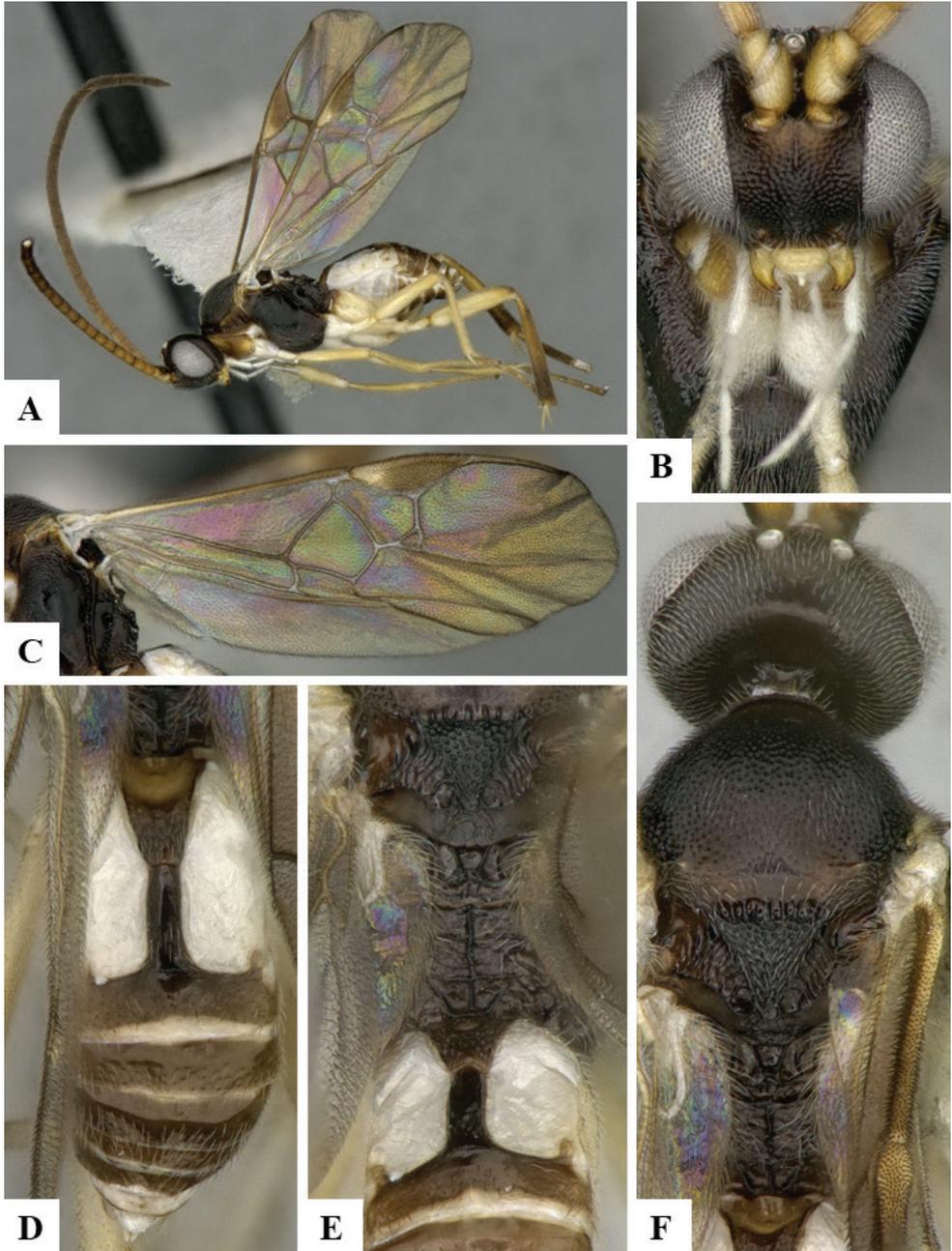


Figure 253. *Zachterbergius tenuitergum* male holotype **A** Habitus, lateral **B** Head, frontal **C** Fore wing **D** Metasoma, dorsal **E** Propodeum **F** Head and mesosoma, dorsal.

**A****B**

Figure 254. *Zachterbergius tenuitergum* male paratype JMIC 0538 **A** Habitus, dorsal **B** Mesosoma and metasoma, dorsal.

was in poor condition; and in the case of *Apanteles anapiedrae* Fernandez-Triana, 2014 more studies on the holotype and paratypes are required). Until types of those species can be examined and/or more studies are done, we consider them here as *species inquirendae* – they can almost certainly be placed with further research. Additionally, Gupta (2013a: 451) had proposed two Indian species of *Microplitis* to be *incertae sedis*; however, in this paper we consider that one of those species actually belongs to *Diolcogaster* (see *D. dipika* above, p 398, 399), whereas the other should be listed as an unavailable name (see *Microplitis bageshri* in the section Other unavailable names below, p 1033).

? *Apanteles acaciae* Risbec, 1951

Apanteles acaciae Risbec, 1951.

Type information. Holotype male, depository unknown (not examined but original description checked). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Senegal.

Notes. This species is likely not an *Apanteles*, but the original description, based on a single male specimen, is not clear enough to determine the correct generic placement.

? *Apanteles ahmednagarensis* Kurhade & Nikam, 1997

Apanteles ahmednagarensis Kurhade & Nikam, 1997.

Type information. Holotype female, BAMU (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description does not provide enough details to confirm the species placement. The low-quality figures provided seem to indicate that the propodeum and T1 are not as in *Apanteles*.

? *Apanteles anapiedrae* Fernandez-Triana, 2014

Apanteles anapiedrae Fernandez-Triana, 2014.

Type information. Holotype female, CNC (examined). Country of type locality: Costa Rica.

Geographical distribution. NEO.

NEO: Costa Rica.

Notes. This species is likely not an *Apanteles*, as stated even in the original description (Fernandez-Triana et al. 2014e). We have re-examined the holotype and many paratypes in the CNC; in addition to the inflexible hypopygium and relatively short ovipositor and sheaths (noted in the original description), we have also found that the vannal lobe is mostly setose, which would exclude this species from *Apanteles*. However, we cannot conclude on which genus would be the best placement at the

moment, as other morphological traits are variable between *Dolichogenidea*, *Pholete-sor* or even *Parapanteles*; and molecular data (DNA barcodes) is not conclusive either.

? *Apanteles automeridis* Brèthes, 1926

Apanteles automeridis Brèthes, 1926.

Type information. Type and depository unknown (not examined). Country of type locality: Colombia.

Geographical distribution. NEO.

NEO: Colombia.

Notes. Shenefelt (1972: 450) could not find the original description or the type material and neither could we, so we cannot confirm the generic placement of this species. Here we consider the type and depository of this species as unknown.

? *Apanteles barrosi* Porter, 1926

Apanteles barrosi Porter, 1926.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

Notes. The short original description is insufficient to determine the correct generic placement, but it is clear that this species does not belong to *Apanteles*. Porter (1926: 143) stated that the species has a very short ovipositor and it is morphologically related to *Apanteles riverae* Porter (a species transferred to *Cotesia* in our paper, see under that species, p 351, 352).

? *Apanteles baubiniaie* Risbec, 1951

Apanteles baubiniaie Risbec, 1951.

Type information. Holotype male, depository unknown (not examined but original description checked). Country of type locality: Senegal.

Geographical distribution. AFR.

AFR: Senegal.

Notes. The original description is not detailed enough to determine the correct generic placement. The species does not seem to belong to *Apanteles*, based on the illustration of the propodeum with a complete median carina bisecting a complete areola (Risbec 1951: 460).

? *Apanteles camachoii* Silva Figueroa, 1917

Apanteles camachoii Silva Figueroa, 1917.

Type information. Holotype female, MNNC (not examined but original description checked). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

Notes. The original description is not detailed enough to determine the correct generic placement of this species.

? *Apanteles deepica* Rao & Chalikwar, 1971

Apanteles deepica Rao & Chalikwar, 1971.

Type information. Holotype male, BAMU (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description (based on three male specimens) is not detailed enough to determine the correct generic placement, but this species does not belong to *Apanteles*; it could belong either to *Glyptapanteles* or *Sathon*.

? *Apanteles dirphiae* Silva Figueroa, 1917

Apanteles dirphiae Silva Figueroa, 1917.

Type information. Syntypes female and male, MNNC (not examined but original description checked). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

Notes. The original description is not detailed enough to determine the correct generic placement of this species.

? *Apanteles espinosai* Porter, 1920

Apanteles espinosai Porter, 1920.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

Notes. The original description is not detailed enough to determine the correct generic placement of this species, but it is evident that is not *Apanteles*, because it mentions a median longitudinal carina on the propodeum. The only known specimen, not even clear if it is a female or male, was deposited in Porter's personal collection, but we are not aware of the current depository of that collection or if the specimen still exists.

? *Apanteles hoffmanni* Silva Figueroa, 1917

Apanteles hoffmanni Silva Figueroa, 1917.

Type information. Holotype female, MNNC (not examined but original description checked). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

Notes. The original description is not detailed enough to determine the correct generic placement of this species.

? ***Apanteles laorae* Porter, 1921**

Apanteles laorae Porter, 1921.

Type information. Syntypes female and male, depository unknown (not examined but original description checked). Country of type locality: Chile.

Geographical distribution. NEO.

NEO: Chile.

Notes. The original description is not detailed enough to determine the correct generic placement of this species. There are no details of the number of specimens studied or the depository, but Porter mentions many specimens from the host larva, so we infer that the type series must have included both females and males.

? ***Apanteles latiannulatus* (Cameron, 1910)**

Xestapanteles latiannulatus Cameron, 1910.

Type information. Holotype female, ZMHB (not examined but subsequent treatment of the species checked). Country of type locality: Mozambique.

Geographical distribution. AFR.

AFR: Mozambique.

Notes. Wilkinson (1932a: 324) explained why it may never be possible to establish the status of this species, due to the very poor condition of the two known specimens.

? ***Apanteles montanus* de Saeger, 1944**

Apanteles montanus de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. The original description is not detailed enough (or characters are uninformative) to determine the correct generic placement of this species. It does not belong to *Apanteles* because a median longitudinal carina on the propodeum is mentioned. Other features such as a pleated hypopygium and relatively long ovipositor sheaths, would suggest *Choeras* as the likely genus, but the shape of T2 would be very unusual (as compared to other known species in that genus).

? *Apanteles necator* (Bechstein & Scharfenberg, 1805)

Ichneumon necator Bechstein & Scharfenberg, 1805.

Microgaster necatrix Schulz, 1906.

Ichneumon necator Bechstein & Scharfenberg, 1805 [junior primary homonym of *Ichneumon necator* Fabricius, 1777].

Type information. Holotype male, ZMUC (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Germany.

Notes. Our species concept is based on descriptions provided in the historical literature (Haliday 1834, Fahringer 1837). Both authors mentioned the ovipositor as not visible (or hidden), an indication that the ovipositor and sheaths are very short, which excludes *necator* from *Apanteles*. The rest of the information provided in those papers is too general, e.g., the description of antenna length, colour of body, wings and veins, to help determine the correct generic placement. Based on the general colour of the body, host data (Pterophoridae) and the number of wasp cocoons (forming a cocoon mass), this species could be placed either in *Cotesia* (most likely) or *Glyptapanteles*.

? *Apanteles nigripes* (Ratzeburg, 1844)

Microgaster nigripes Ratzeburg, 1844.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.

PAL: Bulgaria, Germany, Latvia.

Notes. Like many of Ratzeburg's types, the *nigripes* type is lost or presumed destroyed. Shenefelt (1972) treated this species as *Apanteles* (*sensu lato*), but the actual generic placement of this species is unknown. Besides Germany, supposedly the country of the type locality, the other countries cited for this species, Bulgaria and Latvia (see Yu et al. 2016 for details) should be considered as suspicious. Broad et al. (2016) excluded the species from UK, based on Papp (1988) and van Achterberg (2003), a decision we accept and follow here.

? *Apanteles reedi* Porter, 1920

Apanteles reedi Porter, 1920.

Type information. Type and depository unknown (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina, Chile.

Notes. This species is not an *Apanteles*, based on the very short ovipositor. The original description is not detailed enough to allow us to determine the correct generic placement.

? *Apanteles sanctivicenti* Ashmead, 1900

Apanteles sanctivicenti Ashmead, 1900.

Rhygoplitis sanctivincenti Ashmead, 1900. See Fernandez-Triana et al. (2014e).

Type information. Holotype male, NHMUK (examined). Country of type locality: Saint Vincent.

Geographical distribution. NEO.

NEO: Saint Vincent.

Notes. Fernandez-Triana et al. (2014e) discussed in detail problems with this species name and tentatively classified it in *Rhygoplitis*. At the time, the type was thought to be lost and all of the assumptions were based on the original description. However, we recently found the type specimen in NHMUK and have been able to examine it in detail. Unfortunately a large drop of glue covers most of the propodeum and T1 and thus it is not possible to determine with certainty its generic status. But it is now evident that the species does not belong to *Rhygoplitis* as it does not have visible notauli, T2 is smooth, and vein R1 in the fore wing is relatively very large (longer than pterostigma length and several times longer than the distance between its end and the end of vein RS). Those features are unlike any known species of *Rhygoplitis* (a genus characterized, among other things, by strong notauli, T2 strongly sculptured, and relatively short vein R1 in fore wing). Based on the mostly smooth anteromesoscutum, thin scutoscuteellar sulcus, T1 shape and hind wing with vannal lobe apparently fully setose (but vannal lobe not totally clear because of glue obscuring its view) this species could be placed within *Dolichogenidea* (but it could also be *Apanteles* if the hind wing vannal lobe is interpreted differently). The main problem in placing this species in *Dolichogenidea* (or *Apanteles* for that matter) is that the original description mentions a median longitudinal carina in the propodeum, which would exclude it from either genus. But it is possible that Ashmead (1900) misinterpreted the presence of a median longitudinal carina (indeed, if he examined the specimen after it was glued, it would have not been possible to see it, especially with the microscope available at that time). Another possibility would be *Pseudapanteles* (a genus with a median longitudinal carina), but what can be seen from propodeum and T1 (both relatively sculptured) does not match well with our current concept of *Pseudapanteles*. Because of that, it is not possible to establish with certainty the generic identity of *sanctivincenti* until the type is unglued from the pin for re-examination and/or DNA is extracted.

? *Apanteles shrii* Sathe & Ingawale, 1995

Apanteles shrii Sathe & Ingawale, 1995.

Type information. Holotype female, NZSI (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description and illustrations are very deficient and the elements provided therein do not allow to establish with any accuracy to which genus the species belongs, but it is very clear that this species does not belong to *Apanteles*. The described sculpture of propodeum, unpleated hypopygium, and length of ovipositor sheaths all suggest it could be *Parapanteles*; but the authors also stated that the antennal flagellomeres are three segmented and that the ovipositor sheaths have no setae, both features not known in any described species of *Parapanteles*. The authors mentioned that the new taxon is similar to two previously described Microgastrinae species, one of which belongs to *Cotesia* and the other to *Dolichogenidea* (two unrelated genera with many different morphological features). The illustrations provided are somewhat inaccurate, e.g., the venation of the hind wing, and the proportions of the metacoxa and metafemur are different in the drawing as compared to what is detailed in the written description. The specimens on which the species description was based (45 female and 20 male specimens) were all reared from *Earias vittella* (Fabricius, 1794) (Nolidae). That host record cannot be attributed unequivocally to any specific genus of Microgastrinae (four genera: *Apanteles*, *Cotesia*, *Diolcogaster*, and *Dolichogenidea* all have species previously recorded as parasitizing the genus *Earias*). All of the above evidence indicates a rather poorly characterized species with insufficient information to establish its generic placement, other than not belonging in *Apanteles*.

? *Apanteles tineaecephagus* Bhatnagar, 1950

Apanteles tineaecephagus Bhatnagar, 1950.

Type information. Holotype female, INPC (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description is not detailed enough to determine the correct generic placement; we consider that it could be either *Parapanteles*, *Apanteles* or *Dolichogenidea*. The year of publication of the Bhatnagar paper was until recently commonly cited as 1948 and/or 1950 (e.g., Chen and Song 2004, Yu et al. 2016), probably following Shenefelt (1972) who referred to this paper as “Bhatnagar (1948) 1950”. While the intended year for Volume X, Parts I & II of the Indian Journal of Entomology was 1948, the actual dates of publication were June 1950 (Part I) and October 1950 (Part II), as clearly shown on the cover page of the Volume, which we have checked. Because the dates of publication are the ones to be considered, and for the sake of clarity, we hereby revise the species year of description to 1950.

? *Choeras pappi* Narendran, 1998

Choeras pappi Narendran, 1998.

Type information. Holotype female, RMNH (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. The original description is not detailed enough to determine the correct generic placement. But it mentions a very short ovipositor (half metacoxal length), which indicates that this species does not belong in *Choeras*. This is also corroborated by the illustration of veins r and 2RS in the fore wing (Narendran 1998: fig. 5), which do not look like those of any other described species of *Choeras*.

? *Cotesia picipes* (Bouché, 1834)

Microgaster picipes Bouché, 1834.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Azerbaijan, France, Germany, Hungary, Italy, Russia (SPE, VLA), Tajikistan, Uzbekistan.

Notes. The type of *picipes* is presumed to be lost. Broad et al (2016), based on van Achterberg (2003) not citing *picipes* for the Western Palearctic, excluded the species from their United Kingdom list. Broad et al (2016) considered that *picipes* might be a synonym or a *nomen dubium*. However, at least two sources (Belokobylskij et al. 2003, Papp 2005) considered the species as valid, and actually belonging to *Cotesia*, in contrast with Papp (1987a), who provisionally considered *picipes* to be a synonym of *Apanteles xanthostigmus*.

? *Glyptapanteles conopomorphae* Tsang & You, 2007

Glyptapanteles conopomorphae Tsang & You, 2007.

Type information. Holotype female, SCAC (not examined but original description checked). Country of type locality: China.

Geographical distribution. OTL.

OTL: China (GD).

Notes. Based on the illustrations from the original description, this species is not likely to be *Glyptapanteles* (the ovipositor sheaths are relatively long, the propodeum shows a partial areola defined apically, and T2 is relatively transverse, unlike most described *Glyptapanteles*). We believe this species could be better placed in *Dolichogenidea*; however, the vannal lobe in the hind wing and the hypopygium are not clearly visible to help determine the correct generic placement.

? *Microgaster alvearifex* (Schrank, 1781)

Ichneumon alvearifex Schrank, 1781.

Ichneumon alvearififormis Geoffroy, 1785.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Austria, Germany, Italy.

Notes. We read the very short comments and/or descriptions in Gmelin (1790: 2712), Haliday (1834: 257) and Fahringer (1837: 368), mostly reproducing what Schrank (1781) wrote about the species. The species was considered to be part of “*Microgaster sensu lato*, including *Apanteles* and *Microplitis*” (see Fahringer (1937), which would include most of the Microgastrinae at the time. The available details, about the cocoons (white and forming a mass like a honeycomb) as well as general colour of the adult wasp (body black, legs reddish), are not sufficient to place this species correctly to genus but seem to indicate that is probably not *Microgaster*. For example, the shape of the cocoon mass is stated to be similar to those of *Ichneumon alvearius* Fabricius, 1798 (a species currently in *Diolcogaster*) and we are aware of a similar cocoon mass made by *Sathon falcatus* (Nees, 1834).

? *Microgaster annulipesiduo* Shenefelt, 1973

Microgaster annulipesiduo Shenefelt, 1973.

Microgaster annulipes Motschoulsky, 1863 [primary homonym of *Microgaster annulipes* Curtis, 1830].

Type information. Holotype male, depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: Sri Lanka.

Notes. Wilkinson (1927: 173) thought this species did not belong in *Microgaster*, a statement we agree with.

? *Microgaster duvauae* Brèthes, 1916

Microgaster duvauae Brèthes, 1916.

Type information. Holotype female, MACN (not examined but original description checked). Country of type locality: Argentina.

Geographical distribution. NEO.

NEO: Argentina.

Notes. The original description is not clear enough to conclude, but it seems that *duvauae* does not belong to *Microgaster*, based on details of T1 and T2, body size, wing length, and presumed host. Until further study of the type is done, it is not possible to establish with certainty the generic placement of the species.

? *Microgaster eurygaster* (Cameron, 1911)

Apanteles eurygaster Cameron, 1911.

Type information. Holotype male, TMSA (not examined but subsequent treatment of the species checked). Country of type locality: South Africa.

Geographical distribution. AFR.

AFR: South Africa.

Notes. Based on the original description of the holotype male (only known specimen) and the subsequent treatment (Cameron 1911c, Wilkinson 1929a, de Saeger 1944) this species is clearly not a *Microgaster*. However, it is not possible to place it in any genus with any degree of certainty, as the description is not conclusive.

? *Microgaster mortuorum* (Rossi, 1792)

Ichneumon mortuorum Rossi, 1792.

Type information. Type and depository unknown (not examined). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Italy.

Notes. Yu et al. (2012) list this species with a question mark regarding its status and generic placement. Other than the original description, which we have not been able to see, very few references, all of them catalogues, treat this species.

? *Microgaster nigricornis* Motschoulsky, 1863

Microgaster nigricornis Motschoulsky, 1863.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Sri Lanka.

Geographical distribution. OTL.

OTL: Sri Lanka.

Notes. Wilkinson (1927: 173) thought this species did not possibly belong in *Microgaster*, a statement we agree with. Shenefelt (1973: 718) added a male sign when referring to the original description of the species, but it is not clear if that means a single specimen (which would then be considered as the holotype), or a series of male specimens (which would then be syntypes); thus, we consider the type status as unknown for the time being. Based on the key by Wilkinson (1927), we suspect that this species does not belong to *Microgaster*, but until further study(ies) of the type(s), it is not possible to establish with certainty the generic placement of the species.

? *Microgaster pictipes* Marshall, 1898

Microgaster pictipes Marshall, 1898.

Type information. Holotype male, depository unknown (not examined but original description checked). Country of type locality: Spain.

Geographical distribution. PAL.**PAL:** France, Spain.

Notes. Based on the original description, this species is not *Microgaster*, as T2 is relatively very short (half the length of T3) and T2 has oblique divergent grooves delimiting a triangular area. The original description, and a similar translation by Telenga (1955) are not clear enough to determine if this species should be better placed in *Microplitis* or *Diolcogaster* (or even *Rasivalva*).

? *Microgaster pinos* Cresson, 1865*Microgaster pinos* Cresson, 1865.

Type information. Holotype female, ANSP (not examined but original description checked). Country of type locality: Cuba.

Geographical distribution. NEO.**NEO:** Cuba.

Notes. The original description is not clear enough to determine the correct generic placement. Cresson (1865: 67) considered the fore wing venation of *pinos* to be similar to that of *Microgaster marginiventris* Cresson (i.e., without an areolet), a species currently classified in *Cotesia*. This strongly suggest that *pinos* does not belong in *Microgaster* (in the modern sense), as all *Microgaster* have a large areolet whereas all *Cotesia* lack an areolet. Muesebeck (1921: 11), even though he did not see the type of *pinos*, placed it within *Apanteles* (which, at the time included *Cotesia*, but not *Microgaster*). After analyzing all available evidence, we conclude that *pinos* very likely belongs to one of the *Apanteles sensu lato* genera.

? *Microgaster ruficoxis* Ruthe, 1858*Microgaster ruficoxis* Ruthe, 1858.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: Germany.

Geographical distribution. PAL.**PAL:** Germany.

Notes. The original description is not sufficiently detailed to determine the correct generic placement. Our species concept is based on Telenga (1955). This species is very unlikely to belong to *Microgaster*, as the metacoxa is described as very long, half the metasoma length. It could likely belong to *Diolcogaster*.

? *Microplitis bambusanus* de Saeger, 1944*Microplitis bambusanus* de Saeger, 1944.

Type information. Holotype female, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.**AFR:** Democratic Republic of Congo, Rwanda.

Notes. This species almost certainly does not belong in *Microplitis*. The original description provides some features that suggest it could belong to *Jenopappius*, but other characters are slightly different.

? *Microplitis isis* de Saeger, 1944

Microplitis isis de Saeger, 1944.

Type information. Holotype male, RMCA (not examined but original description checked). Country of type locality: Democratic Republic of Congo.

Geographical distribution. AFR.

AFR: Democratic Republic of Congo.

Notes. This species almost certainly does not belong in *Microplitis*. The original description provides some features that suggest it could belong to *Alloplitis*, but other characters are slightly different.

? *Promicrogaster saraswatii* Sathe & Bhoje, 1998

Promicrogaster saraswatii Sathe & Bhoje, 1998.

Type information. Holotype female, depository unknown (not examined but original description checked). Country of type locality: India.

Geographical distribution. OTL.

OTL: India.

Notes. Fernandez-Triana et al. (2016b) provided several reasons to treat this species as *incertae sedis*; however, here we think it is more appropriate to consider it as a *species inquirenda*. The host record associated with this species in the original description is highly suspicious.

? *Venanides moldavicus* (Tobias, 1975)

Apanteles moldavicus Tobias, 1975.

Type information. Holotype female, ZIN (not examined but subsequent treatment of the species checked). Country of type locality: Moldova.

Geographical distribution. PAL.

PAL: Armenia, Korea, Moldova, Russia (VOR), Slovakia, Ukraine, United Kingdom.

Notes. The drawings in Tobias (1975, 1986) suggest that this species belongs to *Venanides*, the same generic placement reported by Capek and Lukas (1989). However, Papp (1988, 1990b), Belokobylskij et al. (2019), Shaw (2012b), and Broad et al. (2016) placed it in *Pholetesor* although the latter two papers considered that as a provisional or even questionable generic placement. Specimens of *moldavicus* we examined seem to fit better within the Cotesini group (*sensu* Mason 1981), which contains genera such as *Venanides* and *Glyptapanteles* (two genera that we consider are the best candidates for *moldavicus*). Morphological evidence is not sufficient to determine the correct generic placement but ongoing molecular studies of those specimens should help determine this.

*Nomina dubia****Apanteles anomalon* (Curtis, 1830)***Microgaster anomalon* Curtis, 1830.

Type information. Type unknown, MVMMA (not examined but subsequent treatment of the species checked). Country of type locality: United Kingdom.

Geographical distribution. PAL.

PAL: United Kingdom.

Notes. Shenefelt (1972: 443) gave England as the country where this species is found, information accepted by most researchers afterwards (see Yu et al. 2016 for complete list of historical references). However, Broad et al (2016) did not consider this species to be present in the United Kingdom, adding the following: “This name appeared in Huddleston (1978) but is not listed by Papp (1988) or van Achterberg (2003c) and remains uninterpreted”. Because this species had been only recorded from the United Kingdom, its status will require further investigation.

Cotesia sessilis* (Geoffroy, 1785)Evania sessilis* Geoffroy, 1785.*Evania sessilis* (Fabricius, 1793).*Apanteles tetrica* (Reinhard, 1880).*Microgaster opacula* (Thomson, 1895).

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Armenia, Austria, Azerbaijan, Belarus, Belgium, Croatia, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Italy, Kazakhstan, Latvia, Lithuania, Moldova, Norway, Poland, Romania, Russia (ALT, DA, KGD, KDA, MOS, PRI, RYA, SPE, SAR, VLA, VOR, YAR), Serbia, Sweden, Switzerland, Tajikistan, Turkey, Uzbekistan.

Notes. The name *sessilis* has been interpreted in different ways: a) Yu et al. (2016) considered it a valid species, with both *C. juniperatae* (Bouché, 1834) and *C. tetrica* (Reinhard, 1880) as its synonyms; b) Papp (1988) and Kotenko (2007) considered *tetrica* as a valid species, with *sessilis* as its synonym, with a question mark; c) Belokobylskij et al. (2003) deemed *juniperatae* as a valid species, with *sessilis* as its synonym; and d) Broad et al (2016) deemed *juniperatae* and *tetrica* to be a valid species, but did not list *sessilis* as a synonym of either. With the type and depository unknown, and the evidence available to us being contradictory (for more details see our Notes under *Cotesia brachycera* in the checklist above, p 285–287) we consider it impossible to conclude on the status of the *sessilis* name for the time being and thus consider it as a *nomen dubium*. The distribution of *sessilis* detailed above is taken from Yu et al. (2016), which is a compilation of historical references; however, that is very likely to be inaccurate, due to the many potential species linked to this name over the years.

***Microgaster subcutanea* (Linnaeus, 1758)**

Ichneumon subcutaneus Linnaeus, 1758.

Type information. Type and depository unknown (not examined but subsequent treatment of the species checked). Country of type locality: unknown.

Geographical distribution. PAL.

PAL: Finland, Norway.

Notes. We have studied a) the original description (Linnaeus 1758: 568); b) a lateral habitus of the species illustrated in DeGeer (1752, plate 30, figure 21), a paper that predates Linnaeus work, but which is supposed to be the source used by Linnaeus to describe the species (see Fitton 1978: 379 for a discussion on that topic); and c) Zetterstedt's (1838: 404–405) redescription of the species. The illustration from DeGeer (1752; fig. 21) indeed seems to represent a braconid wasp (as recognized by Fitton 1978), but it does not look like a Microgastrinae, as there appears to be a closed marginal cell in the fore wing (defined by a complete vein RS) and the vein M is also very long, almost reaching the apex of the wing. That same illustration also shows what appears to be an elongate glossa (not common but present in a few species of several genera in Microgastrinae), and the overall appearance of the metasoma looks somewhat different from a typical microgastrine wasp; however, we are hesitant to make a decision based just on an old drawing which may not be accurate enough to be meaningful. The other source we read, the description from Zetterstedt (1838), is actually more in line with the Microgastrinae concept of that time (where all species were considered to belong to the genus *Microgaster*), and it seems to support the idea of the species belonging to that subfamily. With the evidence available to us being contradictory and relatively very old (a drawing from 1752, a description from 1838) we consider it impossible to conclude on the status of this species for the time being, thus we are here following Fitton (1978) who considered it as a *nomen dubium*. It is also worth mentioning that, according to Fitton (1978), material from the species can still exist in the NHRS in Stockholm and its future study may clarify the status of this name.

Nomina nuda***Apanteles argentinensis* Blanchard, 1937**

Apanteles argentinensis Blanchard, 1937.

Notes. This species name is mentioned in Bourquin (1937) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Apanteles deltinea* Blanchard, 1961**

Apanteles deltinea Blanchard, 1961.

Notes. This species name is mentioned in Bourquin (1961) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Apanteles geometraephagus* Blanchard, 1939**

Apanteles geometraephagus Blanchard, 1939.

Notes. This species name is mentioned in Blanchard (1939) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Apanteles koehleri* Blanchard, 1942**

Apanteles geometraephagus Blanchard, 1942.

Notes. This species name is mentioned in Blanchard (1942b) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Apanteles mysticus* Blanchard, 1961**

Apanteles mysticus Blanchard, 1961.

Notes. This species name is mentioned in Bourquin (1961) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Apanteles platystigma* Blanchard, 1938**

Apanteles platystigma Blanchard, 1938.

Notes. This species name is mentioned in Blanchard (1938) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Apanteles sericeoneesi* Papp, 1974**

Apanteles sericeoneesi Papp 1974.

Notes. This name was mentioned in two papers by Papp (1974c, 1976a). In both cases the name is only cited in the caption of figure 54, a drawing of T1–T3. No other details, description, or depository are available, and thus the species name is to be treated as a *nomen nudum*. In the CNC there is a female specimen donated by Papp with the same species name, and the specimen metasoma agrees with the drawing in Papp (1974c, 1976a). The CNC specimen was sampled for DNA barcoding, and the resulting, partial sequence (144 base pairs) is deposited in BOLD (voucher code CNCHYM 00707, sequence code: HYCNE518-11).

***Apanteles speocropiae* Blanchard, 1941**

Apanteles speocropiae Blanchard, 1941.

Notes. This species name is mentioned in de Santis (1941) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Apanteles veronesi* Blanchard, 1940**

Apanteles veronesi Blanchard, 1940

Notes. This species name is mentioned in Blanchard (1940) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Cotesia ferventis* Kotenko, 2007**

Cotesia ferventis Kotenko, 2007.

Notes. Kotenko (2007a: 185) mentioned this name as part of his treatment of Microgastrinae of the Russian Far East. However, the name is not accompanied by any description or any other detail.

***Glyptapanteles obvius* Kotenko, 2007**

Glyptapanteles obvius Kotenko, 2007.

Notes. Kotenko (2007a: 185) mentioned this name as part of his treatment of Microgastrinae of the Russian Far East. However, the name is not accompanied by any description or any other detail.

***Glyptapanteles urios* Kotenko, 2007**

Glyptapanteles urios Kotenko, 2007.

Notes. Kotenko (2007a: 185) mentioned this name as part of his treatment of Microgastrinae of the Russian Far East. However, the name is not accompanied by any description or any other detail.

***Microgaster euchthoniae* Blanchard, 1939**

Microgaster euchthoniae Blanchard, 1939.

Notes. This species name is mentioned in Bourquin (1939) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

***Microplitis parapsidalis* Blanchard, 1950**

Microplitis parapsidalis Blanchard, 1950.

Notes. This species name is mentioned in Ratkovich (1950) as a manuscript name and must be considered as *nomen nudum* (see also de Santis 1967a).

Other unavailable names

Below we list 38 species names that were described in post 1999 publications that did not state the type depository – thus they do not fulfill the requirements of ICZN Article 16.4.2 and must be considered as unavailable names. Additionally, in BOLD (<http://v4.boldsystems.org/>), there are some Microgastrinae sequences with associated names that have never been described in a publication and do not fulfill most of the requirements of ICZN Article 16 to be considered as available names (most of those cases are in the genus *Glyptapanteles*). However, we do not list those names here because they have never been published (BOLD, being an online database, is not considered to be a publication, *sensu* ICZN Article 8 “What constitutes published work”), but we caution against using those names in future publications, as currently they cannot be considered as available.

***Apanteles indica* Chougale, 2016.**

Notes. The type and depository are not specified in the original publication.

***Apanteles multani* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia anari* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia arachi* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia bazari* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication

***Cotesia chiloi* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia handhwani* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia janati* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia mangiferi* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia parnari* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia sunflowari* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Cotesia tuski* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea bageshri* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea darbari* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea exiguvi* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea lycopersi* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea mythimna* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea oryzae* Bhoje & Sathe, 2002.**

Notes. The depository of the type is not specified in the original publication. Additionally, this species name is a secondary homonym of *Dolichogenidea oryzae* Walker, 1994.

***Dolichogenidea parijatki* Sathe & Rokade, 2005.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea revatl* Sathe & Rokade, 2005.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea sathei* Sathe & Rokade, 2005.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea sushili* Bhoje & Sathe, 2002.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea sunflowari* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea tarvadi* Sathe & Rokade, 2005.**

Notes. The depository of the type is not specified in the original publication.

***Dolichogenidea ujlai* Sathe & Rokade, 2005.**

Notes. The depository of the type is not specified in the original publication.

***Glyptapanteles bhupali* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Glyptapanteles malshri* Sathe, Inamdar & Dawale, 2003.**

Notes. This same species was described previously by two of the authors (as *Glyptapanteles malshri* Sathe & Inamdar, 1991; that species is valid and is treated in this paper – see notes under *Cotesia malshri* above for more details on that species, p 328). In any case, the name *Glyptapanteles malshri* Sathe, Inamdar & Dawale, 2003 must be considered as an unavailable name because the depository of the type is not specified in the original (2003) publication.

***Glyptapanteles melentis* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Hypomicrogaster minari* Sathe & Bhoje, 2000.**

Notes. The depository of the type is not specified in the original publication.

***Microplitis bageshri* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Microplitis vitellipedis* Li, Tan & Song, 2009.**

Notes. The depository of the type is not specified in the original description. Ranjith et al. (2015a) mentioned that the holotype of this species is deposited in the HUNAU collection, but that was only an assumption (Ranjith, pers. comm.). They also stated that “the type specimen of this species could not be examined” and that instead they based their species description and illustration on specimens from India which they actually examined. Ranjith et al. (2015a) does not fulfill ICZN Article 16.1, and thus it does not make the species name available.

***Parenion bhairavi* Sathe, Inamdar & Dawale, 2003.**

Notes. This same species was described previously by two of the authors (as *Parenion bhairavi* Sathe & Inamdar, 1991; that species is valid and is treated in this paper – see notes under *Cotesia bhairavi* above for more details, p 283, 284). In any case, the name *Parenion bhairavi* Sathe, Inamdar & Dawale, 2003 must be considered as an unavailable name because the depository of the type is not specified in the original (2003) publication.

***Pholetesor rangini* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Promicrogaster vachaspati* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Protomicroplitis indus* Ahmed & Usmani, 2016.**

Notes. The depository of the type is not specified in the original publication.

***Protomicroplitis shivrangini* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Rhygoplitis pahadi* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

***Semionis madhuvanti* Sathe, Inamdar & Dawale, 2003.**

Notes. The depository of the type is not specified in the original publication.

Acknowledgements

Many people and institutions were of capital importance in the completion of this work. First of all, we thank Dicky Yu and Kees van Achterberg for their extraordinary work preparing the different versions of Taxapad (2005, 2012, 2016), which were heavily consulted and provided an important foundation for this paper (including the many references, sometimes difficult to find, that Dicky and Kees were able to retrieve and kindly share with the wider scientific community). Even if we did not always agree with some decisions made in Taxapad about generic limits, the importance of that database cannot be overstated, as well as the kindness and collaborative spirit of its authors. The entire Hymenoptera Unit of the CNC, especially John Huber, helped and advised the senior author over the years on how to complete this work, including endless discussions about this paper and revisions of the manuscript at several stages of its completion. We benefited from the extremely useful revisions of the manuscript done by the Editor (Kees van Achterberg), the Reviewers selected by Kees to revise this manuscript when submitted to ZooKeys (Eduardo Shimbori, Avinjikkattu Parambil Ranjith, Andrew Austin, Ankita Gupta, James Whitfield, and an anonymous reviewer) and the ZooKeys Copy Editor (Nathalie Yonow). Another extra-official review by ICZN Commissioner Doug Yanega considerably improved our approach to many nomenclature issues; we are especially thankful to Doug for his kindness and time spent. Many braconid experts have supported us over the years, as colleagues, mentors, and friends; other researchers who preceded us (and thus we never met) also significantly influenced our work here with their contributions to the knowledge of Braconidae and Microgasterinae, in alphabetical order: Kees van Achterberg, Andrew Austin, William Mason, Carl Muesebeck, Gilbert Nixon, Jeno Papp, James Whitfield, and Douglas Wilkinson. Additionally, many other colleagues, curators and technicians of many institutions worldwide arranged for visits to their institutions, sent material for study or checked specimens for us, kindly shared information, publications, DNA barcodes and other resources; we recognize them in alphabetical order, and apologize if we are forgetting anyone: Parisa Abdoli, Diana Carolina Arias-Penna, Andrew Austin, Frederique Bakker, Kevin Barber, Sergey Belokobylskij, Noubar Bostanian, Yves Braett, Matthew Buffington, Xue-Xin Chen, Wouter Dekoninck, Rachel Diaz-Bastin, Charley Eiseman, Cecilia Escobar, Erinn Fagan-Jeffries, Shunpei Fujie, Mostafa Ghafouri Moghaddam, Christopher Grinter, Ankita Gupta, Winnie Hallwachs, Lars Ove Hansen, Paul Hanson, Antonius van Harten, Paul Hebert, Daniel Janzen, Martti Koponen, Anatoly Kotenko, Robert Kula, Christine Lebeau, Kaoru Maeto, Stephen Marshall, José Luis Nieves-Aldrey, James O'Connor, Juho Paukkunen, Kyle Parks, Angélica Maria Penteadó-Dias, Donald Quicke, Avinjikkattu Parambil Ranjith, Josephine Rodriguez, Pascal Rouse, Michael Sharkey, Eduardo Shimbori, So Shimizu, Derek Sikes, Alex Smith, Jayme Sones, Alejandro Valerio, Kees van Achterberg, Gergely Varkonyi, Zoltan Vas, Claire Villemant, Darren Ward, James Whitfield, Alejandro Zaldívar-Riverón, Robert Zuparko, and members of the Swedish Malaise Trap Program. Also helpful were discussions with members of the Taxacom and Parahym lists. The following scientists kindly shared information

or pictures about a few *Microgastrinae* types deposited in several institutions, which were useful to us when studying those species: Sergey Belokobylskij and Andrew Bennett (specimens in the MNHN); Mostafa Ghafouri Moghaddam (specimens deposited in HNHN); Robert Kula (specimens in the USNM); Darren Ward (specimens in the NZAC); Kees van Achterberg (types in China). Seven of the figures used in this paper were adapted from other works and authors, which are acknowledged here: 1) Figure 39 (based on modified drawings from Luo et al. 2004); 2) Figure 61 (mostly based on modified drawings and SEM images from Choi and Whitfield 2006); 3) Figures 87 and 88 (based on modified images from Xiong et al. 2017); 4) Figures 208 and 210 (based on modified images from van Achterberg et al. 2015); 5) Figure 245 (based on modified drawings from Whitfield 1995b). Lyubomir Penev, Yordanka Banalieva, and colleagues at Pensoft were very helpful and understanding with the difficulties of assembling this paper, their help is greatly appreciated. This work was supported by Projects J-001283 “Arthropod Systematics” and 3199 “Systematics of beneficial arthropods in support of resilient agroecosystems”, from Agriculture and Agri-Food Canada.

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Supplementary material I

Supplementary table 1

Authors: Jose Fernandez-Triana, Mark R. Shaw, Caroline Boudreault, Melanie Beaudin, Gavin R. Broad

Data type: species data

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Supplementary material 2

Supplementary table 2

Authors: Jose Fernandez-Triana, Mark R. Shaw, Caroline Boudreault, Melanie Beaudin, Gavin R. Broad

Data type: species data

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