

Checklist of beetles (Coleoptera) of Canada and Alaska. Second edition

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Academic editor: *L. Penev* | Received 22 January 2013 | Accepted 10 September 2013 | Published 6 December 2013

Citation: Bousquet Y, Bouchard P, Davies AE, Sikes DS (2013) Checklist of beetles (Coleoptera) of Canada and Alaska. Second edition. ZooKeys 360: 1–44. doi: 10.3897/zookeys.360.4742

Abstract

All 8237 species-group taxa of Coleoptera known to occur in Canada and Alaska are recorded by province/territory or state, along with their author(s) and year of publication, in a classification framework. Only presence of taxa in each Canadian province or territory and Alaska is noted. Labrador is considered a distinct geographical entity. Adventive and Holarctic species-group taxa are indicated. References to pertinent identification keys are given under the corresponding supraspecific taxa in the data archive.

Keywords

Coleoptera, checklist, distribution, classification, adventive and Holarctic species, Alaska, Canada

Introduction

More than twenty years have passed since the publication of the *Checklist of beetles of Canada and Alaska* (Bousquet 1991). During that period many changes have been introduced into the classification of Coleoptera. For example, the scydmaenines, pselaphines, scaphidiines, and micropeplines, which were usually regarded as distinct families, are now part of the Staphylinidae, the lyctines are included in the Bostrichidae, the anobiines in the Ptinidae, the languriines in the Erotylidae, the bruchines in the Chrysomelidae, the apionines and ithycerines in the Brentidae, and the scolytines and platypodines in the Curculionidae. On the other hand, a number of family-group taxa, usually treated as subfamilies, are now considered distinct families. This is the

case for the geotrupines, trogines, glaresines, ochodaeines, and the glaphyrines in the superfamily Scarabaeoidea, the silvanines, passandrines, laemophloeines, and kateretines in the Cucujoidea, and the megalopodines and orsodacnines in the Chrysomeloidea. This period also saw the publication of numerous revisions of genus-group and family-group taxa, frequently accompanied by phylogenetic analyses, which have often drastically changed our understanding of the classification of these taxa. Three volumes of the series *The Insects and Arachnids of Canada* have been issued, one dealing with the superfamily Curculionoidea (excluding the Curculionidae) (Bright 1993), one on the Histeridae (Bousquet and Laplante 2006) and one on the Curculionidae subfamily Entiminae (Bright and Bouchard 2008). Finally many Canadian provincial and territorial records have been published in the last twenty years. These represent both new introductions as well as increases in our knowledge of native species distributions largely through increased collection efforts. This is particularly true for the Maritimes, thanks to the effort of Christopher Majka and Reginald Webster. Considering the amount of new information available, we believe that a new edition of the *Checklist of beetles of Canada and Alaska* will help those interested in beetles of the Canadian fauna.

As for the first edition of the *Checklist*, this publication is intended to provide the correct names of the beetles that occur in Canada and Alaska, give a brief survey of the distribution of the species in the area covered, and lead the users to useful publications for the identification of the taxa.

Format

The classification of family-group taxa used in this checklist follows Bouchard et al. (2011). The listing of these names is phylogenetic for the superfamilies, families, and subfamilies, starting with what is considered the most basal-grade taxa, and alphabetic for the supertribes, tribes, and subtribes. Genus-group and species-group taxa and invalid synonyms are listed alphabetically. Synonyms are not listed unless the names were considered as valid taxa in the first edition of the *Checklist*, or the taxa were described after the publication of the first edition of the *Checklist* and reported from Canada and/or neighboring states, or the names have been used in recent important works dealing with the Nearctic fauna.

The authors of all scientific names are listed along with the date of publication of the taxa. To avoid confusion, initials are included for several authors, such as H.P. Brown, W.J. Brown, H. Clark, W.E. Clark, G. Dellacasa, M. Dellacasa, D.C. Miller, K.B. Miller, W.V. Miller, P.W.J. Müller, O.F. Müller, C.R. Sahlberg, R.F. Sahlberg, J.R. Sahlberg, C. Schaeffer, J.C. Schaeffer, E.H. Smith, J.B. Smith, R.F. Smith, S.G. Smith, C.G. Thomson, J. Thomson, A. Zimmermann, C.C.A. Zimmermann as well as W. Horn, and J.E. LeConte. LeConte and Horn stand for J.L. LeConte and G. Horn respectively.

An asterisk [*] placed after a species-group name indicates that the taxon is Holarctic, a dagger [†] that it is adventive in North America, and a double dagger [‡] that its status is uncertain and the taxon could be Holarctic or adventive on this continent. Species that have been intercepted at ports of entry but are not established in Canada or Alaska are not included in the list.

References to species identification keys are listed under the corresponding supraspecific taxa in the data archive. Only references including keys useful for the determination of all or most Canadian taxa of the group treated are considered. Keys published before the 1930s are usually out-of-date and most are omitted. References to generic keys are omitted since such keys are included in the two volumes of *American Beetles* (Arnett and Thomas 2000; Arnett et al. 2002).

An abbreviation of two letters is used to indicate records for the Canadian provinces and territories and for Alaska (see section “Abbreviations”). Labrador is considered a distinct geographic entity. The distributional records are based mostly on published records and on specimens in the Canadian National Collection of Insects, Arachnids and Nematodes, in Ottawa although other Canadian and Alaskan collections were surveyed for some groups. Only records considered to be reliable are listed. The absence of a geographic entry after a species-group name indicates that the taxon was recorded from Canada but no province was specified.

Abbreviations

AB	Alberta	NB	New Brunswick	ON	Ontario
AK	Alaska	NF	Newfoundland	PE	Prince Edward Island
BC	British Columbia	NS	Nova Scotia	QC	Quebec
LB	Labrador	NT	Northwest Territories	SK	Saskatchewan
MB	Manitoba	NU	Nunavut	YT	Yukon Territory

Taxonomic coverage

All extant described species in the order Coleoptera known to occur in Canada and Alaska are included. For a summary of the number of species recorded in each beetle family see Table 1.

Spatial coverage

This checklist includes records from all provinces and territories of Canada as well as the American state of Alaska.

Table 1. Number of Coleoptera species for each province/territory and Alaska by family. A= adventive; H= holarctic; T= total.

	AK	YT	NT	NU	BC	AB	SK	MB	ON	QC	NB	NS	PE	LB	NF	T	H	A
Archostemata																		
Cupedidae					1				2	1						3		
Micromalthidae					1											1		
Adephaga																		
Gyrinidae	9	11	14	1	18	18	21	21	27	28	17	18	9	11	13	34	4	
Trachypachidae	1	1	1		2	1	1									2		
Rhysodidae					1				1							2		
Carabidae	254	199	217	34	504	416	349	376	532	479	333	292	174	96	178	989	95	54
Halipidae	5	6	11		18	15	13	13	19	22	14	13	6	2	4	34	2	
Noteridae									2	2						2		
Amphizoidea	1	2			3	2										3		
Dytiscidae	103	118	119	24	173	159	134	151	163	150	105	87	38	81	79	284	52	
Polyphaga																		
Hydrophiloidea																		
Hydrophilidae	25	20	35	4	84	67	65	68	96	89	46	46	21	6	26	151	11	19
Sphaeritidae	1				1	1										1		
Histeridae	4	3	3	3	56	52	46	53	77	67	43	32	14		5	136	1	12
Staphylinoidea																		
Hydraenidae	3		4		21	10	9	5	6	7	3	1			1	27	1	
Ptilidae	9		1		26	15	1	11	27	29	16	18	3		3	49	8	12
Agyrtidae	4		1		6	3			1							8		
Leiodidae	55	39	18	1	105	74	45	58	110	101	43	52	2	15	25	182	13	2
Silphidae	9	6	9	3	13	17	18	18	18	17	11	12	11	3	6	26	4	1
Staphylinidae	402	264	209	30	779	443	270	390	865	769	625	422	86	149	317	1682	106	152
Scarabaeoidea																		
Geotrupidae					1	2	3	6	8	7	4	4	1		2	12		1
Passalidae							1	1	1							1		

	AK	YT	NT	NU	BC	AB	SK	MB	ON	QC	NB	NS	PE	LB	NF	T	H	A
Trogidae			1		3	5	6	5	12	6	4	4	2		1	15		
Glaresidae					1	1	1									2		
Lucanidae	2	1	2		7	2	2	3	8	5	4	3	1		1	14		
Ochodaeidae					1	2	1	2	1							4		
Hybosoridae									1							1		
Glaphyridae					1											1		
Scarabaeidae	18	10	17		80	92	74	77	126	105	50	43	13	6	19	221	1	23
Scirroidea																		
Eucinetidae	1	1	3		5	4	3	5	4	5	5	3	1			7		1
Clambidae	1				3	3	2	2	3	6	2	1				2	7	2
Scirtidae	1	1	2		9	4	3	4	15	17	14	13	7		4	25	1	1
Dascilloidea																		
Rhipiceridae									1							1		
Buprestoidea																		
Buprestidae	16	13	19		80	60	51	65	117	92	51	37	12	5	7	177	1	6
Byrrhoidea																		
Byrrhidae	15	9	13	1	16	14	13	7	11	12	7	7	4	7	7	26	3	3
Elmidae			1		14	11	4	6	17	20	11	12	4	2	5	32		
Dryopidae					2	1	1	1	3	5	3	2			1	6		1
Lutrochidae									1	1						1		
Limnichidae					1			1	3	2						3		
Heteroceridae	2	4	5		10	18	17	20	18	16	5	2	1			28		
Psephenidae									4	3	3	2				4		
Ptilodactylidae	1				2			1	2	3	1		1			4		
Elateroidea																		
Artematopodidae			1		3	1		2	3	2	1	1			1	5		
Eucnemidae	1				14	1	3	4	25	23	16	10	4		1	38		
Throscidae			2		6	1	1	1	4	4	2	3	2		1	8		

	AK	YT	NT	NU	BC	AB	SK	MB	ON	QC	NB	NS	PE	LB	NF	T	H	A
Elateridae	57	34	52	4	201	133	102	100	188	177	124	110	49	25	42	386	7	7
Lycidae	3	1	1		8	5	5	9	25	21	16	9		1	1	29	1	
Phengodidae									1							1		
Lampyridae			1		10	5	10	12	23	17	10	11	6	1	1	32		1
Cantharidae	19	14	14	4	66	39	25	33	87	79	50	34	1	6	16	154	1	3
Derodontoidea																		
Derodontidae	2				5	4			3	2	2	4			1	8		1
Nosodendriidae					1				1							2		
Bostrichoidea																		
Dermestidae	9	4	6	1	33	22	21	15	28	27	12	16	11		5	49		16
Endecatomiidae								1	1	1	1					1		
Bostrichidae	2	1	3		13	4	5	7	17	13	5	7	5			24	1	4
Ptinidae	11	6	2		47	23	25	28	55	56	24	36	15		12	98		19
Lymexyloidea																		
Lymexylidae						1		1	1	1	1	1			1	1		
Cleroidea																		
Trogossitidae	4	4	5		17	6	6	7	12	9	7	7	2	1	3	22	1	
Cleridae	5	4	6		23	13	13	16	34	27	15	15	7		4	52		6
Melyridae		1	3		37	15	12	7	13	14	5	3	1		1	53		2
Cucujoidea																		
Byturidae	1	1	1		1	1	1	1	1	1	1	1	1		1	1		
Sphindidae					2	2		4	5	5	4	3				6		
Biphylidae									1	1	1					1		
Erotylidae					6	6	5	10	20	19	10	7	2			28		1
Monotomidae	5	1			13	8	8	4	18	13	9	8	2		5	27		5
Cryptophagidae	27	2	4		48	16	22	15	23	29	19	26	7	7	15	73	18	10
Silvanidae	2		1		7	6	5	7	13	14	7	8	2		3	16		6
Cucujidae	2	1	1		6	2	2	3	3	3	2	1		1	1	8	1	

	AK	YT	NT	NU	BC	AB	SK	MB	ON	QC	NB	NS	PE	LB	NF	T	H	A
Passandriidae									1	1						1		
Phalacridae					3		5	4	4	3	4	3	2	1	2	8		
Laemophloeidae	1				4	2	6	7	9	11	6	8	2		2	13		3
Kateretidae	2	1	2		5	4	4	3	6	6	5	3	1		4	8	1	2
Nitidulidae	20	13	8	1	61	42	35	45	63	63	48	38	12	1	9	101	9	11
Bothrideridae					2				2							4		
Cerylonidae	1		1		3	2	2	1	6	4	3	3	1		2	8		1
Endomychidae			1		7	2	2	5	11	9	6	7	2		2	16		2
Coccinellidae	29	30	36	2	92	81	79	66	84	80	43	43	21	9	16	161	2	9
Corylophidae	2	1	2		7	4	5	4	10	10	4	8	1			16		2
Latridiidae	19	5	6		34	10	23	18	22	29	27	31	17	1	14	64	7	21
Tenebrionoidea																		
Mycetophagidae	1				6	4	7	7	10	13	8	6	2			16		2
Citidae	6		6		19	10	7	14	16	19	7	13	2		6	29		1
Tetratomidae	3	1			9	2	2	10	13	18	9	8	2		1	20		1
Melandryidae	5	2	3		20	10	9	12	21	31	25	24	5	3	13	43		3
Mordellidae		2	6		18	10	31	38	48	50	30	25	14			75		
Rhiphoridae					3	2	2	1	5	3	2	1				11		
Zopheridae	1		2		9	4	3	2	9	6	4	2	1		2	19		1
Tenebrionidae	8	7	5		61	43	38	43	80	70	41	39	17	2	6	141	1	12
Prostomidae					1											1		
Synchroidea								1	1	2	1	1	1			2		
Stenotrachelidae	2	1	2		5	3	3	1	4	5	3	2	2	2	2	9		
Oedemeridae	2				10	4	3	3	5	5	5	5	1		2	13		1
Meloidae	3	1	3		22	26	22	19	18	13	7	5				47		
Mycetidae					2				1	2	1	1				4		
Boridae			1		1	2	2	2	2	2	2	1				2		
Pythidae	4	3	3		5	4	4	4	4	4	5	4	2	2	1	6		

	AK	YT	NT	NU	BC	AB	SK	MB	ON	QC	NB	NS	PE	LB	NF	T	H	A
Pyrochroidae	2		1		8	5	3	4	10	12	7	5	3		1	22	1	
Salpingidae	6	1	1		9	1	1	1	3	2	2	2		1	2	15		1
Anthiciidae	3	2	5		34	27	26	21	27	26	16	13	7		3	65		3
Aderidae					1		1	1	8	9	4	3	1			10		1
Scraupidae	2	1			16	5	5	3	8	9	4	5	3		3	20		
Ischaliidae					1	1			1	1	1	1				2		
Chrysomeloidea																		
Cerambycidae	39	33	34	4	152	103	80	113	223	190	122	99	43	19	33	368	3	7
Megalopodidae	2	3	4		6	5	5	5	6	6	1	2	1			7		1
Orsodacnidae	1	1	1		1	1	1	1	1	1	1	1	1			1		
Chrysomelidae	55	49	76	1	225	265	222	277	386	322	195	168	94	19	48	598	8	55
Curculionoidea																		
Nemonychidae					6	3	1	1	2	3	2	2				8		
Anthribidae	2	2			5	8	8	7	13	17	11	6	1		1	20	1	1
Attelabidae			3		3	4	7	9	11	9	4	5	2		2	14		
Brentidae	4	3	3		14	21	18	20	22	22	13	11	3		1	49	1	8
Dryophthoridae					9	10	8	10	19	17	9	12	4		2	27		3
Brachyceridae	4	4	5		9	12	10	10	13	13	7	5	1	1	3	19	4	2
Curculionidae	127	93	85	8	411	295	239	228	400	386	244	218	99	15	95	823	19	106
Total	1448	1041	1115	123	3932	2863	2353	2679	4513	4127	2703	2286	899	501	1099	8237	394	628
% of total	17,6	12,7	13,6	1,5	47,8	34,8	28,6	32,6	54,8	50,2	32,9	27,8	10,9	6,1	13,4		4,8	7,6
# species in 1991 Checklist	1205	838	1031	n/a	3626	2463	1670	2351	3841	3464	1365	1320	340	373	872	7436	316	469
Difference between 1991 and 2013	243	203	84	n/a	306	400	683	328	672	663	1338	966	559	128	227	801	78	159

Temporal coverage

1758–2013.

Dataset description

Object name: Darwin Core Archive Checklist of the beetles (Coleoptera) of Canada and Alaska. Second edition

Character encoding: UTF-8

Format name: Darwin Core Archive format

Format version: 1.0

Distribution: doi: 10.5886/998dbs2a

Publication date of the data: 2013-12-06

Language: English

Licence of use: Open Government License – Canada, version 2.0 (<http://data.gc.ca/eng/open-government-licence-canada#>)

Metadata language: English

Date of metadata creation: 2013-09-06

Hierarchy level: Dataset

Additional information

A book which includes a formatted version of the checklist, as well as an index to supraspecific taxa, is also available from Pensoft Publishers.

Acknowledgments

We sincerely thank the following colleagues for providing information on the taxonomy and distribution of Canadian beetles, as well as supplying necessary literature: Miguel Alonso-Zarazaga, Robert Anderson, George Ball, Pierre-Marc Brousseau, Horace Burke, Rob Cannings, Donald Chandler, Claude Chantal, Hume Douglas, Frank Etzler, Bruce Gill, Vasily Grebennikov, James Hammond, Christian Hébert, Henry Hespenheide, Richard Hoebeke, Leland Humble, Michael Ivie, Eduard Jendek, Paul Johnson, Jan Klimaszewski, James LaBonte, Serge Laplante, David Langor, Maxim Larrivière, David Larson, Laurent LeSage, Richard Leschen, Ted MacRae, David Maddison, Christopher Majka, David McCorquodale, Henri Miquet-Sage, Charles O'Brien, Matthew Paulsen, Stewart Peck, Georges Pelletier, Philip Perkins, Keith Philips, John Pinto, Darren Pollock, Jens Prena, Volker Puthz, Michel Racine, Yohann Racine, Karine Savard, Paul Skelley, Aleš Smetana, Andrew Smith, Donald Thomas, Pierre de Tonnancour, Robert Vigneault, Reginald Webster, Charlene Wood, Daniel Young,

Adriano Zanetti, and Alicja Zmudzinska-Krzesinska. David Shorthouse assisted with the production of the Darwin Core Archive, his help is greatly appreciated.

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Italian Dermestidae: notes on some species and an updated checklist (Coleoptera)

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Academic editor: C. Majka | Received 20 July 2013 | Accepted 29 November 2013 | Published 6 December 2013

Citation: Nardi G, Háva J (2013) Italian Dermestidae: notes on some species and an updated checklist (Coleoptera). ZooKeys 360: 45–81. doi: 10.3897/zookeys.360.6023

Abstract

An up-to-date checklist of the Italian Dermestidae is provided. The presence of 95 species in Italy is confirmed, while further 5 species (*Dermestes* (*Dermestes*) *vorax* Motschulsky, 1860, *Thorictus pilosus* Peyron, 1857, *T. wasmanni* Reitter, 1895, *Attagenus* (*Attagenus*) *simonis* Reitter, 1881 and *Globicornis* (*G.*) *brevilavis* (Reitter, 1878)) and 1 subspecies (*A. (A.) tigrinus pulcher* Faldermann, 1835) are excluded from the Italian fauna.

Attagenus (*Attagenus*) *calabricus* Reitter, 1881 and *A. (A.) lobatus* Rosenhauer, 1856 are for the first time recorded from Abruzzi and Tuscany respectively; *A. (A.) silvaticus* Zhantiev, 1976 is recorded for the first time from mainland Italy (Apulia); *Anthrenus* (*Anthrenus*) *angustefasciatus* Ganglbauer, 1904 is new to northern Italy (Friuli-Venezia Giulia), central Italy (Tuscany), Apulia and Basilicata; *A. (A.) munroi* Hinton, 1943 is new to central Italy (Elba Island); *A. (A.) delicatus* Kiesenwetter, 1851 is for the first time recorded from Apulia; *Globicornis* (*Globicornis*) *fasciata* (Fairmaire & Brisout de Barneville, 1859) is new to southern Italy (Basilicata); *G. (Hadrotoma) sulcata* (C.N.F. Brisout de Barneville, 1866) is for the first time recorded from central Italy (Abruzzi), Campania and Sicily, while *Trogoderma inclusum* LeConte, 1854 is new to Apulia.

Seven species (*Dermestes* (*Dermestes*) *peruvianus* Laporte de Castelnau, 1840, *D. (Dermestinus) carnivorus* Fabricius, 1775, *D. (Dermestinus) hankae* Háva, 1999, *D. (Dermestinus) intermedius intermedius* Kalík, 1951, *D. (Dermestinus) szekessyi* Kalík, 1950, *Anthrenus* (*Anthrenops*) *coloratus* Reitter, 1881 and *Trogoderma angustum* (Solier, 1849)) recently recorded from Italy (without further details) are discussed.

The lectotype and a paralectotype are designated for *Attagenus* (*A.*) *calabricus* Reitter, 1881 from Calabria.

Attagenus pellio (Linnaeus, 1758) var. *pilosissimus* Roubal, 1932 is removed from synonymy with *A.* (*A.*) *pellio* and recognized as a valid species (**stat. prom.**); it is known from Lombardy, Apulia and Calabria.

Keywords

Dermestidae, lectotype designation, new status, taxonomy, distribution, new records, chorotypes, checklist, Italy

Introduction

The main purpose of the present paper is to enhance knowledge of the Dermestidae of Italy. It is chiefly based on material collected by the staff of the Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale “Bosco Fontana” di Verona (Italy), during entomological surveys in various Italian Protected Areas (e.g. Cerretti et al. 2003, Mason et al. 2006, Nardi and Vomero 2007, Cerretti et al. 2009, Nardi et al. 2011). Moreover, this paper gives an opportunity to provide a new checklist of the Dermestidae of Italy: it updates the nomenclature, systematics and the faunistic of the previous (Audisio et al. 1995) chiefly according to recent capital works (Háva 2007, Zhantiev 2011a, Háva 2011a).

Material and methods

This paper is organized in three sections: “Notes on some species”, “Literature records” and “A new checklist of the Dermestidae of Italy”.

The classification of the subfamilies, tribes, genera and subgenera follows that proposed by Háva (2004, 2007); species are listed alphabetically according to the nomenclature of Háva (2007), Kadej et al. (2007), Háva (2008), Zhantiev (2009) and Háva (2011a).

The first section is based chiefly on study of new material. With very few exceptions, identifications were made by J. Háva.

The second section summarizes the literature data updating the Italian distribution of the species provided by Audisio et al. (1995) or by Háva and Nardi (2011).

In both sections, nomenclatural combinations and possible synonyms (listed chronologically-alphabetically) found in the literature that includes Italian records are provided below the valid name of each species or subspecies.

The first section concerns 25 species. As far as possible, the following data are provided for each record: region, province, general area and/or commune, locality of collection, altitude, UTM coordinates, date of collection, collector/s, collecting method, possible research project, number of specimens, and, in parentheses, abbreviation of depository. The labels of the examined specimens are generally written in Italian; hereunder, the regions and the collecting methods were translated into English. The label

data of type specimens are cited verbatim between quotation marks, a forward slash separating the different lines on a label, and a comma separating subsequent labels. Comments and interpretations are given in square brackets.

The mainland Italian regions are listed from north to south, and from west to east, all toponyms are listed alphabetically. Chorotypes were assigned according to Vigna Taglianti et al. (1993, 1999) and based on the distributions provided by Háva (2003, 2007, 2011b), Zhantiev (2009, 2011a, 2011b) and Háva et al. (2013), unless otherwise stated.

In the second section, the literature records updating the checklist of Dermestidae of Italy provided by Audisio et al. (1995) or by Háva and Nardi (2011) are detailed. These new faunistic data are based on papers subsequent to these two papers but also include some previously overlooked publications. These records concern 14 species. The data on distribution are listed according to the geographic divisions by Audisio et al. (1995): northern Italy (N), peninsular Italy (S), Sardinia and small circum-Sardinian islands (Sa) and Sicily and small circum-Sicilian islands (Si).

Finally, a new checklist of the Italian Dermestidae is provided (Table 1). The total number of species for each geographic division includes only those recorded with certain, so generic records for “Italy” and records followed by a question mark are excluded.

Acronyms for chorotypes follow Vigna Taglianti et al. (1993, 1999), while those for the geographic divisions of Italy follow Audisio et al. (1995); both are included in the foreword of the checklist.

The following abbreviations are used in the text: dint. = dintorni = environs; env. = environs; ex = specimen/s; FA = F. Angelini leg.; FEI = Forum Entomologi Italiani (<http://www.entomologiitaliani.net>); Fraz. = Frazione = hamlet; GC = G. Scaglioni leg.; GNP = Gargano National Park; leg. = legit or legerunt; PC = P. Cornacchia leg.; Prog. = Progetto = Project; prov. = province; sn = sweep net.

Acronyms of specimen depositories

AHG	Andreas Herrmann private collection, Stade, Germany
CNBFVR	Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale “Bosco Fontana” di Verona, Sede di Bosco Fontana. Marmirolo (Mantua), Italy
GNAC	Gianluca Nardi private collection, Cisterna di Latina (Latina), Italy
HNHM	Hungarian Natural History Museum, Budapest, Hungary
JHAC	Private Entomological Laboratory and Collection, Jiří Háva, Prague-west, Czech Republic
MCZR	Museo Civico di Zoologia, Rome, Italy
MZUF	Museo di Storia Naturale, Sezione di Zoologia, Università di Firenze, Florence, Italy
PCOP	Paolo Cornacchia private collection, Porto Mantovano (Mantua), Italy

Notes on some species

Dermestes (Dermestes) peruvianus Laporte de Castelnau, 1840

http://species-id.net/wiki/Dermestes_peruvianus

Dermestes peruvianus Laport.: Bertolini 1904: 58.

Dermestes peruvianus Casteln.: Luigioni 1929: 1024; Porta 1929: 301.

Dermestes (Dermestes) peruvianus Castelnau, 1840: Plata-Negrache 1972: 150; Zhantiev 2011a.

Dermestes (Dermestes) peruvianus Laporte de Castelnau, 1840: Audisio et al. 1995: 12, 16; Háva 2007: 300.

Dermestes peruvianus Laporte de Castelnau: Pollini 1998: 909.

Material examined. [Latium: Roma province,] Roma env., [no other data,] 1 ex (JHAC).

Chorotype. Subcosmopolitan (Háva 2007). This species is also recorded from Portugal (Grosso-Silva and Serrano 2000) and Switzerland (Kenis 2005, Zhantiev 2011a). Both countries must be added to the European distribution summarized by Háva (2007), while the former country must also be added to those provided by Zhantiev (2011a).

Italian distribution. Italy? (Bertolini 1904, Luigioni 1929, Porta 1929). Italian mainland? (Audisio et al. 1995). Italy (without further details) (Plata-Negrache 1972, Háva 2007). Italian mainland (Zhantiev 2011a).

Remarks. Species described from Peru (cf. Háva and Kalík 2005); the first precise record from Italy is shown above.

Domenichini et al. (1993: 272) wrote that this species is *common in food factories* and was reared experimentally in an insectarium in Piacenza University (northern Italy), but the place of origin of this captive population is not mentioned. This species, and *D. (Dermestinus) carnivorus* Fabricius, 1775 (see below), are also considered in an Italian manual of applied entomology (Pollini 1998), but no records from Italy are listed therein.

Dermestes (Dermestinus) carnivorus Fabricius, 1775

http://species-id.net/wiki/Dermestes_carnivorus

Dermestes carnivorus Fabricius: Pollini 1998: 906.

Dermestes (Dermestinus) carnivorus Fabricius, 1775: Háva 2007: 300; Zhantiev 2011a.

Material examined. Tuscany: Firenze [= Florence], V.1948, [no collector,] 1 ♀ (JHAC).

Chorotype. Cosmopolitan (cf. Háva 2007).

Italian distribution. Italy (without further details) (Háva 2007). Italian mainland (Zhantiev 2011a).

Remarks. Pollini (1998: 906) wrote about this species that *si è acclimatato in Europa e in India* [= it is naturalized in Europe and India], but no Italian locality was mentioned. The above generic Italian record by Háva (2007), was based on the above specimen.

***Dermestes (Dermestes) vorax* Motschulsky, 1860**

http://species-id.net/wiki/Dermestes_vorax

Dermestes vorax Motschulsky, 1860: Denux and Zagatti 2010: 357.

Dermestes (Dermestes) vorax Motschulsky, 1860: Háva and Nardi 2011: 408.

Material examined. None.

Chorotype. Asiatic (Háva 2003, 2007). This species was introduced to the coastal Croatia (Depoli 1928, Luigioni 1929, Porta 1934, all as *D. vorax* Motsch.), but this record was later ignored (Mroczkowski 1968, Háva 2003, 2007, Zhantiev 2011a).

Italian distribution. Italy (without further details) (Denux and Zagatti 2010).

Remarks. Denux and Zagatti (2010) wrote that an Italian record of this species was provided by Lohse (1979) and Háva (2003), but in these papers this species is not recorded from this country. Moreover, a recent record from “Italy” (<http://www.dermestidae.wz.cz/main.html>; <http://www.dermestidae.com/index.html>) is erroneous since concerns a dark specimen of *D. (Dermestes) lardarius* Linnaeus, 1758 (Háva, unpublished data), so it was ignored by Háva and Nardi (2011).

***Dermestes (Dermestinus) hankae* Háva, 1999**

http://species-id.net/wiki/Dermestes_hankae

Dermestes (Dermestinus) hankae Háva, 1999: Háva 2007: 301.

Dermestes (Dermestinus) hankai [sic!] Háva, 1999: Zhantiev 2011a.

Material examined. Italy mer. [= southern Italy], [no other data], 1 ♂ (JHAC).

Chorotype. W-Mediterranean: Spain, France, Italy and Algeria (Háva 2007, Prieto and Háva 2013).

Italian distribution. Italy (without further details) (Háva 2007). Italian mainland (Zhantiev 2011a).

Remarks. Species described from southern France (Háva 1999: 143); the generic record for Italy (Háva 2007) was based on the above specimen.

The specific name (*hankae*) is correct (ICZN 1999, art. 31.1.2), so the name *hankai* is only a subsequent incorrect spelling.

This species is very similar to *D. (Dermestinus) pardalis* Billberg, 1808 (Háva 1999, Herrmann and Bahillo de la Puebla 2003, Prieto and Háva 2013); the re-examination of specimens attributed to it could provide additional records of *D. (Dermestinus) hankae*. In Italy, *D. (Dermestinus) pardalis* is recorded from Sardinia (cf. Háva and Nardi

2011), generically from mainland Italy (Zhantiev 2011a), and from a non-specified locality of the northern mainland (Giachino 1982: 360, as *D. thoracicus* Dejean[, 1821 (nomen nudum)]), but this record, based on very old specimens, should be confirmed.

***Dermestes (Dermestinus) intermedius intermedius* Kalík, 1951**

http://species-id.net/wiki/Dermestes_intermedius_intermedius

Dermestes (Dermestinus) intermedius intermedius Kalík, 1951: Háva 2003: 18; Háva 2007: 301.

Dermestes (Dermestinus) intermedius Kalík, 1951: Zhantiev 2011a.

Material examined. None.

Chorotype. Turano-European reaching only as far as (*D. (D.) intermedius iranicus* Háva & Kalík, 1999) Iran, Iraq and Syria eastward (cf. Háva 2007, Háva et al. 2011).

Italian distribution. Italy (without further details) (Háva 2003, 2007). Italian mainland (Zhantiev 2011a).

Remarks. The above generic Italian records by Háva (2003, 2007) were based on a personal communication of V. Kalík, who identified an Italian specimen; unfortunately, no further details are available (Háva, unpublished data).

***Dermestes (Dermestinus) szekessyi* Kalík, 1950**

http://species-id.net/wiki/Dermestes_szekessyi

Dermestes (Dermestinus) szekessyi Kalík, 1950: Háva 2007: 302; Zhantiev 2011a.

Material examined. None.

Chorotype. Sibero-European (cf. Háva 2003, 2007, Háva et al. 2011, Zhantiev 2011a).

Italian distribution. Italy (without further details) (Háva 2007). Italian mainland (Zhantiev 2011a).

Remarks. The above generic Italian record of Háva (2007) was based on a personal communication of V. Kalík, who identified an Italian specimen; unfortunately, no further details are available (Háva, unpublished data).

***Dermestes (Montandonia) olivieri* Lepesme, 1939**

http://species-id.net/wiki/Dermestes_olivieri

Dermestes ater Oliv. [= Olivier, 1790]: Ghiliani 1842: 33; Ghiliani 1847: 93; Reiche 1860: 720; Ghiliani 1887: 310; Bertolini 1890: 196; Iehl 1909: 26; Luigio-

ni 1929: 537; Porta 1929: 301; Gridelli 1949: 176; Horion 1955: 197; Faggioli 1956: 174; Gulli 1961: 4.

Dermestes ater Ol.: Villa and Villa 1844: 38 [444]; Rottenberg 1870: 238; Steck 1887: 181; Ragusa 1892: 203; Bertolini 1904: 58; Vitale 1904: 75; Holdhaus 1911: 445; Panganetti-Hummeler 1918: 87; Zangheri 1969: 1334.

Dermestes ater Olivier: Giachino 1982: 361.

Dermestes olivieri Lep.: Angelini 1986: 74; Angelini and Montemurro 1986: 573; Angelini 1987: 38; Angelini 1991: 206.

Dermestes (Dermestes) olivieri Lepesme, 1939: Audisio et al. 1995: 12; Bordoni et al. 2006: 60; FEI 2011.

Dermestes ater Degeer, 1774 [sic]: Sapuppo 2002: 189.

Dermestes (Montandonia) olivieri Lepesme, 1939: Háva and Nardi 2011: 416.

Material examined. Apulia: Foggia prov., [GNP] Mattinata, strada per M.te Sacro [= road to Mount Sacro], Masseria Vaira dint., 613 m, 33T 584160 4821825, 24.V.2010, I. Toni leg., sn on *Ferula communis* [(Apiaceae)], Prog. Foresta Umbra, 1 ex (CNB-FVR); Taranto prov., Ginosa Marina, VIII.1985, P. Abbazzi leg., 2 ex (MZUF). Tuscany: Arezzo [prov.], Cavriglia, [Fraz.] Montegonzi, 16.V.1991, Lisa leg., 1 ex (MZUF); [Arezzo prov.] Ris. Nat. [= Riserva Naturale = Nature Reserve] “Valle Inferno-Bandel-la”, Casa Giardino, 8.V.1998, L. Bartolozzi, B. Cecchi A. & Sforzi leg., 1 ex (MZUF); [Firenze prov.] Firenze [= Florence], V.1896, ex-coll. Beccari, 1 ex (MZUF); Firenze prov., Greve [in Chianti], [Fraz.] Strada in Chianti, 20.I.1957, A. Bandinelli leg., 1 ex (MZUF); [Grosseto prov.], Parco Naturale della [= Natural Park of] Maremma, Mti [= Monti = Mounts] dell’Uccellina, S. Rabano, X.1988, L. Bartolozzi leg., 4 ex (MZUF).

Chorotype. Turano-European with extension to Tunisia (cf. Háva 2007, Háva and Herrmann 2009, 2011, Háva et al. 2011, Háva and Nardi 2011).

Italian distribution. All of Italy, Sicily and Sardinia (cf. Bertolini 1904, Luigioni 1929, Horion 1955, Audisio et al. 1995, Háva and Nardi 2011). These generic distributional data are most likely correct; nevertheless, precise records are known only from the following regions: Trentino (Bertolini 1890), Lombardy (Villa and Villa 1844, Giachino 1982), Piedmont (Ghiliani 1847, 1887), Aosta Valley (Iehl 1909), Romagna (Zangheri 1969), Tuscany (Bordoni et al. 2006), Latium (Horion 1955, FEI 2011), Abruzzi (Horion 1955), Apulia (Holdhaus 1911, Panganetti-Hummeler 1918, Gridelli 1949, Horion 1955, Faggioli 1956, Angelini 1987), Basilicata (Angelini 1986, Angelini and Montemurro 1986), Calabria (Angelini 1991), Sicily (Ghiliani 1842, Rottenberg 1870, Steck 1887, Ragusa 1892, Vitale 1904, Luigioni 1929, Horion 1955, Audisio et al. 1995), and Sardinia (cf. Háva and Nardi 2011).

Remarks. New collecting sites from Tuscany and Apulia. In Tuscany, the species was formally recorded from a sole locality (Bordoni et al. 2006); it is also for the first time recorded here from a nature reserve, of which the beetle-fauna is well known (cf. Zinetti and Terzani 2009). The species was already known from Apulia, from various localities, including the Gargano National Park (see the references above).

Sapuppo (2002) recorded *Dermestes ater* DeGeer, 1774 from two Sicilian localities based on specimens collected by A. Gulli and identified by A. Porta. The data from a locality are exactly the same as those of “*Dermestes ater* Oliv.” provided by Gulli (1941), and thus, both sites are attributed here to *D. (Montandonia) olivieri*; the homonymy (*D. ater* DeGeer and *D. ater* Oliver) was very probably the cause of the error of Sapuppo (2002). *Dermestes (Dermestes) ater* DeGeer is a cosmopolitan species, but in Italy it is known from some northern regions only (Luigioni 1929: 537, as *D. (Dermestes) cadaverinus* Fabr. [= Fabricius, 1775], Minelli and Negrisolò 1993: 92, as *D. ater* Degeer, Audisio et al. 1995: 12, as *D. (Dermestes) ater* Degeer).

***Thorictus pilosus* Peyron, 1857**

http://species-id.net/wiki/Thorictus_pilosus

Thorictus pilosus Peyron, 1857: Audisio et al. 1995: 12.

Material examined. None.

Chorotype. Turanian-E-Mediterranean: Cyprus, Egypt, Greece, Iraq, Israel, Lebanon, Libya, Syria, Tunisia, Turkey and Uzbekistan (John 1963, Löbl 2007).

Italian distribution. “S?” [= peninsular Italy?] (Audisio et al. 1995).

Remarks. The above doubtful record for peninsular Italy has already been ignored by other authors (Löbl 2007, Zhantiev 2011a); this species is excluded from Italy here, since when considering its geographical distribution, its occurrence in this country is improbable. A doubtful record from Corsica (cf. Bertolini 1874: 96, as *T. piliger* Schaum[, 1858], Luigioni 1929: 1022, as *T. pilosus* Peyr., Porta 1929: 204, as *T. pilosus* Peyron) has also never been confirmed (Löbl 2007, Zhantiev 2011a), and must be referred to *T. grandicollis grandicollis* Germar, 1842 (Háva, unpublished data).

***Thorictus wasmanni* Reitter, 1895**

http://species-id.net/wiki/Thorictus_wasmanni

Thorictus wasmanni Reitter, 1895: Audisio et al. 1995: 12.

Material examined. None.

Chorotype. Turanian: endemic of Uzbekistan (John 1963, Löbl 2007).

Italian distribution. “Si?” [= Sicily?] (Audisio et al. 1995).

Remarks. The above doubtful Sicilian record has already been ignored by other authors (Löbl 2007, Zhantiev 2011a); this species must be excluded from the Italian fauna, since its occurrence in Sicily is incompatible with its geonemy. It is known from the type specimens only (Zhantiev 2011b).

***Attagenus (Attagenus) calabricus* Reitter, 1881**

http://species-id.net/wiki/Attagenus_calabricus

Attagenus calabricus Reitter, 1881: 37.

Attagenus (Lanorus) calabricus Reitt.: Reitter 1883: 89; Reitter 1891: 337; Ragusa 1892: 204; Reitter 1906: 378; Dalla Torre 1911: 52; Winkler 1926: 676; Luigioni 1929: 538; Porta 1929: 302.

Megatoma calabrica Rtt.: Reitter 1887: 48.

Attagenus calabricus Reitt.: Bertolini 1904: 58; Panganetti-Hummeler 1918: 87; Schatzmayr 1941: 73; Angelini 1986: 74; Angelini and Montemurro 1986: 573; Angelini 1987: 38; Angelini 1991: 206.

Attagenus calabricus Rtt.: Liebmann 1962: 4.

Attagenus calabricus Reitter, 1881: Mroczkowski 1968: 82; Sparacio 1997: 73.

Attagenus (Lanorus) calabricus Reitter, 1881: Audisio et al. 1995: 13.

Attagenus (Attagenus) calabricus Reitter, 1881: Háva 2003: 59; Háva 2007: 308; Zhantiev 2011a.

Material examined. Abruzzi: Pescara prov., Maiella, Valle Orfento, Caramanico, 23.VI.1988, G. Osella leg., 1 ex (JHAC). Apulia: Brindisi prov., Francavilla Fontana, 30.V.1998, C. Esposito leg., 1 ex (GNAC); [Foggia prov., GNP] Mattinata, 22.VI.1991, on flowers on the beach, M. Mantic leg., 4 ex (JHAC); [Foggia prov., GNP] Gargano, Mattinata, 8–10.V.1995, Z. Svec leg., 1 ex (JHAC); [Foggia prov., GNP, Vico del Gargano, Fraz.] San Menaio, V.1996, M. Fikacek leg., 2 ex (JHAC); Taranto prov., Circ. [= Circum] Mar Piccolo, 24.V.1992, Montemurro leg., 1 ex (JHAC); Taranto prov., Grottaglie, VI.1369 [sic!], FA, 1 ex (MCSV). Basilicata: [Matera prov.,] Marina di Nova Siri, 4.VI.2008, W. Apfel leg., 1 ex (JHAC); [Matera prov.,] Matera, 4.VI.1989, FA, 1 ex (AHG); [Matera prov.,] Matera, 350 m, 4.VI.1989, FA, 11 ex (MCSV); Potenza prov., Francavilla sul Sinni, 320 m, 5.VI.1988, querceta [= oak wood], FA, 1 ex (MCSV); [Potenza or Matera prov.,] Pollino, 19.VI.1994, FA, 1 ex (AHG). Calabria: “Calabria / Baudi [leg.]” [handwritten by unknown], “Holotypus 1881 / *Attagenus / Calabricus / Reitter*” [red-framed; handwritten by unknown], “*Calabricus m. / Calab. Baudi [leg.]*” [handwritten probably by Reitter], “coll. Reitter” [printed], “Lectotype / *Attagenus calabricus* Reitter / J. Háva des. 2012”, 1 ex (HNHM); “Calabria / Baudi [leg.]” [handwritten by unknown], “Paratypus 1881 / *Attagenus / Calabricus / Reitter*” [red-framed; handwritten by unknown], “coll. Reitter [printed]”, “Paralectotype / *Attagenus calabricus* Reitter / J. Háva des. 2012”, 1 ex (HNHM); Calabria [without further data], 1 ex (JHAC); [Cosenza prov., Cassano all’Ionio, Fraz.] Marina di Sibari env., 3 m, sandy dunes, 14.6.2009, P. Kresl leg., 6 ex (JHAC); [Cosenza prov.,] Roseto Capo Spulico, 27.V.–3.VI.2006, V. Hron leg., 1 ex (JHAC); [Cosenza prov.,] Sila, Mte. [= Mount] Oliveto, 2.VII.1929, C. Confalonieri leg., 1 ex (JHAC); [Cosenza prov.,] Sila, Sud [= South of] S. Giovanni [in] Fiore, 1100 m, 4.VII.[19]87, FA, 2 ex (MCSV); Reggio Calabria prov., Asprom. [= Aspromonte], str. [= strada = road] Cimina–Zomaro, 600–800 m, 6.VI.1994, FA, 6 ex (JHAC).

Chorotype. Apenninic endemic (Háva 2007).

Italian distribution. Campania (Luigioni 1929), Apulia (Panganetti-Hummler 1918, Luigioni 1929, Angelini 1987), Basilicata (Angelini 1986, Angelini and Montemurro 1986), Calabria (Bertolini 1904, Luigioni 1929, Porta 1929, Schatzmayr 1941, Angelini 1991) and Sicily (Ragusa 1892, Bertolini 1904, Winkler 1926, Luigioni 1929, Porta 1929, Liebmann 1962, Mroczkowski 1968, Audisio et al. 1995, Sparacio 1997, Háva 2003, 2007, Zhantiev 2011a).

The generic records for Italy (Reitter 1883, 1891, 1906, Dalla Torre 1911, Winkler 1926, Mroczkowski 1968, Háva 2003, 2007), peninsular Italy (Audisio et al. 1995), southern Italy (Sparacio 1997) and mainland Italy (Zhantiev 2011a) refer to the above listed regions.

Remarks. First record from the Abruzzi region; this new site (cf. Osella 1988) is at the northernmost limit of the species distribution, while the above record from the Brindisi province is at the easternmost limit. The southernmost site is the Pantelleria Island in the Sicilian Channel (Liebmann 1962).

Reitter (1881) described this species without giving any locality of collecting (see also Reitter 1887), but based on the specific name, the type locality is apparently in the Calabria region (southern peninsular Italy). The species was described based on an unspecified number of specimens without any type designation (Reitter 1881). The two type specimens above are thus syntypes and are designated here as lectotype and paralectotype, respectively; in this way “Calabria” becomes the type locality of the species (ICZN 1991, art. 76.2).

***Attagenus (Attagenus) lobatus* Rosenhauer, 1856**

http://species-id.net/wiki/Attagenus_lobatus

Attagenus (Attagenus) lobatus Rosenhauer, 1856: Háva and Nardi 2011: 420.

Material examined. Tuscany: Firenze [= Florence], 28.IX.1988, L. Chelazzi leg., 1 ♂ (MZUF).

Chorotype. Centralasiatic-Mediterranean; this species was introduced to the USA (cf. Háva and Nardi 2011; Háva et al. 2013).

Italian distribution. Latium, Campania, Apulia, Calabria, Sicily and Sardinia (cf. Háva and Nardi 2011).

Remarks. First record for Tuscany. The new locality is the northernmost in Italy (cf. Háva and Nardi 2011).

***Attagenus (Attagenus) pilosissimus* Roubal, 1932 stat. prom.**

Attagenus pellio L. var. *pilosissimus* Roubal, 1932: 66.

Attagenus pellio Lin. v. *pilosissimus* Roubal: Porta 1934: 171.

Attagenus pellio (Linnaeus, 1758) var. *pilosissimus* Roubal, 1932: Mroczkowski 1968: 89.

Attagenus pellio var. *pilosissimus* Roub.: Angelini 1986: 74.

Attagenus pellio var. *pilosissimus* Roubal: Angelini 1991: 206.

Attagenus (*Attagenus*) *pellio* (Linnaeus, 1758) = *pilosissimus* Roubal, 1932: Audisio et al. 1995: 13.

Attagenus (*Attagenus*) *pellio* (Linnaeus, 1758) = *Attagenus pellio* var. *pilosissimus* Roubal, 1932: Háva 2003: 66.

Attagenus (*Attagenus*) *pellio* (Linnaeus, 1758) = *pilosissimus* Roubal, 1932: Háva 2007: 57.

Attagenus (*Attagenus*) *pellio* (Linnaeus, 1758) = *Attagenus pellio* var. *pilosissimus* Roubal, 1932: Háva and Nardi 2007: 122.

Material examined. Apulia: Bari prov., Gioia del Colle, 22.IV.1993, De Marzo leg., 1 ♂ (JHAC); Foggia prov., [GNP,] Foresta Umbra, Monte Sant'Angelo, caserme forestali [= barracks of the Italian National Forestry Service], 792 m, 33T 582306 4630267, 27.IV.2010, PC, death on windowsill, Prog. Foresta Umbra, 1 ♀ (JHAC). Lombardy: Bergamo prov., Oltre il Colle, 7.VII.2005, FA, 1 ♂ (JHAC).

Chorotype. Alpino-Appenninic endemic (cf. Háva and Nardi 2007).

Italian distribution. Apulia and Calabria (Roubal 1932, Porta 1934, Angelini 1986, 1991, Háva and Nardi 2007).

Remarks. *Attagenus pellio* var. *pilosissimus* from Apulia was listed as a synonym of *A. (A.) pellio* by Audisio et al. (1995), because Mroczkowski (1968) listed *pilosissimus* as a "variety". This means that this name was implicitly considered as a junior synonym as Mroczkowski also treated subspecific taxa in his paper. This opinion was confirmed by Háva and Nardi (2007: 122) through a study of the holotype, a female specimen which is very worn. A photo of this holotype is published at <http://www.dermestidae.com/Attagenuspelliopilosissimus.html>. Nevertheless, based on the study of the above new material, this variety is resurrected as a valid species (stat. prom.). *Attagenus* (*Attagenus*) *pilosissimus* and *A. (A.) pellio* show differences in the shape of the antennal club (Figs 1–2) and in the male genitalia (Figs 4–5): the median lobe of the aedeagus of the former species (Fig. 5) is longer and narrower, and parameres are parallel for most of their length. Moreover, *A. (A.) pilosissimus* also differs by the pubescence of the abdomen (Fig. 4) and pronotum (Fig. 3) and by the presence of only one small circular spot with whitish pubescence on each elytron (Fig. 3). *Attagenus (A.) pilosissimus* is known only from mainland Italy (Lombardy, Apulia and Calabria), where, in sympatry, *A. (A.) pellio* (Linnaeus, 1758) also occurs (cf. Holdhaus 1911, as *A. pellio* L., Háva and Nardi 2007).

Attagenus (*Attagenus*) *silvaticus* Zhantiev, 1976

http://species-id.net/wiki/Attagenus_silvaticus

Attagenus (*Attagenus*) *silvaticus* Zhantiev, 1976: Háva and Nardi 2007: 122.

Attagenus silvaticus Zhantiev, 1976: Zhantiev 2011a.

Material examined. Apulia: Foggia prov., [GNP,] Foresta Umbra, Vico del Gargano, Bosco Sfilzi, 391 m, 33T 585633 4634653, 23.V.2010, D. Birtele & I. Toni leg., window flight trap, Prog. Foresta Umbra, 1 ♀ (CNBFVR).

Chorotype. European (Czech Republic, Hungary, northwestern Russia, Sicily, Slovakia, Ukraine) with extension eastward to “Caucasus”, Anatolia, Iran and West Siberia (Háva 2007, Háva and Nardi 2007, Háva et al. 2010, as *A. silvaticus*, Zhantiev 2011a).

Italian distribution. Sicily (Háva and Nardi 2007, Zhantiev 2011a).

Remarks. First record for mainland Italy. The above specimen was intercepted in a beech wood (D. Birtele, pers. comm., 2012).

***Attagenus (Attagenus) simonis* Reitter, 1881**

http://species-id.net/wiki/Attagenus_simonis

Attagenus tigrinus F. [= (Fabricius, 1792)] v. *Simoni* [sic!] Reit.: Bertolini 1904: 58.

Attagenus bifasciatus Oliv. [= (Olivier, 1790)] v. *Simoni* [sic!] Reitt.: Luigioni 1923b: 4.

Attagenus (Lanorus) bifasciatus Oliv. a *Simoni* [sic!] Reitt.: Luigioni 1929: 538; Porta 1929: 302.

Attagenus bifasciatus (Olivier, 1790) var. *simoni* [sic!] Reitter, 1881: Sapuppo 2002: 187–188.

Attagenus (Attagenus) simonis Reitter, 1881: Háva and Nardi 2007: 418–419.

Material examined. None.

Chorotype. E-Mediterranean: Egypt, Israel, Jordan and Syria (Háva 2007).

Italian distribution. Latium (Luigioni 1929), Campania (Bertolini 1904, Luigioni 1929, Porta 1929), Capri Island (Luigioni 1923b, 1929, Porta 1929) and Sicily (Luigioni 1929, Sapuppo 2002).

Remarks. This species was recently excluded from the Italian fauna (Háva and Nardi 2007, 2011); also according to Mroczkowski (1968: 81, as *A. bifasciatus* var. *simonis*), it occurs only in some East-Mediterranean countries. Nevertheless, an escatomediterranean distributional pattern (Zilli 2000) could explain the occurrence of this species in Italy.

Gulli (1961: 4, as *A. bifasciatus* Oliv. var. *Rossii* Ganglb. [= Ganglbauer, 1904] and *A. b.* var. *Simoni* [sic!]) recorded Sicilian specimens of *A. (A.) rossii* (identified by A. Porta) with a colour similar to *A. (A.) simonis*; these specimens are also listed by Sapuppo (2002), but unfortunately their re-examination has so far been impossible.

***Attagenus (Attagenus) tigrinus pulcher* Faldermann, 1835**

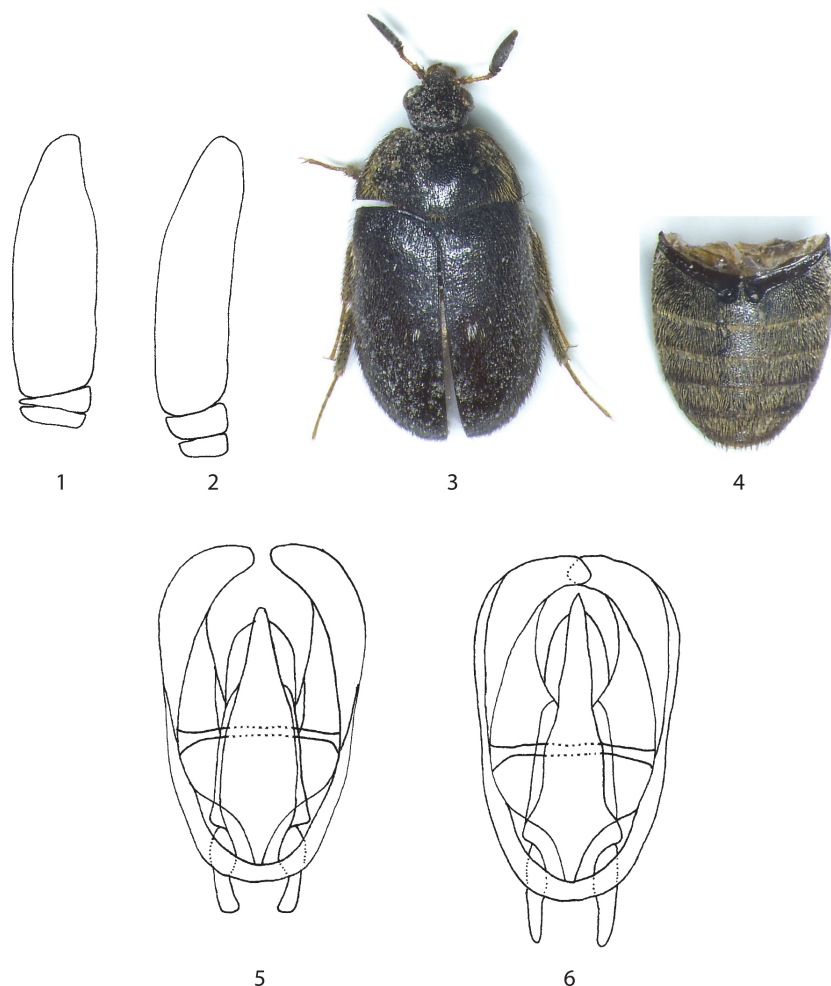
http://species-id.net/wiki/Attagenus_tigrinus_pulcher

Attagenus pulcher Fald.: Bargagli 1872: 102, Bertolini 1874: 99.

Attagenus tigrinus F. [= (Fabricius, 1792)] var. *pulcher* Falder.: Bertolini 1904: 58.

Material examined. None.

Chorotype. Mediterranean (cf. Háva and Nardi 2011); *A. (A.) tigrinus pulcher* is a Caucasian endemic (Zhantiev 2009).



Figures 1–6. *Attagenus (Attagenus)* spp., males **1** Antennal club of *A. (A.) pilosissimus* from Italy (Apulia, Bari prov., Gioia del Colle) **2** Antennal club of *A. (A.) pellio* from Czech Republic (Central Bohemia, Prague) **3** Habitus of *A. (A.) pilosissimus* from Italy (Apulia, Bari prov., Gioia del Colle) (length 4.5 mm) **4** Abdomen in ventral view of *A. (A.) pilosissimus* from Italy (Apulia, Bari prov., Gioia del Colle) **5** Aedeagus (setation omitted) of *A. (A.) pilosissimus* from Italy (Lombardy, Bergamo prov., Oltre il Colle) (length 0.5 mm) **6** Aedeagus (setation omitted) of *A. (A.) pellio* from Czech Republic (Central Bohemia, Prague) (length 0.5 mm) (photos and drawings by J. Háva).

Italian distribution. Sardinia (Bargagli 1872, Bertolini 1874, 1904).

Remarks. This subspecies is excluded here from the Italian fauna. Zhantiev (2009) recognized this taxon as a valid subspecies. This paper was overlooked by Háva and Nardi (2011), so these authors, according to Háva (2007), listed it as a synonym of *A. (A.) bifasciatus* (A.G. Olivier, 1790). Nevertheless, the status of this subspecies needs to be revised (Háva, unpublished data).

***Anthrenus (Anthrenops) coloratus* Reitter, 1881**

http://species-id.net/wiki/Anthrenus_coloratus

Anthrenus (Anthrenops) coloratus Reitter, 1881: Háva 2007: 311.

Anthrenus (Florilinus) coloratus Reitter, 1881: Zhantiev 2011a.

Material examined. Apulia: [Foggia prov., GNP] Gargano, V.1991, J. Háva leg., 12 ex (JHAC).

Chorotype. Turano-European-Mediterranean with extension to Canary Islands, Tajikistan, “India” and Sudan; this species was introduced to and is widespread in the USA (Beal 1998, as *A. coloratus*, Háva 2003, 2007).

Italian distribution. Italy (Háva 2007). Italian mainland (Zhantiev 2011a).

Remarks. The generic Italian record by Háva (2007) was based on the above specimens.

***Anthrenus (Anthrenus) angustefasciatus* Ganglbauer, 1904**

http://species-id.net/wiki/Anthrenus_angustefasciatus

Anthrenus (Anthrenus) pimpinellae Fabr. [= (Fabricius, 1775)] a. *angustefasciatus* Ganglb.: Luigioni 1929: 540.

Anthrenus pimpinellae Fabr. ab. *angustefasciatus* Ganglb.: Porta 1934: 171.

Anthrenus (Anthrenus) angustefasciatus Ganglbauer, 1904: Háva 2003: 79; Háva 2007: 311; Kadej et al. 2007: 728; Háva 2011b: 78; Zhantiev 2011a; Háva et al. 2013: 137.

Material examined. Friuli-Venezia Giulia: Trieste prov., Carso, [Sgonico, Fraz.] Gabrovizza S. Primo, 12.VI.1988, sn, PC, 1 ♀ (PCOP). Tuscany: Grosseto prov., Pitigliano, 23.I.[20]02, L. Saltini leg., 1 ex (GNAC). Apulia: [Brindisi prov.,] Brindisi env., 18.V.1997, J. Hrdlicka leg., 4 ex (JHAC). Basilicata: Potenza prov., [Pollino National Park.] Terranova di Pollino, 900 m, 27–30.VI.2005, GC, sn, 1 ♀ (PCOP).

Chorotype. European with extension southward to a part of the Maghreb: Algeria, Bosnia and Herzegovina, Croatia, Czech Republic, France mainland, Italy, Morocco, Portugal, Spain, Switzerland, Yugoslavia and European Turkey (cf. Háva 2011b, Zhantiev 2011a, Háva et al. 2013).

The records for Corsica (Luigioni 1929, Porta 1934) were later ignored (Sainte-Claire Deville 1937, Mroczkowski 1968, as *A. (A.) pimpinellae* var. *angustefasciatus*, Zhantiev 2011a, Háva et al. 2013).

Italian distribution. Calabria (Luigioni 1929, Porta 1934), Sardinia (Háva et al. 2013). Italy (without further details) (Háva 2003, 2007, Kadej et al. 2007, Háva 2011b). Italian mainland (Zhantiev 2011a).

Remarks. Ganglbauer (1904: 42) described *A. pimpinellae* var. *angustefasciatus* from “Dalmatien [= Dalmatia]” that was only recently raised to species level (Háva 2003: 79); its diagnostic features were provided by different authors (Kadej 2005, Kadej et al. 2007, Háva 2011b, Háva and Zahradník 2011).

First records for northern Italy (Friuli-Venezia Giulia), for central Italy (Tuscany), for Apulia and Basilicata; the former record is expected since this species occurs in neighbouring foreign regions (Depoli 1928, as *A. pimpinellae* f. *angustefasciatus* Ganglb., Novak 1952, as *A. pimpinellae* a. *angustefasciatus* Gglb.). The generic records for Italy (Háva 2003, 2007, Kadej et al. 2007, Háva 2011b) and, probably also those generic for mainland Italy (Zhantiev 2011a), refer to previous literature records and, in part, to the above material.

***Anthrenus (Anthrenus) delicatus* Kiesenwetter, 1851**

http://species-id.net/wiki/Anthrenus_delicatus

Anthrenus pimpinellae Fabr. [= (Fabricius, 1775)] var. *delicatus* [sic!] Kiesw.: Ghiliani 1887: 311.

Anthrenus pimpinellae F. var. *delicatus* Kiesw.: Steck 1887: 181; Ragusa 1892: 206.

Anthrenus pimpinellae Fabr. Var. *delicatus* [sic!] Kiesw.: Baudi 1890: 102.

Anthrenus pimpinellae F. [var.] *Isabellinae* Muls. [= Mulsant & Rey, 1868]: Ragusa 1892: 206.

Anthrenus pimpinellae F. var. *delicatus* K.: Bertolini 1904: 59.

Anthrenus pimpinellae F. ab. *delicatus* Kiesw.: Luigioni 1923a: 135.

Anthrenus (Anthrenus) pimpinellae F. a. *delicatus* Kiesw.: = *Isabellinae* Muls. Rey: Luigioni 1929: 540.

Anthrenus (Anthrenus) pimpinellae Fabr. V. *delicatus* Kiesw.: Porta 1929: 306.

Anthrenus pimpinellae v. *delicatus* Kiesw.: Liebmann 1962: 4.

Anthrenus (Anthrenus) delicatus Kiesenwetter, 1851: Audisio et al. 1995: 14; Kadej 2005: 728; Lo Cascio et al. 2006: 322; Háva and Nardi 2011: 423; Zhantiev 2011a.

Anthrenus (Anthrenus) delicatus delicatus Kiesenwetter, 1852 [sic!]: Háva 2007: 312.

Material examined. Apulia: Foggia prov., [GNP] Promontorio del Gargano, Vieste, SP 89 [= Strada Provinciale n. 89 = Provincial Road n. 89], Casa Cupari dint., 354 m, 33T 5920001 4630150, 29.V.2010, abandoned quarry, sn on grasses, PC, Prog. Foresta Umbra, 6 ex (CNBFVR; JHAC); Foggia prov., [GNP] Promontorio del Gargano, Peschici, Lampia del Principe dint., 161 m, 33T 587282 4639346, 28.IV.2010, maquis sn, PC, Prog. Foresta Umbra, 1 ♀ (CNBFVR). Latium: Roma prov., M.ti [= Monti = Mounts] Simbruini, Jenne dint., M.te [= Monte = Mount] Porcaro, 800 m, 31.V. 2007, sn, PC GC, 1 ex (PCOP). Sicily: Palermo prov., Corleone, Bosco della Ficuzza, 700 m, 1.VI. 2008, sn near a watering trough, PC GC, 1 ex (PCOP).

Chorotype. Mediterranean, reaching eastward as far as Caucasus and Iran (cf. Kadej 2005, Háva and Nardi 2011, Zhantiev 2011b). This species is also recorded from Cyprus (Zhantiev 2011a, Alziar and Lemaire 2012: 67, as *A. delicatus*), and this country must be added to the distribution summarized by Háva and Nardi (2011).

Italian distribution. Trentino, Venezia Giulia (Luigioni 1929), Piedmont (Ghiliani 1887, Baudi 1890, Bertolini 1904, Luigioni 1929), Lombardy (Háva and Nardi

2004), Liguria (Luigioni 1929), Latium, Campania (Luigioni 1923a, Porta 1929), Sicily (Ragusa 1892, Bertolini 1904, Luigioni 1929, Porta 1929, Liebmann 1962, Audisio et al. 1995, Lo Cascio et al. 2006) and Sardinia (Bertolini 1904, Luigioni 1929, Porta 1929, Audisio et al. 1995, Háva and Nardi 2011, Zhantiev 2011a).

Moreover, Luigioni (1929) recorded this species generically for central and southern Italy; generic records for northern and peninsular Italy (Audisio et al. 1995) and for “Italy” (Kadej 2005, Háva 2007) refer to the above regions, the same is probably valid for a generic record for mainland Italy (Zhantiev 2011a).

Remarks. First detailed records from Apulia. About Sicily, Ragusa (1892) wrote *Ne posseggo vari esemplari* [= *I have several specimens*] without giving the collecting sites, so the sole known precise Sicilian localities were the Pantelleria and Lipari Islands (Liebmann 1962, Lo Cascio et al. 2006); the above new site is located in one of the most important forested areas of western Sicily, a zone of great value for environmental conservation (cf. Sabella and Sparacio 2004, Mason et al. 2006, La Mantia et al. 2010, Falci et al. 2012). Luigioni (1923a) also recorded *A. (A.) delicatus* from the environs of Rome; this record was overlooked by Nardi (1997). As stated by Audisio et al. (1995: 16), the Italian distribution of this species should be verified, because it was considered for a long time as a variety or aberration of *A. (A.) pimpinellae*. Moreover, the colour of elytral fasciae in four of the above Apulian specimens are visually very similar to those of *A. (A.) mroczkowskii* Kalík, 1954, nevertheless their identification was established by the examination of the structure of antennae, 9th sternite and male genitalia (cf. Kadej 2005, Kadej et al. 2007). In this framework, it will be better to revise the specimens of *A. (A.) mroczkowskii* recorded so far from Italy (Angelini 1986, as *A. pimpinellae mroczkowskii*, Angelini and Montemurro 1986, as *A. pimpinellae mroczkowskii*). The distribution of *A. (A.) mroczkowskii* also includes the following countries: Albania, Bosnia and Herzegovina, Bulgaria, Corsica, Crete, Croatia, Greece, Slovenia, European Turkey and Algeria (introduced) (Háva 2007, as *A. (A.) pimpinellae mroczkowskii*, Kadej et al. 2007).

Anthrenus (Anthrenus) munroi Hinton, 1943

http://species-id.net/wiki/Anthrenus_munroi

Anthrenus munroi Hint.: Angelini 1986: 73; Angelini and Montemurro 1986: 573; Angelini 1987: 37.

Anthrenus (Anthrenus) munroi Hinton, 1943: Háva and Nardi 2011: 425.

Material examined. Tuscany: [Livorno prov.], Is. [= Isola = Island] d’Elba, dint. Marina di Campo, 15–17.VI.1999, Abbazzi, Bartolozzi, Lo Cascio & Sforzi leg., 1 ♂ (MZUF).

Chorotype. Mediterranean (eastwards as far as Ukraine, Turkey, Syria, Lebanon, Jordan, and Israel), with extension to Hungary and Portugal (cf. Kadej et al. 2007, Háva and Nardi 2011).

Italian distribution. Apulia, Basilicata, Calabria (Angelini 1986, Angelini and Montemurro 1986, Angelini 1987) and Sardinia (Háva and Nardi 2011).

Remarks. First record for central Italy; this new site is the northernmost in Italy. The species also occurs in the facing Corsica (cf. Háva and Nardi 2011).

Anthrenus (*A.*) *pimpinellae pimpinellae* (Fabricius, 1775) and *A.* (*Nathrenus*) *verbasci* (Linnaeus, 1767) were the sole congeneric species previously recorded from Elba Island (Holdhaus 1923, as *A. pimpinellae* F. and *A. verbasci* L.; Luigioni 1929, Porta 1929, both as *A.* (*A.*) *pimpinellae* Fabr. and *A.* (*N.*) *verbasci* Lin.)

***Anthrenus* (*Anthrenus*) *pimpinellae pimpinellae* (Fabricius, 1775)**

http://species-id.net/wiki/Anthrenus_pimpinellae_pimpinellae

Anthrenus pimpinellae F.: Ragusa 1892: 206; Bertolini 1904: 59; Holdhaus 1911: 445; Panganetti-Hummler 1918: 87; Holdhaus 1923: 101; Luigioni 1923b: 4; Marcuzzi 1985: 8.

Anthrenus (*Anthrenus*) *pimpinellae* Fabr.: Luigioni 1929: 540; Porta 1929: 306.

Anthrenus (*Anthrenus*) *pimpinellae pimpinellae* (Fabricius, 1775): Háva and Nardi 2004: 120; Háva and Nardi 2011: 426.

Anthrenus (*Anthrenus*) *pimpinellae* (Fabricius, 1775) s.l.: Lo Cascio et al. 2006: 322.

Material examined. Apulia: Foggia prov., [GNP,] Promontorio del Gargano, Vieste, SP 89 [= Strada Provinciale n. 89 = Provincial Road n. 89], Casa Cupari dint., 354 m, 33T 5920001 4630150, abandoned quarry, sn on grasses, 29.V.2010, PC, Prog. Foresta Umbra, 4 ex (CNBFVR).

Chorotype. Cosmopolitan (cf. Háva and Nardi 2011).

Italian distribution. All of Italy and Sicily (Bertolini 1904, Luigioni 1929, Porta 1929; Háva and Nardi 2011). This species is also recorded from some minor islands: Elba (Holdhaus 1923), Capri (Luigioni 1923b, 1929, Porta 1929), Lampedusa (Ragusa 1892, Luigioni 1929) and Vulcano (Lo Cascio et al. 2006).

Remarks. Species common and widespread in Italy but from the Gargano National Park (cf. Angelini 1987) was recorded only by Holdhaus (1911); it is also known from other Apulian localities (Panganetti-Hummler 1918, Marcuzzi 1985).

***Anthrenus* (*Nathrenus*) *signatus* Erichson, 1846**

http://species-id.net/wiki/Anthrenus_signatus

Anthrenus (*Nathrenus*) *signatus* Erichson, 1846: Háva and Nardi 2011: 428.

Material examined. Basilicata: Potenza prov., Pignola, Ris. [= Riserva = Reserve] WWF, L. [= Lago = Lake] Pignola, 700 m, 21.VI.1992, FA, 1 ♂ (JHAC).

Chorotype. European (cf. Háva and Nardi 2011).

Italian distribution. South Tyrol, Venetia, Venezia Giulia, Latium?, Apulia, Basilicata and Sicily (cf. Háva and Nardi 2011).

Remarks. This species was recorded in Basilicata region from the Pollino National Park (Angelini 1986) only; the above specimen comes from a nature reserve, from which a sole congeneric species, *A. (N.) verbasci*, was known so far (Angelini 1996a, 1998, both as *A. verbasci*).

Anthrenus signatus ab. *bielawskii* Mroczkowski, 1958 from Bulgaria (Mroczkowski 1958: 6, 1968: 145) was recently ignored (Háva 2007, 2008, 2011a), since according to the ICZN (1999, art. 45.5 and 45.6.2), it is an infrasubspecific and unavailable name.

***Globicornis (Globicornis) breviclavis* (Reitter, 1878)**

http://species-id.net/wiki/Globicornis_breviclavis

Hadrotoma breviclavis Reitter: Baudi 1890: 101.

Hadrotoma breviclavis Reitt.: Bertolini 1904: 59.

Globicornis (Globicornis) breviclavis Reitt.: Ganglbauer 1904: 31; Reitter 1906: 379;

Dalla Torre 1911: 63; Winkler 1926: 679; Luigioni 1929: 539; Porta 1929: 304.

Globicornis (Globicornis) breviclavis (Reitter, 1878): Audisio et al. 1995: 13, 16.

Material examined. None.

Chorotype. Endemic to the Near East: Armenia, Bulgaria, “Caucasus”, Georgia, European Turkey, Ukraine, and Southern European Russia (Adygeya, Krasnodar kraj) (Háva 2007, Háva and Legalov 2010, Zhantiev 2011a).

Italian distribution. Piedmont: Graian and Pennine Alps (Baudi 1890, Luigioni 1929, Porta 1929); Piedmont (without further details) (Bertolini 1904, Reitter 1906); Piedmont? (Dalla Torre 1911, Winkler 1926, Audisio et al. 1995). Liguria: Ligurian Apennines (Luigioni 1929); Liguria? (Audisio et al. 1995).

Remarks. This species described from Caucasus (Reitter 1878, as *Hadrotoma breviclavis*) is excluded here from the Italian fauna. Ganglbauer (1904) listed the paper by Baudi (1890), while Dalla Torre (1911) referred to Ganglbauer (1904). The Italian records were ignored by Mroczkowski (1968: 114), who recorded this species only from the Caucasus. No specimens of this species are present in the P. Luigioni collection (MCZR) (A. Zilli, pers. comm. 2013). The above Italian records probably concern the similar *G. (G.) luckowi* Herrmann, Háva & Kadej, 2011 which is known only from southern Switzerland, Piedmont and Liguria (Herrmann et al. 2011, Háva et al. 2013). Nevertheless, as discussed for *Attagenus (A.) simonis*, an escatomediterranean distributional pattern (Zilli 2000) could explain the occurrence of *G. (G.) breviclavis* in Italy.

***Globicornis (Globicornis) fasciata* (Fairmaire & Brisout de Barneville, 1859)**

http://species-id.net/wiki/Globicornis_fasciata

Hadrotoma fasciata Fairm.: Bertolini 1904: 59; Luigioni 1923a: 135.

Globicornis fasciata Fair.: Vitale 1904: 75.

Globicornis (Globicornis) fasciata Frm. [18]59: Winkler 1926: 679.

Globicornis (Globicornis) fasciata Fairm.: Luigioni 1929: 539; Porta 1929: 304.

Globicornis fasciatus [sic!] Fairm.: Horion 1955: 208.

Globicornis (Globicornis) fasciata (Fairmaire, 1859): Mroczkowski 1968: 114; Audisio et al. 1995: 13, 16; Zhantiev 2011a.

Globicornis (Globicornis) fasciata (Fairmaire & Brisout, 1859): Háva 2003: 109; Háva and Nardi 2011: 429.

Globicornis (Globicornis) fasciata (Fairmaire & Brisout de Barneville, 1859): Háva 2007: 315.

Material examined. Basilicata: Potenza prov., Parco Naz. del Pollino [= Pollino National Park], Casa del Conte dint., tra [= between] Acqua Tremola e [= and] Piani di S. Francesco, 1100–1500 m, 9.VII.2002, sn, GC, 3 ex (PCOP).

Chorotype. European (Belgium, Denmark, France, Germany, Italy, Spain, Sweden, Switzerland) with extension southward to Tunisia (cf. Háva et al. 2010, Háva and Nardi 2011).

Italian distribution. Piedmont (Porta 1929, Horion 1955), Tuscany (Luigioni 1929, Horion 1955), Latium (Luigioni 1923a, 1929, Porta 1929, Horion 1955), Sicily (Vitale 1904) and Sardinia (Bertolini 1904, Winkler 1926, Luigioni 1929, Porta 1929, Horion 1955, Mroczkowski 1968, Audisio et al. 1995, Háva 2003, 2007, Zhantiev 2011a).

The records for northern and peninsular Italy (Audisio et al. 1995) as those generic for Italy (Háva 2003) refers to above regions; the same is probably valid for a generic record for mainland Italy (Zhantiev 2011a).

Remarks. First record from southern Italy. Five species of this genus are now recorded from the Pollino National Park (cf. Angelini 1986).

The records for Piedmont (Porta 1929, Horion 1955) and those generic for northern Italy (Audisio et al. 1995: 13) refers to the Maritime Alps (Audisio et al. 1995: 16). The species also occurs in a neighbouring French department (Sainte-Claire Deville 1937: 252, as *G. fasciata* Fairm.). The record from Sicily (Vitale 1904) was omitted by subsequent authors (cf. Luigioni 1929, Audisio et al. 1995, Zhantiev 2011a), and thus, it should be confirmed.

In the literature (see also above), the authorship of this species was often attributed only to Fairmaire.

***Globicornis (Hadrotoma) sulcata* (C.N.F. Brisout de Barneville, 1866)**

http://species-id.net/wiki/Globicornis_sulcata

Globicornis ? *sulcata* (C. Brisout de Barneville, 1866): Angelini 1986: 74.

Globicornis (Hadrotoma) ? *sulcata* (C. Brisout de Barneville, 1866): Audisio et al. 1995: 16.

Globicornis (Hadrotoma) sulcata (C. Brisout de Barneville, 1866): Audisio et al. 1995: 13.

Material examined. Abruzzi: Parco Naz. [= National Park], L'Aquila prov., Pescasseroli, 1300 m, 1.IV.2003, FA, 1 ♀ (JHAC). Basilicata: Potenza prov., Moliterno, 500 m, 11.V.2003, FA, 1 ♀ (JHAC); Potenza prov., Ruoti, 29.IX.1996, *Abies–Quercus*, FA, 1 ♂ (JHAC). Campania: Avellino prov., Cilento, Novi Velia, M. [= Mount] Sacro, 1900 m, 7.XII.1996, *Fagus*, FA, 1 ♂ (JHAC). Sicily: Palermo prov., Ficuzza, 700 m, 1–4.V.2000, bosco leccio [= ilex wood], FA, 1 ♂ (JHAC); Palermo prov., Bosco della Ficuzza, 27.V.2006, M. Sarovec leg., 1 ♂, 4 ♀♀ (JHAC).

Chorotype. W-Mediterranean: France, Italy and Spain.

Italian distribution. Basilicata (Angelini 1987, Audisio et al. 1995).

Remarks. First records from central Italy (Abruzzi), Campania and Sicily. In the Sicilian site, it was also collected *Anthrenus (Anthrenus) delicatus* (see above).

***Trogoderma angustum* (Solier, 1849)**

http://species-id.net/wiki/Trogoderma_angustum

Trogoderma angustum (Solier, 1849): Háva 2007: 319; Zhantiev 2011a.

Material examined. None.

Chorotype. Subcosmopolitan (cf. Háva 2007). This species is also recorded from Switzerland (Kenis 2005); this country must be added to the European distributions recently summarized by Háva (2007) and by Zhantiev (2011a).

Italian distribution. Italy (without further details) (Háva 2007). Italian mainland (Zhantiev 2011a).

Remarks. The above generic Italian record by Háva (2007) was based on a personal communication from V. Kalík, who identified Italian material; unfortunately, no further details are available (Háva, unpublished data).

***Trogoderma inclusum* LeConte, 1854**

http://species-id.net/wiki/Trogoderma_inclusum

Trogoderma meridionalis Kraatz, 1858: 146.

Trogoderma meridionalis Kraatz: Mulsant and Rey 1868: 132.

Trogoderma meridionale [sic!] Kraatz: Bertolini 1874: 99.

Trogoderma versicolor Creutz. [= (Creutzer, 1799)] var. *meridionale* [sic!] Kr.: Ragusa 1892: 205; Porta 1929: 305.

Trogoderma versicolor Creut. v. *meridionale* [sic!] K.: Bertolini 1904: 59.

Trogoderma versicolor Creutz. a. *meridionale* [sic!] Kr.: Luigioni 1929: 540.

Trogoderma versicolor meridionale [sic!] Kraatz, 1858; Mroczkowski 1968: 107.

Trogoderma inclusum Le Conte: Dal Monte 1972: 102.

Trogoderma ? *inclusum* Lec.: Angelini and Montemurro 1986: 573.

Trogoderma inclusum: Nardi R. et al. 1993: 623, fig. 9.

Trogoderma [?] *inclusum* J.L. Leconte, 1854; Audisio et al. 1995: 13, 16.

Trogoderma inclusum Leconte: Nicoli Aldini 1999: 8.

Trogoderma inclusum LeConte, 1854: Háva 2007: 319; Háva and Nardi 2011: 432; Zhantiev 2011a.

Material examined. Apulia: Lecce prov., Salento, Torre S. Giovanni dint., 1–7. VII.2002, PC GC, sn, 1 ex (PCOP). Venetia: Verona prov., Verona, [Fraz.] Canello, [about 500 m], 22.VI.1986, sn, PC, 1 ex (PCOP).

Chorotype. Cosmopolitan (cf. Háva and Herrmann 2011, Háva and Nardi 2011, Háva et al. 2011).

Italian distribution. Lombardy (Nicoli Aldini 1999, Háva and Nardi 2011), Liguria (Luigioni 1929), Emilia-Romagna (Nicoli Aldini 1999), Latium (Nardi R. et al. 1993, Nicoli Aldini 1999), Basilicata [?] (Angelini and Montemurro 1986, Audisio et al. 1995), Sicily (Kraatz 1858, Mulsant and Rey 1868, Ragusa 1892, Bertolini 1904, Porta 1929, Mroczkowski 1968) and Sardinia (cf. Háva and Nardi 2011).

The first Italian record of this species was provided by Kraatz (1858) who recorded it from Sicily (without a precise locality), while some authors (Bertolini 1874, Dal Monte 1972, Háva 2007) and Zhantiev (2011a) recorded it from Italy and mainland Italy, respectively, without further details. Moreover, Nicoli Aldini (1999: 8) also recorded it from *alcune città del Nord-Italia* [= some towns of Northern Italy] but without mentioning the regions.

Remarks. In Italy, this species and *T. versicolor* (Creutzer, 1799) have often been confused (cf. Nicoli Aldini 2003b, Háva and Nardi 2011); old Italian records in the literature must be thus considered with caution. *Trogoderma inclusum* is recorded here for the first time from Apulia and Venetia. This species is a stored product pest; it also develops in nests of social aculeate Hymenoptera, and is a predator of egg masses of *Lymantria dispar* (Linnaeus, 1758) (Lepidoptera, Erebidae, Lymantriinae) (cf. Háva and Nardi 2011).

Literature records

The old Sicilian records of *Attagenus* (*A.*) *trifasciatus* (Fabricius, 1787) and *Trogoderma glabrum* (Herbst, 1783) (Ghiliani 1842) were ignored (or overlooked?) by subsequent authors and are thus considered as doubtful here (Table 1).

Thorictus mauritanicus Lucas, 1846 and *T. stricticollis* Kraatz, 1859 were both recorded from “Italy” by Háva (2003, 2007) and from “Italian mainland” by Zhantiev (2011a). Háva’s (2003, 2007) records of *T. mauritanicus* refer only to Sardinia and Sicily, while those of *T. stricticollis* (Háva 2003, 2007) refer only to Sardinia (Háva, unpublished data). In this framework, the records of both species for mainland Italy (Zhantiev 2011a) are considered erroneous.

Thorictus sicilianus John, 1965 (= *sicilianus* John, 1966) from Sicily and Morocco (John 1965, 1966, Audisio et al. 1995, Löbl 2007) was recently recognized as a junior synonym of *T. grandicollis grandicollis* Germar, 1842 (Háva 2013); *Attagenus picipennis* Pic, 1894 from Sicily (Audisio et al. 1995) is a junior synonym of *A. (Attagenus) brunneus* Faldermann, 1835 (Háva 2007: 57); *Anthrenus (A.) scrophulariae suecius* Palm, 1940 that was recorded from southern Italy and Sicily (Audisio et al. 1995), was recently listed by Háva (2007: 313) as a junior synonym of *A. (A.) scrophulariae scrophulariae* (Linnaeus, 1758), but for an error this new synonym was not formally established (cf. Háva 2007: 57). These three taxa are thus excluded from the new checklist.

Dermestes (Dermestinus) gyllenhalii gyllenhalii Laporte de Castelnau, 1840
Dermestes ? *atomarius* Erichson, 1846: Sapuppo 2002: 189.
 Si? (Sapuppo 2002).

Dermestes (Dermestinus) laniarius laniarius Illiger, 1801
Dermestes laniarius Illig.: Gulli 1961: 4.
Dermestes laniarius Illiger, 1801: Sapuppo 2002: 190.
 Si (Gulli 1961, Sapuppo 2002).

Thorictus grandicollis grandicollis Germar, 1842
Thorictus grandicollis Germ.: Cerruti 1954: 111.
 N (Cerruti 1954).

Attagenus (Attagenus) cyphonoides Reitter, 1881
Attagenus alferii Pic[, 1910]: Trematerra 1987: 16.
Attagenus (Attagenus) cyphonoides Reitter, 1881: Háva and Nardi 2004: 121, Háva 2007: 308.
Attagenus (Attagenus) cyphonoides Reitter, 1881: Zhantiev 2011a.
 S (Háva and Nardi 2004). Italy (Trematerra 1987, Háva 2007). Italian mainland (Zhantiev 2011a).

Attagenus (Attagenus) fasciatus (Thunberg, 1795)
Attagenus fasciatus (Thunberg, 1795): Nicoli Aldini 2003a 155–156, Nicoli Aldini 2003b: 123–125, Nicoli Aldini 2004: 983, 985, Zhantiev 2011a.
Attagenus (Attagenus) fasciatus (Thunberg, 1795): Háva and Nardi 2004: 121, Háva 2007: 308.

N (Nicoli Aldini 2003a, 2003b, 2004), S (Háva and Nardi 2004). Italy (Háva 2007). Italian mainland (Zhantiev 2011a).

Attagenus (Attagenus) pantherinus (Ahrens, 1814)

Attagenus pantherinus: Henry 1938: 66.

Attagenus (Attagenus) pantherinus (Ahrens, 1814): Háva 2007: 309, Háva and Nardi 2007: 121.

Attagenus pantherinus (Ahrens, 1814): Zhantiev 2011a.

N (Henry 1938, Háva and Nardi 2007), Sa (Zhantiev 2011a). Italy (Háva 2007).

Attagenus (Attagenus) rossii Ganglbauer, 1904

Dermestes bifasciatus Rossi, 1794: 79.

Attagenus bifasciatus Rossi: Rottenberg 1870: 238, Bertolini 1874: 99, Steck 1887: 181, Bertolini 1904: 58.

Attagenus bifasciatus: Failla-Tedaldi 1887: 158.

Attagenus (Lanorus) bifasciatus Rossi: Ragusa 1892: 204.

Attagenus (Lanorus) bifasciatus Oliv. [= (A.G. Olivier, 1790)] a. *Rossii* Ganglb.: Luigioni 1929: 538.

Attagenus (Lanorus) bifasciatus Oliv. v. *Rossii* Ganglb.: Porta 1929: 302.

Attagenus bifasciatus Oliv. var. *Rossii* Ganglb.: Gulli 1961: 4.

Attagenus bifasciatus (Olivier, 1790) var. *Rossii* Ganglbauer, 1904: Sapuppo 2002: 187.

Attagenus (Attagenus) rossii Ganglbauer, 1904: Háva 2007: 309, Háva and Nardi 2007: 123, Háva and Nardi 2011: 422.

Attagenus rossii Ganglbauer, 1904: Zhantiev 2011a.

Attagenus rossii Ganglbauer, 1804 [sic!]: FEI 2012.

S (Rossi 1794, Luigioni 1929, Porta 1929, Háva and Nardi 2007, 2011), Si (Rottenberg 1870, Bertolini 1874, Failla-Tedaldi 1887, Steck 1887, Ragusa 1892, Bertolini 1904, Luigioni 1929, Porta 1929, Gulli 1961, Sapuppo 2002, Háva and Nardi 2007, Zhantiev 2011a, FEI 2012), Sa (cf. Háva and Nardi 2011). Italy (Háva 2007). Italian mainland (Zhantiev 2011a).

Attagenus (Attagenus) trifasciatus (Fabricius, 1787)

Attagenus trifasciatus Fabr.: Ghiliani 1842: 33.

Attagenus? *trifasciatus* (Fabricius, 1787): Sapuppo 2002: 189.

Si? (Ghiliani 1842, Sapuppo 2002).

Anthrenocerus australis (Hope, 1843)

Anthrenocerus australis (Hope, 1843): Herrmann and Háva 2007: 5, Háva 2007: 315, Zhantiev 2011a.

N (Herrmann and Háva 2007). Italy (Háva 2007). Italian mainland (Zhantiev 2011a).

Globicornis (Globicornis) luckowi Herrmann, Háva & Kadej, 2011

Globicornis (Globicornis) luckowi Herrmann, Háva & Kadej, 2011: Háva et al. 2013: 138. N (Háva et al. 2013).

Globicornis (Hadrotoma) corticalis (Eichhoff, 1863)

Globicornis corticalis (Eichhoff, 1863): Biscaccianti et al. 2008: 50. S (Biscaccianti et al. 2008).

Reesa vespulae (Milliron, 1939)

Reesa vespulae (Milliron, 1939): Nicoli Aldini 2003a: 156, 159, Nicoli Aldini 2003b: 123, 127, Nicoli Aldini 2004: 983, 987. N (Nicoli Aldini 2003a, 2003b, 2004).

Trogoderma glabrum (Herbst, 1783)

Trogoderma elongatulum Fabr. [= (Fabricius, 1801)]: Ghiliani 1842: 33. Si? (Ghiliani 1842).

Trogoderma variabile Ballion, 1878

Trogoderma variabile Ballion, 1878: Nicoli Aldini 1998: 115, Háva 2003: 141, Háva 2007: 320.

Trogoderma variabile Ballion: Nicoli Aldini 2003a: 156, Nicoli Aldini 2003b: 126–127. N (Nicoli Aldini 1998, 2003a, 2003b), Sa (Zhantiev 2011a). Italy (Háva 2003, 2007). Italian mainland (Zhantiev 2011a).

A new checklist of the Dermestidae of Italy

The present-day dermestid fauna of Italy is summarized in the checklist below (Table 1).

The following abbreviations are used: AFR = Afrotropical; ALAP = Alpino-Apeninic endemic; ALPC = Central-Alpine endemic; APPE = Apenninic endemic; AUST = Australian; CAE = Centralasiatic-European; CEM = Centralasiatic-European-Mediterranean; CEU = Central European; COS = Cosmopolitan; EME = E-Mediterranean; EUM = European-Mediterranean; EUR = European; IT = Italy and/or Italian mainland without further details; (i) = introduced to Europe; MED = Mediterranean; N = northern Italy (Trentino-Alto Adige, Venetia, Friuli-Venezia Giulia, Lombardy, Piedmont, Aosta Valley, Liguria and Emilia-Romagna); NAF = N-African; OLA = Holarctic; PAL = Palearctic; S = peninsular Italy (the remainig of continental Italy); Sa = Sardinia and small circum-Sardinian islands; SCO = Subcosmopolitan; SEU = S-European; Si = Sicily and small circum-Sicilian islands; SICI = Sicilian endemic; SIE = Sibero-European; TEM = Turano-European-Mediterranean; TUE = Turano-European; TUM = Turano-Mediterranean; WME = W-Mediterranean.

Table 1. Checklist of the Dermestidae of Italy.

Taxa	Distribution				Chorotype
Dermestinae Latreille, 1804					
Dermestini Latreille, 1804					
Genus <i>Dermestes</i> Linnaeus, 1758					
Subgenus <i>Dermestes</i> Linnaeus, 1758					
1. <i>ater</i> DeGeer, 1774	N				COS
2. <i>bicolor</i> Fabricius, 1781					PAL
<i>b. bicolor</i> Fabricius, 1781	N	S		Sa	
3. <i>haemorrhoidalis</i> Küster, 1852	N				COS
4. <i>hispanicus</i> Kalík, 1952				Sa	WME
5. <i>lardarius</i> Linnaeus, 1758	N	S	Si	Sa	COS
6. <i>peruvianus</i> Laporte de Castelnau, 1840	N?	S			COS
Subgenus <i>Dermestinus</i> Zhantiev, 1967					
7. <i>aurichalceus</i> Küster, 1846	N	S?		Sa	MED
8. <i>carnivorus</i> Fabricius, 1775		S			COS
9. <i>erichsoni</i> Ganglbauer, 1904	N	S	Si	Sa	EUR
10. <i>frischii</i> Kugelann, 1792	N	S	Si	Sa	COS
11. <i>gyllenhalii</i> Laporte de Castelnau, 1840					EUR
<i>g. gyllenhalii</i> Laporte de Castelnau, 1840	N	S	Si?		
12. <i>bankae</i> Háva, 1999		S			WME
13. <i>intermedius</i> Kalík, 1951					EUR
<i>i. intermedius</i> Kalík, 1951	IT	IT			
14. <i>laniarius</i> Illiger, 1801					PAL
<i>l. laniarius</i> Illiger, 1801	N	S	Si	Sa	
15. <i>maculatus</i> DeGeer, 1774	N	S	Si	Sa	COS
16. <i>murinus</i> Linnaeus, 1758					PAL
<i>m. murinus</i> Linnaeus, 1758	N	S	Si	Sa	
17. <i>mustelinus</i> Erichson, 1846	N	S	Si	Sa	EUR
18. <i>pardalis</i> Billberg, 1808	N?	IT		Sa	WME
19. <i>sardous</i> Küster, 1846					MED
<i>s. sardous</i> Küster, 1846	N	S		Sa	
20. <i>szekessyi</i> Kalík, 1950	IT	IT			SIE
21. <i>undulatus</i> Brahm, 1790	N	S	Si	Sa	OLA
Subgenus <i>Montandonia</i> Jacquet, 1886					
22. <i>fuliginosus</i> P. Rossi, 1792	N	S	Si		EUR
23. <i>hirticollis</i> Fabricius, 1792				Sa	WME
24. <i>olivieri</i> Lepesme, 1939	N	S	Si	Sa	TEM
Thorictinae Agassiz, 1846					
Thaumaphrastini Anderson, 1949					
Genus <i>Thorictodes</i> Reitter, 1875					
25. <i>heydeni</i> Reitter, 1875	N	S			COS
Thorictini Agassiz, 1846					
Genus <i>Thorictus</i> Germar, 1834					
26. <i>grandicollis</i> Germar, 1842					TUM
<i>g. grandicollis</i> Germar, 1842	N	S	Si	Sa	
27. <i>mauritanicus</i> Lucas, 1846			Si	Sa	MED
28. <i>stricticollis</i> Kraatz, 1859					MED
<i>s. stricticollis</i> Kraatz, 1859				Sa	

Taxa	Distribution				Chorotype
29. <i>studii</i> John, 1971			Si		SICI
Orphilinae LeConte, 1900					
Genus <i>Orphilus</i> Erichson, 1848					
30. <i>niger</i> (P. Rossi, 1790)	N	S	Si	Sa	CEM
Trinodinae T.L. Casey, 1900					
Thylodriini Semenov, 1909					
Genus <i>Thylodrias</i> Motschulsky, 1839					
31. <i>contractus</i> Motschulsky, 1839	N				COS
Trinodini T.L. Casey, 1900					
Genus <i>Trinodes</i> Dejean, 1821					
32. <i>hirtus</i> (Fabricius, 1781)	N	S	Si	Sa	TUE
Attageninae Laporte, 1840					
Attagenini Laporte, 1840					
Genus <i>Attagenus</i> Latreille, 1802					
Subgenus <i>Attagenus</i> Latreille, 1802					
33. <i>bifasciatus</i> (A.G. Olivier, 1790)		S	Si	Sa	TUM
34. <i>brunneus</i> Faldermann, 1835	N	S	Si	Sa	OLA
35. <i>calabricus</i> Reitter, 1881		S	Si		APPE
36. <i>cyphonoides</i> Reitter, 1881		S			SCO
37. <i>fallax</i> Gené, 1839		S	Si	Sa	MED
38. <i>fasciatus</i> (Thunberg, 1795)	N	S			COS
39. <i>lobatus</i> Rosenhauer, 1856		S	Si	Sa	CEM
40. <i>maritimus</i> (Gené, 1839)			Si	Sa	WME
41. <i>obtusus</i> (Gyllenhal, 1808)				Sa	TEM
42. <i>pantherinus</i> (Ahrens, 1814)	N			Sa	EUR
43. <i>pellio</i> (Linnaeus, 1758)	N	S	Si	Sa	COS
44. <i>pilosissimus</i> Roubal, 1932	N	S			ALAP
45. <i>punctatus</i> (Scopoli, 1772)	N	S	Si		EUR
46. <i>rossii</i> Ganglbauer, 1904		S	Si	Sa	MED
47. <i>schaefferi</i> (Herbst, 1792)					OLA
<i>s. schaefferi</i> (Herbst, 1792)	N	S	Si	Sa	
48. <i>silvaticus</i> Zhantiev, 1976		S	Si		SIE
49. <i>simplex</i> Reitter, 1881		S	Si	Sa	MED
50. <i>tigrinus</i> (Fabricius, 1792)					
<i>t. tigrinus</i> (Fabricius, 1792)	N	S	Si	Sa	MED
51. <i>trifasciatus</i> (Fabricius, 1787)	N		Si?		MED
52. <i>unicolor</i> (Brahm, 1790)					COS
<i>u. unicolor</i> (Brahm, 1790)	N	S	Si	Sa	
53. <i>uniformis</i> Fairmaire, 1860			Si		NAF
Megatominae Leach, 1815					
Anthrenini Gistel, 1848					
Genus <i>Anthrenus</i> Geoffroy, 1762					
Subgenus <i>Anthrenops</i> Reitter, 1881					
54. <i>coloratus</i> Reitter, 1881		S			OLA+AFR
Subgenus <i>Anthrenus</i> Geoffroy, 1762					
55. <i>angustefasciatus</i> Ganglbauer, 1904	N	S			EUR
56. <i>delicatus</i> Kiesenwetter, 1851	N	S	Si	Sa	MED
57. <i>festivus</i> Erichson, 1846		S?	Si	Sa	MED

Taxa	Distribution				Chorotype
58. <i>flavipes</i> LeConte, 1854					COS
<i>f. flavipes</i> LeConte, 1854		S		Sa	
59. <i>goliath</i> Saulcy, 1868	N	S	Si	Sa	MED
60. <i>munroi</i> Hinton, 1943		S		Sa	MED
61. <i>mroczkowskii</i> Kalík, 1954		S			SEU
62. <i>pimpinellae</i> (Fabricius, 1775)					COS
<i>p. isabellinus</i> Küster, 1848	N	S	Si	Sa	
<i>p. pimpinellae</i> (Fabricius, 1775)	N	S	Si		
63. <i>scrophulariae</i> (Linnaeus, 1758)					COS
<i>s. scrophulariae</i> (Linnaeus, 1758)	N	S	Si	Sa	
Subgenus <i>Florilinus</i> Mulsant & Rey, 1868					
64. <i>museorum</i> (Linnaeus, 1761)	N	S	Si	Sa	COS
65. <i>oberthueri</i> Reitter, 1881	N		Si		WME
Subgenus <i>Helocerus</i> Mulsant & Rey, 1868					
66. <i>fuscus</i> A.G. Olivier, 1790	N	S	Si	Sa	SCO
67. <i>minutus</i> Erichson, 1846		S	Si	Sa	MED
Subgenus <i>Nathrenus</i> Casey, 1900					
68. <i>biskrensis</i> Reitter, 1887			Si		NAF
69. <i>molitor</i> Aubé, 1850	N			Sa	MED
70. <i>signatus</i> Erichson, 1846	N	S	Si		EUR
71. <i>verbasci</i> (Linnaeus, 1767)	N	S	Si	Sa	COS
72. <i>versicolor</i> Reitter, 1887			Si	Sa	MED
Megatomini Leach, 1815					
Genus <i>Anthrenocerus</i> Arrow, 1915					
73. <i>australis</i> (Hope, 1843)	N				AUST (i)
Genus <i>Ctesias</i> Stephens, 1830					
Subgenus <i>Ctesias</i> Stephens, 1830					
74. <i>serra</i> (Fabricius, 1792)	N	S	Si	Sa	EUR
Genus <i>Globicornis</i> Latreille, 1829					
Subgenus <i>Globicornis</i> Latreille, 1829					
75. <i>bifasciata</i> (Perris, 1866)			Si	Sa	WME
76. <i>fasciata</i> (Fairmaire & Brisout de Barneville, 1859)	N	S	Si?	Sa	CEU
77. <i>luckowi</i> Herrmann, Háva & Kadej, 2011	N				ALPC
78. <i>nigripes</i> (Fabricius, 1792)	N	S			EUR
79. <i>picta</i> (Küster, 1851)		S	Si	Sa	EUR
80. <i>tristis</i> (Reitter, 1881)		S			EME
81. <i>variegata</i> (Küster, 1851)	N	S	Si	Sa	SEU
Subgenus <i>Hadrotoma</i> Erichson, 1848					
82. <i>corticalis</i> (Eichhoff, 1863)	N	S	Si		EUR
83. <i>emarginata</i> (Gyllenhal, 1808)	N	S	Si	Sa	EUR
84. <i>sulcata</i> (C.N.F. Brisout de Barneville, 1866)		S	Si		WME
Genus <i>Megatoma</i> Herbst, 1791					
Subgenus <i>Megatoma</i> Herbst, 1791					
85. <i>ruficornis</i> Aubé, 1866		S			SEU
86. <i>undata</i> (Linnaeus, 1758)	N	S			EUR
Genus <i>Phradonoma</i> Jacquelin du Val, 1859					
87. <i>villosulum</i> (C. Duftschmid, 1825)	N				CAE

Taxa	Distribution				Chorotype
Genus <i>Reesa</i> Beal, 1967					
88. <i>vespulae</i> (Milliron, 1939)	N				SCO
Genus <i>Trogoderma</i> Dejean, 1821					
89. <i>angustum</i> Solier, 1849	IT	IT			SCO
90. <i>glabrum</i> (Herbst, 1783)	N	S	Si?		SCO
91. <i>granarium</i> Everts, 1898	N	S	Si		COS
92. <i>inclusum</i> LeConte, 1854	N	S	Si	Sa	COS
93. <i>megatomoides</i> Reitter, 1881	N				OLA
94. <i>variabile</i> Ballion, 1878	N			Sa	COS
95. <i>versicolor</i> (Creutzer, 1799)	N	S	Si	Sa	COS
Total species	61	67	57	59	

Discussion

The updated checklist of Italian Dermestidae includes 95 species, moreover *Anthrenus* (*A.*) *pimpinellae* occurs with two subspecies, but the taxonomic status of *A.* (*A.*) *p. isabellinus* needs to be clarified (cf. Háva and Nardi 2004). This total number is very probably still provisional since this family has been little studied in Italy, and the occurrence of further species recently described (e.g. Zhantiev 2001) or resurrected is possible. The previous checklist (Audisio et al. 1995), included only 81 species. Considering the four adopted geographic divisions, the relatively high species richness in the peninsular region (67) is unsurprising (cf. Minelli et al. 2002).

Some of the above records come from the following two protected areas of southern peninsular Italy: the Gargano National Park (Apulia) and the Pollino National Park (Basilicata and Calabria). 24 species of Dermestidae are now known from the former Park, while 23 species are now known from the Pollino National Park, but only 15 species are common to both (cf. Holdhaus 1911, Panganetti-Hummler 1918, Angelini 1987, 1996b, Háva and Nardi 2004). 24 and 23 species represent 37% and 34% of those currently recorded with certainty from peninsular Italy. These values confirm the importance of these Parks for insects (cf. Holdhaus 1911, Palm 1939, Grandi 1956, Angelini 1986, 1987, Rusek and Stumpp 1988, Agostini and Scali 1989, Rivosecchi 1989, Merz 1993, Angelini 1996b, Ruffo and Stoch 2006) and for biodiversity conservation.

Acknowledgments

We are indebted to Claudio Angeloro (Corpo Forestale dello Stato - Ufficio Territoriale per la Biodiversità di Foresta Umbra, Italy) for the assistance in Apulia during the research of the CNBFVR; Daniele Birtele (CNBFVR), Paolo Cornacchia (Porto Mantovano, Italy), Carmine Esposito (Velletri, Italy), Gianluca Scaglioni (Porto Mantovano, Italy) and Ilaria Toni (CNBFVR) for the collection of specimens; to Luca Bartolozzi (Museo di Storia Naturale, Sezione di Zoologia, Università di Firenze, Florence, Italy) for the loan of specimens from the collections under his care; to

Franco Mason (Verona, Italy) for his constructive comments on a previous version of this paper; to Ottó Merkl (Hungarian Natural History Museum, Budapest, Hungary) for the information on the types of *Attagenus calabricus*; to Miloslav Rakovič (Prague, Czech Republic) and to Jonathan Cooter (Oxford, England) for the linguistic revision of the manuscript. We thank Riaan Stals (Pretoria, South Africa) and an anonymous referee for their reviews.

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Mexican species of the genus *Stethantyx* Townes (Hymenoptera, Ichneumonidae, Tersilochinae)

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Academic editor: Gavin Broad | Received 1 October 2013 | Accepted 2 December 2013 | Published 6 December 2013

<http://zoobank.org/7A52A765-45C8-48B8-85BE-08271B5A6859>

Citation: Khalaim AI, Ruíz-Cancino E (2013) Mexican species of the genus *Stethantyx* Townes (Hymenoptera, Ichneumonidae, Tersilochinae). ZooKeys 360: 83–94. doi: 10.3897/zookeys.360.6362

Abstract

Six species of the genus *Stethantyx* Townes are found to occur in Mexico. One species, *S. mexicana* **sp. n.**, is described as new, and four recently described Neotropical species, *S. alajuela* Khalaim & Broad, *S. heredia* Khalaim & Broad, *S. osa* Khalaim & Broad and *S. sanjosea* Khalaim & Broad, are new records from Mexico. A key to species of *Stethantyx* occurring in Mexico is provided.

Resumen

En México se han encontrado seis especies del género *Stethantyx* Townes. Se describe la especie *S. mexicana* **sp. n.** Cuatro especies descritas recientemente para la región Neotropical son nuevos registros para México: *S. alajuela* Khalaim & Broad, *S. heredia* Khalaim & Broad, *S. osa* Khalaim & Broad y *S. sanjosea* Khalaim & Broad. Se elaboró la clave de especies de *Stethantyx* que ocurren en México.

Keywords

Key, Neotropical region, new records, new species, North America, taxonomy

Palabras clave

Clave, región Neotropical, nuevos registros, nueva especie, Norteamérica, taxonomía

Introduction

Stethantyx is a large predominantly Neotropical genus with 42 described and many undescribed species (Yu et al. 2012; Khalaim and Broad 2013; Khalaim et al. 2013). Along with the Neotropical monotypic genus *Megalochus* Khalaim & Broad, it forms the *Stethantyx* genus-group, characterized by the fore wing with abscissae of the radius meeting at an obtuse angle (more than 90°), intercubitus and abscissa of cubitus between intercubitus and second recurrent vein not or very weakly thickened, hind wing with nervellus more or less vertical, and prepectal carina with upper end not reaching anterior margin of mesopleuron, continuing above and backwards to the subtegular ridge (Khalaim and Broad 2013). *Stethantyx* differs from *Megalochus* by the longer antennae, first metasomal segment stouter and trapeziform in cross-section, presence of glymmae, and smooth or granulate (not rugulose) propodeum and metapleuron.

Only two native species, *S. crassa* Horstmann and *S. nearctica* Townes, and *S. parkeri* (Blanchard), introduced from South America, are known to occur in the Nearctic region (Horstmann 2010). In the Neotropical region, 22 species were recently described from Costa Rica (Khalaim and Broad 2013); in South America, eight species (including *S. parkeri*) have been described from Argentina, Brazil and Uruguay (Blanchard 1945, Graf 1980), and 16 species (including ten new species), have been found to occur in Western Amazonia (Khalaim et al. 2013). Two unidentified species of *Stethantyx* were also reported from Cuba (Fernández-Triana et al. 2006).

Some species of *Stethantyx* were reared from the beetle families Nitidulidae and Curculionidae (Coleoptera). In the Nearctic region, *S. crassa* was reared from *Cryptarcha* sp. and/or *Lobiopa undulata* Say (Nitidulidae) from sap spots on oak (Williams et al. 1984, Horstmann 2010), and *S. nearctica* was reared from *Balaninus* sp. (Curculionidae) on *Quercus alba* L. (Fagaceae), probably from acorns (Horstmann 2010). In South America, three species, *S. argentiensis* (Blanchard), *S. parkeri* and one unidentified species, all parasitizing vegetable weevils (Curculionidae: *Listroderes* spp.) (Parker et al. 1950), were introduced to the southern U.S.A. and eastern Australia for the control of *Listroderes obliquus* Klug, a pest of many cultivated vegetables (Kerrich 1961, Wilson and Wearne 1962, Clancy 1969, Gauld 1984).

Only one species, *S. nearctica*, was previously known from northern Mexico (Horstmann 2010). In this paper we review six Mexican species of *Stethantyx*, including one new species and four new records. A key for identification of these species is given.

Methods

The ichneumonid collection of the Universidad Autónoma de Tamaulipas, Cd. Victoria, Mexico (further UAT) was studied. One specimen of *Stethantyx* was borrowed from the Essig Museum of Entomology, University of California, Berkeley, U.S.A. (further EMEC). Some specimens were deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia (further ZISP).

Morphological terminology predominantly follows Townes (1969, 1971) with changes according to Khalaim (2011). Photographs were taken at ZISP with a DFC 290 digital camera attached to a Leica MZ16 stereomicroscope; the partially focused photographs were assembled with Helicon Focus software. Photographs of wings of *S. mexicana* sp. n. (Fig. 16) were taken from a microscope slide prepared with Canada balsam.

Results

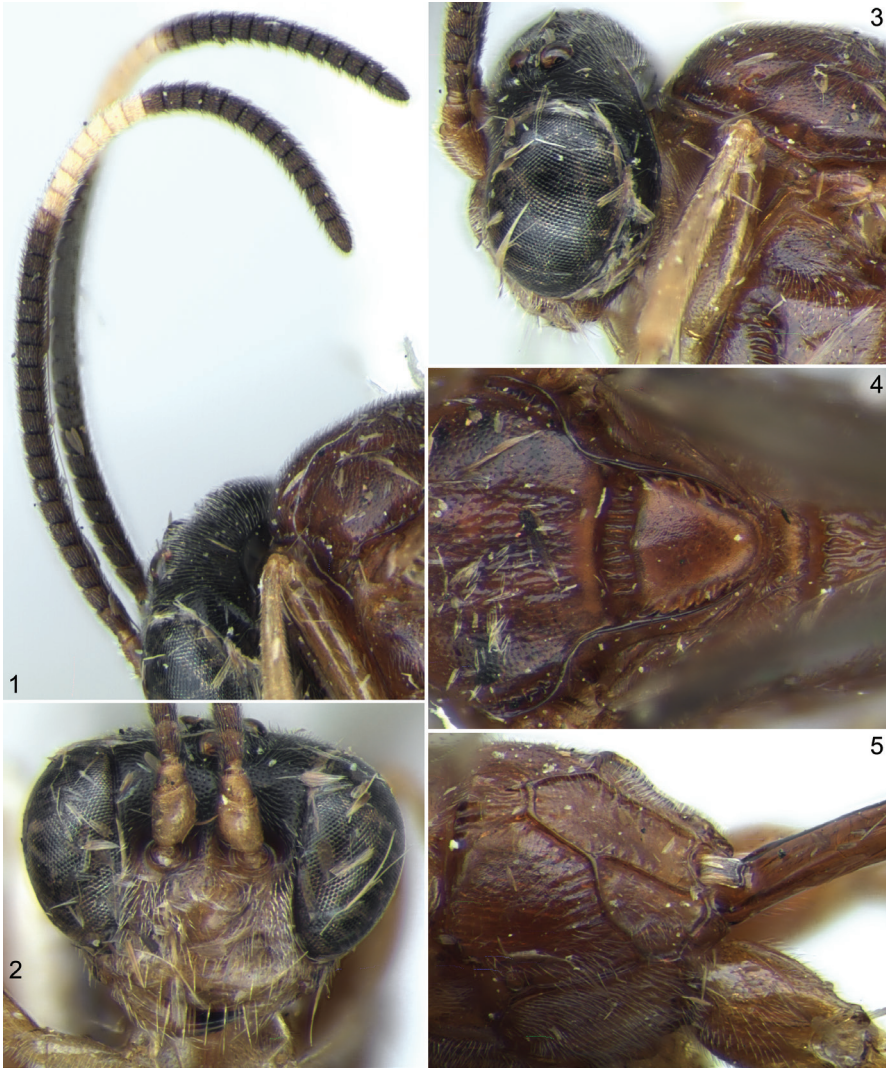
Stethantyx Townes, 1971

<http://species-id.net/wiki/Stethantyx>

Type species. *Stethantyx nearctica* Townes, 1971.

Key to species of *Stethantyx* occurring in Mexico

- 1 Mesosoma entirely black (Figs 20, 23). Ovipositor sheath twice as long as first tergite ***nearctica* Townes**
- Mesosoma entirely or predominantly reddish orange (Figs 8, 17, 25). Ovipositor sheath 1.2–1.8 times as long as first tergite (unknown for *S. mexicana* sp. n.) ... **2**
- 2 Head reddish orange, frons sometimes infuscate centrally (Figs 28, 29). Propodeum with narrow basal area (Fig. 30) ***sanjosea* Khalaim & Broad**
- Head black, face and clypeus sometimes reddish brown or yellow (Figs 2, 6, 7, 10, 11, 24, 25). Propodeum not as above: with basal keel (Figs 9, 18), broad basal area (Fig. 26) or longitudinal wrinkles mediodorsally (Fig. 5)... **3**
- 3 Flagellum with conspicuous pale band (Fig. 1). Face yellow (Fig. 2), with strong prominence centrally. Notaulus strongly impressed, distant from anterolateral margin of mesoscutum (Fig. 3). Propodeum usually without distinct basal area, with longitudinal wrinkles dorsally (Fig. 5) ***alajucla* Khalaim & Broad**
- Flagellum black, without pale band (as in Fig. 27). Face yellow or black, with weak prominence centrally. Notaulus not impressed, as wrinkle or small tubercle distant from anterolateral margin of mesoscutum (Figs 6, 10), or completely absent. Propodeum with distinct basal area (Fig. 26) or basal keel (Figs 9, 18) **4**
- 4 Propodeum with broad basal area (Fig. 26). Propodeal spiracle separated from pleural carina by 1.5–2.0 times diameter of spiracle (Fig. 25). Face black (Fig. 24)..... ***osa* Khalaim & Broad**
- Propodeum with basal keel (Figs 9, 18). Distance between propodeal spiracle and pleural carina less than one diameter of spiracle (Figs 8, 17). Face usually reddish brown or yellowish (Figs 7, 11) **5**
- 5 Mesoscutum, scutellum and propodeum black, strongly contrasting with remaining mesosoma (Fig. 17)..... ***mexicana* sp. n.**
- Mesosoma uniformly reddish orange (Fig. 8)..... ***heredia* Khalaim & Broad**



Figures 1–5. *Stethantyx alajuella* Khalaim & Broad, ♀: **1** antennae, lateral view **2** head, frontal view **3** head and anterior part of mesosoma, lateral view **4** mesoscutum and scutellum, dorsal view **5** propodeum, dorsolateral view.

Stethantyx alajuella Khalaim & Broad, 2013
http://species-id.net/wiki/Stethantyx_alajuella
 Figs 1–5

Material examined. **Mexico:** Veracruz, Estación Biológica Los Tuxtlas, 480 m, 2.VI.1986, coll. P. Sinaca, 1 female (UAT).

Distribution. Mexico (Veracruz), Costa Rica, Ecuador, Peru, Paraguay. First record from Mexico.



Figures 6–9. *Stethantyx heredia* Khalaim & Broad, ♀: **6** head and anterior part of mesosoma, dorsal view **7** head, frontal view **8** head and mesosoma, lateral view **9** propodeum, dorsolateral view.

***Stethantyx heredia* Khalaim & Broad, 2013**

http://species-id.net/wiki/Stethantyx_heredia

Figs 6–9

Material examined. **Mexico:** Chiapas, Jaltenango, Reserva El Triunfo, Malaise trap, 19–22.VII.1997, coll. A. González Hernández, 1 female (UAT). Quintana Roo, Rancho #3, Valle Hermoso, 21.VII.1993, coll. H. Delein, 2 females (UAT).

Distribution. Mexico (Chiapas, Quintana Roo), Costa Rica, Ecuador, Peru. First record from Mexico.

***Stethantyx mexicana* Khalaim & Ruíz-Cancino, sp. n.**

<http://zoobank.org/8FD563AE-170A-4D0E-A09E-F38CD0B5B343>

http://species-id.net/wiki/Stethantyx_mexicana

Figs 10–19

Comparison. Differs from its North and Central American congeners by the combination of brownish orange mesosoma with black mesoscutum, scutellum and propo-

deum (Fig. 17), and propodeum with basal keel (Fig. 18). In the key to Costa Rican species of *Stethantyx* (Khalaim and Broad 2013) it runs to couplet 7 but differs in this couplet from both species, *S. tenoriosa* Khalaim & Broad and *S. mesoscutator* Khalaim & Broad, by the propodeum with basal keel (basal area in two other species), and from *S. mesoscutator* also by the black propodeum. The new species is morphologically similar to *S. heredia* as both have propodeum with basal keel but differs (besides colour pattern of mesosoma) by the somewhat longer temple and longer second metasomal tergite. *Stethantyx mexicana* sp. n. is a very distinct species, and despite the fact that it is described only from males, it may easily be distinguished from all known species of *Stethantyx*.

Description. Male. Body length 4.8 mm. Fore wing length 3.45 mm.

Head: Roundly narrowed behind eyes in dorsal view (Fig. 10); temple almost 0.6 times as long as eye width. Mandible with upper tooth much longer than lower tooth (Fig. 12). Clypeus lenticular, flat in lateral view, about 2.5 times as broad as long, smooth, punctate on upper 0.3 (Fig. 11). Malar space 0.2 times as long as basal width of mandible (Fig. 13). Flagellum of antenna with over 28 segments (tips of all antennae absent), distinctly tapered towards apex; all flagellomeres, except the basal one, 1.3–1.4 times as long as broad (Fig. 14); flagellomeres 4 to 14 bear finger-shaped subapical structures on outer surface. Face and frons finely and densely punctate on finely granulate dull background. Vertex finely and densely punctate (punctures distinct medially and indistinct laterally) on very finely granulate, weakly shining background. Temple with very fine, mostly indistinct punctures, weakly shining. Face with weak prominence centrally. Occipital carina complete.

Mesosoma: Notaulus as small tubercle (in both paratypes) or short wrinkle (in holotype) distant from anterolateral margin of mesoscutum (Figs 10, 13). Mesoscutum very finely (sometimes indistinctly) punctate on very finely granulate, dull background. Scutellum with lateral longitudinal carinae extending from its base to posterior 0.6–0.7. Mesopleuron finely but distinctly punctate on smooth and shining background (area just above foveate groove impunctate), peripherally finely granulate. Foveate groove situated more or less in centre of mesopleuron, strongly oblique, deep and crenulate (Fig. 17). Propodeum with all carinae strong, transverse carina without adjacent wrinkles (Fig. 18). Dorsolateral area very shallowly granulate, dull, with sparse indistinct punctures. Basal keel of propodeum almost 0.4 times as long as apical area (Fig. 18). Propodeal spiracle big, adjacent to pleural carina (Fig. 17). Apical area flat, pointed anteriorly (Fig. 18).

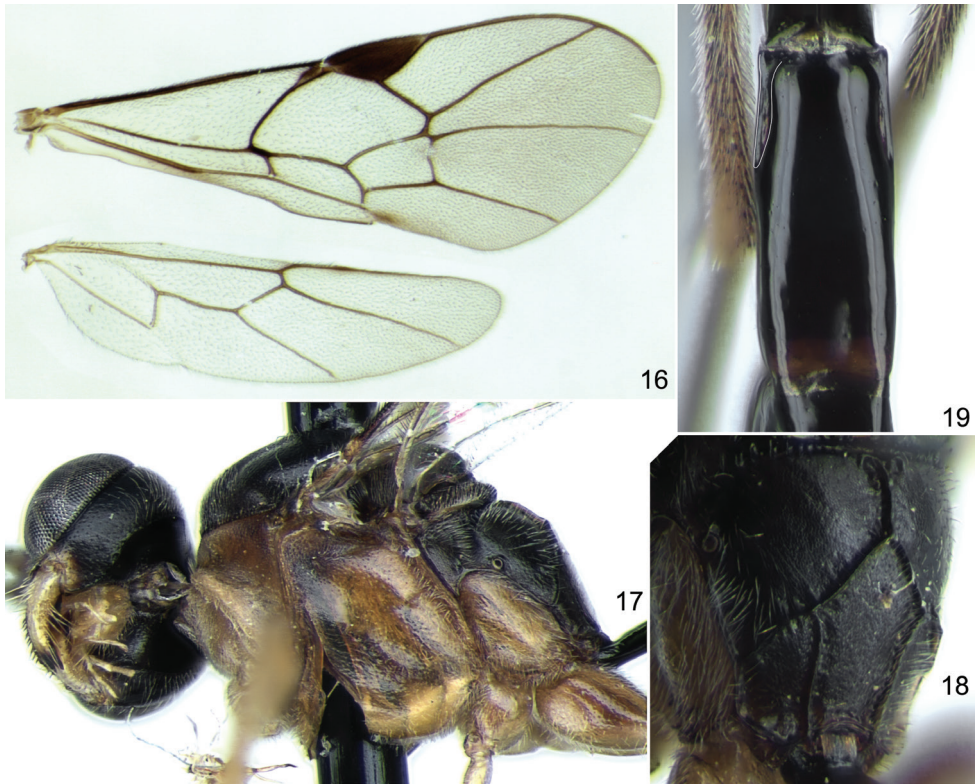
Wings: Fore wing (Fig. 16) with first and second sections of radius angled about 130°. Intercubitus 1.5–2.0 times as long as abscissa of cubitus between intercubitus and second recurrent vein. Metacarp almost reaching apex of fore wing. Hind wing (Fig. 16) with nervellus distinctly inclivous.

Legs: Slender (Fig. 15). Hind femur slightly clavate, 4.7 times as long as broad and 0.8 times as long as tibia. Hind spurs slightly curved at apex. Tarsal claws rather long, not pectinate.



Figures 10–15. *Stethantyx mexicana* sp. n., ♀, holotype (except Figs 10 and 12): 10 head and anterior part of mesosoma, dorsal view 11 head, frontal view 12 head, ventral view 13 head and anterior part of mesosoma, lateral view 14 antenna (apex absent), lateral view 15 posterior part of mesosoma and hind leg, lateral view.

Metasoma: First tergite slender, 4.6 times as long as posteriorly broad, entirely smooth. Glymma situated somewhat behind centre of tergite, moderately large, groove between glymma and ventral part of postpetiole weak but distinct in two paratypes and absent in the holotype. Second tergite almost 2.6 times as long as anteriorly broad (Fig. 19). Thyridial depression very long, more than 5.0 times as long as broad (Fig. 19).



Figures 16–19. *Stethantyx mexicana* sp. n., ♀, holotype (except Fig. 16): **16** wings **17** head and mesosoma, lateral view **18** propodeum, dorsolateral view **19** second tergite, dorsal view.

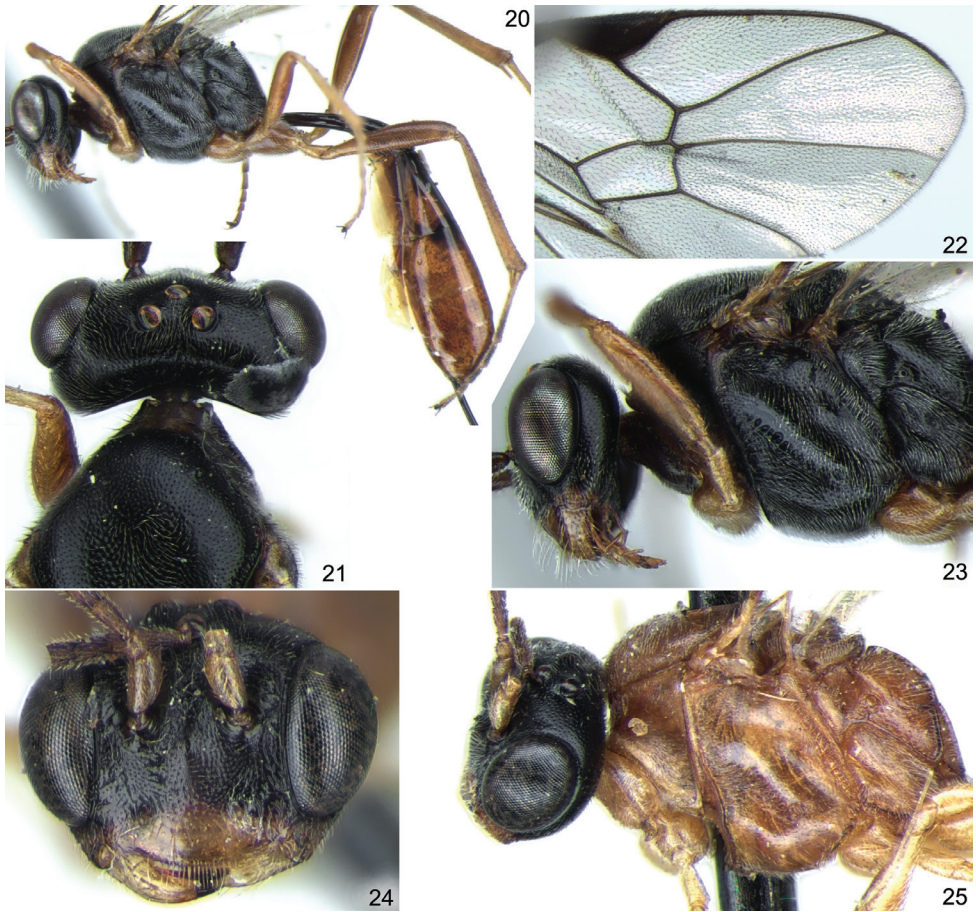
Coloration: Head black with lower part of face slightly reddish brown, clypeus and malar space yellow. Palpi and mandible (teeth reddish black) yellow. Scape and pedicel of antenna dark brown or brownish black; flagellum black, probably without pale band. Mesosoma brownish orange; propleuron and lower part of pronotum yellowish; mesoscutum, scutellum and propodeum dark brown or black, strongly contrasting with remaining mesosoma. Tegula fuscous. Pterostigma dark brown. Legs yellow to brownish yellow; hind leg with coxa with brown mark on extero-outer surface, femur brown to dark brown, and tibia and tarsus blackish. First tergite black. Metasoma behind first tergite predominantly dark brown (almost black dorsally), ventrally yellowish, second and following tergites with pale band posteriorly.

Female unknown.

Variability. The three specimens are very uniform, with minor variation in structure and coloration. One paratype has the basal keel of the propodeum centrally indistinct.

Etymology. From the type locality, Mexico.

Material examined. Holotype male, Mexico, Chiapas, Reserva El Triunfo, Jaltenango, Red de golpeo, 15°39'22"N, 92°48'31"E, 1400 m, 21.VII.1997, coll. A. González Hernández, CIB 97-063a (UAT).



Figures 20–25. *Stethantyx nearctica* Townes, ♀: **20** habitus (without antennae and wings), lateral view **21** head and anterior part of mesosoma, dorsal view **22** apex of fore wing **23** head and mesosoma, lateral view. *Stethantyx osa* Khalaim & Broad, ♀: **24** head, frontal view **25** head and mesosoma, lateral view.

Paratypes. Mexico, Chiapas, Palo Gordo, screen sweeping, 21.VI.1997, coll. A. González Hernández, 2 males (UAT, ZISP).

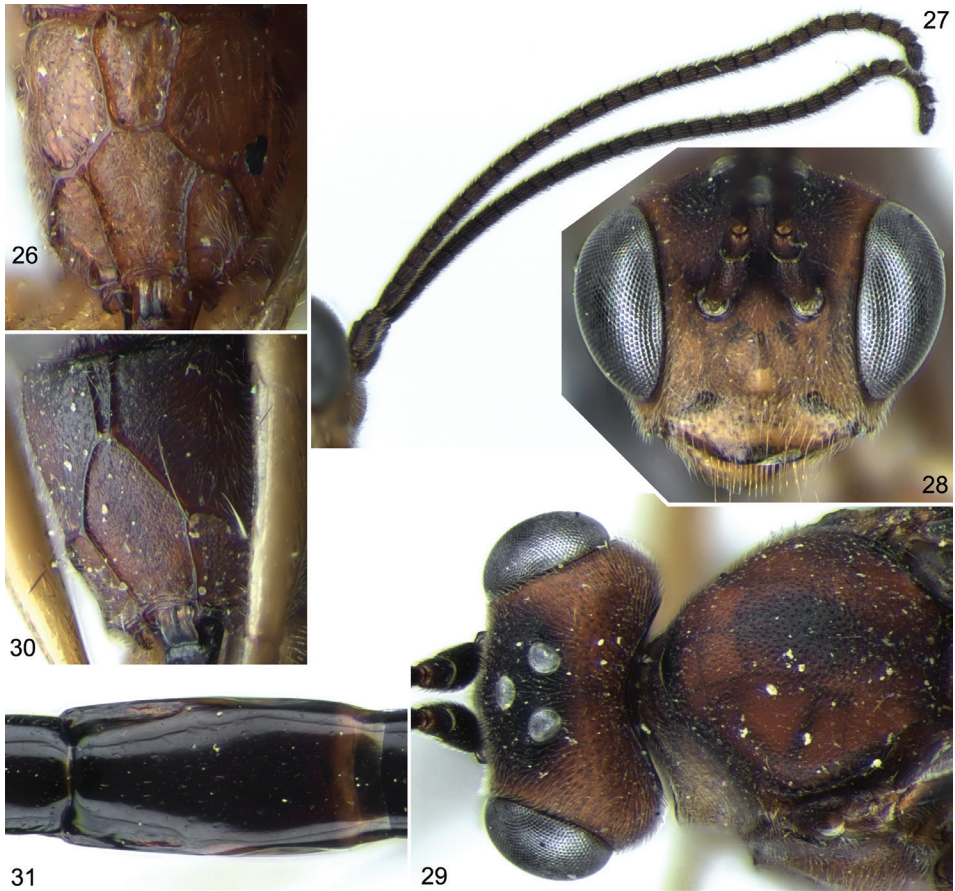
Distribution. Mexico (Chiapas).

***Stethantyx nearctica* Townes, 1971**

http://species-id.net/wiki/Stethantyx_nearctica

Figs 20–23

Material examined. **Mexico:** Tamaulipas, Cd. Victoria, 20.X.2007, coll. E. Ruíz-Cancino, 1 female (UAT). **U.S.A.:** Florida, Jefferson Co., Monticella, University of Florida, Malaise trap, 5–19.I, 5.X–30.XI.2001, coll. R. Mitzel, 2 females (UAT, ZISP).



Figures 26–31. *Stethantyx osa* Khalaim & Broad, ♀: **26** propodeum, dorsal view. *Stethantyx sanjosea* Khalaim & Broad, ♀: **27** antennae, lateral view **28** head, frontal view **29** head and anterior part of mesosoma, dorsal view **30** propodeum, dorsal view **31** second tergite, dorsal view.

Distribution. U.S.A. (Arizona, District of Columbia, Florida, Iowa, Maryland, North Carolina, South Carolina, Texas, Virginia), Mexico (Nuevo León, Tamaulipas).

Biology. Reared in Virginia, U.S.A., from *Balaninus* sp. (Curculionidae) on *Quercus alba* L. (Fagaceae), probably from acorns (Horstmann 2010).

***Stethantyx osa* Khalaim & Broad, 2013**

http://species-id.net/wiki/Stethantyx_osa

Figs 24–26

Material examined. Mexico: Nayarit, Jesus Maria, 27.VII.1955, coll. B. Malkin, 1 female (EMEC).

Distribution. Mexico (Nayarit), Costa Rica. First record from Mexico.

***Stethantyx sanjosea* Khalaim & Broad, 2013**

http://species-id.net/wiki/Stethantyx_sanjosea

Figs 27–31

Material examined. Mexico: Tamaulipas, Gómez Farías, Canindo, 1400 m, Malaise trap, 28–30.VII.1993, coll. J.B. Woolley, 3 females (UAT). Chiapas, Jaltenango, Reserva El Triunfo, Malaise trap, 19–22.vii.1997, coll. A. González Hernández, 1 female (UAT).

Distribution. Mexico (Tamaulipas, Chiapas), Costa Rica, Ecuador, Peru. First record from Mexico.

Discussion

Four species of *Stethantyx*, previously known from Costa Rica and South America, were recorded mostly from central and southern parts of Mexico and, along with the new species, belong to the Neotropical complex of species. Only one species, *S. nearctica*, occurring in northern Mexico and U.S.A., belongs to the Nearctic complex of species. All Mexican species of the Neotropical complex were collected in summer (June to August), while the flight period of *S. nearctica* in Mexico is from October to January. In comparison with Costa Rica, where many species of *Stethantyx* are rather abundant through the year, in Mexico this genus seems to be rather rare because all Mexican species are represented by single or few specimens in available material.

Acknowledgements

We are thankful to Dr. Peter T. Oboyski from EMEC for loan of valuable material, and to Dr. Gavin Broad (the Natural History Museum, London, UK) and anonymous referee for their important comments and corrections. This work was supported by the PROMEP Project “Taxonomía y ecología de fauna y microbiota en comunidades forestales y cultivos” and the Russian Foundation for Basic Research (grant no. 13-04-00026).

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