

# A new species of *Ptilomymar* (Hymenoptera, Mymaridae) and a key to the described species

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## Abstract

*Ptilomymar dianensis* sp. n. (Hymenoptera, Mymaridae) from southwest China is described and illustrated. A key to the six described species is given. The type specimens are deposited in the insect collections of Northeast Forestry University, China.

## Keywords

Chalcidoidea, Mymaridae, *Ptilomymar dianensis*, taxonomy, new species, China

## Introduction

*Ptilomymar* was established by Annecke and Doutt (1961). Currently, this genus contains five described species, *Ptilomymar rete* Annecke & Doutt from Mexico, *P. orientalis* Taguchi from the Philippines (Taguchi, 1972), *P. besucheti* Viggiani from Sri Lanka (Viggiani, 1974), *P. magnificum* Yoshimoto from Canada (Yoshimoto 1990), and *P. dictyon* Hayat & Anis from India (Hayat and Anis 1999). Here we describe a new species of *Ptilomymar* from southwest China. A tentative key to species is provided based on their original descriptions. No types other than that of the new species were examined.

## Materials and methods

Specimens were collected from Yunnan Province (southwest China) using yellow pan traps. Specimens were dissected and mounted dorsally or laterally in Canada balsam on slides following the method described by Noyes (1982) and modified for the Mymaridae by Huber (1988). Photographs were taken with a digital CCD camera attached to an Olympus BX51 compound microscope, and most measurements were made from slide-mounted specimens using an eye-piece reticle. Total body length excluding ovipositor was measured with an eye-piece reticle from alcohol-preserved specimens before being dissected. All measurements are given in micrometers ( $\mu\text{m}$ ). Specimens studied are deposited in the following institution:

NEFU Northeast Forestry University, Harbin, China.

Morphological terminology and abbreviations are those of Gibson (1997) and Huber (2012), as follows (with some additions):

<b>OD</b>	Mid ocellar diameter
<b>OOL</b>	Ocular-ocellar length
<b>LOL</b>	Least ocellar length
<b>POL</b>	Postocellar length
<b>Fl<sub>n</sub></b>	Flagellar segment
<b>Gt<sub>n</sub></b>	Gastral tergum

## Results

### Key to species of *Ptilomyzommar* of the world (based on features from the original descriptions and illustrations).

(Note: females are not known for *orientalis*; males are not known for *dictyon* and *rete*)

- |   |   |                            |
|---|---|----------------------------|
| 1 | ♀: flagellum clavate, funicle 8-segmented and clava 1-segmented.....  | 2                          |
| – | ♂: flagellum filiform, 11-segmented .....   | 6                          |
| 2 | Scape distinctly enlarged ventrally in apical half (Fig. 1) .....   | 3                          |
| – | Scape not distinctly enlarged ventrally in apical half .....  | 4                          |
| 3 | Pedicle about 1.6× as long as fl <sub>1</sub> ; fl <sub>1</sub> distinctly longer than wide (Fig. 1); fore wing about 3.6× as long as wide, with a triangular dark brown marking behind marginal vein (Fig. 4); metanotum about 0.25× as long as scutellum....  | <i>P. dianensis</i> sp. n. |
| – | Pedicle about 5.0× as long as fl <sub>1</sub> ; fl <sub>1</sub> as long as or at most slightly longer than wide; fore wing about 5.4× as long as wide, without a broad dark band behind marginal vein; metanotum slightly less than 0.5× as long as scutellum.. | <i>P. magnificum</i>       |

- 4 Propodeum with strong reticulations lateral to the translucent carinae; petiole not much longer than wide;  $gt_1$  with small translucent carinae..... *P. rete*
- Propodeum almost smooth lateral to the translucent carinae; petiole at least  $2\times$  as long as wide;  $gt_1$  with large translucent carinae..... **5**
- 5  $Fl_7$  and  $fl_8$  each distinctly shorter than  $fl_{3-6}$  individually;  $gt_1$  with a pair of scale-like setae on each side; ovipositor not exerted .....*P. dictyon*
- $Fl_{3-8}$  almost subequal in length;  $gt_1$  without scale-like setae; ovipositor distinctly exerted.....*P. besucheti*
- 6 Propodeum with unbranched spiracular setae ..... *P. orientalis*
- Propodeum with branched spiracular setae ..... **7**
- 7 Scape distinctly enlarged ventrally in apical half (Fig. 10) ..... **8**
- Scape not distinctly enlarged ventrally in apical half .....*P. besucheti*
- 8 Pedicel about  $1.3\times$  as long as  $fl_1$ ;  $fl_1$  distinctly longer than wide; fore wing with a triangular dark brown marking behind marginal vein (Fig. 11); metanotum  $0.25\times$  as long as scutellum .....*P. dianensis* sp. n.
- Pedicel about  $3.0\times$  as long as  $fl_1$ ;  $fl_1$  as long as or at most slightly longer than wide; fore wing without a broad dark band behind marginal vein; metanotum slightly less than  $0.5\times$  as long as scutellum..... *P. magnificentum*

***Ptilomyar dianensis* Jin & Li, sp. n.**

<http://zoobank.org/457CE7F5-F306-410B-BE28-E46C5D092CCB>

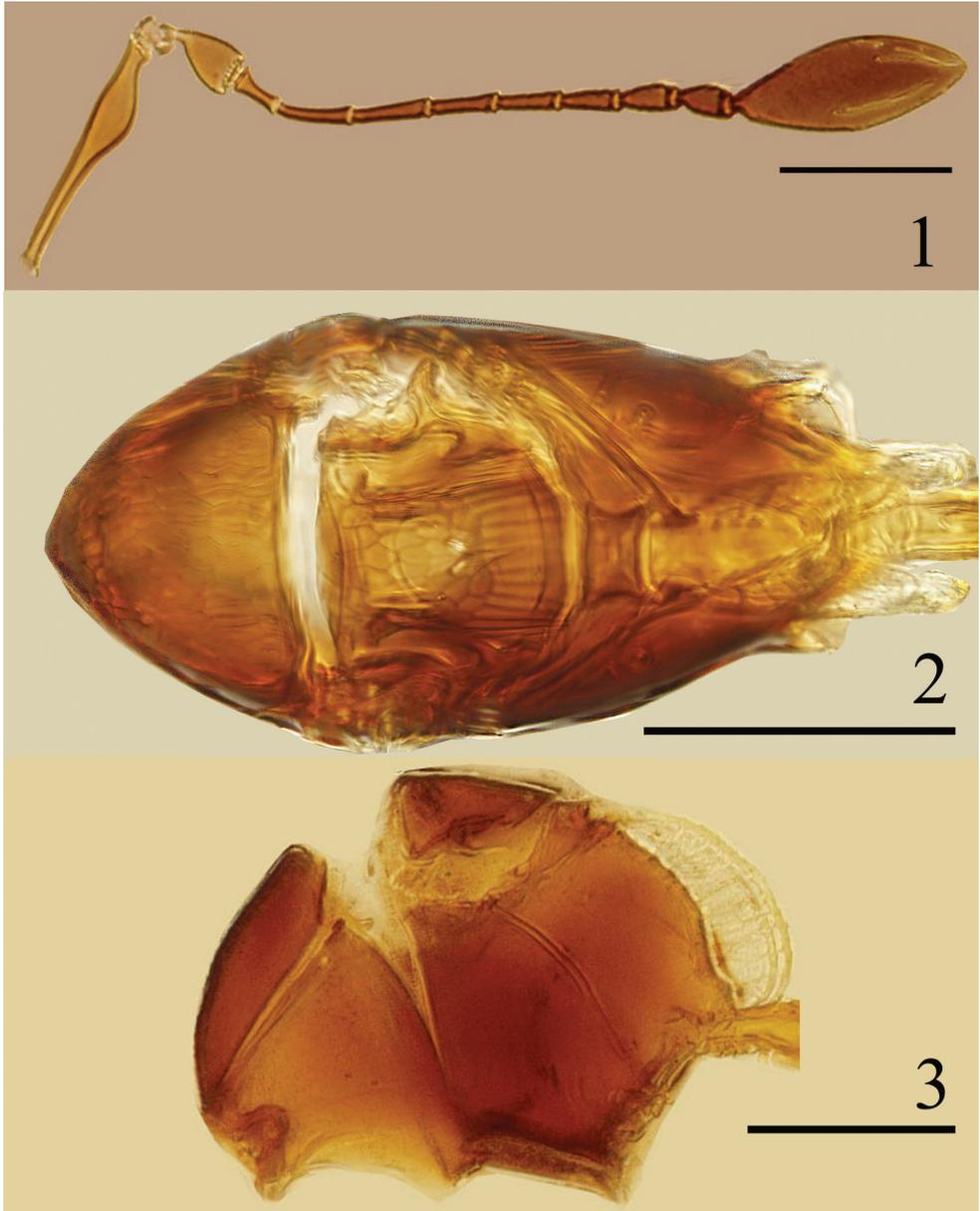
Figs 1–12

**Holotype** ♀ (NEFU), China, Yunnan Province, Mengla County, Menglun Town, Mannanxing, 11–13.I. 2013, Hui-Lin Han, Ye Chen.

**Paratypes. Two males. CHINA.** Yunnan. Same data as holotype (1♂, NEFU); Jinghong City, Yexianggu, 17–18.I. 2013, Hui-Lin Han, Ye Chen (1♂, NEFU).

**Diagnosis.** Scape distinctly enlarged ventrally in apical half; pedicel about  $1.6\times$  as long as  $fl_1$ ;  $fl_1$  distinctly longer than wide; fore wing  $3.62\times$  as long as wide, with a triangular dark brown marking behind marginal vein, and a narrow brown strip just beyond venation;  $gt_1$  with large translucent carinae; ovipositor distinctly exerted.

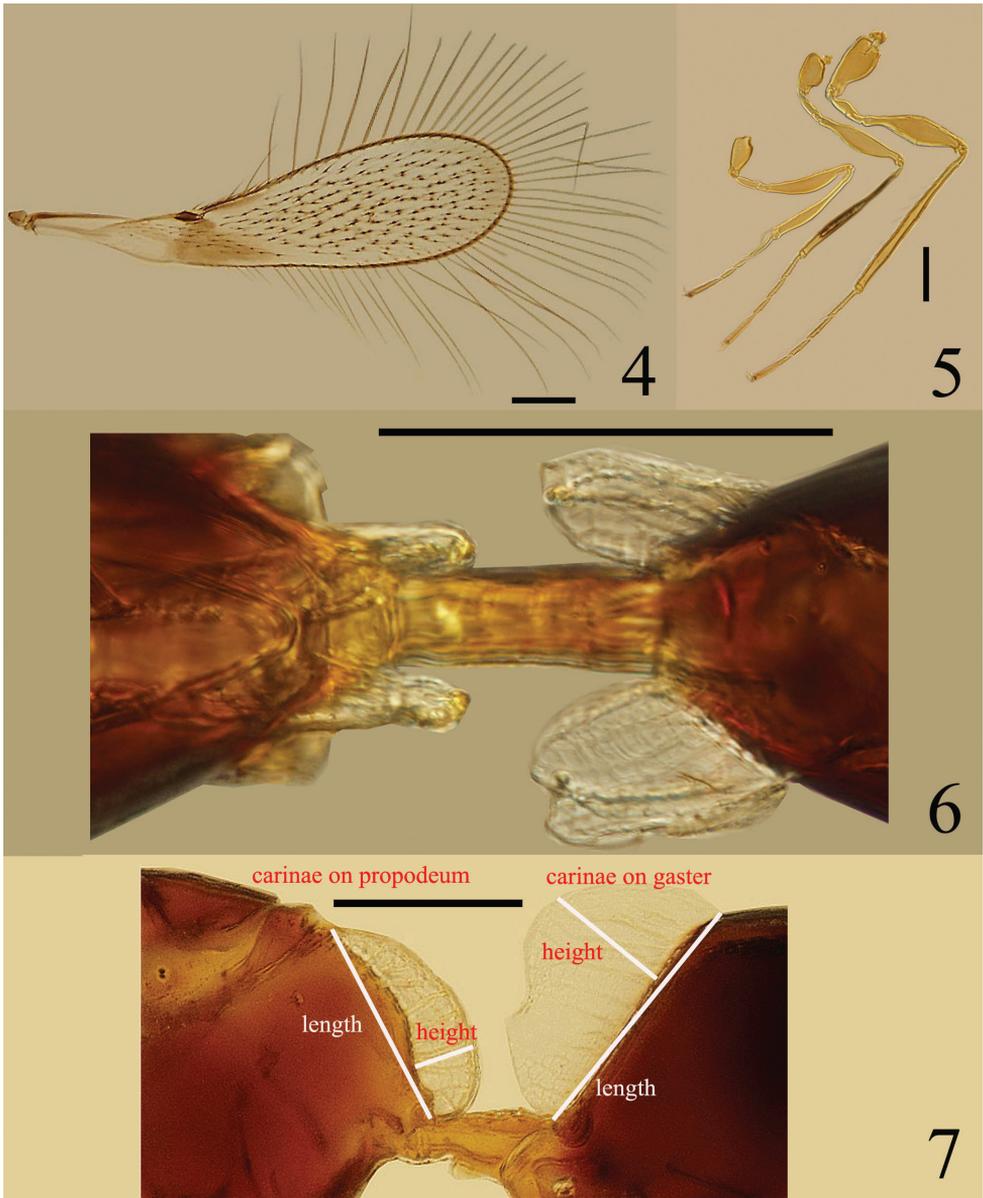
*Ptilomyar dianensis* is distinguished from most other species except *P. magnificentum* by the shape of the scape that is distinctly enlarged ventrally in apical half (the scape not distinctly enlarged ventrally in apical half in the remaining species), *P. dianensis* differs from *P. magnificentum* by its longer  $fl_1$  (shorter in *P. magnificentum*), wider fore wing (narrower in *P. magnificentum*), and shorter metanotum,  $0.25\times$  as long as scutellum (longer metanotum, slightly less than  $0.5\times$  as long as scutellum in *P. magnificentum*). *P. dianensis* differs from *P. rete* by its larger translucent carinae (smaller in *P. rete*) and distinctly exerted ovipositor (not distinctly exerted in *P. rete*). *P. dianensis* differs from *P. orientalis* by its branched spiracular setae on propodeum (unbranched spiracular setae in *P. orientalis*), wider fore wing (narrower in *P. orientalis*), and larger facets (smaller in *P. orientalis*). *P. dianensis* differs from *P. besucheti* and *P. dictyon* by its longer  $fl_1$  (shorter in the latter two), wider fore



**Figures 1–3.** *Ptilomyzomys dianensis* sp. n., holotype female: **1** antenna **2** mesosoma, dorsal **3** mesosoma, lateral. Scale bars=100 µm.

wing (narrower in the latter two), distinctly exerted ovipositor (not exerted in *P. dictyon*),  $fl_{3-8}$  almost subequal in length ( $fl_7$  and  $fl_8$  each distinctly shorter than  $fl_{3-6}$  individually in *P. dictyon*).

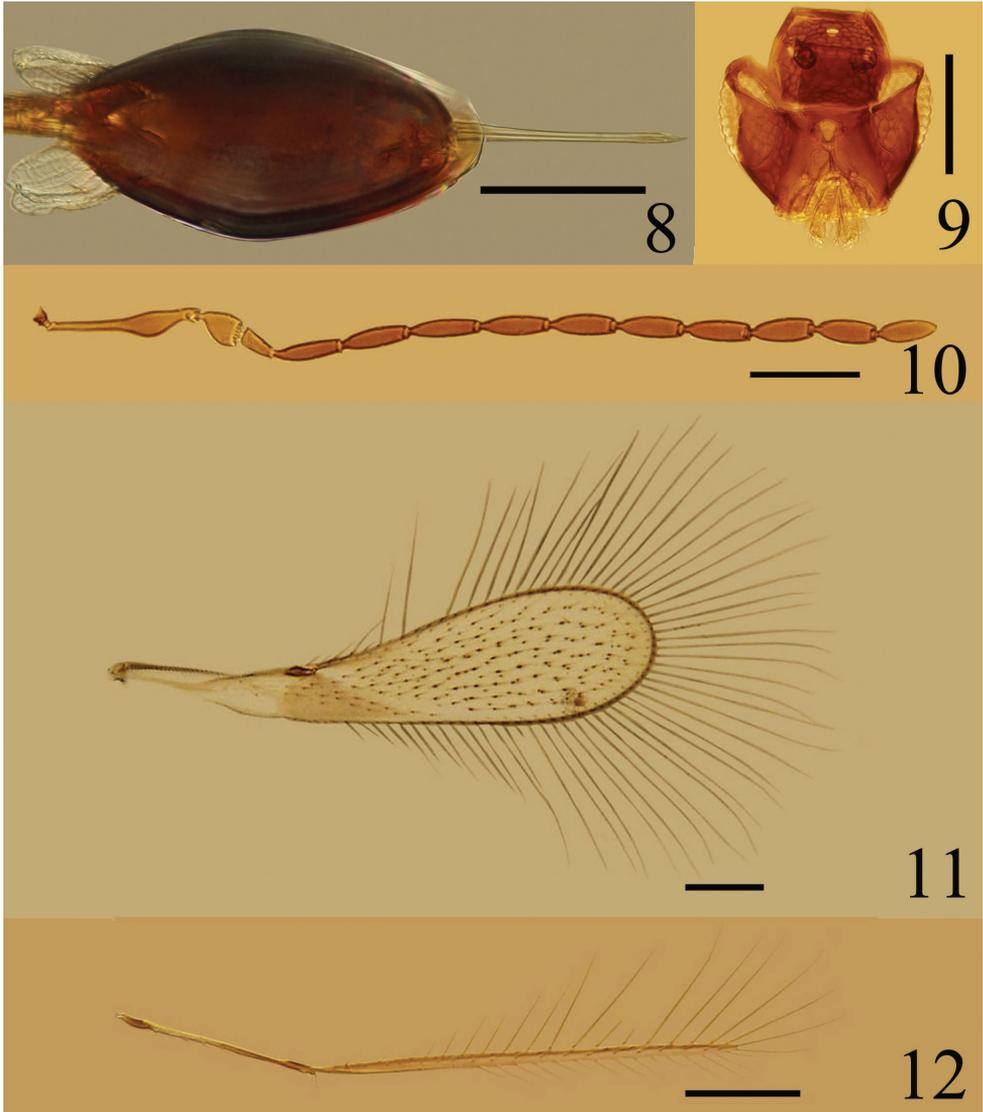
Description. Female. Head dark brown with ocelli black. Antenna brown with  $fl_1$  slightly lighter, scape and pedicel yellowish-brown. Mesosoma dark brown with



**Figures 4–7.** *Ptilomyrmar dianensis* sp. n., holotype female: **4** fore wing **5** legs **6** carinae on mesosoma and metasoma, dorsal **7** carinae on mesosoma and metasoma, lateral. Scale bars=100  $\mu$ m.

pronotum and petiole brown. Fore wing hyaline, with a triangular dark brown marking behind marginal vein, and a narrow brown strip just beyond venation. Venation brown with stigmal vein dark brown. Legs yellowish-brown with last tarsal segments brown. Metasoma dark brown with ovipositor brown.

Head. Eye about 1.5 $\times$  as long as wide; facets large, each nearly the size of an ocellus. Vertex 0.82 $\times$  as long as wide, with strong reticulate sculpture; POL about 6.5 $\times$  as long



**Figures 8–12.** *Ptilomyzmar dianensis* sp. n., holotype female: **8** gaster. Paratype male: **9** head, dorsal **10** antenna **11** fore wing **12** hind wing. Scale bars=100  $\mu$ m.

as OOL. Antenna (Fig. 1). Scape 5.45 $\times$  as long as wide, longitudinally striate, distinctly enlarged ventrally in apical half; pedicel almost smooth, 1.31 $\times$  as long as wide, and 1.55 $\times$  as long as fl<sub>1</sub>; fl<sub>1</sub> distinctly longer than wide; fl<sub>2</sub> slightly longer than pedicel, 1.64 $\times$  as long as fl<sub>1</sub>; clava 2.48 $\times$  as long as wide.

Mesosoma (Fig. 2) 1.95 $\times$  as long as wide. Mesoscutum 0.58 $\times$  as long as wide, with strong reticulation. Scutellum with strong reticulation on anterior scutellum and longitudinal striate on posterior scutellum; with a pair of campaniform sensilla nearer posterior margin than anterior margin. Metanotum 0.25 $\times$  as long as scutellum. Mid panel

of metanotum subrectangle, with longitudinal striate. Propodeum slightly shorter than mesoscutum, without reticulate sculpture, with 2 large subparallel translucent carinae (Figs 2, 3, 6, 7) and 2 branched setae, each on lateral to spiracle.

Fore wing (Fig. 4) 3.62× as long as wide, longest marginal setae 1.38× as long as greatest wing width. Stigmal vein with 4 campaniform sensilla apically.

Legs (Fig. 5) with femora, especially metafemur, swollen medially. Mesocoxa without teeth-like structures on the posterior surface.

Metasoma. Petiole (Fig. 6) about 2.8× as long as wide. Gaster (Fig. 8) oblong, Gt<sub>1</sub> (Fig. 7) with 2 large translucent carinae and 1 smaller carinae and a pair of scale-like setae on each side; ovipositor distinctly exerted, about 0.7× as long as mesotibia.

Measurements (length/width, μm): Body length: 500. OD 9.6, OOL 9.6, LOL 33.6, POL 62.4. Antenna: scape 144.0/ 26.4, pedicel 40.8/ 31.2, fl<sub>1</sub> 26.4, fl<sub>2</sub> 43.2, fl<sub>3</sub> 45.6, fl<sub>4</sub> 38.4, fl<sub>5</sub> 36.0, fl<sub>6</sub> 33.6, fl<sub>7</sub> 33.6, fl<sub>8</sub> 31.2, clava 136.8/ 55.2. Fore wing 752.4/ 207.9, longest marginal setae 287.1. Propodeum with carinae length 115.2, height 33.6 (measured in lateral view – Fig. 3); gaster with dorsolateral carina length 144, height 67.2 (measured in lateral view – Fig. 7), and ventromedian carina length 120, height 33.6. Ovipositor 201.6.

**Male.** Similar to female except as follows. Antenna (Fig. 10) with all the flagellar segments longer than wide. Fore wing (Fig. 11) 3.89–4.06× as long as wide. Hind wing (Fig. 12) 0.76–0.78× as long as fore wing, disc with only one row of setae.

Measurements (length/width, μm): Body length 550–580. Antenna: scape 139.2–144.0/ 21.6–26.4, pedicel 43.2/ 28.8–31.2, fl<sub>1</sub> 33.6, fl<sub>2</sub> 64.8, fl<sub>3</sub> 67.2, fl<sub>4</sub> 38.4, fl<sub>5</sub> 64.8, fl<sub>6</sub> 62.4, fl<sub>7</sub> 62.4, fl<sub>8</sub> 62.4, fl<sub>9</sub> 60.0, fl<sub>10</sub> 60.0, fl<sub>11</sub> 57.6. Fore wing 643.5–693.0/ 158.4–178.2, hind wing 504.9–524.7.

**Host.** Unknown.

**Etymology.** Chinese: dian=Yunnan Province, and refers to the distribution of the species in the Yunnan Province of China.

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## References

- Annecke DP, Doutt RL (1961) The genera of the Mymaridae. Hymenoptera: Chalcidoidea. Entomology Memoirs. Department of Agricultural Technical Services, Republic of South Africa 5: 1–71.

- Gibson GAP (1997) Morphology and terminology. In: Gibson GAP, Huber JT, Woolley JB (Eds) Annotated keys to the Genera of Nearctic Chalcidoidea (Hymenoptera). NRC Research Press, Ottawa, 16–44.
- Hayat M, Anis SB (1999) New record of two genera *Ptilomyzomera* and *Himopolynema* from India, with descriptions of two new species (Hymenoptera: Myzomerae). Shashpa 6(1): 15–22.
- Huber JT (1988) The species groups of *Gonatocerus* Nees in North America with a revision of the *sulphuripes* and *ater* groups (Hymenoptera: Myzomerae). Memoirs of the Entomological Society of Canada 141: 1–109. doi: 10.4039/entm120141fv
- Huber JT (2012) Revision of *Ooctonus* (Hymenoptera: Myzomerae) in the Nearctic region. Journal of the Entomological Society of Ontario 143: 15–105.
- Noyes JS (1982) Collecting and preserving chalcid wasps (Hymenoptera: Chalcidoidea). Journal of Natural History 16: 315–334. doi: 10.1080/00222938200770261
- Taguchi H (1972) Some new species of the genera *Camptoptera* and *Ptilomyzomera* from Bohol I., Philippines (Hymenoptera: Myzomerae). Kontyû 40(4): 223–230.
- Viggiani G (1974) Ricerche sugli Hymenoptera Chalcidoidea. XLII. Nuovi myzomeridi dei Ceylon (*Camptopteroides armata* n. gen. e n. sp., *Ptilomyzomera besucheti* n. sp.). Bollettino del Laboratorio di Entomologia Agraria ‘Filippo Silvestri’, Portici 31: 23–29.
- Yoshimoto CM (1990) A review of the genera of New World Myzomerae (Hymenoptera: Chalcidoidea). Flora & Fauna Handbook no. 7. Sandhill Crane Press, Gainesville, Florida, 166 pp.