



Updates to the Nomenclature of Platygastroidea in the Zoological Institute of the Russian Academy of Sciences

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Academic editor: M. Yoder | Received 10 April 2014 | Accepted 14 June 2014 | Published 26 September 2014

<http://zoobank.org/995027DB-AB20-473A-9649-832971B64BF2>

Citation: Talamas EJ, Buffington M (2014) Updates to the Nomenclature of Platygastroidea in the Zoological Institute of the Russian Academy of Sciences. Journal of Hymenoptera Research 39: 99–117. doi: [10.3897/JHR.39.7698](https://doi.org/10.3897/JHR.39.7698)

Abstract

Parabaryconus Kozlov & Kononova, **syn. n.** is treated as a junior synonym of *Cremastobaeus* Ashmead; *Cremastobaeus artus* (Kozlov & Kononova), **comb. n.** is transferred from *Parabaryconus*; *Paridris macrurus* Kozlov & Lê, **syn. n.** and *P. taekuli* Talamas & Masner, **syn. n.** are treated as junior synonyms of *P. bispores* Kozlov & Lê; *Leptoteleia japonica* (Kozlov & Kononova), **comb. n.** is transferred from *Triteleia* Kieffer; *Leptoteleia striola* Talamas & Buffington, **name n.** is provided as a replacement name for *Leptoteleia japonica* Yamagishi; *Dvivarnus punctatus* Rajmohana & Veenakumari, **syn. n.** is treated as a junior synonym of *Gryonoides agamades* Kozlov & Lê; *Dvivarnus agamades* **comb. n.** is transferred from *Gryonoides* Dodd; *Anirama* Kozlov, **syn. n.**, *Criomica* Kozlov, **syn. n.** and *Pyrgaspis* Kozlov, **syn. n.** are treated as junior synonyms of *Platygaster* Latreille; *Platygaster marikovskii* Kozlov, **comb. rev.** and *P. semiclavata* (Buhl), **comb. n.** are transferred from *Anirama*; *Platygaster viktorovi* (Kozlov), **comb. n.** is transferred from *Criomica*; *Platygaster haloxylyonomyiae* (Kozlov), **comb. n.** and *P. striativentris* (Buhl), **comb. n.** are transferred from *Pyrgaspis*; *Stosta* Kozlov, **syn. n.** is treated as a junior synonym of *Synopeas* Förster; *Synopeas tosticola* (Kozlov), **comb. n.** is transferred from *Stosta*.

Keywords

Platygastroidea, Platygasterinae, Scelioninae, Teleasinae, taxonomy

Introduction

The Zoological Institute of the Russian Academy of Sciences serves as the repository for a large number of primary and secondary types of species described by the late Mikhail Kozlov. Recent travel to this museum to study Kozlov's primary types of *Trissolcus* Ashmead offered the opportunity to assess type material for all of Platygastroidea in the Zoological Institute, revealing that the classification for a modest number of taxa requires adjustment. Revisionary work on *Trissolcus* will occur in a future monograph, and we here treat Platygastroidea exclusive of this genus. For completeness, the holotypes of species subsequently described by Peter Buhl in two of Kozlov's genera, *Pyrgaspis* and *Anirama*, were examined and Buhl's diagnostic characters are here photographically illustrated.

Two of Kozlov's platygastrine genera, *Pyrgaspis* and *Stosta*, were established for species with atypical shapes of the mesoscutellum, whereas these species otherwise fit easily into the broad concepts of *Platygaster* and *Synopeas*, respectively. Similarly, *Anirama* was described for a species in which the apical male antennomere is elongate and *Criomica* for a species with a slightly unusual head shape. Such description of genera for apomorphic species brings attention to unusual morphologies, but is detrimental to the construction of a natural classification if it renders other taxa polyphyletic.

In our perspective, the most needed contribution to classification in the Platygastrinae is detailed character analysis, evaluation of monophyly for existing genera, and placement of species into monophyletic species-groups. We do not consider the characters that Kozlov used to designate new platygastrine genera to indicate lineages separate from *Platygaster* and *Synopeas*, but they are potentially useful for species-group classification. It is our hope that the characters, treatments and illustrations presented here will contribute to this cause.

Examination of Kozlov's specimens revealed him to be, in our opinion, a “splitter” as opposed to a “lumper,” that is, he tended not to treat morphological differences as intraspecific or intrageneric variation. A benefit of Kozlov's species concepts is that series identified by him are morphologically uniform. Because of this, we are confident that the paratypes and holotypes of Kozlov and Lê are conspecific. We here treat one of their species, *Paridris macrurus*, as a junior synonym of *Paridris bispores* based on a paratype specimen.

Materials and methods

Collections

This work is based on specimens deposited in the following repositories with abbreviations used in the text:

- BLGA** Burgenlandisches Landesmuseum, Eisenstadt, Austria
BPBM Bishop Museum, Honolulu, USA

- MNHN** Muséum National d'Histoire Naturelle, Paris, France
OSUC C.A. Triplehorn Insect Collection, Columbus, USA
USNM Smithsonian National Museum of Natural History, Washington DC, USA
ZIN (ZMAS) Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia
ZMUC Zoological Museum, University of Copenhagen, Copenhagen, Denmark

Informatics

Collection data for all specimens are available in the Hymenoptera Online Database (<http://purl.oclc.org/NET/hymenoptera/hol>) by entering the specimen identifier (CUID) in the search form. CUIDs for all specimens are presented in the material examined section of each taxonomic treatment and may be identified as a collection coden followed by a number (note capitalization and the space that follows some acronyms). The locality data reported for primary types are not literal transcriptions of the labels: some abbreviations are expanded and additional data from the collectors may be included.

Photography

Images were produced using a Microvision Instruments imaging system with Cartograph software, a Z16 Leica lens and a JVC KY-F75U digital camera. Single montage images were produced from image stacks with the program CombineZP. In some cases, multiple montaged images were stitched together in Photoshop to produce larger images at high resolution and magnification. Full resolution images, and additional photographs of the specimens treated here, are archived in the Hymenoptera Online Database (<http://purl.oclc.org/NET/hymenoptera/specimage>) and MorphBank (<http://www.morphbank.net>).

Morphological terms

The following terms are used in the text and are active links to anatomical concepts in the Hymenoptera Anatomy Ontology (Yoder et al. 2010)

antennomere	http://purl.obolibrary.org/obo/HAO_0000107
axillula	http://purl.obolibrary.org/obo/HAO_0000160
clava	http://purl.obolibrary.org/obo/HAO_0000203
frontal depression	http://purl.obolibrary.org/obo/HAO_0000911
lateral propodeal carina (lpc: Figs 18, 26)	http://purl.obolibrary.org/obo/HAO_0001919
mediotergite	http://purl.obolibrary.org/obo/HAO_0001860

mesoscutellar disc	http://purl.obolibrary.org/obo/HAO_0000915
posterior mesoscutellar carina (pmc: Figs 18, 21–22, 25–26)	http://purl.obolibrary.org/obo/HAO_0002278
posterior mesoscutellar area (pma: Figs 18, 25–26)	http://purl.obolibrary.org/obo/HAO_0002277
posterolateral mesoscutellar carina (plmc: Fig. 26)	http://purl.obolibrary.org/obo/HAO_0002280
posterolateral mesoscutellar area (plma: Fig. 26)	http://purl.obolibrary.org/obo/HAO_0002279
scutoscutellar sulcus	http://purl.obolibrary.org/obo/HAO_0000919

Scelioninae

Cremastobaeus Ashmead

Parabaryconus Kozlov & Kononova, syn. n.

http://bioguid.osu.edu/osuc_concepts:154388

Cremastobaeus artus (Kozlov & Kononova), comb. n.

http://bioguid.osu.edu/osuc_concepts:154389

Figures 1–3; Morphbank¹

Parabaryconus artus Kozlov & Kononova, 2000: 32 (original description); Kononova and Kozlov 2008: 217 (description).

Link to distribution map.²

Material examined. Holotype, male: JAPAN: Aichi Pref., Honshu Isl., 40km NW Nagoya, Inuyama City, 4.X.1981, E. Sugonyaev, ZMAS 0136 (ZIN).

Comments. The transverse carinae above the frontal depression, setose eyes, serrate A2–A3, and shape of the metasoma in lateral view unequivocally place this species in *Cremastobaeus* according to the concept of this genus established by Masner (1976) and Galloway and Austin (1984).

Paridris Kieffer

Paridris bispores Kozlov & Lê

http://bioguid.osu.edu/osuc_concepts:179766

Paridris bispores Kozlov & Lê, 2000: 65, 335 (original description, keyed).

Paridris macrurous Kozlov & Lê, 2000: 65, 69, 337 (original description, keyed). syn. n.

http://bioguid.osu.edu/osuc_concepts:179769

Paridris taekuli Talamas & Masner, 2013: 13, 14, 29, 30, 43 (original description, diagnosis, keyed). syn. n.

http://bioguid.osu.edu/osuc_concepts:303974



Figures 1–3.³⁶ *Cremastobaeus artus* (Kozlov & Kononova), male holotype (ZMAS 0136) | 1 Lateral habitus | 2 Head and mesosoma, dorsal view | 3 Head and mesosoma, ventrolateral view. Scale bars in millimeters.

Link to distribution map.³

Material examined. Holotype of *P. bispores*: VIETNAM: OSUC 184371 (ZIN); Paratype of *P. macrurus*: VIETNAM: 1 female, OSUC 184373 (ZIN); Holotype of *P. taekuli*: NEW CALEDONIA: Nord Prov., Pouembout Commune, Tiéa Forest, 7.XII-14.XII.2000, malaise trap, M. E. Irwin, OSUC 266150 (MNHN).

Leptoteleia Kieffer

Leptoteleia japonica Kozlov & Kononova, comb. n.

http://bioguid.osu.edu/osuc_concepts:5560

Triteleia japonica Kozlov & Kononova, 1990: 174, 176 (original description); Kononova 1995: 69 (keyed); Kononova and Petrov 2000: 28 (keyed); Kononova and Kozlov 2008: 223, 225 (description, keyed).

Link to distribution map.⁴

Material examined. Holotype, female, *T. japonica*: JAPAN: Aichi Pref., Honshu Isl., Inuyama City, 6.X.1981, E. Sugonyaev, ZIN 0012 (ZIN).

***Leptoteleia striola* Talamas & Buffington, name n.**

http://bioguid.osu.edu/osuc_concepts:4740

Leptoteleia japonica Yamagishi, 1993: 812 (original description); Kononova and Kozlov 2008: 302 (description).

Comments. The transfer of *Triteleia japonica* to *Leptoteleia* renders, *L. japonica* Yamagishi as a junior objective homonym. We hereby provide a replacement name in the interest of nomenclatural clarity.

Etymology. The Latin adjectival epithet “striola,” meaning “furrow” or “line”, refers to the longitudinal costae mentioned by Yamagishi (1993) as a character useful for the diagnosis for this species.

Teleasinae

Dvivarnus Rajmohana & Veenakumari

***Dvivarnus agamades* (Kozlov & Lê), comb. n.**

http://bioguid.osu.edu/osuc_concepts:343746

Figure 6; Morphbank⁵

Gryponoides agamades Kozlov & Lê, 1986: 100 (original description); Lê 2000: 218 (description, type information).

Dvivarnus punctatus Rajmohana & Veenakumari, 2011: 44 (original description). syn. n.

Link to distribution map.⁶

Associations. collected on co: [Cyperales: Poaceae]

Material examined. Paratype: VIETNAM: 1 male, OSUC 184258 (ZIN). Other material: INDIA: 2 males, OSUC 230647, 59262 (OSUC). LAOS: 1 female, USNM 700877588 (BPBM). THAILAND: 4 females, OSUC 284994, 342789, 374197-374198 (OSUC).

Comments. Rajmohana and Veenakumari (2011) stated that the mesoscutellar spines of *Dvivarnus punctatus* differ from those of *Gryponoides* based on their location on the mesoscutellum. We agree, and more specifically, the mesoscutellar spines of *Gryponoides* proximally abut the axillula and are derived at least in part from striations of the scutoscutellar sulcus (Fig. 5) whereas those of *Dvivarnus* are derived entirely from the mesoscutellar disc (Fig. 6). Rajmohana and Veenakumari asserted that the presence of punctuation throughout T3 is unique to *D. agamades*. This character is indeed rare among teleasines, but it may also be found in *Trimorus* (Fig. 4) and *Xenomerus* (*X. spinosus* Mikó & Masner, *X. comatus* Mikó & Masner) (Mikó et al 2007). The biogeographical records published by Rajmohana and Veenakumari (2011) led them to suggest that this species was limited to semi-arid habitats. A broader geographic sampling has revealed that this species also inhabits the tropical rainforests of Southeast Asia.

Platygastrinae

***Platygaster* Latreille**

***Anirama* Kozlov, syn. n.**

http://bioguid.osu.edu/osuc_concepts:7822

Comments. Kozlov described *Anirama* as a genus separate from *Platygaster* because the apical antennomere of the male is elongate. There are otherwise no characters to indicate that this lineage is distinct from *Platygaster* and we consider this antennal morphology to be apomorphic within *Platygaster*.

***Platygaster marikovskii* Kozlov, comb. rev.**

http://bioguid.osu.edu/osuc_concepts:11460

Figures 7–9, 11; Morphbank⁷

Platygaster marikovskii Kozlov, 1967: 717 (original description).

Anirama marikovskii (Kozlov): Kozlov 1970: 224 (generic transfer).

Diagnosis. Buhl (2007) used the relative lengths of males antennomeres to distinguish *P. semiclavata* from *P. marikovskii*: A10 as long as A6–A9 in *P. semiclavata* and A10 twice as long as A6–A9 in *P. marikovskii*. This character is illustrated in Figures 10–11.

Link to distribution map.⁸

Associations. emerged from *Haloxylonomyia deformans solitaria* Marikovskij: [Diptera: Nematocera: Bibionomorpha: Cecidomyioidea: Cecidomyiidae]

Material examined. Holotype, female, *P. marikovskii*: **KAZAKHSTAN:** Almaty Reg., secondary stream, Ili River, no date, P. Marikovskij, ZMAS 0115 (ZIN). **Paratypes:** **KAZAKHSTAN:** 4 females, 1 male, USNMENT00764942, USNMENT00872134, USNMENT00872136, USNMENT00872137, USNMENT00896493 (ZIN).

***Platygaster semiclavata* (Buhl), comb. n.**

http://bioguid.osu.edu/osuc_concepts:236452

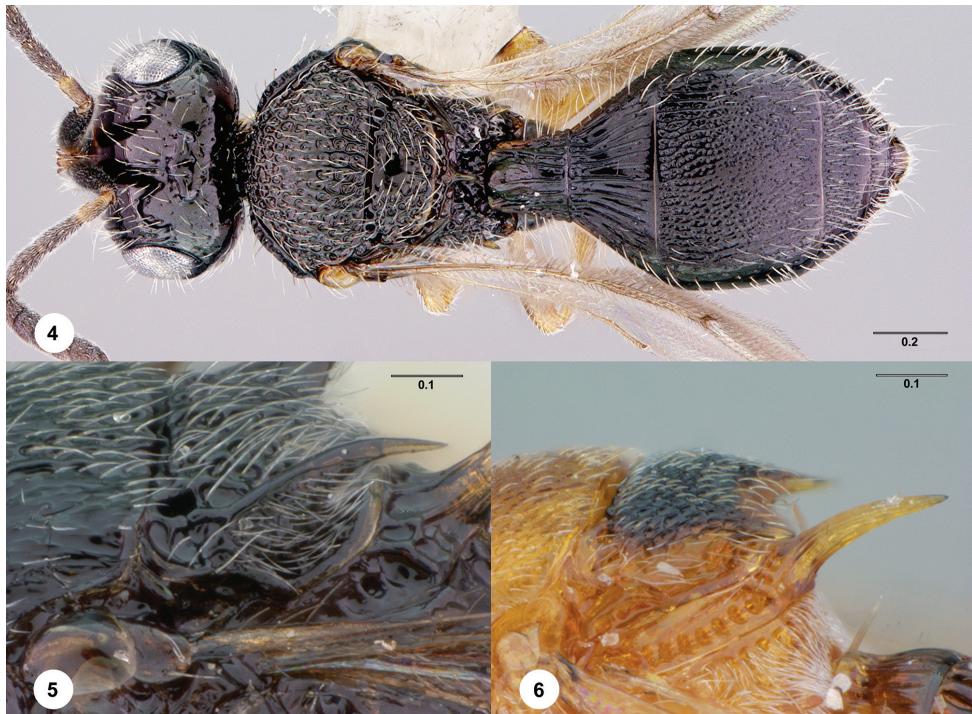
Figure 10; Morphbank⁹

Anirama semiclavata Buhl, 2007: 329 (original description).

Diagnosis. See diagnosis of *P. marikovskii*.

Link to distribution map.¹⁰

Material examined. Holotype, male: **UNITED ARAB EMIRATES:** al-Ajban, 7.XII–28.XII.2006, malaise trap/light trap, A. v. H., zmuc00036868 (deposited in ZMUC). **Paratypes:** **UNITED ARAB EMIRATES:** 4 females, 1 male, USNMENT00979300, USNMENT00979301, USNMENT00979302, USNMENT00979303, USNMENT00979304 (ZMUC).



Figures 4–6.³⁷ **4** *Trimorus* sp., Dorsal habitus, female (OSUC 334274) **5** *Gryonooides* sp., scutellar-axillary complex, lateral view, male (USNMENOT00872152) **6** *Dvivarnus agamades* (Kozlov & Lé), scutellar-axillary complex, lateral view, male (USNMENOT00872152). Scale bars in millimeters.

Criomica Kozlov, syn. n.

http://bioguid.osu.edu/osuc_concepts:7825

Comments. The separation of *Criomica* from *Platygaster* was justified on the basis of the shape and proportions of the head. The eyes are somewhat triangular, but otherwise the cephalic shape of *Criomica* is unremarkable. The 3-merous clava in the female of this species is notable and may be a useful character for future species-group placement.

Platygaster viktorovi (Kozlov), comb. n.

http://bioguid.osu.edu/osuc_concepts:11471

Figures 12–14; Morphbank¹¹

Criomica viktorovi Kozlov, 1975: 965 (original description).

Link to distribution map.¹²

Material examined. Holotype, female: MONGOLIA: Övörhangay Prov., E coast of Taatsin Tsagaan Nuur Lake, 2.VIII-4.VIII.1969, M. Kozlov, ZMAS 0114



Figures 7–9.³⁸ *Platygaster marikovskii* Kozlov, female paratype (USNMENT00872137) 7 Lateral habitus 8 Head and mesosoma, dorsal view 9 head and mesosoma, ventral view. Scale bars in millimeters.

(ZIN). Paratypes: MONGOLIA: 6 females, 1 male, USNMENT00916649, USNMENT00916650, USNMENT00916651, USNMENT00916652, USNMENT00916653, USNMENT00916654, USNMENT00916655 (ZIN).

Pyrgaspis Kozlov, syn. n.

http://bioguid.osu.edu/osuc_concepts:7847

Comments. Kozlov considered *Pyrgaspis* to be closest to *Synopeas*, presumably because of the pointed mesoscutellum, and he separated these genera based on



Figures 10–11.³⁹ **10** *Platygaster semiclavata* (Buhl), male holotype (zmuc00036868), head, mesosoma, antennae, dorsal view **11** *Platygaster marikovskii* Kozlov, male paratype (USNMENT00872134), head and antennae, ventral view. Scale bars in millimeters.

the orientation and height of the mesoscutellar spine. However, the widely separated lateral propodeal carinae (propodeal keels) (Fig. 18) indicate that *Pyrgaspis haloxylonomyiae* does not belong in or near *Synopeas*. In the context of the gamut of mesoscutellar morphology within *Platygaster* (Figs 19–24), the dorsally pointed mesoscutellum alone does not warrant placement in a separate genus. Evaluation of this character revealed that the mesoscutellar points in *P. haloxylonomyiae* and *P. striativentris* are formed by a carina on the posterior surface of this sclerite (Figs 18, 21–22, 25). Examination of *Platygaster* from the eastern United States yielded a specimen that has a similar, but more pronounced, carina on the posterior surface of the mesoscutellum which does not form a point dorsally (Fig. 26). The mesoscutellum of this specimen also bears a character that is new to us, the posterolateral mesoscutellar carina (Figs 23–26).

Platygaster haloxylonomyiae (Kozlov), comb. n.

http://bioguid.osu.edu/osuc_concepts:12098

Figures 15–18, 21, 28; Morphbank¹³

Pyrgaspis haloxylonomyiae Kozlov, 1967: 716 (original description).

Diagnosis. Buhl (2009) distinguished *Platygaster striativentris* from *P. haloxylonomyiae* on the basis of shorter striae on T2 and a more pronounced point on the mesoscutel-



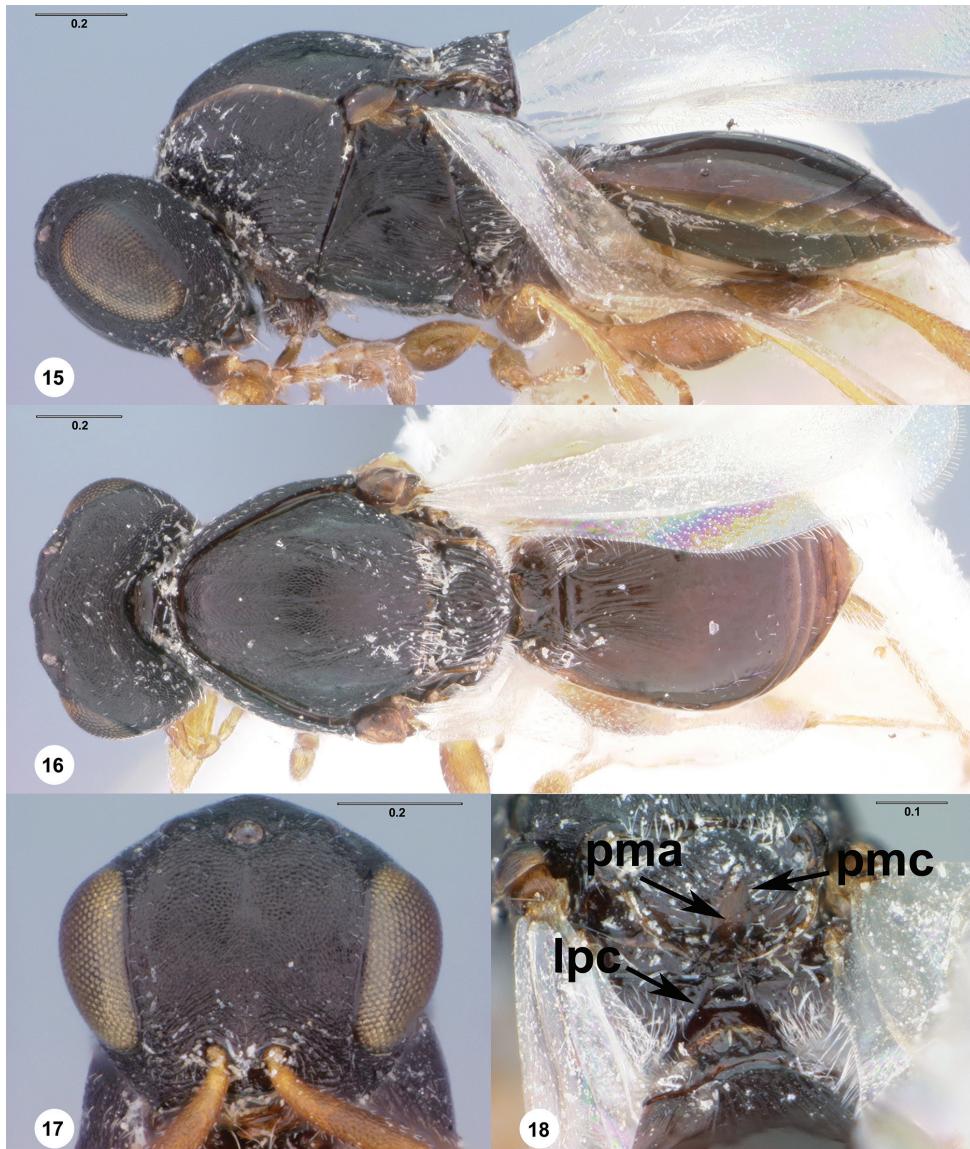
Figures 12–14.⁴⁰ *Platygaster viktorovi* (Kozlov), female paratype (USNMENT00916654) **12** Dorsal habitus **13** Ventral habitus **14** Lateral habitus. Scale bar in millimeters.

lum in the latter. These characters are illustrated in Figures 21–22 and Figures 27–28, respectively.

Link to distribution map.¹⁴

Associations. emerged from *Haloxylonomyia deformans solitaria* Marikovskij: [Diptera: Nematocera: Bibionomorpha: Cecidomyioidea: Cecidomyiidae]

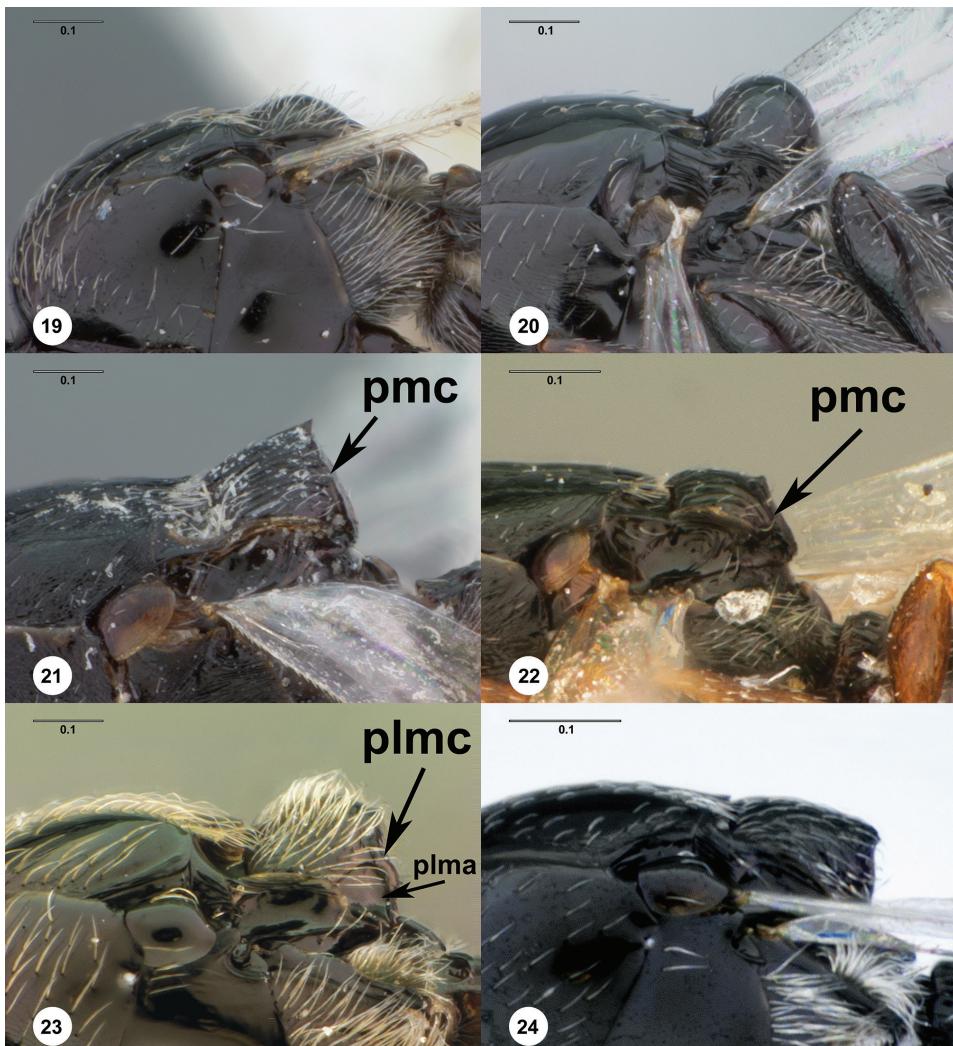
Material examined. Holotype, female: KAZAKHSTAN: Almaty Reg., secondary stream, Ili River, 14.III.1952, Marikovskij, ZMAS 0116 (ZIN). Paratypes: KAZAKHSTAN: 1 female, 1 male, USNMENT00872138, USNMENT00872149 (ZIN).



Figures 15–18.⁴¹ *Platygaster haloxylonomyiae* (Kozlov), female paratype (USNM ENT00872149)
15 Lateral habitus 16 Dorsal habitus 17 Head, anterior view 18 Mesosoma, posterior view. Scale bars in millimeters.

***Platygaster striativentris* (Buhl), comb. n.**
http://bioguid.osu.edu/osuc_concepts:250131
Figures 22, 25, 27; Morphbank¹⁵

Pyrgaspis striativentris Buhl, 2009: 76 (original description).

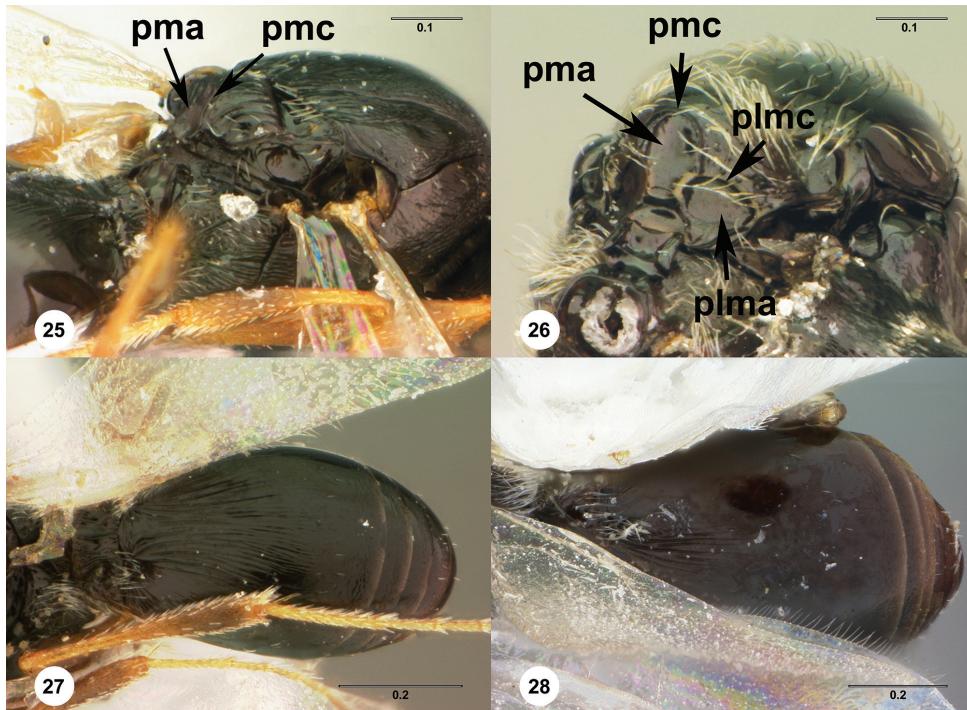


Figures 19–24.⁴² **19** *Platygaster* sp., dorsal mesosoma, lateral view (USNMENT00877276) **20** *Platygaster* sp., dorsal mesosoma, lateral view, male (USNMENT00872147) **21** *Platygaster haloxylonomiae* (Kozlov), dorsal mesosoma, lateral view, female paratype (USNMENT00872149) **22** *Platygaster striativentris* (Buhl), dorsal mesosoma, lateral view, male paratype (USNMENT00872149) **23** *Platygaster* sp., dorsal mesosoma, lateral view, female (USNMENT00877259) **24** *Platygaster* sp., dorsal mesosoma, lateral view, female (OSUC 334012). Scale bars in millimeters.

Diagnosis. See diagnosis of *P. haloxylonomiae*.

Link to distribution map.¹⁶

Material examined. Holotype, male: **MONGOLIA:** Bayanhongor Prov., 1240m, 45°03'N 100°59'E, 130km S Bayanhongor (Bayankhongor), 6.VII.2004, J. Halada, BLGA 0001 (deposited in BLGA). Paratypes: **MONGOLIA:** 3 males, USNMENT00979420, USNMENT00979421, USNMENT00979422 (BLGA).



Figures 25–28.⁴³ **25** *Platygaster striativentris* (Buhl), mesosoma, posterolateral view, male paratype (USNMENT00979421) **26** *Platygaster* sp., mesosoma, posterolateral view, male (USNMENT00877259) **27** *Platygaster striativentris* (Buhl), metasoma, dorsolateral view, male holotype (BLGA 0001) **28** *Platygaster haloxylonomyiae* Kozlov, metasoma, dorsolateral view, male paratype (USNMENT00872138). Scale bars in millimeters.

Synopeas Förster

Stosta Kozlov, syn. n.

http://bioguid.osu.edu/osuc_concepts:7850

Synopeas tosticola (Kozlov), comb. n.

http://bioguid.osu.edu/osuc_concepts:12103

Figures 29–32; Morphbank¹⁷

Stosta tosticola Kozlov, 1975: 311 (original description).

Link to distribution map.¹⁸

Associations. collected on *Brachanthemum gobium* Krasch.: [Asterales: Asteraceae]

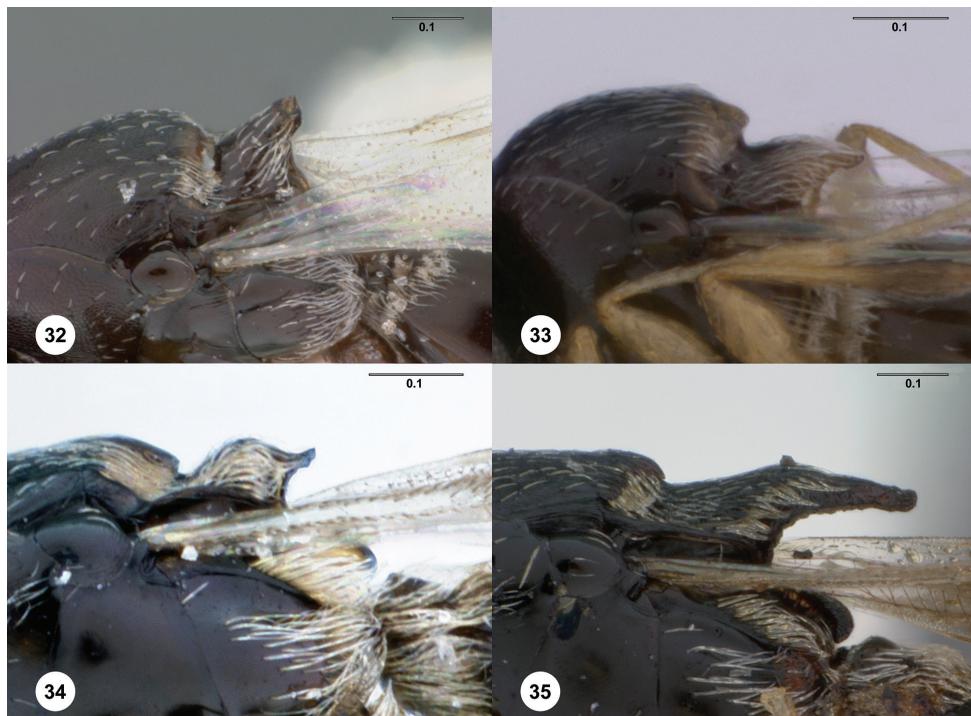
Material examined. Holotype, male: **MONGOLIA:** Ömnögovi Prov., 35km NNE Bulgan, sandy desert, N edge of Bayan Dzaag (Bain-Dzag) Mountain,



Figures 29–31.⁴⁴ *Synopeas tosticola* (Kozlov), male paratype (USNMENT00872135) **29** Lateral habitus **30** Head and mesosoma, dorsal view **31** Head, anterior view. Scale bars in millimeters.

31.VIII.1969, M. Kozlov, ZMAS 0137 (ZIN). *Paratype: MONGOLIA:* 1 male, USNMENT00872135 (ZIN).

Comments. Kozlov's treatment of *Stosta* was essentially identical to that of *Pyrgaspis* in that the description of a new genus was performed to accommodate the shape of the mesoscutellum. As in *Platygaster*, a broad range of mesoscutellar forms can be found in *Synopeas* (Figs 27–30) and we do not consider this character to be useful to indicate a lineage separate from *Synopeas*.



Figures 32–35.⁴⁵ 32 *Synopeas tosticola*, dorsal mesosoma, lateral view, female paratype (USNMENT00872135) 33 *Synopeas* sp., dorsal mesosoma, lateral view, female (OSUC 266261) 34 *Synopeas* sp., dorsal mesosoma, lateral view, female (OSUC 334240) 35 *Synopeas* sp., dorsal mesosoma, lateral view, female (USNMENT00877326). Scale bars in millimeters.

Acknowledgements

We extend our thanks to: Sergey Belokobilskij (ZIN) for hosting a visit of the first author to the Zoological Institute and the loan of specimens that made this publication possible; Peter Buhl, Lars Vilhelmsen (ZMUC), Shepherd Myers (BPBM) and Martin Schwarz (BLGA) for specimen loans; Norman Johnson and Joe Cora (OSUC) for critical database support and making taxonomic literature available; Alexander Konstantinov (USDA/SEL) for translating Kozlov's descriptions; Lubomír Masner (CNCI) for commentary on Platygasterinae; István Mikó (PSUC) for his input on morphological terms and the Teleasinae, David Notton (BMNH) for comments on Latin grammar, and Alexander Timokhov (MSU) for comments on nomenclature. This work was made possible by funding from the Systematic Entomology Lab, USDA-ARS, and the Beneficial Insect Introduction Research Laboratory. USDA is an equal opportunity provider and employer.

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Endnotes

- 1 <http://morphbank.net/?id=835889>
- 2 <http://hol.osu.edu/map-large.html?id=154389>
- 3 <http://hol.osu.edu/map-large.html?id=179766>
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- 5 <http://morphbank.net/?id=835897>
- 6 <http://hol.osu.edu/map-large.html?id=343746>
- 7 <http://morphbank.net/?id=835906>
- 8 <http://hol.osu.edu/map-large.html?id=11460>
- 9 <http://morphbank.net/?id=835914>
- 10 <http://hol.osu.edu/map-large.html?id=236452>
- 11 <http://morphbank.net/?id=835921>
- 12 <http://hol.osu.edu/map-large.html?id=11471>
- 13 <http://morphbank.net/?id=835922>
- 14 <http://hol.osu.edu/map-large.html?id=12098>
- 15 <http://morphbank.net/?id=835939>
- 16 <http://hol.osu.edu/map-large.html?id=250131>
- 17 <http://morphbank.net/?id=835964>
- 18 <http://hol.osu.edu/map-large.html?id=12103>
- 19 http://lsid.tdwg.org/urn:lsid:biosci.ohio-state.edu:osuc_pubs:21591
- 20 http://lsid.tdwg.org/urn:lsid:biosci.ohio-state.edu:osuc_pubs:22743
- 21 http://lsid.tdwg.org/urn:lsid:biosci.ohio-state.edu:osuc_pubs:339
- 22 http://lsid.tdwg.org/urn:lsid:biosci.ohio-state.edu:osuc_pubs:8521
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- 25 http://lsid.tdwg.org/urn:lsid:biosci.ohio-state.edu:osuc_pubs:321
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- 43 <http://morphbank.net/?id=835981>
- 44 <http://morphbank.net/?id=835989>
- 45 <http://morphbank.net/?id=835990>