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RESEARCH ARTICLE

Review of the genus *Globimesosoma* (Hymenoptera: Chalcidoidea: Pteromalidae), with the description of a new species from the Russian Far East

Обзор рода *Globimesosoma* (Hymenoptera: Chalcidoidea: Pteromalidae) с описанием нового вида с Дальнего Востока России

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Abstract. A review of *Globimesosoma* Xiao et Huang, 2001 is given. The genus is recorded from the Palaearctic region for the first time. A new species, *Globimesosoma amurense* **sp. nov.**, is described from the Russian Far East. Type material of the only previously known Oriental species, *Globimesosoma yaoarum* Xiao et Huang, 2001, is redescribed and illustrated. A key for the two known species of *Globimesosoma* is provided.

Резюме. Дан обзор рода *Globimesosoma* Xiao et Huang, 2001, который впервые отмечен в Палеарктике. С Дальнего Востока России описан новый вид *Globimesosoma amurense* **sp. nov.** Переописан и проиллюстрирован типовой материал ранее единственного ориентального вида *Globimesosoma yaoarum* Xiao et Huang, 2001. Подготовлена таблица для определения обоих известных видов рода *Globimesosoma*.

Key words: taxonomy, Russian Far East, China, key, Chalcidoidea, Pteromalidae, Pteromalinae, *Globimesosoma*, new species

Ключевые слова: таксономия, Дальний Восток России, Китай, определительная таблица, Chalcidoidea, Pteromalidae, Pteromalinae, *Globimesosoma*, новый вид

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Introduction

The monotypic genus *Globimesosoma* Xiao et Huang, 2001 was described from the Guangxi Zhuang Autonomous Region, south-eastern China (type locality: “Guangxi, Daxin, Xialei”), based on the type species *Globimesosoma yaoarum* Xiao et Huang, 2001.

During our study of the material from the Russian Far East in the collection of the Zoological Institute of the Russian Academy of Sciences (Saint Petersburg, Russia), two specimens were found to belong to a new species of *Globimesosoma*, which is described and illustrated below. It is the first record of the genus *Globimesosoma* from the Palaearctic region.

Both the species are described only from females, neither males nor host associations and other biological aspects are known yet.

Material and methods

The material used in this review is deposited in the Hymenoptera collections of the Institute of Zoology of the Chinese Academy of Sciences, Beijing, China (IZAS) and the Zoological Institute

of the Russian Academy of Sciences, Saint Petersburg, Russia (ZISP).

Specimens were examined using a Nikon AZ100M and an Olympus SZX12 stereomicroscopes. Photographs were taken with a Nikon DS-Ri 1 digital camera mounted on a Nikon AZ100M microscope at IZAS and a Canon EOS 70D digital camera mounted on an Olympus SZX10 microscope at ZISP.

Morphological terminology, including sculpture and wing venation nomenclature, follows Bouček & Rasplus (1991) and Gibson (1997). The following abbreviations are used: POL – posterior ocellar line, the minimum distance between the posterior ocelli; OOL – ocello-ocular line, the minimum distance between a posterior ocellus and compound eye; F1–F5 – funicular segments. The scape is measured without radicle; the pedicel is measured in the lateral view. The distance between clypeal margin and torulus is measured from the lower margin of a torulus.

The type material of the new species is deposited in the Hymenoptera collection of ZISP.

Taxonomic part

Order **Hymenoptera**

Family **Pteromalidae**

Subfamily **Pteromalinae**

Genus ***Globimesosoma*** Xiao et Huang, 2001

Type species: *Globimesosoma yaoarum* Xiao et Huang, 2001, by original designation.

Characteristics of the genus. Head and mesosoma black or dark metallic green with diffuse coppery lustre, metasoma dark brown with green and blue metallic lustre (Figs 1, 3, 10, 13); plate of fore wing hyaline. Head in dorsal view reticulate, clypeus radially striate; mesosoma and propodeum distinctly reticulate; metasoma weakly alutaceous and shiny. Head in dorsal view 2.10–2.30 times as broad as long; scrobes absent; occiput without carina; lower margin of clypeus with two teeth (Figs 2, 4, 11). Antennal formula 11353 (Figs 7, 14), antenna inserted above level of lower margins of eyes (Figs 4, 11); flagellum almost filiform; all anelli transverse, F1–F5 longer than broad, F1 with two–three rows of dense sensilla (Figs 7, 14), clava symmetric. Mandibular formula 4:4. Mesosoma usually moderately arched dorsally; pronotum with smooth and shiny carina; notauli incomplete (Figs 8, 16); scutellum with weak and shallow frenal line. Propodeum without median carina and plicae; nucha reduced; spiracles situated nearer to metanotum (Figs 8, 16). Petiole transverse. Fore wing with speculum; basal cell bare or with four hairs; marginal vein long, 2.70–3.80 times as long as stigmal vein (Figs 6, 15). Metacoxa distinctly long and in dorsal view bare (Figs 1, 10); metatibia with one spur. Metasoma lanceolate, longer than combined length of head and mesosoma; cerci with setae subequal in length.

Comparative diagnosis. The genus is very similar to *Holcaeus* Thomson, 1878 in the following characters: antenna with three anelli; pronotum narrower than mesoscutum; pronotal collar with smooth carina; nucha of propodeum reduced. *Globimesosoma* distinctly differs from *Holcaeus* in the occiput without carina (*vs* with carina); lower margin of clypeus with two teeth (*vs* lower margin of clypeus broadly truncate); mandibular formula 4:4 (*vs* 3:3).

Globimesosoma yaoarum Xiao et Huang, 2001 (Figs 1–9)

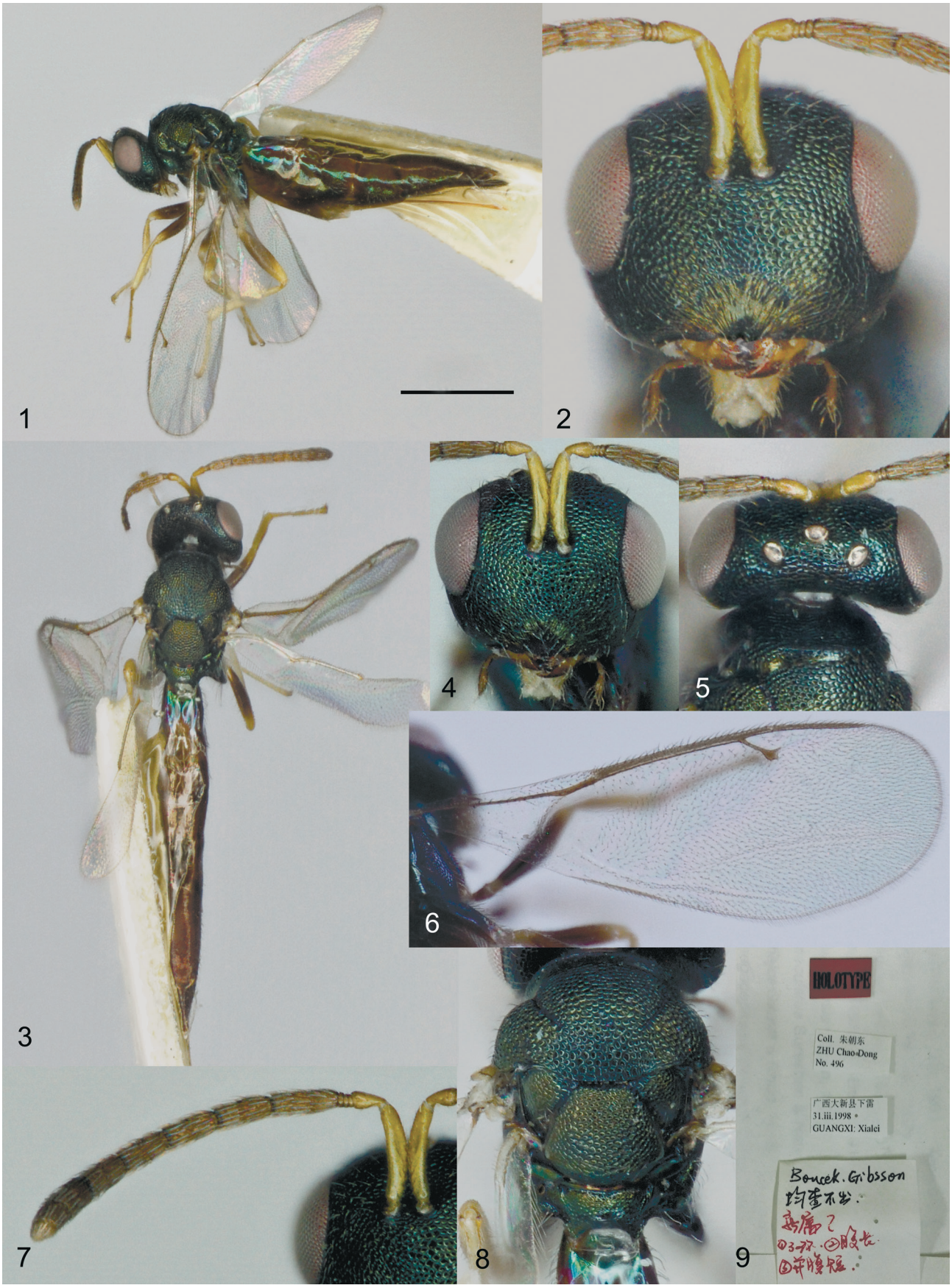
Globimesosoma yaoarum Xiao et Huang, 2001: 232–233.

Material examined. *Holotype*. Female, **China**, *Guangxi Zhuang Autonomous Region*, Daxin, Xialei, 31.III.1998, No. 496, Chao-Dong Zhu leg. (IZAS).

Description. Body length 3.50 mm; fore wing length 2.45 mm.

Colour. Head and mesosoma dark metallic green with diffuse coppery lustre, metasoma dark brown with green metallic lustre; antenna with scape and pedicel yellow, F1–F5 yellowish-brown, clava brown; all coxae dark metallic green, all femora apically yellowish-brown and basally yellow, all tibia yellow, tarsi yellowish-brown; fore wing hyaline, venation brown; ovipositor sheath black.

Figs 1–9. *Globimesosoma yaoarum* Xiao et Huang, 2001, holotype, female. **1**, habitus, lateral view; **2**, head and clypeus, frontal view; **3**, habitus, dorsal view; **4**, head, frontal view; **5** head, dorsal view; **6**, fore wing; **7**, antenna; **8**, mesosoma, dorsal view; **9**, labels. Scale bar: 1 mm (1). →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HOLOTYPE
Coll. 朱朝东
ZHU Chao-Dong
No. 496
广西大新县下雷
31.iii.1998
GUANGXI: Xialei
Boucek. Gibson


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16

Head in dorsal view 2.30 times as broad as long and 1.15 times as broad as mesoscutum; in frontal view 1.20 times as broad as high. POL 2.16 times OOL. Eye height 1.30 times eye length and 1.80 times as long as malar space. Distance between antennal toruli and lower margin of clypeus 1.53 times distance between antennal toruli and median ocellus. Antenna with scape 0.80 times as long as eye height and 1.20 times as long as eye length, extending to anterior margin of median ocellus; pedicel 1.70 times as long as broad and 0.54 times as long as F1; combined length of pedicel and flagellum 1.50 times breadth of head; F1 with three rows of dense sensilla; F2–F5 longer than broad; clava 3.20 times as long as broad, first claval segment with ventral line of micropilosity.

Mesosoma 1.40 times as long as broad. Scutellum finely reticulate, 0.83 times as long as broad. Propodeum medially 0.40 times as long as scutellum.

Fore wing 2.76 times as long as maximum width; basal cell bare; speculum open; marginal vein 1.24 times as long as postmarginal vein and 3.80 times as long as stigmal vein.

Metasoma lanceolate, 1.90 times as long as combined length of head and mesosoma; ovipositor sheath projecting slightly beyond apex of metasoma.

Male. Unknown.

Distribution. South-eastern China (Guangxi Zhuang Autonomous Region).

Bionomics. Unknown.

Remarks. This species differs from the second species of the genus, *G. amurense* **sp. nov.**, by the characters listed in the key below.

Globimesosoma amurense sp. nov.
(Figs 10–16)

Holotype. Female, **Russia**, *Amur Prov.*, 40 km SW of Svobodnyy Town, 27–29.VII.2003, coll. S. Belokobylskij (ZISP).

Paratype. 1 female, **Russia**, *Primorskiy Terr.*, Lozovyy (Chandolaz) Ridge, 25.VIII.2019, coll. E. Tselikh (ZISP).

Description. Body length 2.30–2.60 mm; fore wing length 1.85–1.90 mm.

Colour. Head and mesosoma black with dark blue metallic lustre, metasoma dark brown with green and blue metallic lustre; antenna with scape and pedicel yellowish-brown, flagellum brown; all coxae dark metallic blue, all femora brown, all tibiae and tarsi yellow; fore wing hyaline, venation brown; ovipositor sheath black.

Head in dorsal view 2.10–2.20 times as broad as long and 1.31–1.36 times as broad as mesoscutum, in frontal view 1.23–1.26 times as broad as high. POL 1.50–1.62 times OOL. Eye height 1.18–1.20 times eye length and 2.10 times as long as malar space. Distance between antennal toruli and lower margin of clypeus 1.20–1.33 times that between antennal toruli and median ocellus. Antenna with scape 0.78–0.80 times as long as eye height and 0.94–1.0 times as long as eye length, extending to anterior margin of median ocellus; pedicel 1.54–1.66 times as long as broad and 0.46–0.52 times as long as F1; combined length of pedicel and flagellum 1.28–1.34 times breadth of head; flagellum almost filiform; all anelli transverse; F1 with two rows of dense sensilla; F2–F5 longer than broad; clava 2.35–2.60 times as long as broad, first claval segment with ventral line of micropilosity.

Mesosoma 1.50–1.60 times as long as broad. Scutellum finely reticulate, 1.06 times as long as broad. Propodeum medially 0.40–0.44 times as long as scutellum.

Fore wing 2.30–2.60 times as long as maximum width; basal cell with four setae; speculum open; marginal vein 1.10–1.20 times as long as postmarginal vein and 2.66–2.80 times as long as stigmal vein.

Metasoma lanceolate, 1.45–1.58 times as long as combined length of head and mesosoma; ovipositor sheath projecting slightly beyond apex of metasoma.

Male. Unknown.

Etymology. The species name is an adjective referring to the region in which the holotype was collected, the Amur Province.

Bionomics. Unknown.

Distribution. Russia (Amur Province, Primorskiy Territory).

Figs 10–16. *Globimesosoma amurense* **sp. nov.**, holotype, female. **10**, habitus, lateral view; **11**, head, frontal view; **12**, head, dorsal view; **13**, habitus, dorsal view; **14**, antenna; **15**, fore wing; **16**, mesosoma, dorsal view. Scale bar: 0.5 mm (10).

Remarks. The new species is similar to *G. yaoarum*; the morphological differences between these two taxa are given in the key below.

Key to species of *Globimesosoma* (females)

1. Head in dorsal view 1.15 times as broad as mesoscutum. POL 2.16 times OOL (Fig. 5). F1 with three rows of dense sensilla (Fig. 2). Marginal vein 3.80 times as long as stigmal vein (Fig. 6). Metasoma 1.90 times as long as combined length of head and mesosoma. Head and mesosoma dark metallic green with diffuse coppery lustre . . . . . *G. yaoarum*
– Head in dorsal view 1.31–1.36 times as broad as mesoscutum. POL 1.50–1.62 times OOL (Fig. 12). F1 with two rows of dense sensilla (Fig. 14). Marginal vein 2.66–2.80 times as long as stigmal vein (Fig. 15). Metasoma 1.45–1.58 times as long as mesosoma and head combined. Head and mesosoma black with dark blue metallic lustre. . . . . . *G. amurense* **sp. nov.**

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References

Bouček Z. & Rasplus J.-Y. 1991. *Illustrated key to West-Palaearctic genera of Pteromalidae (Hymenoptera: Chalcidoidea)*. Paris: Institut national de la recherche agronomique. 140 p.

Gibson G.A.P. 1997. Chapter 2. Morphology and terminology. *In*: **Gibson G.A.P., Huber J.T. & Woolley J.B.** (Eds). *Annotated keys to the genera of Nearctic Chalcidoidea (Hymenoptera)*: 16–44. Ottawa: NRC Research Press.

Xiao H. & Huang D.-W. 2001. Two new genera and two newly recorded genera of Pteromalidae (Hymenoptera: Chalcidoidea) from China, with descriptions of two new species. *Transactions of the American Entomological Society*, **127**(2): 229–237.

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