

Two New Genera and Two Newly Recorded Genera of Pteromalidae (Hymenoptera: Chalcidoidea) from China, With Descriptions of Two New Species

HUI XIAO, DA-WEI HUANG

Institute of Zoology, Chinese Academy of Sciences, Beijing 100080, China

ABSTRACT

Two new genera and two newly recorded genera of Pteromalidae are described from south of China — *Bupronotum* Xiao & Huang, n. gen. with its included species, *Bupronotum zhuangarum* Xiao & Huang, n. sp., *Globimesosoma* Xiao & Huang, n. gen. with *Globimesosoma yaoarum* Xiao & Huang, n. sp., *Herbertia* Howard and *Storeya* Boucek. The type specimens are deposited in Institute of Zoology, the Chinese Academy of Sciences.

Pteromalidae (Insecta: Hymenoptera) are mainly parasitoids of economically important pests. In the course of reviewing the genera of the Pteromalidae in preparation for a key to the Chinese genera, we went out to collect wasps in different locations. During the investigation of Dayao and Shiwan Mountains, south of China, we recognized two new genera and two newly recorded genera, *Bupronotum* n. gen., *Globimesosoma* n. gen., *Herbertia* Howard and *Storeya* Boucek.

Terminology generally follows that of Graham (1969). Abbreviations are as follows: ocellar-ocular distance is OOL, posterior ocellar distance is POL, antennal funicular segments are F1 through F6, gastral tergites are T1 through T7. We use eye space1 to describe the shortest distance between two eyes. Body length is measured in millimeters. Other measurements are relative.

HERBERTIA Howard

Herbertia Howard, in Riley, Ashmead & Howard, 1894: 98. Type species: *H. lucens* Howard; by monotypy.

Tetracampoides Dodd, in Girault, 1915a: 191. Type species: *T. setosus* Dodd; by original designation. Synonymized by Boucek, 1988: 347.

Trydymidormis Girault, 1915b: 188. Type species: *T. australiensis* Girault; by original designation. Synonymized by Boucek, 1988: 347.

Herbertia Howard; Burk, 1959: 249-255. Key to species.

Generic characters.— Body small, with short and dense setae; eyes densely hairy; antennal insertion slightly removed from anterior margin of head; antenna very short; antennal formula 11163; mandible narrow and 2-toothed; thorax convex; pronotum slightly narrower than mesoscutum; notauli complete; propodeum shorter, with complete median carina; forewing densely hairy; marginal vein very long, stigmal vein very short; gaster sessile, convex; first tergite large.

Biology.—Parasite of leaf-mining Diptera, Agromyzidae.

Seven species of *Herbertia* are known from the world. The genus mainly distributes in Neotropical region. There is one species from the Oriental region. This is the first record from China.

***Herbertia indica* Burks**

Figures 1-5

Herbertia indica Burks, 1959: 252.

Distribution.— China (Guangxi Province, Hainan Province), India.

Material examined.— 1F, China: Guangxi Province, Shangsi, 18-III-1998, Chao-Dong Zhu. 1M, China: Guangxi Province, Shangsi, 17-III-1998, Chao-Dong Zhu. 1M, China: Hainan Province, Tien Fong Mts., 12-V-1983, Boucek.

Biology.— Parasites of *Liriomyza* Mik., *Melanagromyza* Hendel. and *Tropicomyia coffeae* (Koningsberger) (Farooqi et Subba Rao 1986)

STOREYA Boucek

Storeya Boucek, 1988: 284-285. Type species: *S. paradoxa* Boucek; by monotypy.

Generic characters.— Body yellowish and shiny; antennal toruli situated on lower margin of head, overhanging the mouth; antennal formula 11173; thorax slightly depressed dorsally; pronotum subcampanulate (Fig. 8); notauli as short darker lines only in anterior third; axillae distinctly advanced; scutellum transverse, with sublateral grooves (Fig. 8); forewing with long marginal fringe; disc of forewing convex and almost bare, at parastigma a tuft of black scales; marginal vein long, stigmal short, postmarginal almost absent; petiole elongate, dorsally depressed and minutely reticulate; first tergite large.

Biology.— Unknown.

There is only one species of *Storeya* Boucek recorded from Queensland and Nepal. This is the first record from China.

***Storeya paradoxa* Boucek**

Figures 6-10

Storeya paradoxa Boucek, 1988: 284-285.

Distribution.— China (Guangxi Province), Queensland and Nepal.

Material examined.— 1F, China: Guangxi Province, Jinxiu, Linhai, 1000m, 12-V-1999, Hui Xiao.

Biology.— Unknown.

BUPRONOTUM new genus

Type species.— *Bupronotum zhuangarum* new species.

Generic characters.— Belonging to Pteromalinae, a group of genera without petiole, antenna with 3 anelli.

Head and thorax metallic green, generally alveolate, gaster brown with green brilliance. Head large; face with clypeus flatten; gena with large depression at mouth corner (Fig. 11). Antennal formula 11353; antennal insertion above middle of face; clava not distinctly clavate. Head in dorsal view with occipital carina absent. Mesosoma compact; pronotum with collar margined with high smooth carina, and protrudent laterally (Fig. 14); notauli incomplete; prepectus small and smooth; scutellum with frenal line obliterated but with lineal carina, frenal area almost vertical angle with scutellum; propodeum with broad shallow groove between basal foveae which is bordered posteriorly by carinate edge (Fig. 15), nucha globose. Forewing pilose outside speculum. Hind femur with one spur. Gaster sessile, T1 petiole-like.

Diagnosis.— Head large, clypeus wider and flatten, gaster longer with first tergite Pseudopetiolatus; head in lateral view with gena hollowed.

Etymology.— The name derived from its pronotum protrudent laterally. The gender is neuter.

Biology.— Nothing is known of the host of *Bupronotum*.

Distribution.— China (Guangxi Province).

Bupronotum zhuangarum New Species

Figures. 11-17

Description.— Female. Length 4.0 mm. Head and thorax metallic green, gaster brown with green brilliance; antenna brown except scape, pedicel yellowish; leg yellowish except coxa brownish green.

Head large, width 1.29 x height (75:58); in front view (Fig. 1), eye space 1.76 x eye height (53:30); clypeal margin corrugate (Fig. 11); gena with large depression at mouth corner. Head in dorsal view, head width 2.38 x length (75:31.5), eye length 2.1 x temple (21:10), POL 0.56 (OOL (9.5:17). Antenna not clavate (Fig. 13); antennal insertion above middle of face; antenna shorter than head width, nearly 0.93 length of head width (70:75); scape at most reaching vertex; each anellus transverse; each funicular segment longer than broad respectively; clava length 3.1 x width (14:3.5), distinctly shorter than the last two funicular segments combined; micropilosity absent.

Mesosoma compact and convex; pronotum (Fig. 14) with collar distinctly margined, protrudent laterally, wider than mesoscutum (60:52); mesoscutum width 2.48 x length (52:21); notauli incomplete; scutellum without frenal line but with distinctly lineal carina, frenal area almost vertical angle with scutellum dorsum; scutellum width 1.04 x length (28:27); propodeum with broad shallow groove between basal foveae which is bordered posteriorly by carinate edge (Fig. 15), nucha globose. Forewing bare basally (Fig. 16), basal cell bare, basal vein setae; marginal vein longer than postmarginal vein and stigmal vein. Relative lengths of

marginal, postmarginal and stigmal veins as 38:30:11.

Gaster sessile; gaster length 4.67 x width (140:30); F1 petiole-like.

Male. Unknown.

Type material.— Holotype: F, CHINA: Guangxi, Daxin, Xialei, 31-III-1998, Chao-Dong Zhu.

Etymology.— This specific Latin name is from "Zhangzu", the name of a minority living in Guangxi.

Distribution.— This species is currently known only from Guangxi Province, south of China.

GLOBIMESOSOMA new genus

Type species.— *Globimesosoma yaoarum* new species.

Description.— Belonging to Pteromalinae, a group of genera without petiole, antenna with 3 anelli. Body dark green, generally alveolate. Head slightly swollen in front view; face with clypeus striate; clypeal margin with two small teeth (Fig. 18); gena swollen. Antenna longer than head width, with the formula 11353 (Fig. 19); antennal insertion on middle of face; clava with ventral line of micropilosity on the first claval segment (Fig. 19). Head in dorsal view occipital carina absent. Mesosoma compact and convex; pronotum with collar margined; notauli incomplete; scutellum with frenal line obliterated; propodeum short and reticulate (Fig. 20); median carina and plica absent, nucha reduced. Forewing pilose outside speculum. Hind coxa distinctly long; hind tibia with one spur. Gaster lanceolate.

Diagnosis.— The new genus can be recognized by the following characters: propodeum reticulate in median area, median carina absent, nucha reduced, plica at most distinctly posteriorly; hind coxa distinctly long.

Etymology.— The name derived from its short and convex mesosoma. The gender is neuter.

Biology.— Nothing is known of *Globimesosoma*.

Distribution.— China (Guangxi Province.).

Globimesosoma yaoarum New Species

Figs. 18-22

Description.—Female. Length 3.5 mm. Body metallic dark green; antenna brown except scape and pedicel yellowish; legs yellowish except coxae concolorous with body, femora brown.

Head swollen in front view, width 1.16 x height (49:42); eye space 1.30 (eye height (30:23), eye height 1.76 x malar space (23:13); clypeal margin striate, lower margin with two small teeth (Fig. 18). Head in dorsal view, head width 1.96 x length (49:25); eye length 4 x temple (18:4.5), POL 2.16 x OOL (13:6). Antenna not distinctly clavate (Fig. 19); antennal insertion on the middle of face; antennae longer than head width, nearly 1.49 x head width (73:49); scape distinctly beyond vertex; each anellus transverse; each funicular segment longer than broad respectively; clava length 3.2 x width (16:5), slightly shorter than the last two funicular segments com-

bined (16:17); clava with ventral line of micropilosity on the first claval segment.

Mesosoma compact and convex (Fig. 22); pronotum narrower than mesoscutum (31:44); pronotum with collar abrupt and margined; prepectus small and shiny; mesoscutum width 1.83 x length (44:24), notauli incomplete; scutellum with frenal line obliterated; scutellum width 1.09 x length (23:21); propodeum length 0.3 x scutellum length, median carina and plica absent, nucha reduce (Fig. 20). Forewing bare at base (Fig. 21), pilose outside speculum; basal cell setae, basal vein bare; marginal vein longer than postmarginal vein and stigmal vein. Relative lengths of marginal, postmarginal and stigmal veins as 47:35:12. Hind coxa distinctly long; hind tibia with 1 spur.

Gaster sessile, long and narrow; gaster length 2.5 x width (150:60); T1 dorsum with hind margin slightly reduced.

Male. Unknown.

Type material.—Holotype: F, CHINA: Guangxi, Daxin, Xialei, 31-III-1998, No. 496, Chao-Dong Zhu.

Etymology.— This specific Latin name is from "Yaozu", the name of a minority living in Guangxi.

Distribution.— This species is currently known only from Guangxi, south of China.

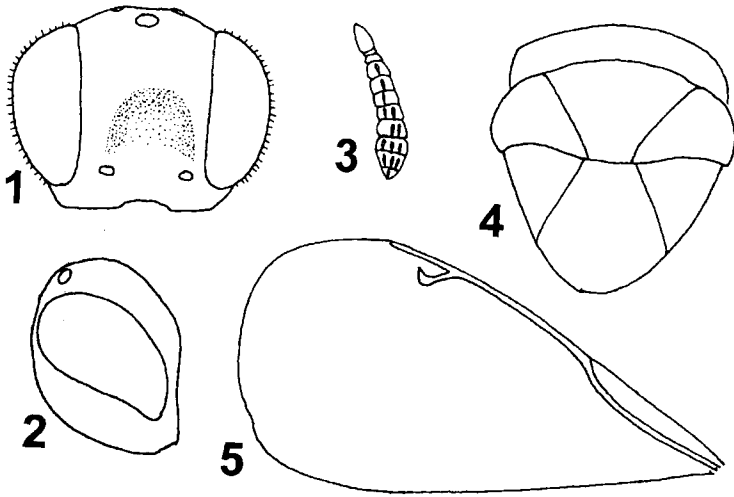
ACKNOWLEDGMENTS

Thanks are due especially to a great project from CAS (No. 2198035), we have chance to join the investigation of Dayao and Shivan Mountains, south of China. Meanwhile, this study are supported by National Natural Science Foundation of China (NSFC grant No. 39900014) and Young Scientist Grants of the Chiense Academy of Sciences.

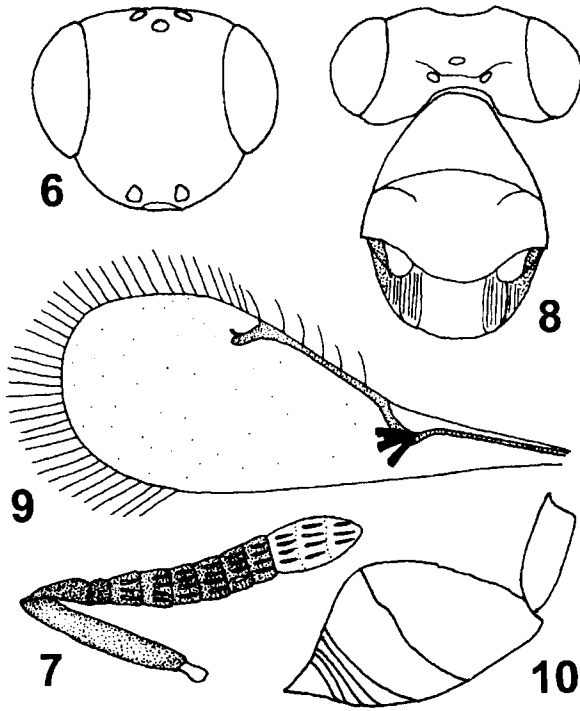
LITERATURE CITED

- Boucek, Z. 1988. Australasian Chalcidoidea (Hymenoptera), a biosystematic revision of genera of fourteen families, with a reclassification of species. C.A.B. International: 1- 832, 1328 figs.
- Boucek, Z. 1993. New taxa of North American Pteromalidae and Tetracampidae (Hymenoptera), with notes. *Journal of Natural History* 27: 1239-1313.
- Boucek, Z. and J-Y. Rasplus. 1991. Illustrated Key to West-Palaearctic Genera of Pteromalidae (Hymenoptera: Chalcidoidea). Institut National de la Recherche Agronomique, Paris: 1-140.
- Boucek, Z. and S. L. Heydon. 1997. in Gibson et al. Annotated Keys to the Genera of Nearctic Chalcidoidea (Hymenoptera). 541-692pp.
- Burks, B. D. 1959. The species of the genus *Herbertia* How. *Proc. Ent. Soc. Wash.* 61(6): 249-255.
- Farooqi, S. I. and B. R. Subba Rao. 1986. Family Pteromalidae. (In: Subba Rao, B.R. and Hayat, M. (eds). *The Chalcidoidea (Insecta: Hymenoptera) of India and the adjacent countries. Part II. Oriental Insects.* 20: 279-306.
- Girault, A. A. 1915a. Australian Hymenoptera Chalcidoidea - IV. Supplement. *Mem. Qd Mus.* 3: 180-299.

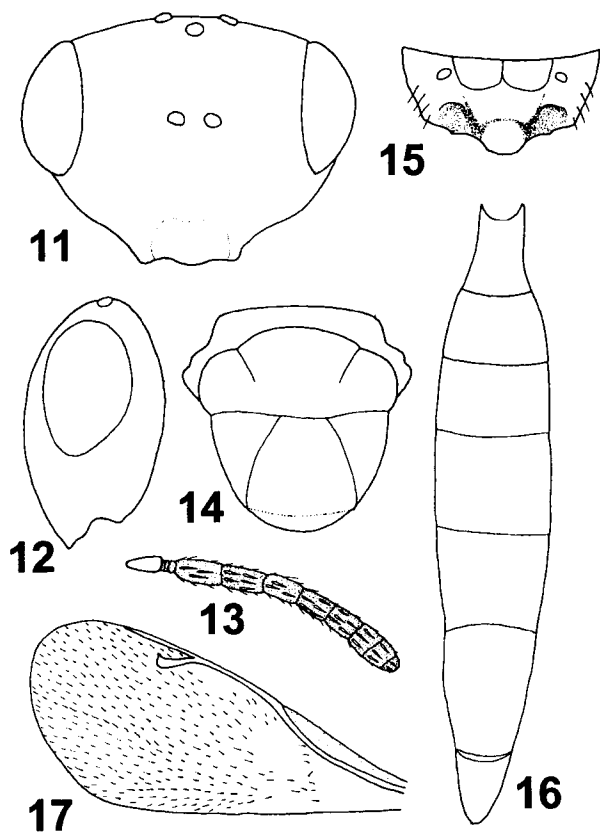
- Girault, A. A. 1915b. Australian Hymenoptera Chalcidoidea - VIII. The family Miscogasteridae with descriptions of new genera and species. Mem. Qd Mus. 4: 185-202.
- Graham, M. W. R. de V. 1969. The Pteromalidae of north-western Europe (Hymenoptera: Chalcidoidea). Bulletin of the British Museum (Natural History) Entomology Supplement 16: 1-908.
- Riley, C.V., W. H. Ashmead and L. O. Howard. 1894. Report upon the parasitic Hymenoptera of the island of St. Vincent. J. Linn. Soc. (Zool.). 25: 56-254.



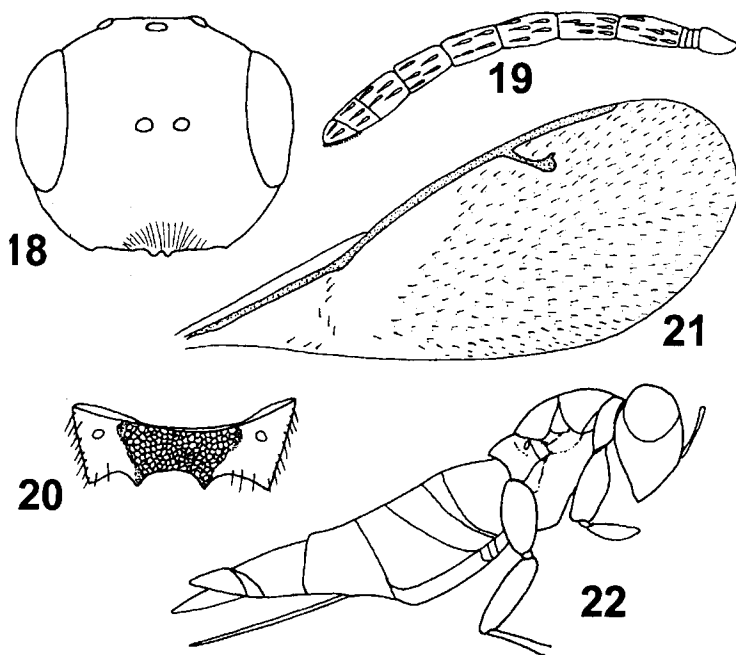
Figs 1-5. *Herbertia indica* Burks, F: 1, head in front view; 2, head in lateral view; 3, antenna; 4, mesosoma; 5, forewing.



Figs. 6-10. *Storeya paradoxa* Boucek, Female: 6, head in front view; 7, antenna; 8, head and mesosoma; 9, forewing; 10, gaster and petiole in lateral view.



Figs. 11-17. *Bupronotum zhuangarum* n. sp., Female: 11. head in front view; 12. head in lateral view; 13. antenna; 14. mesosoma; 15. propodeum; 16. gaster.



Figs. 18-22. *Globimesosoma yaoarum* n. sp., Female: 18. head in front view; 19. antenna; 20. propodeum; 21. forewing; 22. body in lateral view.