

Descriptions of new Braconinae (Hymenoptera Braconidae)*

Yves BRAET

Zoologie Générale et Appliquée, Faculté Universitaire des Sciences Agronomiques de Gembloux; Passage des Déportés 2, B-5030 Gembloux, Belgique (e-mail : zoologie@fsagx.ac.be).

Abstract

Two new species of Braconinae are described : *Pedinopleura chisochetonia* sp. n. and *Zaglyptogastra maraisi* sp. n. from Papua New Guinea and Namibia, respectively.

Keywords : Braconinae, *Pedinopleura*, *Zaglyptogastra*.

Résumé

Deux nouvelles espèces de Braconinae sont décrites : *Pedinopleura chisochetonia* sp. n. and *Zaglyptogastra maraisi* sp. n., respectivement de Papouasie-Nouvelle-Guinée et de Namibie.

Introduction

From the material collected during Canopy mission (1993-1996) of the "Institut royal des Sciences naturelles de Belgique" in Papua New Guinea, we have illustrated a male belonging to a new species of the genus *Pedinopleura* VAN ACHTERBERG, 1984 which has the posterior border of tergites 3 to 5 with several tubercles (see BRAET, 1999). Since we found the corresponding female, we are able to describe this new species now together with a new species of *Zaglyptogastra* ASHMEAD, 1900 which shares the same characters on posterior margins of tergites 4-5. It is the first report of this character in the *Zaglyptogastra* genus. The biology of these species is unknown.

* Received : 2.VII.1999; accepted : 10.IX.1999.

For identification of the Braconidae subfamilies, we refer to VAN ACHTERBERG (1990, 1993). The terminology used in this paper is according to VAN ACHTERBERG (1988, 1994a). The identification of the genera in the Braconinae and *Pedinopleura* species may be done using the papers of QUICKE (1987), QUICKE & INGRAM (1993) and VAN ACHTERBERG (1984), respectively. The African *Zaglyptogastra* species may be identified with the key of QUICKE (1991).

These *Pedinopleura* and *Zaglyptogastra* specimens are housed in the collections of Institut royal des Sciences naturelles de Belgique (IRSNB) and the Namibian Museum (NM), respectively.

Systematic account

Pedinopleura VAN ACHTERBERG, 1984

Type-species : *Pedinopleura emarginata* VAN ACHTERBERG, 1984. VAN ACHTERBERG, 1984 : 149; QUICKE & INGRAM, 1993 : 319; BRAET, 1999 : 4.

Key to the species of *Pedinopleura* VAN ACHTERBERG :

The couplet 2 of the key from BRAET (1999) should be modified as follows and the couplet 4 should be added.

- 2 Hind coxa with one blunt blister dorsally (Fig. 1); apical border of tergites 3-6 with a few weak tubercles; anterior depressions of tergites 4-6 rather variable; 6th tergite of female not emarginated. Papua New Guinea 4
- Hind coxa without blister dorsally; apical border of tergites 3-6 without tubercles; anterior depressions of tergites 4-6 largely smooth; 6th tergite of female widely emarginated. Irian Jaya
 *P. emarginata* VAN ACHTERBERG, 1984
- 4 Tergites 3-4 reticulate; anterior depression of tergites 4-6 coriaceous; outer stripe on scapus blackish; number of antennal segments 48
 *P. christinae* BRAET, 1999
- Tergites 3-4 with tubercles more or less blunt; anterior depression of tergites 4-6 weakly coriaceous to punctate; scapus completely yellowish; number of antennal segments 37 *P. chisochetonia* sp. n.

Pedinopleura chisochetonia sp. n.

(Fig. 1)

Material examined : Holotype, ♀ (IRSNB) : " Canopy mission, FOG XN [fogging of *Chisocheton ceramicus* (Meliaceae)], 3.V.1994" "Papua New Guinea, Madang : Baiteta, 5°1'0"S 145°45'0"E, leg. O. Missa".

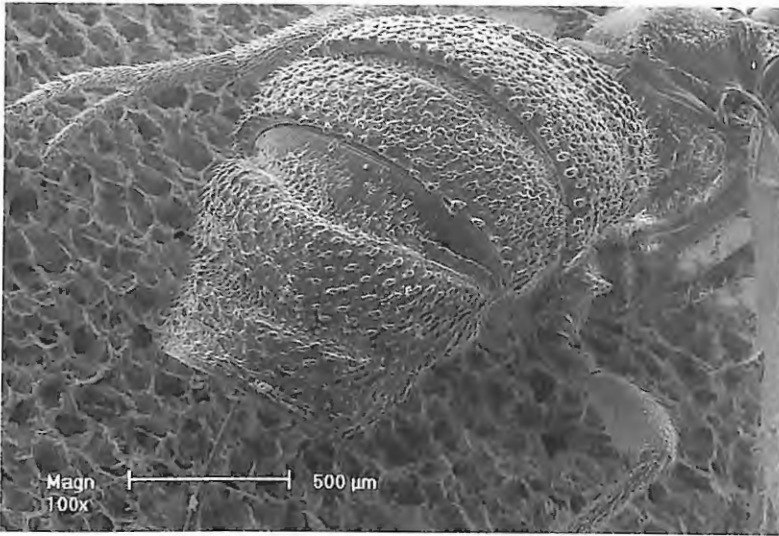


Fig. 1. *Pedinopleura chisochetonia* sp. n., holotype, dorsal view of the apex of metasoma.

Allotype, ♂ (IRSNB): "Canopy mission, FOG T4 [fogging n°4 of *Pometia pinnata* (Sapindaceae)], 6.IV.1993" "Papua New Guinea, Madang : Baiteta, 5°1'0''S 145°45'0''E, leg. O. Missa".

Etymology : From the genus name of the corresponding plant.

Holotype, ♀, body length 3.2 mm, fore wing 3.2 mm.

Head. Antennal segments 37, length of 3rd segment equal to the 4th segment, length of 3rd, 4th, penultimate and apical segments 2, 2, 1.3 and 2 times their width, respectively; length of maxillary palp 0.5 times height of head; length of eye in dorsal view 2.25 times temple; POL : OD : OOL = 2 : 2 : 3; face, frons and vertex punctulate; malar suture present; length of malar space equal to basal width of mandible; temples punctulate.

Mesosoma. Length of mesosoma 1.25 times its height; mesopleuron finely punctulate anteriorly and glabrous except ventro-posteriorly; metapleural flange small and obtuse; mesoscutum and scutellum finely and sparsely punctulate; medio-longitudinal lamella of metanotum protruding in lateral view; surface of propodeum smooth, with two latero-longitudinal carinae present posteriorly; medio-longitudinal carina of propodeum complete.

Wings. Similar to *P. emarginata* except for the following characters. Fore wing : r : 3-SR : SR1 = 4 : 9 : 28 ; angle between 1-SR and C+SC+R around 45°; 2-SR : 3-SR : r-m = 7 : 9 : 4.5 ; m-cu converging to 1-M posteriorly.

Legs. Hind coxa smooth with a dorsal blunt spine (Fig. 1); femur, tibia and basitarsus of hind leg 3.75, 8 and 5.5 times their width, respectively; length of hind spurs 0.27 and 0.22 times hind basitarsus.

Metasoma. Length of joined tergites 1-3 1.2 times their apical width; surface of tergites 1-2 reticulate and dorsal carina present basally; lateral margin of tergites 1-3 very wide - especially near the 3rd tergite - and emarginate near the 2nd suture; tergites 4-6 deeply impressed and largely smooth basally; apical border of tergites 3-5 with tubercles; surface of tergites 3-6 with tubercles (Fig. 1); 6th tergite not emarginate apically with a smooth posterior border; length of ovipositor sheath 0.22 times fore wing.

Colour. Yellowish; pterostigma yellowish; antenna yellow-brownish; ovipositor sheath, blackish; hind tarsus largely infuscated; wing membrane hyaline. The metasoma have two dark spots on tergites 1 and 3 but these are probably artefacts.

Distribution. Papua New Guinea.

Host. Unknown.

Remarks. The allotype has antenna and hind tarsus yellowish; the ultimate segment of antenna dark-brown; the frons and vertex smooth and 33 antennal segments.

Zaglyptogastra ASHMEAD, 1900

Type-species : *Zaglyptogastra abbotti* ASHMEAD, 1900. ASHMEAD, 1900 : 137 (in key only, description in ASHMEAD, 1906 : 197); QUICKE, 1987 : 136; EL-HENEIDY & QUICKE, 1991 : 187.

A full diagnosis of *Zaglyptogastra* genus has been provided by EL-HENEIDY & QUICKE (1991). This genus can be distinguished from all other african genera of Braconinae by their multiple, pre-apically arched ovipositor (Fig. 4). The new species described below can be identified after the modification of the couplet 3 in the key of QUICKE (1991), as follow :

- 3 Fore wing length more than 10 mm; mid-posterior margin of 5th tergite straight, not concave 4
- Fore wing length less than 10 mm; mid-posterior margin of 5th tergite variable 3bis
- 3bis Posterior margin of 5th tergite trisinuous, in dorsal view, and medially concave; its margin smooth; hind wing vein 1r-m equal or longer than SC+R1 *Z. tacita* (CAMERON)
- Posterior margin of 5th tergite weakly convex, in dorsal view, and dentate with short lamella; hind wing vein 1r-m shorter than SC+R1 *Z. maraisi* sp. n.

Zaglyptogastra maraisi sp. n.

(Figs 2-6)

Material examined : Holotype, ♀ (NM) : "Otjongoro 20, Omaruru Distr.[ict (Namibia)], 20°53'S 15°38'E, 20-21.XII.1990 (E. MARAIS)".

Etymology : In honor of the entomological curator of Namibian Museum for his sampling of entomological fauna in this country.

Holotype, ♀, body length 7.44 mm, fore wing 6.2 mm.

Head. Antennal segments 51, length of 3rd segment 1.33 times the 4th segment, length of 3rd, 4th and apical segments 1.3, 1 and 2.7 times their width, respectively; median flagellomeres cubic; length of maxillary palp 0.77 times height of head; length of eye in dorsal view 1.75 times temple; POL : OD : OOL = 2 : 2 : 2; frons distinctly impressed behind each antennal socket frons and vertex smooth (Fig. 5); length of malar space subequal to basal width of mandible; temples smooth with sparse short setae anteriorly directed.

Mesosoma. Length of mesosoma 1.67 times its height; mesopleuron smooth and glabrous excepted ventrally; metapleural flange small; mesoscutum and scutellum smooth; notauli absent but presence of sparse punctuations at their place; scutelar sulcus straight and crenulate; surface of propodeum granulous anteriorly and laterally.

Wings (Fig. 6). Fore wing : r : 3-SR : SR1 = 5 : 23 : 32 ; 1-SR+M moderately curved posteriorly after arising from 1-M; angle between 1-SR and C+SC+R around 90°; 2-SR : 3-SR : r-m = 12 : 23 : 9. Hind wing : SC+R1 longer than 1r-m; apex of vein C+SC+R with 5 thickened setae.

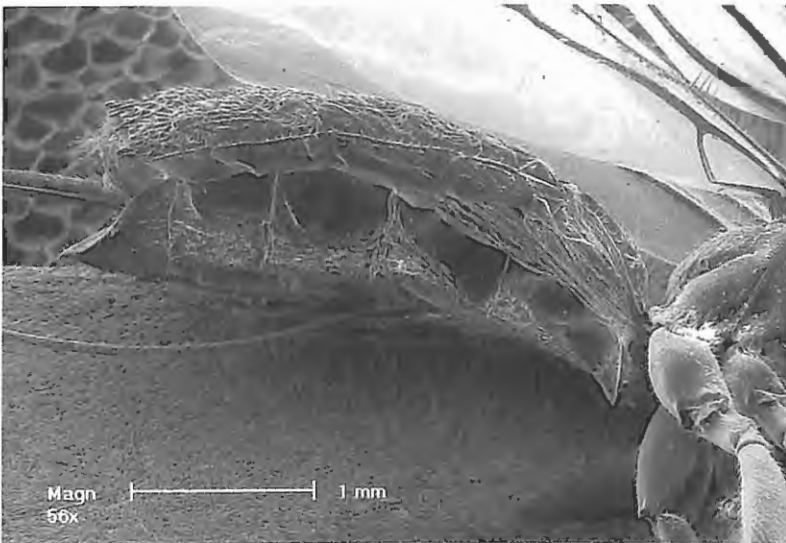


Fig. 2. *Zaglyptogastra maraisi* sp. n., holotype, metasoma in lateral view.

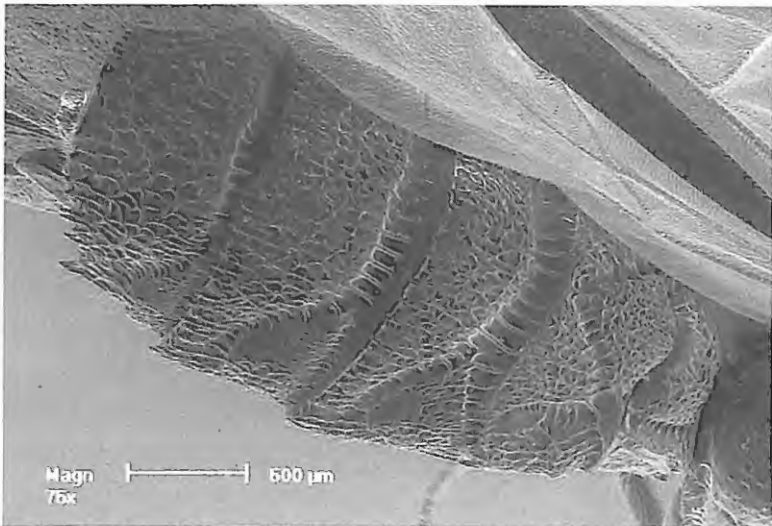


Fig. 3. *Zaglyptogastra maraisi* sp. n., holotype, metasoma in dorsal view.

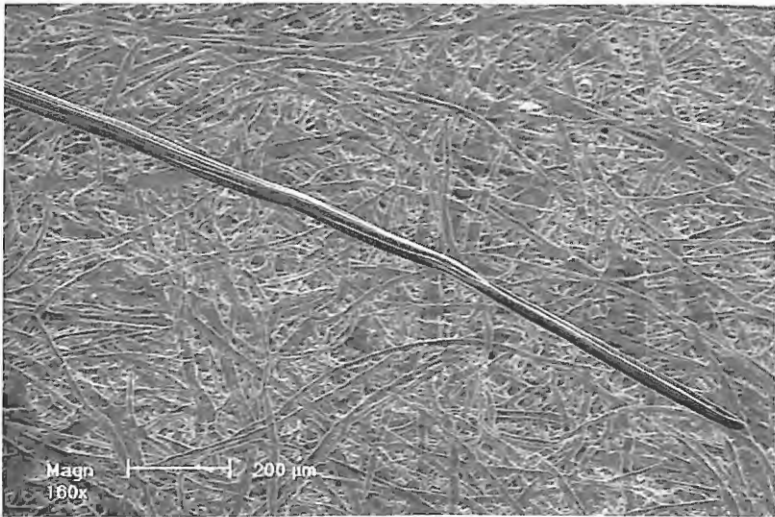


Fig. 4. *Zaglyptogastra maraisi* sp. n., holotype, lateral view of ovipositor. (The lower valves are upstairs).

Legs. Length of hind femur, tibia and basitarsus 4.25, 10 and 6.3 times their width, respectively; length of hind spurs 0.42 and 0.36 times hind basitarsus.

Metasoma (Figs 2-4). Length of tergite 1 subequal to its apical width, raised median area weakly reticulate; length of second tergite 0.58 times its maximal width, largely reticulate, the raised mid-basal area clearly defined by two con-

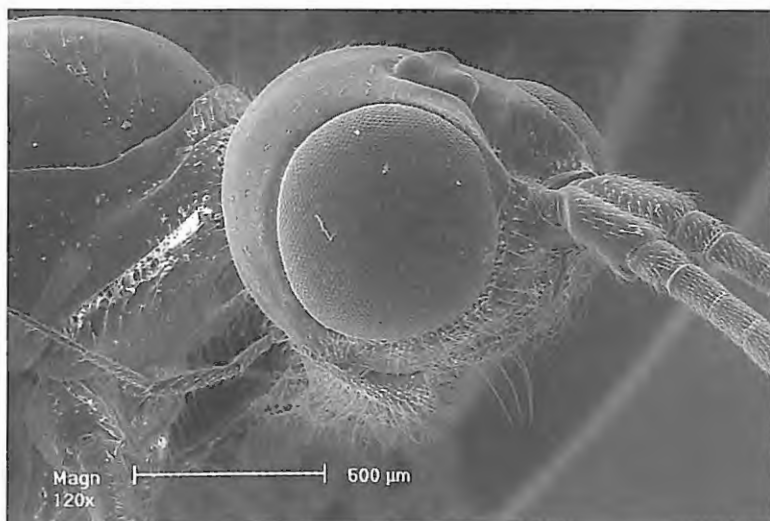


Fig. 5. *Zaglyptogastra maraisi* sp. n., holotype, head in lateral view.

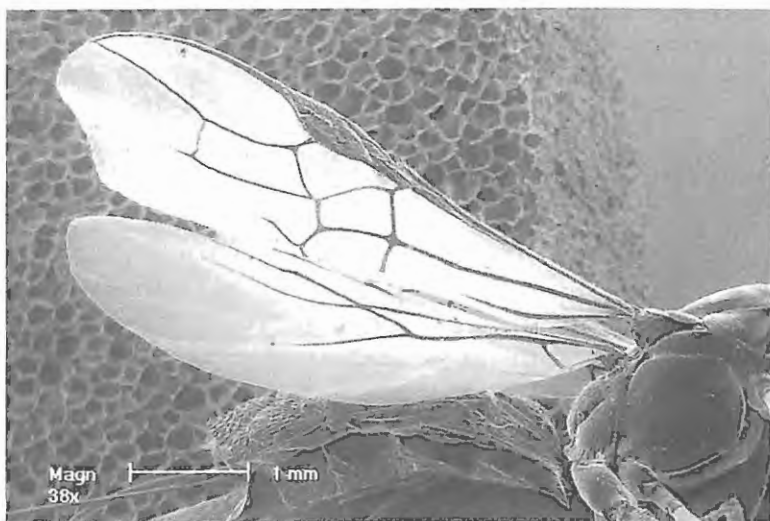


Fig. 6. *Zaglyptogastra maraisi* sp. n., holotype, wings.

verging and crenulate grooves, its surface reticulate; tergites 3-5 reticulate except for their peribasal grooves which are coarsely crenulate (Fig. 3), subapical groove absent; posterior margin of tergites 3-5 dentate (Fig. 2); length of ovipositor sheath equal to fore wing; OR = 2 : 1; ovipositor three arched (Fig. 4); setae of ovipositor not markedly longer apically than basally.

Colour. Yellowish; antenna, scapus, pedicelle, vertex, stematicum, small patch between antennal sockets, lateral lobes of mesoscutum, middle lobe of mesoscutum anteriorly, mesosternum, ovipositor sheath blackish; lateral patch on scutellum, humeral plate, veins of fore wing, apical $\frac{1}{2}$ of pterostigma, dorsal part of ovipositor archs brownish; patch near the apex of pterostigma, transversal band in discal and subdiscal (excepted a round subposterior patch which is hyaline) cells light brownish.

Distribution. Namibia.

Host. Unknown.

Remarks. This species fits well in the *Equitator* group species (QUICKE, 1991) but has the arched ovipositor region occupying less than 0.3 of the total ovipositor length and the apex of ovipositor clearly acute. The *Soter* SAUSSURE, 1890 is the other African genus Braconinae which has 5th tergite dentate but it never has the ovipositor arched.

Acknowledgements

We thank Dr P. GROOTAERT (Bruxelles) and Prof. C. GASPAR (Gembloux) for their suggestions and their aid in our research. We would like to thank Dr E. MARAIS (NM) and Dr P. GROOTAERT for the loan of these interesting specimens. We thank Dr QUICKE (Ascot, Berks) for his helpful suggestions. We thank Mr. J. CILLIS for his help with the scanning electron micrographs. We also express our gratitude to A. VAN DE WALLE and I. SAUVAGE for their help in bibliography search and technical support.

Bibliography

- ACHTERBERG C. VAN, 1984. - Revision of the genera of Braconini with first and second metasomal tergites immovably joined (Hymenoptera, Braconidae, Braconinae). *Tijdschrift voor Entomologie*, 127 : 137-164.
- ACHTERBERG C. VAN, 1988. - Revision of the subfamily Blacinae FOERSTER (Hymenoptera : Braconidae). *Zoologische Verhandelingen Leiden*, 249 : 1-324.
- ACHTERBERG C. VAN, 1990. - Illustrated key to the subfamilies of the Holarctic Braconidae (Hymenoptera, Ichneumonoidea). *Zoologische Mededelingen Leiden*, 64 : 1-20.
- ACHTERBERG C. VAN, 1993. - Illustrated key to the subfamilies of the Braconidae (Hymenoptera, Ichneumonoidea). *Zoologische Verhandelingen Leiden*, 283 : 1-189.
- ACHTERBERG C. VAN, 1994a. - New morphological terms. *Ichnews*, 14 : 5.
- ASHMEAD W.H., 1900. - Classification of the Ichneumon flies, or the superfamily Ichneumonoidea. *Proceedings of the United States National Museum*, 23 : 1-220.
- ASHMEAD W.H., 1906. - Descriptions of new Hymenoptera from Japan. *Proceedings of the United States National Museum*, 30 : 169-201.
- BRAET Y., 1999. - Description of new Braconidae (Hymenoptera) from Papua New Guinea. *Belgian Journal of Entomology*, 1(1) : 3-20.

-
- EL-HENEIDY A.H. & QUICKE D.L.J., 1991. - The Indo-Australian species of the Braconine wasp genus *Zaglyptogastra* ASHMEAD. *Journal of Natural History*, 25 : 183-201.
- QUICKE D.L.J. & INGRAM S.N., 1993. - Braconine wasps of Australia. *Memoirs of the Queensland Museum*, 33 (1) : 299-336.
- QUICKE D.L.J., 1987. - The old world genera of Braconine wasps (Hymenoptera : Braconidae). *Journal of Natural History*, 21 : 43-157.
- QUICKE D.L.J., 1991. - The African species of *Zaglyptogastra* (Hymenoptera) with a check list of world species. *Journal of Natural History*, 25 : 755-771.