



Pheloura gen. nov., a neotropical genus with an extremely long pseudo-ovipositor (Hymenoptera: Braconidae)

C. VAN ACHTERBERG

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Abstract: *Pheloura* gen. nov. (Braconidae: Aphrastobraconini; type-species *Bracon dolichoura* Cameron, 1888) is described and illustrated. It is the only genus of which females possess an extremely long pseudo-ovipositor.

Rijksmuseum van Natuurlijke Historie, Postbus 9517, 2300 RA Leiden.

Introduction

Large parasitic Hymenoptera belonging to the huge superfamily Ichneumonoidea may possess extremely long ovipositors (4-9 times length of fore wing; Van Achterberg, 1986). This phenomenon occurs in two areas: SE. Asia (with in S. Japan a braconid which has the longest ovipositor: usually about 9 times fore wing) and NW. South America (including S. Central America). In the latter area it was believed for decades that another braconid, an "*Iphiaulax*" sp., was the champion with an ovipositor as long as 14 times length of body (= about 13 times fore wing). The only figured specimen of this braconid (Berland, 1951: 918) was examined in the Paris Museum and proved to have a rather short real ovipositor (shorter than fore wing; figs. 6, 8) and an extremely long pseudo-ovipositor. I waited many years before publishing this observation because it might have been a teratological specimen, despite the three parts of the pseudo-ovipositor being properly connected to the inner side of the subapical metasomal tergites. All the three parts are similar, glabrous and with a somewhat irregular surface. Owing to the help of Dr. D. Quicke (Sheffield) two more specimens were discovered, one being the type of *Bracon dolichoura* described by Cameron, who completely overlooked the real ovipositor and misjudged the nature of the pseudo-ovipositor.

All three have the pseudo-ovipositor broken

off apically, but the remaining "tail" causes a morphological resemblance to two Ichneumonidae occurring in the same region, *Dolichomitus longicauda* Smith, 1877 and *D. hypermeceus* Townes, 1975, which have an ovipositor up to 8 times length of fore wing. Suggestions about the function of the pseudo-ovipositor are pure speculation, because the biology is completely unknown. It may be a form of Müllerian mimicry with other (Ichneumonidae-)species in the same region. In addition the possible loss of part of the pseudo-ovipositor during an encounter with a predator may confuse a predator as in the case of lizards. A signal function of the pseudo-ovipositor is unlikely because it is dull coloured.

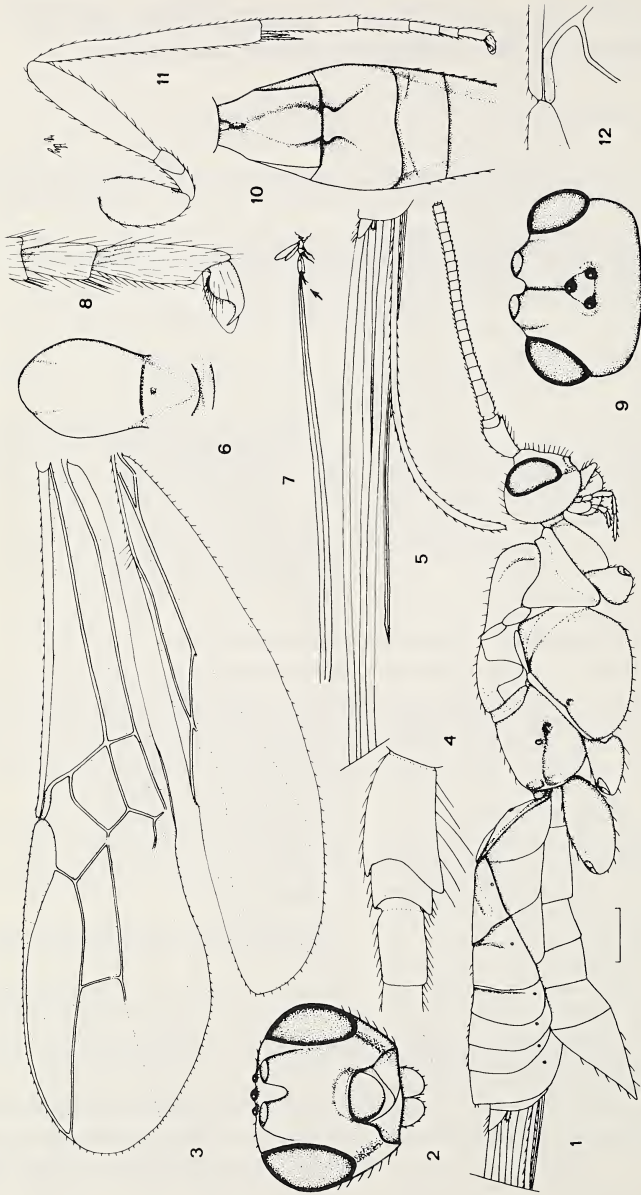
For explanation of the technical terms, see Van Achterberg, 1988 (p. 5-11).

Pheloura gen. nov.

Type-species. *Bracon dolichoura* Cameron, 1888.

Etymology. From "phelos" (Greek for "deceitful") and "oura" (Greek for "tail"), because of the presence of a pseudo-ovipositor. Gender: feminine.

Diagnosis. Head and metasoma smooth; scapus rather robust, its apex at inner side normal, gradually narrowed basally and ventrally longer than dorsally (fig. 5); pedicellus and



Figs. 1-12. *Pheloura* gen. nov. *dolichoura* (Cameron), ♀, Colombia, Llanos de Rio Meta. 1, habitus, lateral aspect, without pseudo-ovipositor; 2, head, frontal aspect; 3, wings; 4, scapus, outer lateral aspect; 5, ovipositor and basal part of pseudo-ovipositor; 6, thorax dorsal aspect; 7, habitus, lateral aspect including pseudo-ovipositor (arrow indicating true ovipositor); 8, hind claw; 9, head, dorsal aspect; 10, first-third metasomal tergites, dorsal aspect; 11, detail of vein 1-SR of fore wing. (1, 3, 5, 6, 10, 11: scale-line = 1 mm; 2, 9, 12: scale-line = 0.25 mm; 4, 8: scale-line = 0.5 mm; 7: scale-line = 20 mm.)

third segment normal (fig. 5); face rather flat but somewhat convex laterally, without protuberance (fig. 2); eyes glabrous, not emarginate (fig. 2), without subocular depression behind eyes (fig. 1); frons largely glabrous, flat and with deep median groove (fig. 12); clypeus without dorsal carina and its ventral carina present and upcurved (fig. 2); malar suture shallow and rugulose (fig. 2); labio-maxillary complex slightly protruding (fig. 1); labrum distinctly concave; mesoscutum glabrous but along imaginary notaular courses setose; notauli only present anteriorly and shallow (fig. 3); scutellum with pit medio-anteriorly (fig. 3); antescutal depression narrow and shallow (fig. 1); scutellar sulcus shallow, narrow and finely crenulate (fig. 3); pleural and mesosternal sulci smooth; metapleural flange absent; metanotum without median carina; propodeum without sculpture and carinae, its spiracle small, subelliptical and situated medially in lateral view (fig. 1); angle between veins 1-SR and C+SC+R of fore wing about 35° (fig. 7); vein 1-SR+M of fore wing strongly bent (figs. 4, 7); vein cu-a of fore wing vertical, interstitial or slightly postfurcal; vein 1-M of fore wing straight (fig. 4); vein CU1b of fore wing slender and much shorter than vein 3-CU1 (fig. 4); vein 3-CU1 of fore wing slender basally; vein m-cu of fore wing antefurcal and slightly converging to vein 1-M posteriorly (fig. 4); vein 1-R1 of fore wing much longer than pterostigma, ending at about same level as apex of vein 3-M (fig. 4); vein 1-SR of fore wing slender (fig. 7); vein r of fore wing shorter than width of pterostigma and oblique (fig. 4); vein 3-SR of fore wing slightly bent (fig. 4); second submarginal cell of fore wing not widened distally (fig. 4); vein 2-SC+R of hind wing longitudinal; vein 1r-m of hind wing slightly bent and slightly longer than vein SC+R1 (fig. 4); marginal cell of hind wing about parallel-sided (fig. 4); fore tibia only setose; tarsal claws simple, mostly setose and with some short pecten basally (fig. 9); fourth tarsal segment truncate apically, their apical setae reaching basal fifth of telotarsus (including claw; fig. 9); fore tibia with one spur; dorso-lateral and dorsal carinae of first metasomal tergite absent (figs. 1, 10); first ter-

gite with short and deep groove medio-basally and medial area remains far removed from sides of tergite (fig. 10); second metasomal suture deep, rather wide, sinuate and smooth (fig. 10); second tergite with incomplete, wide and deep antero-lateral depressions (fig. 10); third tergite with shallow and incomplete subtransverse impressions (fig. 10); following tergites without antero-lateral grooves and apically truncate (fig. 1); seventh tergite unclt; second tergite with sharp lateral crease (fig. 1); ovipositor rather short, normal with indistinct nodus dorsally and small teeth ventrally; apex of metasoma with extremely long pseudo-ovipositor, consisting of three similar threads protruding from inside the metasoma (figs. 1, 6, 8); hypopygium acute apically and rather large (fig. 1).

Distribution. — Neotropical: one species.

***Pheloura dolichoura* (Cameron) comb. nov.**
(figs. 1-12)

Bracon dolichoura Cameron, 1888: 176.

Iphiaulax dolichoura; Shenefelt, 1978: 1760.

Iphiaulax spec.?; Berland, 1951: 918, fig. 843bis; Townes, 1975: 125.

New genus; Van Achterberg, 1986: 114.

Material. Holotype, female, (British Museum (Natural History), London): "Type, H.T.", "B.M. Type Hym. 3.c.479", "Bracon dolichoura Cam., Type, S.W. Bogota", "Bogota, Type n. sp., descr. Cam. Lit. Phil. Soc. Manch. (4)i.1888, p. 176, female", "Cameron, 96-76"; 1 female (figured), (Muséum National d'Histoire Naturelle, Paris): "Llanos du Rio Meta, district de Villavicencio [= SE of Bogota, branch of Orinoco River, Colombia]", "Museum Paris, Colombie, 1912, M. Brochan"; 1 female, (Zoologisches Museum, Berlin): "Chiriqui, Costa Rica", "Coll. Schmiedeknecht".

Description. Length of body 11.3-12.1 mm, of fore wing 12.0-12.8 mm, of pseudo-ovipositor (tips are broken off in all three specimens!) up to 165 mm (= 14.1 times body and up to 13.2 times fore wing).

Head. Antenna of all three specimens mutilated, length of third segment 1.5 times fourth segment, length of third and fourth segments about 1.6 and 1.1 times their width, respectively; length of maxillary palp nearly equal to height of head; length of eye in dorsal view

11.0-1.4 times temple (fig. 12); temple gradually narrowed posteriorly (fig. 12); POL : diameter of ocellus : OOL of figured specimen = 8 : 7 : 20; frons flat and smooth; face rather flat and largely punctulate; clypeus flat, smooth and its apical margin upcurved and concave (fig. 2); length of malar space 0.7 times basal width of mandible.

Mesosoma. Length of mesosoma 1.5 times its height; episternal scrobe round and medium-sized (fig. 1); mesoscutum rather flat; scutellum with some punctures; surface of propodeum sparsely punctulate and setose, without carinae.

Wings. Fore wing: r : 3-SR : SR1 = 6 : 29-34 : 41-51; 2-SR : 3-SR : r-m = 27 : 51-58 : 19-23.

Legs. Hind coxa slightly punctulate; length of femur, tibia and basitarsus of hind leg 4.6-4.7, 10.0-10.1 and 7.0-7.2 times their width, respectively; length of hind tibial spurs 0.2 and 0.4 times hind basitarsus and setose.

Metasoma. Length of first tergite 1.0-1.1 times its apical width, its surface smooth (fig. 10); second and following tergites smooth; third and following tergites distinctly compressed (figs. 1, 10), length of ovipositor sheath 0.55-0.60 times fore wing.

Colour. Black; metasoma pale yellowish; pterostigma, veins, and wing membrane (except small subhyaline patch near veins 2-SR+M and 3-CU1 of fore wing) dark brown. Holotype has basal half of hind wing largely paler than apical half of wing; the specimen from Costa Rica has the complete wing membrane rather pale compared with the figured specimen.

Discussion

The female is at once recognizable by the extremely long pseudo-ovipositor. Ignoring this character the new genus does not fit in any of the known genera; it resembles the Holarctic genus *Cyanopterus* Haliday, 1835. The new genus differs (besides by the pseudo-ovipositor) by the much smaller angle between the veins 1-SR and C+SC+R of fore wing, by the deep median groove of the frons (shallow in *Cyanopterus*), by the more protruding anten-

nal sockets, by the pit on the scutellum, by the distinctly bent vein 1-SR+M of the fore wing and by the length of vein 1r-m of the hind wing (about as long as vein SC+R; distinctly shorter in *Cyanopterus*).

Among the Neotropical genera of the tribe Aphrastobraconini the two following genera have metasoma, three basal antennal segments and hind tarsi similar. *Cyclaulax* Cameron, 1911 may be similar but it has the shape of the scapus different, the face is distinctly sculptured and the fore basitarsus is compressed. The huge genus *Digonogastra* Viereck, 1912 can be separated by the much larger angle between the veins 1-SR and C+SC+R of fore wing, the complete medio-basal area of the second metasomal tergite, the densely setose face and frons, the complete antero-lateral grooves of the third and fourth metasomal tergites, the presence of dorso-lateral carinae of the first metasomal tergite, and the much shorter vein 1r-m of hind wing.

Acknowledgements

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References

- ACHTERBERG, C. VAN, 1986. The oviposition behaviour of parasitic Hymenoptera with very long ovipositor (Ichneumonidae: Braconidae). - *Ent. Ber., Amst.* 46: 113-115, figs. 1-2.
- ACHTERBERG, C. VAN, 1988. Revision of the subfamily Blacinae Foerster (Hymenoptera, Braconidae). - *Zool. Verh. Leiden* 249: 1-324, figs. 1-1250.
- BERLAND, L., 1951. Superfamille des Ichneumonidae. In: *Traité de Zoologie* P. Grassé ed. 10(1): 902-931.
- CAMERON, P., 1888. Descriptions of twenty-three new species of Hymenoptera. - *Mem. Manchr. lit. phil. Soc.* (4)1: 158-182.
- SHENEFELT, R. D., 1978. Braconidae, pt. 10. - *Hym. Cat. (nov. ed.)* 15: 1425-1872.
- TOWNES, H. K., 1975. The parasitic Hymenoptera with the longest ovipositors, with description of two new Ichneumonidae. - *Ent. News* 86: 123-127.