

Ficobracon brusi gen. nov. & spec. nov. (Hymenoptera: Braconidae), a parasitoid reared from figs in Papua New Guinea

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A new genus (*Ficobracon* gen. nov.; type species: *Ficobracon brusi* spec. nov.) of the subfamily Braconinae (Hymenoptera; Braconidae) is reported from figs (syconia) of *Ficus wassa* Roxb. in Papua New Guinea; the new genus is illustrated and described. It is the second genus belonging to the Braconidae reported to live in *Ficus*-syconia.

Introduction

Mr Brus Isua, the former field assistant of the second author in Papua New Guinea observed a braconid specimen on *Ficus*-species syconia in the Ohu Conservation Area, Madang. Later, Braconidae were reared from these figs as well as from figs collected in East New Britain (Papua New Guinea) by the second author. An association of Braconidae with *Ficus* syconia is very uncommon and is up to now only known for the genus *Psenobolus* Reinhard, 1885 (subfamily Doryctinae Foerster, 1862) which has been reared from figs in Brazil (Reinhard, 1885) and Costa Rica (Ramirez & Marsh, 1996). In the latter case it proved to be phytophagous; a feature very rare in Braconidae! The Braconidae reported in this paper belong to a new genus similar to the genus *Bracon* Fabricius, 1804, and belong to the subfamily Braconinae Nees, 1812 and the tribe Braconini Nees.

The new genus differs from the genus *Bracon* by the very transverse third metasomal tergite (about four times as wide as its medial length; fig. 10); the pair of longitudinal sublateral grooves and pair of slightly converging submedial grooves of the second tergite (fig. 10); the antero-lateral grooves of the third tergite (figs 10, 12); the wide and rather flat semi-circular scutellum; the convex clypeus (hardly or not separated from the face by the epistomal suture); and vein 3-M of the fore wing largely sclerotized.

The biology of the new genus is uncertain. In general Braconini are idiobiont ectoparasitoids of larvae of mostly holometabolous insects. From the same figs Agaonidae (Chalcidoidea: *Kradibia wassae* (Wiebes, 1980), *Grandiana wassae* Wiebes 1961, *Sycoscapter* spec. and *Philotrypesis* spec.) were reared; they may serve as hosts, but phytophagy cannot be ruled out.

For the recognition of the subfamily Braconinae, see any of the keys by van Achterberg, 1990, 1993, or 1997, and for the terminology used in this paper, see van Achterberg, 1988.

Descriptions
Subfamily Braconinae Nees, 1812
Ficobracon gen. nov.

Type species: *Ficobracon brusi* spec. nov.

Etymology: named after the generic name of the host tree (*Ficus* Linnaeus, 1753) and the generic name *Bracon* Fabricius, 1804.

Diagnosis.— Antenna of ♀ with about 27 segments, with short apical spine (fig. 6); scapus small, ovoid and apically truncate (fig. 11); face smooth; eyes glabrous; clypeus convex, hardly or not separated from face (fig. 5), its ventral margin thin and upcurved; occipital flange narrow; malar suture obsolescent; propleuron smooth and nearly flat; anterior subalar depression nearly absent, anteriorly with a weak carina (fig. 12); mesoscutum smooth, partly glabrous, setose only near notauli and medio-posteriorly; scutellum wide, semi-circular and rather flat; median carina of propodeum absent anteriorly; vein cu-a of fore wing interstitial; angle between veins 1-SR and C+SC+R of fore wing about 55°; vein 3-M of fore wing largely sclerotized (fig. 1); vein CU1b of fore wing medium-sized, but distinctly shorter than 3-CU1 (fig. 8); vein 2-SR of fore wing about as long as vein 3-SR, weakly curved (fig. 1); vein 1r-m of hind wing short (fig. 1); tarsal claws convex ventrally, with rounded lobe (fig. 7); hind tibia not widened and slightly narrowed apically (fig. 3); dorsal carinae of first metasomal tergite absent, but dorso-lateral carina largely present (fig. 12); second tergite with medio-basal area (fig. 10), bordered by a pair of slightly converging grooves, and sublaterally with pair of incomplete longitudinal grooves; second suture wide medially and narrow laterally; third tergite about 4 times wider than its medial length and with distinct antero-lateral grooves (fig. 10); valves of ovipositor normal apically, with teeth ventro-apically (fig. 9); apex of ovipositor sheath not widened and moderately setose; hypopygium protruding apically and narrowly truncate medio-apically (fig. 12).

Distribution: Australian (Papuan: one species).

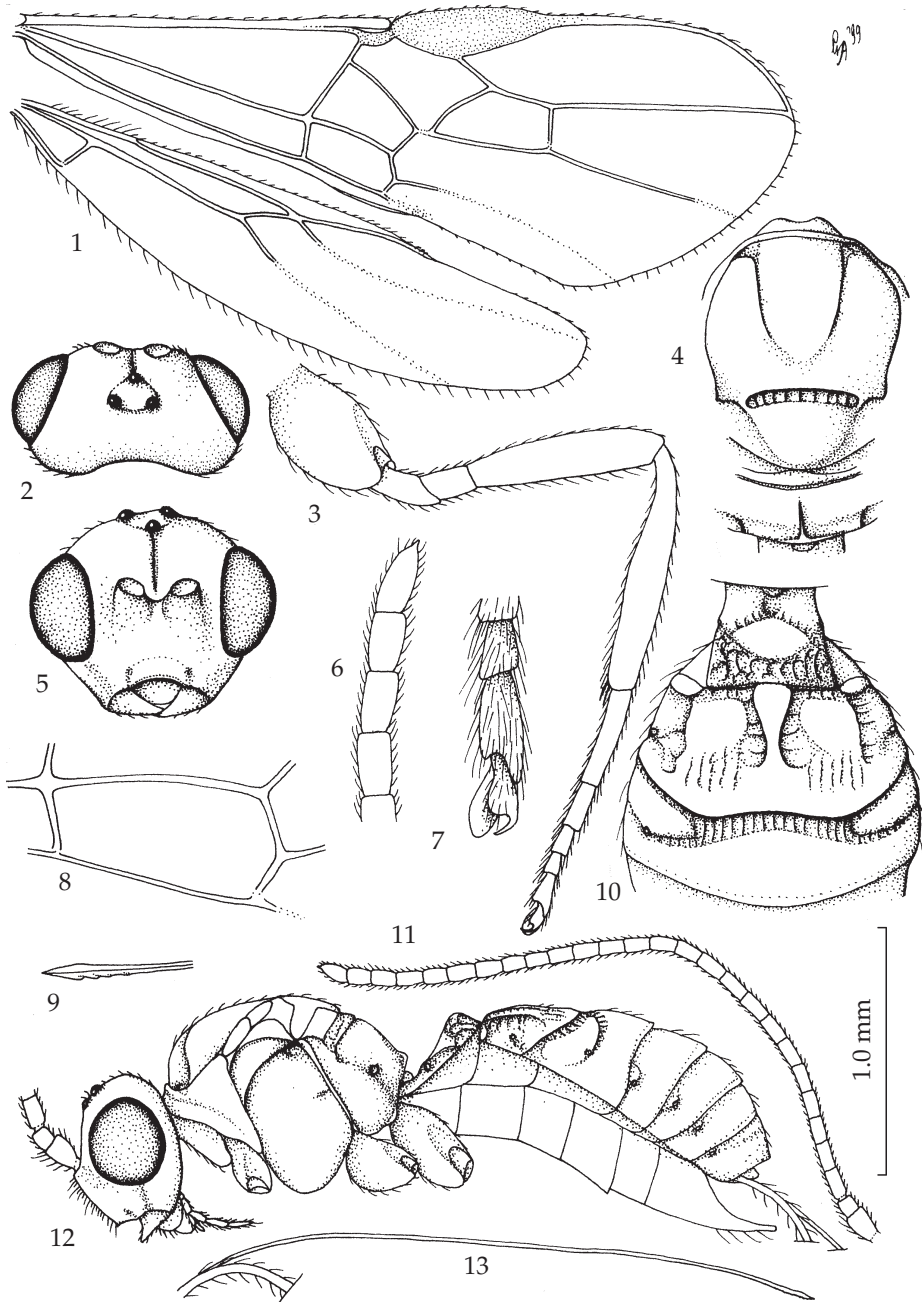
Note.— Among the Indo-Australian genera of the subfamily Braconinae it is most similar to the genus *Syntomernus* Enderlein, 1920, which differs in having the outer hind tarsal claw concave with its lobe acute, the scutellum normal (triangular), the hind tibia narrower than the hind femur, the fourth metasomal tergite strongly convex in lateral view, the frons granulate, the clypeus differentiated from the face and the second tergite lacking a pair of longitudinal sublateral grooves.

Ficobracon brusi spec. nov.
 (figs 1-13)

Material.— Holotype, ♀ (RMNH), "Papua New Guinea, Madang, Ohu Cons[ervation] Area, coll. 26.ix.1996, em. 1996, reared from figs of *Ficus wassa* Roxb., Brus Isua, RMNH'99". Paratypes: 2 ♀♀ + 1 ♂ (FRI; MCZ; RMNH): with same data. Excluded: 2 ♂♂ (MCZ; RMNH) "Papua New Guinea, East New Britain, coll. 16.vi.1995, reared from figs of *Ficus wassa* Roxb., G.D.Weiblen, RMNH'99".

Holotype, ♀, length of body 2.8 mm, of fore wing 3.1 mm.

Head.— Antenna with 27 segments, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 2.6, 2.1 and 1.7 times their



Figs 1-13, *Ficobracon brusi* gen. nov. & spec. nov., ♀, holotype. 1, wings; 2, head, dorsal aspect; 3, hind leg; 4, mesosoma, dorsal aspect; 5, head, frontal aspect; 6, apex of antenna; 7, outer hind claw; 8, detail of first subdiscal cell of fore wing; 9, apex of ovipositor; 10, first-third metasomal tergites, dorsal aspect; 11, antenna; 12, habitus, lateral aspect; 13, ovipositor. 1, 3, 11-13: 1.0 × scale-line; 2, 4, 5, 10: 1.5 ×; 6, 8, 9: 2.5 ×; 7: 3.0 ×.

width, respectively (figs 6, 11); length of maxillary palp 0.6 times height of head; OOL:diameter of posterior ocellus:POL = 16:5:10; frons with distinct median groove, glabrous medially and setose laterally; length of eye in dorsal view 3.0 times temple (fig. 2); temples directly narrowed behind eyes (fig. 6); face smooth medio-ventrally, remainder superficially granulate; hypoclypeal depression 0.35 times width of face (fig. 5); anterior tentorial pits obsolescent; length of malar space equal to basal width of mandible; mandible robust, distinctly twisted subapically.

Mesosoma.— Length of mesosoma 1.2 times its height; mesopleuron smooth; metapleuron largely smooth medially and rugose ventrally; notauli only anteriorly and medially distinctly impressed, remainder obsolescent (fig. 4); scutellar sulcus rather wide and distinctly crenulate (fig. 4); mesoscutum largely glabrous and smooth; scutellar sulcus wide and deep (fig. 4); scutellum smooth; metanotum without median carina; surface of propodeum smooth, reclivous and with median carina strong on its posterior half.

Wings.— Fore wing: 1-SR continuous with 1-M; r:3-SR:SR1 = 8:12:48; SR1 straight and ending at apex of wing (fig. 1); 2-SR:3-SR:r-m = 14:12:8; first discal cell narrowed distad. Hind wing: M+CU:1-M = 15:33; 1-M straight or nearly so; wing membrane setose near cu-a; SC+R1 long (fig. 1).

Legs.— Tarsal claws robust (fig. 7); length of femur, tibia and basitarsus of hind leg 4.2, 6.2, and 5.8 times their width, respectively; fore tibia with indistinct short spines; length of outer and inner hind tibial spurs 0.2 and 0.3 times hind basitarsus, respectively.

Metasoma.— Length of first tergite 0.8 times its apical width, its surface largely smooth, but apically narrowly coarsely rugose (fig. 10); second tergite largely smooth, between sublateral and submedial grooves partly finely rugose (fig. 10); third and following tergites smooth, transverse; second and base of third tergite with sharp lateral crease; length of ovipositor sheath 0.85 times fore wing and 1.4 times hind tibia, long setose, somewhat widened and with apical spine (fig. 13); hypopygium medium-sized and apically acute (fig. 12).

Colour.— Brownish-yellow (stemmaticum and body partly pale yellowish); scapus, pedicellus and pterostigma (but medially rather pale) brown; remainder of antenna and ovipositor sheath dark brown; wing membrane subhyaline.

Variation.— Length of fore wing 2.1 (♂)-3.1 (♀) mm, and of body (2.1(♂)-)2.6-2.8 mm; antenna of ♀ with 27(3) segments, of ♂ with 27(1) segments; length of ovipositor sheath 0.85-0.95 times fore wing; fourth-sixth tergites may be granulate. Both males from East New Britain are probably conspecific, but are excluded from the type series because of their darkened hind tibia and basal parts of the metasoma.

Distribution.— Papua New Guinea.

Biology.— Either parasitoid of Agaonidae (Hymenoptera: Chalcidoidea), or phytophagous in fig-syconia.

Acknowledgements and abbreviations

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FRI stands for Forest Research Institute, Lae, Papua New Guinea; MCZ for Muse-

um of Comparative Zoology, Cambridge, U.S.A.; and RMNH for Nationaal Natuurhistorisch Museum, Leiden.

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