

A new *Platypalpus* species from
Papua New Guinea
(Diptera, Empidoidea, Hybotidae)

by P. GROOTAERT and I. VAN DE VELDE

Received for publication: 4 May 1988.
Koninklijk Belgisch Instituut voor Natuurwetenschappen, Vautierstraat 29, B-1040 Brussels.
Contribution n° 162 from the Léopold III Biological Station, Laing Island.

Summary

Platypalpus krisi sp. nov. is described and illustrated from the lowland of Papua New Guinea. Additional data are given of the other species from the *isabellae* group.

Résumé

Platypalpus krisi sp. nov. est décrit et illustré de la Papouasie Nouvelle Guinée. Des données complémentaires sur les autres espèces du groupe *isabellae* sont fournies.

The genus *Platypalpus* is quite rare in the lowland of Papua New Guinea. In all, only three species are hitherto known from this country: *P. chionochaeta* BEZZI, 1904, belonging to the *P. albiseta* group, *P. isabellae* GROOTAERT, 1984 and *P. awarensis* GROOTAERT, 1984, the latter two both belonging to the *isabellae* group. In the present paper, a third species is added to the *isabellae* group. This species group is quite aberrant from the usual *Platypalpus* in having no anal lobe in the wing so that the anal vein almost disappears while the basal cells are very small. Further, they are small species with an elongate pyriform third antennal segment which is long haired; they have a long white arista, but it is questioned whether it is a convergence with the *albiseta* group or a synapomorphy. On the middle tibiae there is a small spur. However, this may represent also a convergence since spines and spurs on the legs of empidids developed several times in relation to their predatory life. The hypopygium has some primitive characters such as being covered with microtrichia and long hairs and in having a small more or less triangular left periandrial lamella. It was not clear (GROOTAERT, 1984) if these species should be grouped in a new genus especially because the status of some related Tachydromiine genera from the oriental and Australian region are still obscure. The three species are externally very similar except

for the sclerotization of the abdominal terga. The male terminalia are highly diverse with strong spines on the right periandrial lamella, on the hypandrium and even on the epiproct.

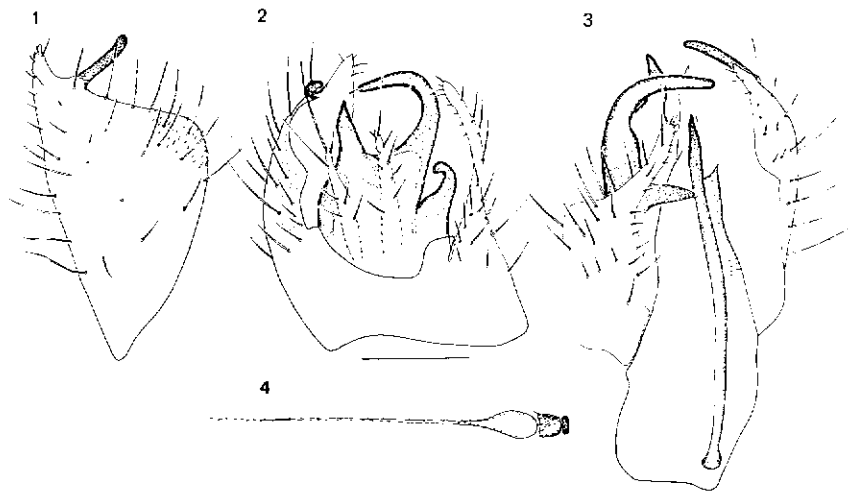
Systematic part

Platypalpus krisi sp. n., figs 1-4

Diagnosis: A small, shining black species with a pair of very short vertical bristles and black antennae with a long white arista. Middle femora with long black posteroventral bristles; middle tibiae with a tiny black pointed spur. Basal cells in wings very small, anal vein faintly indicated. All coxae pale yellowish. Proctiger with three spines. Tip of right periandrial lamella bifurcate. Hypandrium without spines.

Male:

Head black, small and globular. Frons very narrow, in anterior half narrower than front ocellus, shining black. Face almost linear. A pair of fine anterior ocellar bristles, about as long as second antennal segment. A pair of pale vertical bristles, adpressed to the vertex, shorter than the second antennal segment. Vertex polished black. Occiput with very short, dark bristles. Proboscis very short, palpi small, brown with some dark bristles. Antennae black with a white arista. Basal two antennal segments black; third segment slightly paler. A ventral bristle on second segment nearly as long as second segment. Third antennal segment pyriform (fig. 4), about three to four times as long as deep. Arista three times as long as third segment.



Figs 1-4: *Platypalpus krisi* sp. nov. paratype male: 1. right periandrial lamella; 2. hypopygium; 3. left periandrial lamella and hypandrium; 4. antenna. Scale 0.1 mm.

Thorax shining black but epipleura and scutellum dusted. Mesonotum almost bare, except for a few very short bristles. Humeri indistinct; no humeral bristle differentiated but some very short hairs present. No acrostichals. Two pairs of minute dorsocentrals in anterior half, none posteriorly. Pubescence in notopleural depression very short, upper notopleural brown, about as long as second antennal segment (being the longest bristle on the mesonotum); a short postalar and a pair of brownish scutellars with a fine hair near each at the outside.

Legs yellowish-brown. All coxae and trochanters yellowish-white. Basal fifth of front and middle femora and basal two thirds of hind femora also pale yellow. Tip of all femora, all tibiae and tarsi brownish. Front femora slender, as deep as middle femora. A double row of rather short, pale to brown ventral bristles on front femora: the bristles in the posterior row, half as long as femur is deep; those in the anterior row still shorter except for a long basal bristle in each row which is as long as femur is deep. A brown anteroventral bristle, half as long as femur is deep, on a quarter from tip. Pubescence on front tibiae dense near tip. Middle femora somewhat thickened in basal third, further slender. A brown, but fine anterior bristle, as long as femur is deep, on two thirds from base. Five to six brownish posteroventral bristles, twice as long as femur is deep. Middle tibiae with a fine, very short, black pointed spur. Hind femora and tibiae slender. Pubescence on hind femora especially posteroventrally very dense and pale.

Wings brownish, with brown veins. Venation as in *P. awarensis*. Basal cells very small. No anal lobe and anal vein faintly indicated, running close and parallel with vein Cu. Halteres with a white knob, stalk brown. Squamae small, brown with short black hairs.

Abdomen with tergum 1, 2 and a triangular patch on tergum 3 white, apparently not sclerotized, following terga brown. Hairs on apical border of tergum 1 and 2 very short. Apical hairs on following terga long; dorsal pubescence dense. Venter pale brown. Hypopygium (figs 1-3) shining black. Three stout spines on epiproct: central spine long and curved; left spine curved towards hypandrium. Tip of right periandrial lamella with a long black extension underneath tip. Hypandrial plate without spines.

Length: body: 1.5-1.8 mm; wing: 1.8 mm.

Female:

In most respects identical to male also in the sclerotization of the abdominal terga. Segment 8 elongate.

Length: body: 1.3-1.6 mm; wing: 1.6-1.7 mm.

Derivatio nominis:

The present species is dedicated to our son who helped with a lot of enthusiasm in collecting the material.

Material: holotype male: Papua New Guinea, Madang province, Yoro (type-loc.), 30.VII.1987, swept along dry riverbed in secondary rainforest. Paratypes: Apingan (Bogia, Madang prov.), 31.VII.1987, 1 male; Makarup (Bogia, Madang prov.), 30.VIII.1987.

Discussion

Superficially, *P. krisi* sp. nov. resembles very much *P. awarensis*. They can be distinguished by the sclerotization of the basal abdominal terga. Further, the anteroventral bristle on the front femora is at about a quarter from the tip in *P. krisi* while at a third in *P. awarensis*. The male genitalia are very specific.

Platypalpus isabellae GROOTAERT, 1984: 284, figs 1-5

Material: Mangigim (close to Apingan near Bogia; Madang prov.), 15.VIII.1987, 2 males (st. 0109). Found by sweeping in a dry riverbed where the bottom was covered with fallen leaves. The river ran through a secondary rain forest.

Platypalpus awarensis GROOTAERT, 1984: 286, figs 6-10

Female:

Identical in most respects to male but a little stouter. Dorsum of first abdominal tergum white (apparently poorly sclerotized) but lateral borders somewhat brown as in male. Segment 8 elongate, cerci half as long.

Length: body: 1.7-2.4 mm; wing: 2.1 mm.

Material: Awar (Bogia, Madang prov.), 5.VIII.1987, 1 female (no. 0044; swept in swamp with Sago palmtrees). Nagada (near Madang; alt. about 5m), 7.IX.1987, 4 males, 1 female (no. 0148; swept from herbs in a wet Sago plantation). Makarup (near Bogia, Madang prov.; alt. 50 m) 30.VIII.1987, 1 female (no. 0121; swept from herbs in a Sago plantation).

Note:

P. awarensis GROOTAERT, 1984 was described from a single male. The arista is about three times as long as the third antennal segment and not twice as in the original description. Further, the first tergum is dorsally white and the lateral borders are narrowly brownish sclerotized as in the female.

Key to the known species of the *isabellae* group.

1. - All coxae blackish brown; all terga sclerotized. Hypandrium with 2 recurved spines.....*isabellae* GROOTAERT, 1984
- All coxae yellowish white; anterior terga partly or completely whitish. Hypandrium without spines.....2
2. - First tergum completely white, following terga completely brown (sclerotized). Tip of right periandrial lamella with a short extension at its base.....*awarensis* GROOTAERT, 1984
- First, second and a median triangle on third tergum white; following terga almost completely sclerotized. Tip of right periandrial lamella with a long black extension.....*krisi* sp. nov.

References

- BEZZI, M., 1904. - Empididae Indo-australiani raccolti dal Signor L. Biro. *Anns hist.-nat. Mus. hungarici* 21: 320-361.
- GROOTAERT, P., 1984. - Two new species of *Platypalpus* MACQUART (Diptera, Empidoidea, Hybotidae) from Papua New Guinea. *Bull. Anns Soc. r. belge Ent.* 120: 283-290.

* * * * *