ENTOMOLOGIE, 74: 5-9, 2004

Two new species of *Anisocentropus* McLachlan, 1863 from Indonesian New Guinea (Papua) (Trichoptera: Calamoceratidae), and a contribution to the knowledge of a third one

by Lazare BOTOSANEANU & Rob DE VOS

Abstract

Two new species of *Anisocentropus* from Papua (former Irian Jaya) are described. *Anisocentropus bipustulatus* sp. nov. (female) is certainly closely related to a species known from Wetar Island (Moluccas), Papua New Guinea, New Britain and Northern Queensland, differing from it in the complex and bright forewing pattern. *Anisocentropus gilvimacula* sp. nov. (male), although sharing a feature of the forewing pattern with another New Guinean species, is certainly not closely related to it, as demonstrated by study of its previously undescribed male genitalia.

Key words: Trichoptera, Calamoceratidae, *Anisocentropus*, New Guinea.

Introduction

Not less than 11 valid species of *Anisocentropus* are actually known from New Guinea and smaller adjacent islands: *dilucidus* McLachlan, 1863; *illustris* McLachlan, 1863; *immunis* McLachlan, 1863; *cretosus* McLachlan, 1875; *triangulatus* Ulmer, 1907; *banghaasi* Ulmer, 1909; *maclachlani* Ulmer, 1929; *fulgidus* Navas, 1933; *io* Kimmins, 1962; *hyboma* Neboiss, 1986; *pictilis* Neboiss, 1986.

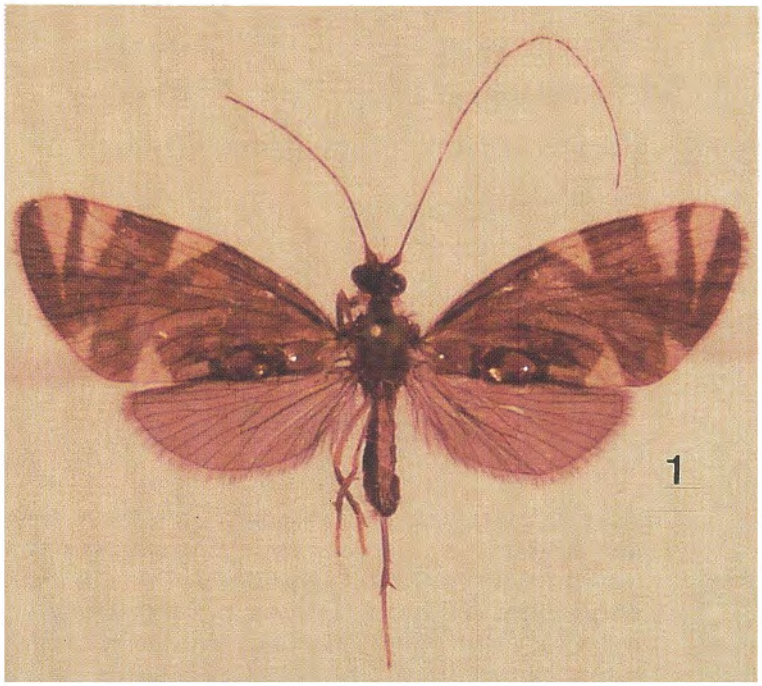
Only three of these species were recorded also from outside the New Guinean area – some of these records possibly wrong. Unfortunately, the available information for several species in this genus, containing some of the most beautiful caddisflies, is lacunary, this rendering comparison difficult.

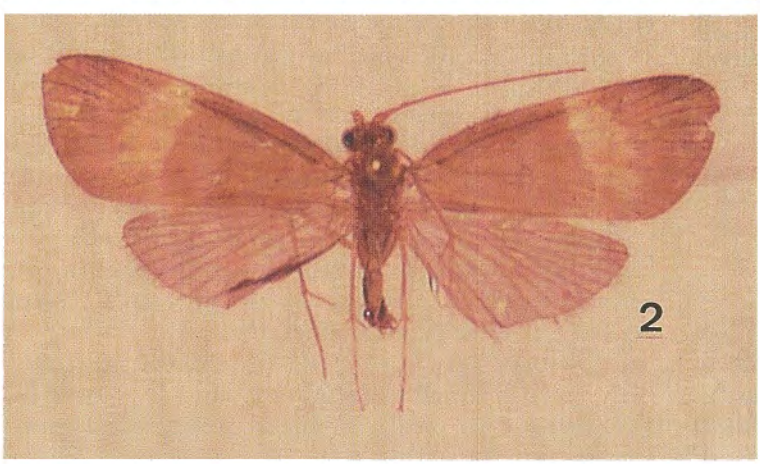
During two expeditions to Papua (1993 and 1996) by Dutch entomologists some Trichoptera have been sampled – although these insects have only been a marginal object of sampling activity. Two specimens of *Anisocentropus* proved to represent new species: they will be described here.

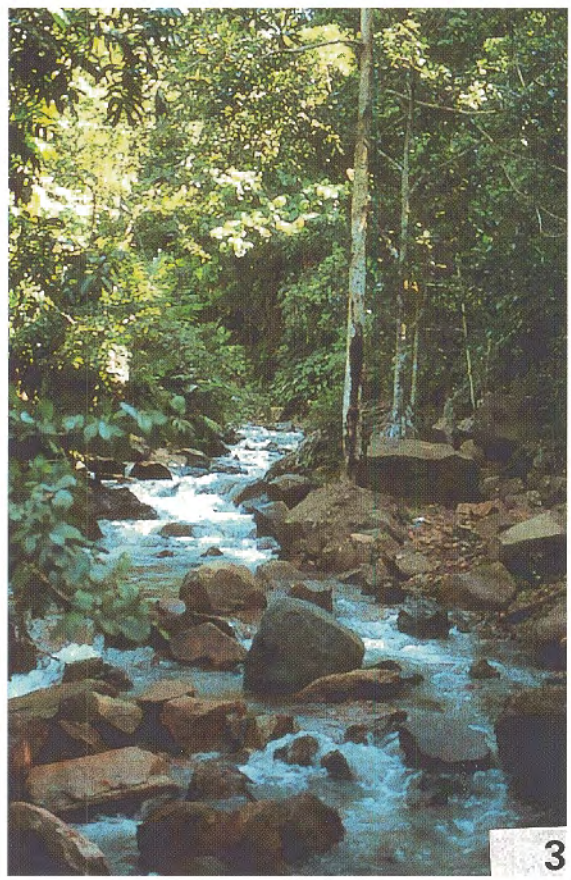
Anisocentropus bipustulatus sp. nov.
(Figs. 1, 4)

Description. Forewing length 9 mm. Antennae (incompletely preserved): scapus brownish, first following articles pale brown with small pale distal annulations; these pale zones become gradually more extended, many following articles being mostly pale with darker basal annulations, these in their turn followed by brownish articles with pale distal annulations. Head and thorax shining brown, on head lighter zones on sides of darker median zone, two longitudinal lighter strips on mesonotum. Spurs: 2, 4, 3. Forewing mainly rather dark brown; three pale (whitish – cream) roughly triangular spots pointing downwards in anterior part of wing, two such spots pointing upwards in posterior part; under a certain illumination the hairs on several zones of the wing (limited by dashes in Fig. 4) get a beautiful coppery (bronze) brilliance; a few small zones (limited by dots in Fig. 4) get a golden brilliance; in basal part of wing, between A1 and the postcostal margin, two striking naked blisters, distal one entirely surrounded by dark "eye-circle", proximal one only on its distal side (blisters crossed by A2, proximal one also by A3); at arculus a dot surrounded by distinct light circle. Hindwing uniformly pale grey-brown, iridescent. Description or illustration of the female genitalia would be of little use in this case, no comparison being possible with the as yet undescribed female of the related *A. banghaasi*.

Affinity. The new species has definitely much in common with *A. banghaasi*, described from the male and known from Wetar Island (Moluccas), Papua New Guinea, New Britain and northern Queensland (Ulmer, 1909; 1929; Mosely & Kimmins, 1953) – being thus one of the most widely distributed New Guinean species. The forewings of the two species share: the generally brown pubescence; the five conspicuous whitish-cream triangular spots (with quite minor differences); the dot surrounded by circle at the arculus; the patch of silvery hairs at the basal angle; and the existence of blisters, with the striking difference that there are three such blisters in *A. banghaasi* and only two in the new species. An important difference is the absence in *A. bipustulatus* of any trace of blue or violet shiny zones – shared in *A. banghaasi* by specimens from various parts of the distribution area – these being replaced by coppery shiny zones – with a different pattern.







Figs. 1-3 — 1 - *Anisocentropus bipustulatus* sp. nov., female; 2 - *Anisocentropus gilvimacula* sp. nov., male. (both photographs G. HELMERS); 3 - The type locality for *Anisocentropus bipustulatus* sp. nov. at Jembatan Dua, near Waena, Cyclops Mountains (Indonesia, Papua).

Holotype female, ''Indonesia, Irian Jaya, ZMA Expedition 1996'', ''Jembatan Dua, Cyclops Mts near Waena, 2°35'S, 140°36'E, 23.I.1996, at light'' (ZMAN)

Habitat. The type locality (fig. 3) is a typical swiftly flowing metarhithral stream.

Etymology. Pustulatus (latin) means blistered.

Anisocentropus gilvimacula sp. nov.
(Figs. 2, 5-9)

Description. Forewing length ca. 8 mm. Antennae (very incompletely preserved) entirely pale. Head, thorax, abdomen uniformly light amber. Forewing uniformly light brown, with the exception of a big, obliquely transverse, irregularly limited spot, completely covered by dense light-yellow hairs which are much longer than the remaining wing hairs; this spot reaches the costal margin, and does not reach the postcostal margin, but only the lower branch of F5.

Male genitalia. Segment IX with proximal margin not protruding, distal margin broadly but not strongly protruding; segment X in dorsal view with wide and deep distal sinus, flanked by sharply pointed, slightly converging arms turning downwards like strong beaks; superior appendages ovoid (somehow club-shaped) in dorsal view, distally with numerous long setae; inferior appendages simply conical, their median face entirely covered by short, plump spines.

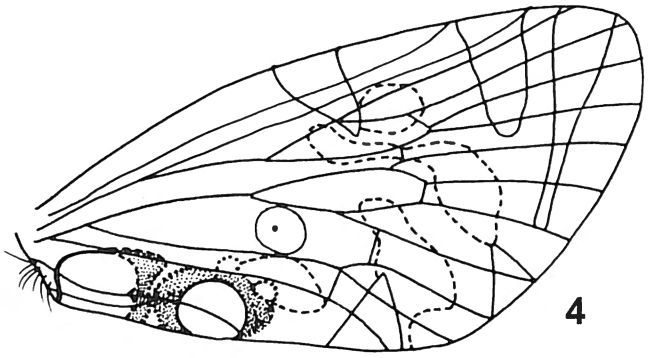


Fig. 4 — *Anisocentropus bipustulatus* sp. nov., forewing.

Affinity. There is apparently some similarity of the new species with another New Guinean species, *A. dilucidus* (McLachlan, 1863; Ulmer, 1906; 1929), in the uniformly pale antennae and in the presence on the forewing of a "broad band" reaching costa but not reaching postcosta; however, this "band" is whitish in *dilucidus* and light-yellow in the new species, also its shape being rather different. Moreover, the general colour of the forewing is dark-brown in *dilucidus*, light-brown in the new species, where there is no trace of zones with purplish or violet (or "blue") reflection, as described for *dilucidus*. The male genitalia of *A. dilucidus* have never been illustrated. We have been fortunate enough to be able to do it now, having received on loan from NHM (London) one of the two male type specimens of this species (labelled: "Paratype", "M." [certainly abbreviation from "Island of Mysol" in the original description]; "Wallace" [doubtless Alfred Russel Wallace]; "Saunders 68.3"; "Anisocentropus dilucidus McLachlan"). Figs. 10-14 will show that there is very considerable difference between the two species in most parts of the genitalia, and especially in the dorsal shape of segment X, in the laterodistal projection of segment IX, or in the shape of the gonopods in lateral and ventral view.

Holotype male, "Wandammen Peninsula, Tandia, 17 km S Wasior, at light, 6.XI.1993"; "Indonesia, Irian Jaya, A.J. de Boer, A.J.M. Rutten, R. de Vos" (ZMAN).

Etymology. Gilvus (latin) means light yellow; macula means spot.

Acknowledgements

We thank Mr. David T. Goodger (BMNH, London), who has kindly made the paratype of *A. dilucidus* available for study and Mr. G. Helmers (Purmerend, The Netherlands) for making the digital photographs (Figs. 1 and 2). The second author expresses his thanks to the Uyttenboogaart-Eliasen Foundation for financial support enabling him and five colleagues to sample in Papua (1993 and 1996) the described specimens.

References

McLachlan, R., 1863. On *Anisocentropus*, a new genus of exotic Trichoptera, with description of five species and of a new species of *Dipseudopsis*. *Transactions of the entomological Society of London,* **(3)1**: 492-496 (plate XIX).

Mosely, M.E. & Kimmins, D.E., 1953. *The Trichoptera of Australia and New Zealand.* British Museum (N.H.), London, 550 pp.

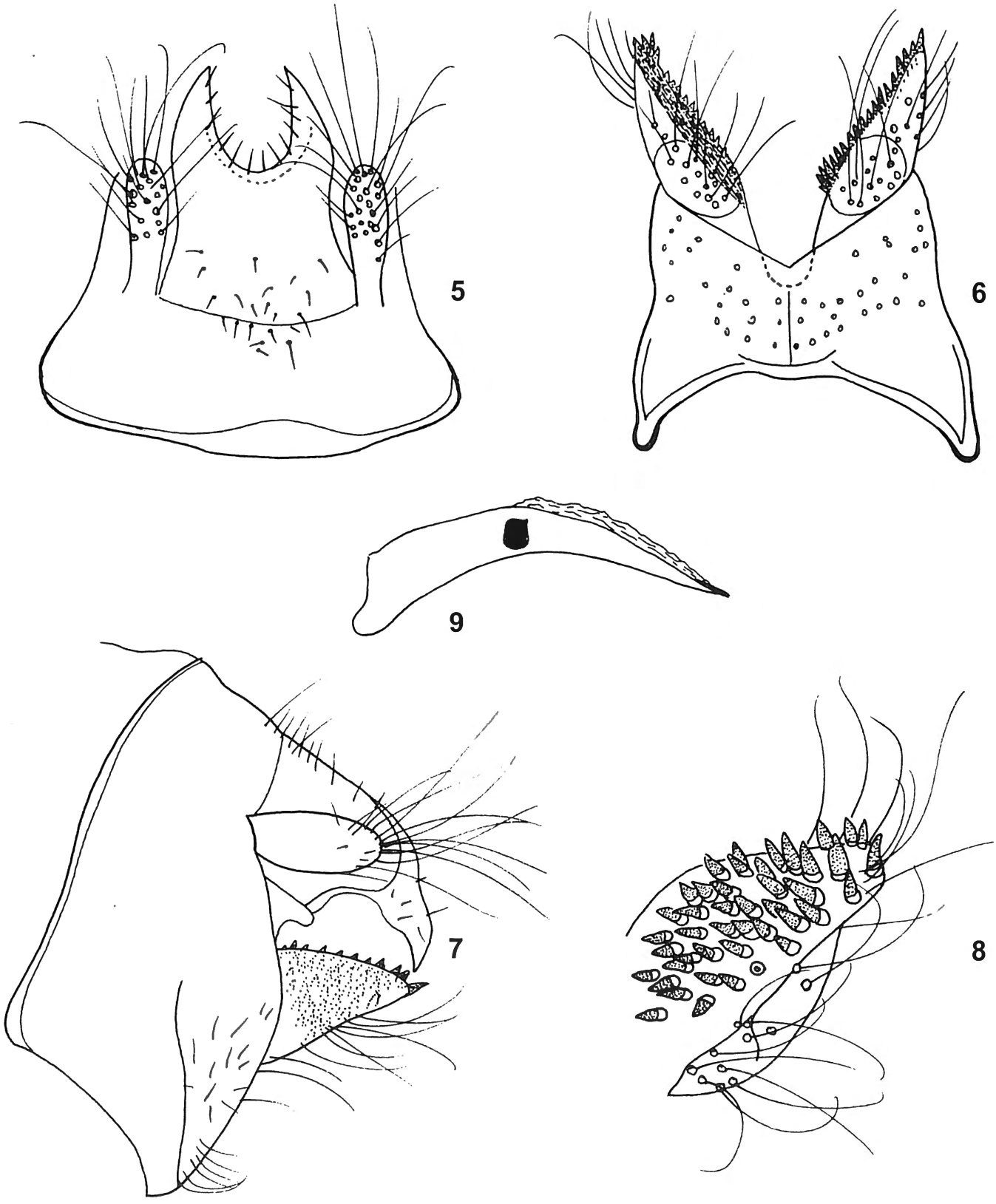
Ulmer, G., 1906. Neuer Beitrag zur Kenntnis aussereuropaeischer Trichopteren. *Notes from the Leiden Museum,* **28**: 1-116.

Ulmer, G., 1909. Einige neue exotische Trichopteren. *Notes from the Leiden Museum,* **31**: 125-142.

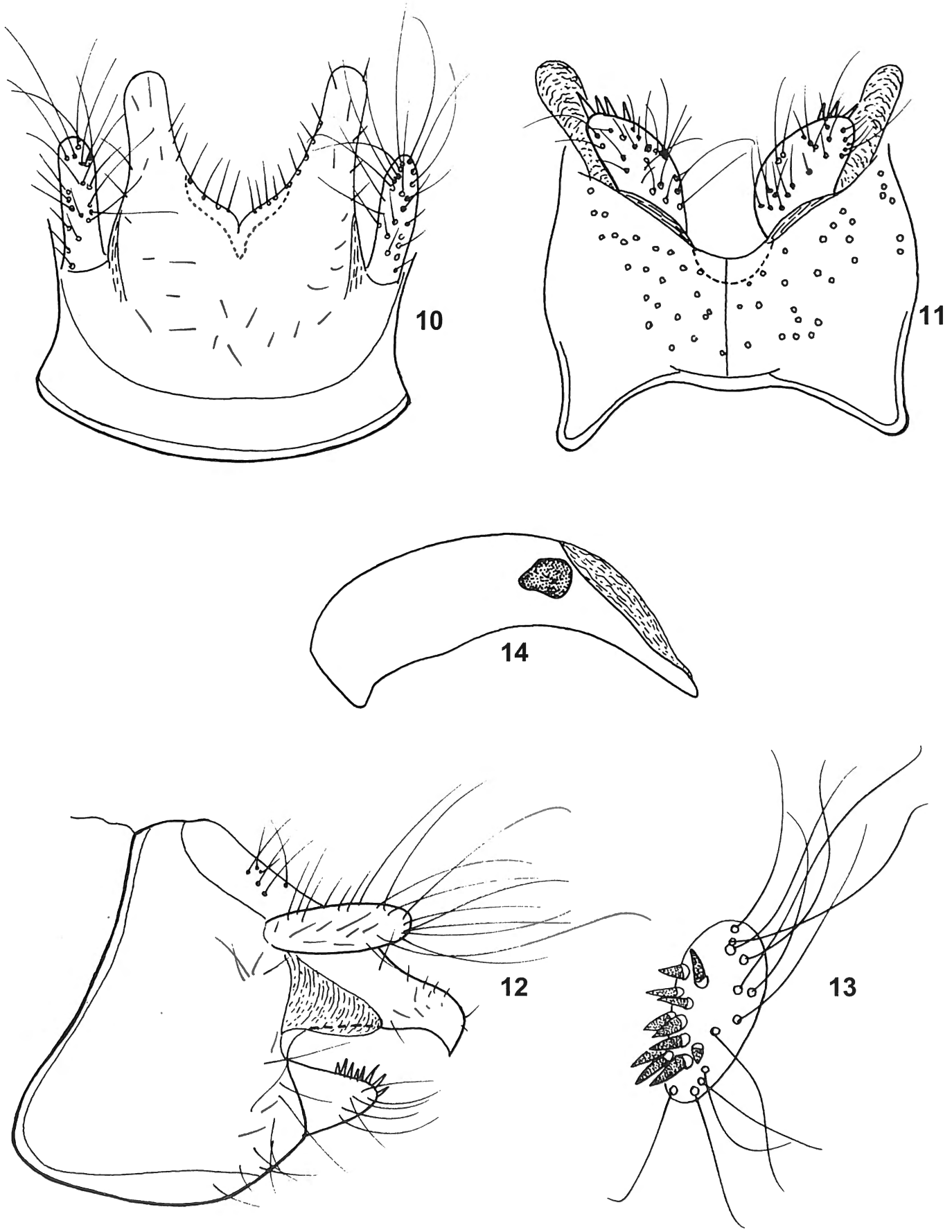
Ulmer, G., 1929. Über einige, hauptsächlich asiatische, Ephemeropteren und Trichopteren aus der Sammlung R. McLachlan. *Deutsche Entomologische Zeitschrift,* **1929(3)**: 161-195.

Lazare Botosaneanu
Zoölogisch Museum, sectie Entomologie
Plantage Middenlaan 64
NL-1018 DH Amsterdam, The Netherlands

Rob De Vos
same address
(rvos@science.uva.nl)



Figs. 5-9 — *Anisocentropus gilvimacula* sp. nov., male genitalia. 5. dorsal; 6. ventral; 7. lateral; 8. right gonopod, median face; 9. phallus, lateral. All same scale except Fig. 8 more strongly magnified.



Figs. 10-14 — *Anisocentropus dilucidus* McLachlan, 1863, male genitalia. 10. dorsal; 11. ventral; 12. lateral; 13. right gonopod, median face; 14. phallus, lateral. All same scale except Fig. 13 more strongly magnified.