

ON SOME NEW-GUINEAN BATRACHOMORPHUS SPECIES (HEMIPTERA, JASSIDAE)

by

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The genus *Batrachomorphus* was erected by Lewis in 1836 to contain *B. irroratus*, then a new species from near London. Lewis published a very detailed description of his new genus, and compared it with *Iassus* Germar (= *Allygus atomarius* F.) or *Phrynomorphus* Curtis (= *Euscelis lineolatus* Brullé); then he writes: "but the position of the antennae, ocelli, &c. evidently allies it to *Bythoscopus*, Germ." (= *Iassus lanio* F.), "from which its depressed form will at once distinguish it".

The name was emendated by Agassiz to *Batrachomorphus*.

After Lewis many authors, who were not able to see "at once" the difference, united *Batrachomorphus* with the genus in which they placed *Iassus lanio* F.

Ribaut gives a more detailed account of the characters separating the two genera. From this it appears that most — if not all — oriental and australian species are to be brought to *Batrachomorphus*, chiefly because of the number of spines on the posterior knees.

Two genera of australasian insects were described in 1906 resp. 1930, which are to be reunited with *Batrachomorphus*, viz., *Eurinoscopus* Kirkaldy and *Marquardtella* Schmidt. Both descriptions compare their object with the genus *Bythoscopus* Germar (= *Iassus* F.) and its type *lanio* L., which induced the authors to create a new genus. A comparison with the type of *Batrachomorphus*, however, shows that at most a few unimportant differences in the nervature of the tegmina can be traced, which are not of generic importance, the less so as the nervature is apt to considerable individual variation.

Only very few species have been mentioned as occurring in New Guinea up to now. Walker mentions quite a number of "*Bythoscopus*" species from New Guinea, but I doubt whether a *Batrachomorphus* is among them.

On the other hand I saw a *Jassus coriaceus* Walker that belongs to *Batrachomorphus* from Hollandia (Kota Baroe), New Guinea (L. D. Brongersma, 15 April 1954). Furthermore only the species described as *Marquardtella Krusei* and *M. Brunki* by E. Schmidt are from Western Papua (Fly river, resp. Kikori river).

During the expedition under the auspices of the Royal Netherlands Geographical Society (Koninklijk Nederlandsch Aardrijkskundig Genootschap) under the leadership of Professor Dr. H. Boschma, a number of species were collected that are new to science.

The following descriptions are to be simply regarded as a further contribution to the knowledge of the New Guinean species of the genus *Batrachomorphus*. Only when it would be possible to obtain a very extensive collection of these insects it will be possible to compose a more synoptical treatment. From a superficial examination of material collected more recently I must conclude that the number of species of this genus in New Guinea is very high, probably over fifty.

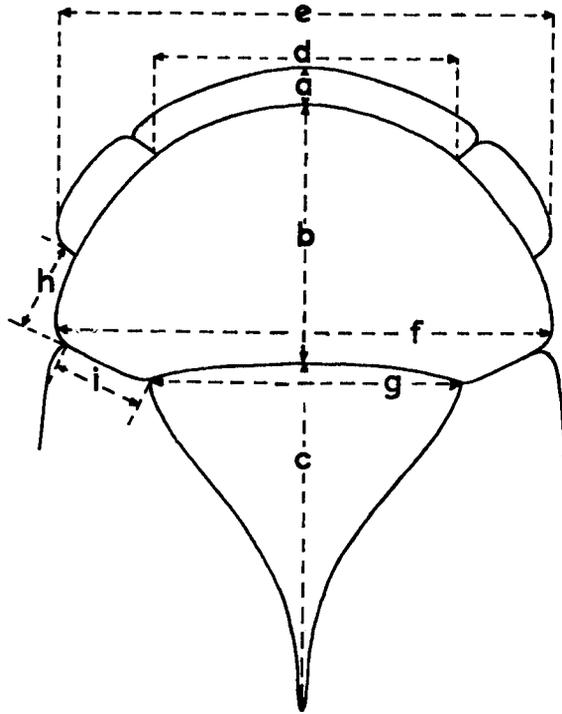


Fig. 1. Measurements of the head and the thoracic parts of *Batrachomorphus* species.

I regret that I have not been able to describe females of the new species. Probably because of the season or because of the collecting methods the females were very scant among the material treated here, and I never felt sure to connect a female with one of the described males.

As in general appearance the group is rather homogeneous, and the species

do not offer many useful characters besides those derived from the structure of the genitalia, I have added to the descriptions a number of measurements of head and thoracic parts. The way in which these measurements are taken is indicated in fig. 1. It must be borne in mind that when taking the measurements the scutellum was kept horizontal, and the orientation was not changed for taking the other measurements. So, for instance, the more or less declived pronotum would appear relatively longer if measured in its own plane. The length of the scutellum (c) always is fixed to 100, for easier comparison of the relative values in different species.

Batrachomorphus nitens nov. spec.

Light yellowish ochraceous, probably greenish in fresh specimens. In our 24 years old specimens the tibiae, the tarsi, the costal borders, and the claval sutures are still distinctly green. Punctuation of the tegmina concolourous. Upper surface, and specially the tegmina shining. Ocelli red. The postclypeus with faint brownish markings at both sides. Membrane brownish, with a brown spot at the base. Measurements: a: 17; b: 82; c: 100; d: 128; e: 178; f: 173; g: 130; h: 34; i: 30.

The subgenital valve of the male (fig. 2) with rounded top, somewhat compressed at the sides. The genital plates rather short, with very long, white hairs. The parameres with a brown hooklet at the apex (fig. 3). Pygofer with strong and rather short spines near the apex only.

Length (of the ♂): $5\frac{1}{3}$ -6 mm.

Two ♂ specimens: Araboebivouac, 4 and 6 October 1939, holo- and paratype; one ♂ specimen: Paniai, 27 August 1939, paratype.

Batrachomorphus viridinervis nov. spec.

Similar to the preceding species, but slightly more green in hue; especially the nerves and the punctuation of the tegmina are green in places. The species does not show any obvious darker markings. Measurements: a: 18; b: 96; c: 100; d: 111; e: 176; f: 178; g: 138; h: 33; i: 29.

The subgenital valve of the male (fig. 4) is not compressed at the sides and more narrowly rounded at the top than in the foregoing species. The genital plates are longer, and protruding beyond the subgenital valve, only sparsely hairy. Parameres pointed, brownish at the apex (fig. 5).

Length (of the ♂): $5\frac{3}{4}$ - $6\frac{1}{2}$ mm.

Two ♂ specimens: Paniai, 16 September and 23 November 1939, holo- and paratype.

Batrachomorphus boschmai nov. spec.

A larger and more slender species than the preceding. Colour greenish or slightly tawny, sometimes with brownish or reddish markings near the anterior border of the pronotum and the head. Membraneous part of the tegmina narrow, only feebly smoky, with a brown spot at the base. Under-side yellow, tarsi and tibiae often partly green. Measurements: a: 12; b: 91; c: 100; d: 103; e: 160; f: 164; g: 124; h: 29; i: 22.

This species, of which the colour is rather variable, is in the male sex easily recognizable by the peculiar shape of the subgenital valve (fig. 6), which is sharply pointed towards the top, and shows strong inflexions at the sides. The part beyond these inflexions is nearly as broad as the base of the valve. The genital plates are rather broad and blunt, with very long hairs. The parameres somewhat anchor-shaped (fig. 7).

Length (of the ♂): $7\frac{1}{2}$ -8 mm.

Only ♂ specimens are known to me; five specimens: Araboebivouac, 6-19 October 1959, holo- and 3 paratypes; one specimen: Paniai, 29 August 1939, paratype; one specimen: Enarotali, 27-28 September 1939, R. R. v. Ravenswaay-Claassen legit.

Batrachomorphus notatus nov. spec.

A large and distinct species. Colour greenish ochraceous, the nerves of the tegmina and a stripe along the anterior part of the costa green. On the scutellum two distinct (more lateral) and two faint (more central) brown little striae at the base and two brown points before the transverse furrow; the top nearly black. On the clavus very dark brown markings against the hind edge, interrupted by the nerval apices. Base of the membrane dark brown, apical part brownish. Measurements: a: 12; b: 95; c: 100; d: 116; e: 173; f: 188; g: 140; h: 43; i: 30.

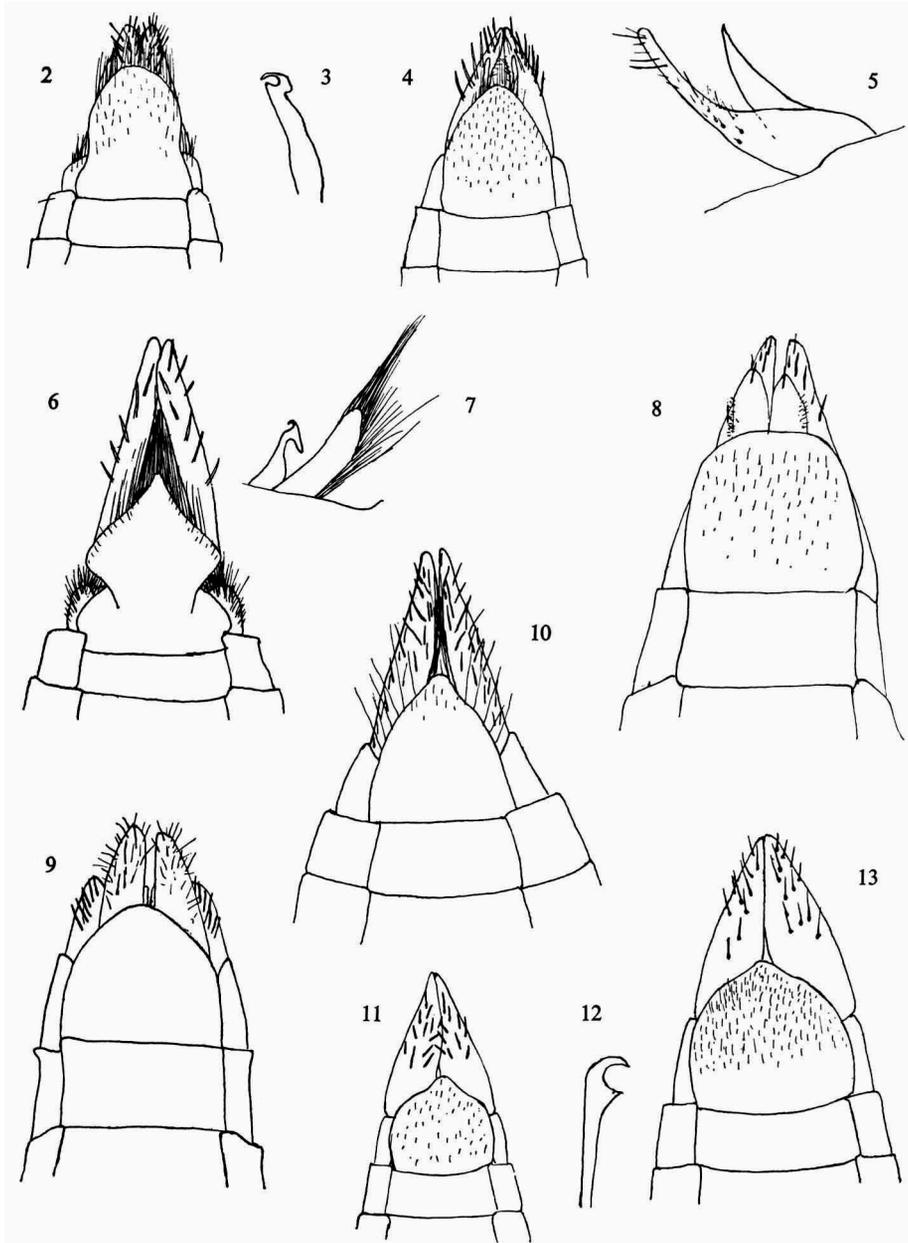
Subgenital valve of the male broadly rounded (fig. 8); genital plates broad, blunt, sparsely hairy, only slightly curved upward. Parameres thick, curved upward, the upper edge darkened towards the apex, with a blunt tooth near the apex and a still more indistinct one at some distance towards the base.

Length (of the ♂): $9\frac{3}{4}$ mm.

One ♂ specimen: Araboebivouac, 14 October 1939, holotype.

Batrachomorphus rex nov. spec.

A rather large and stout species. Brownish ochraceous, the costa and nerves in the apical part of the tegmina green, the legs partly so. Measure-



Figs. 2-13. Male genitalia of *Batrachomorpha* species. 2, 3, *B. nitens* nov. spec.; 4, 5, *B. viridinervis* nov. spec.; 6, 7, *B. boschmai* nov. spec.; 8, *B. notatus* nov. spec.; 9, *B. rex* nov. spec.; 10, *B. pustulatus* nov. spec.; 11, 12, *B. notulatus* nov. spec.; 13, *B. pictus* nov. spec.

ments: a: 12; b: 88; c: 100; d: 119; e: 173; f: 164; g: 134; h: 33; i: 21.

The broadly rounded subgenital valve of the male is devoid of any pubescence and shows very fine punctuation only. The genital plates are long, notably protruding beyond the subgenital valve and the pygofer, distinctly setulose (fig. 9). The parameres cylindrical, about $\frac{1}{4}$ of the diameter of the genital plates, slightly hairy.

Length (of the ♂): $9\frac{3}{4}$ - $10\frac{1}{3}$ mm.

Two ♂ specimens: Araboebivouac, 4-14 October 1939, holo- and paratype.

Batrachomorphus pustulatus nov. spec.

Yellowish ochraceous, the nervature of the tegmina slightly lighter, the centres of the cells in places brownish, near the shoulders and in the environment of the claval apex greenish. The whole upper surface studded with small blackish brown pimples, a few only on vertex and scutellum, about 30 on the pronotum and a large number on the tegmina on the nerves and along the claval suture (e.g. 12 at the 2nd claval nerve, about 20 along the costal nerve). Scutellum with greyish, triangular spots in the basal corners. Measurements: a: 11; b: 89; c: 100; d: 106; e: 164; f: 176; g: 127; h: 43; i: 22.

The subgenital valve of the male (fig. 10) with slightly elongated top, finely and sparingly hairy. Pygofer long, with strong bristles. Basal part of the genital plates oval, the part protruding beyond the subgenital valve narrow, slightly curved upward. Parameres very slender, cylindrical, sharply pointed, more or less spirally curved; the apices close together, nearly reaching the apices of the genital plates.

Length (of the ♂): $8\frac{1}{3}$ mm.

One ♂ specimen: Paniai, 15 September 1939, holotype.

Batrachomorphus notulatus nov. spec.

Smaller than the foregoing species, and with hardly elevated brown spotlets on the tegmina only. These spotlets are not placed on the nerves, but next to them on the cell membranes (e.g. about 7 along the 2nd claval nerve, only about 6 along the costal nerve). Scutellum with faint, triangular basal spots and with two basal central abbreviated brownish stripes. Base of the membrane with a brown spot. Extreme top of the tarsi and the claws brown. Measurements: a: 11; b: 97; c: 100; d: 129; e: 184; f: 195; g: 150; h: 37; i: 26.

Subgenital valve of the male rounded, with slightly protruding top (fig. 11). Genital plates hardly protruding beyond the valve, slender, curved,

with very long hairs at the apical part. Parameres (fig. 12) with hook-shaped top, and with an acute triangular protrusion before it.

Length (of the ♂): $5\frac{3}{4}$ mm.

One ♂ specimen: Paniai, 27 August 1939, holotype.

Batrachomorphus pictus nov. spec.

This species is easily recognizable by its general appearance and colour pattern. Shining ochraceous, the tegmina transparent. On the vertex two dark brown, rectangular, triangular spots, with their shortest rectangular sides close together near the median line, and the longer rectangular side — slightly curved forwardly at the sides — against the posterior border of the vertex. Scutellum brown, the extreme basal corners and a rather faint central line excepted. Running from the spots on the vertex to the scutellum are two brown, trapezoidal bands on the pronotum, slightly lighter in tinge. The abdominal tergites show yellow, black and red transverse bands, in places clearly visible through the tegmina and wings. Tegmina marmorated with brown, principally in the anterior apical part. Underside and legs ochraceous, tarsi brownish; ventral side of the connexivum with brownish segmental spots. Measurements: a: 4; b: 72; c: 100; d: 117; e: 162; f: 183; g: 136; h: 36; i: 19.

Subgenital valve of the male convex, fitting closely to the pygofer (fig. 13). The genital plates small, nearly straight, hardly surpassing the subgenital valve, hidden in the pygofer. Parameres curved inward, longer than the genital plates, with sharp pointed tops.

Length (of the ♂): $7\frac{1}{2}$ mm.

One ♂ specimen: Araboebivouac, 9 October 1939, holotype.

REFERENCES

- AGASSIZ, L., 1842-1846. Nomenclator zoologicus, Index universalis, p. 44.
KIRKALDY, G. W., 1906. Bull. Exp. Sta. H.S.P.A., no. 1 pt. 9, p. 346.
LEWIS, R. H., 1836. Trans. ent. Soc. Lond., vol. 1, p. 51.
RIBAUT, H., 1952. Faune de France, vol. 57, p. 15 sub 9, p. 440.
SCHMIDT, E., 1930. Wien. ent. Ztg., vol. 47, p. 122.