

Fulvius stysi, a new species of Cylapinae
(Hemiptera: Heteroptera: Miridae)
from Papua New Guinea

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Abstract. A new species of the genus *Fulvius* Stål, 1862, *F. stysi* sp. nov., is described from Baiteta Forest, Madang Province, Papua New Guinea. The male and female genital structures are illustrated.

Key words. Heteroptera, Miridae, Cylapinae, *Fulvius stysi*, taxonomy, new species, genitalia, Papua New Guinea

Introduction

Fulvius Stål, 1862 is one of the most numerous and most diverse genera within the subfamily Cylapinae of the family Miridae. Representatives of the genus occur worldwide, mainly in warm regions, but a few species are also known from temperate zones in the Palearctic and Nearctic regions (CHÉROT et al. 2006, GORCZYCA 2006, YASUNAGA & MIYAMOTO 2006). The biology of *Fulvius* species is little known. Some probably are predators of small invertebrates, whereas other species have been reported from orchids and fungi (GORCZYCA 2006). Recently three groups of species have been established within the genus: *anthocoroides*-complex, including mainly Old World species, *bisbistilatus*-complex for Neotropical species and *bifenestratus*-complex for Oriental and Australian species (SADOWSKA-WODA 2005, GORCZYCA 2006).

Among material collected in Papua New Guinea and housed in the Institut Royal des Sciences Naturelles de Belgique (Brussels, Belgium), we found several representatives of the genus *Fulvius*. Three of these specimens represent a new species, which is described below.

Taxonomy

Fulvius stysi sp. nov.

(Figs. 1-4)

Type locality. Papua New Guinea, Madang Province, Baiteta Forest.

Type material. HOLOTYPE: ♂, 'Holotype *Fulvius stysi* n. sp. CHÉROT & GORCZYCA, 2008 // Coll. I. R. Sc. N. B. / Canopy Mission Papua / New Guinea (Madang / prov.) Baiteta / 1995, Fogging, AR14 / Leg. *Olivier Missa*' [the code number

AR14 corresponds to a fogging on *Chisocheton ceramicus*, Meliaceae]. PARATYPES: ♀, 'Paratype *Fulvius stysi* n. sp. CHÉROT & GORCZYCA, 2008 // Coll. I. R. Sc. N. B. / Canopy Mission Papua / New Guinea (Madang / prov.) Baiteta / Fog(ging) AR51, 15.vi.1996 / leg. *Olivier Missa*'; ♀, 'Paratype *Fulvius stysi* n. sp. CHÉROT & GORCZYCA, 2008 // Coll. I. R. Sc. N. B. / Canopy Mission Papua / New Guinea (Madang / prov.) Baiteta / Fog(ging) AR67, 18.vi.1996 / Leg. *Olivier Missa*' [the code numbers AR51 and 67 correspond to fogging on unknown plants]. Preserved in the Institut Royal des Sciences Naturelles de Belgique (Brussels, Belgium).

Description. Male. Body small, covered with long pale and dark setae. Length of the body 3.10 mm, width 1.10 mm.

Head. Dark brown, only the middle part of clypeus, and mandibular and maxillary plates pale yellow, slightly tinged with red, covered with long, pale setae; eyes contiguous with the pronotal collar. Length of head 0.37 mm, width 0.60 mm, diameter of eye 0.17 mm. First antennal segment short, pale brown, tinged with red on the inner side, second segment darker, the apex excepted, covered with short, dense, brown and pale setae, slightly thickened towards the apex. Third and fourth segments thin, dark brown, covered with short fine, pale setae. Lengths of the antennal segments in mm: 0.25 : 0.87 : 0.62 (fourth segment partly broken). Rostrum pale brown, long, reaching beyond metacoxae.

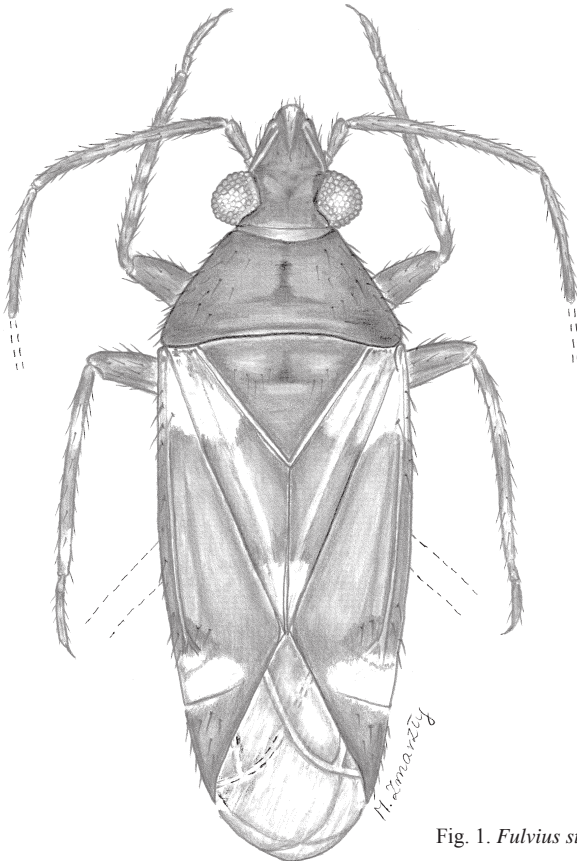


Fig. 1. *Fulvius stysi* sp. nov., male. Habitus in dorsal view.

Pronotum. Disk dark brown, covered with dark and pale setae, humeral angles slightly elevated. Length of pronotum (including pronotal collar) 0.42 mm, length of the anterior margin 0.47 mm, lateral margins 0.42 mm, posterior margin 1.0 mm. Scutellum and mesoscutum dark brown but paler than pronotum.

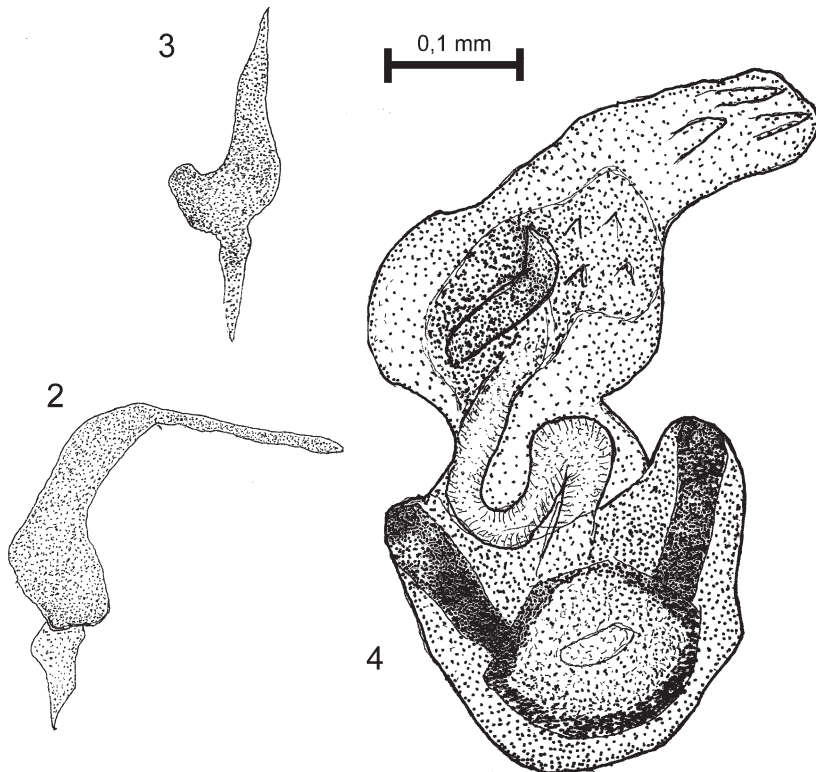
Legs. Femora dark brown, with a paler patch ventrally in the apical part. Tibiae brown, with broad paler rings; tarsi pale, two-segmented, the first segment very short, second segment divided; claws with a distinct subapical tooth.

Hemelytra. Dark brown, covered with long, thick, brown setae and fine pale setae. Basal part of hemelytra, apex of clavus and the area contiguous with the basal part of cuneus pale (Fig. 1). Cuneus uniformly brown, membrane dark grey, venation grey, major cell rounded, minor cell hardly visible.

Ventral surfaces. Body dark brown ventrally, coxae and ostiolar peritreme pale.

Genitalia. Parameres very small, slim, and pointed (Figs. 2-3). Phallus with a small sclerite and several teeth (Fig. 4).

Female. External anatomy. Similar to male but paler, pale areas on hemelytra larger, second antennal segment paler than in male. Tibiae unicoloured, pale. Length of the body



Figs. 2-4. *Fulvius stysi* sp. nov. Male genitalia: 2 – left paramere; 3 – right paramere; 4 – phallus.

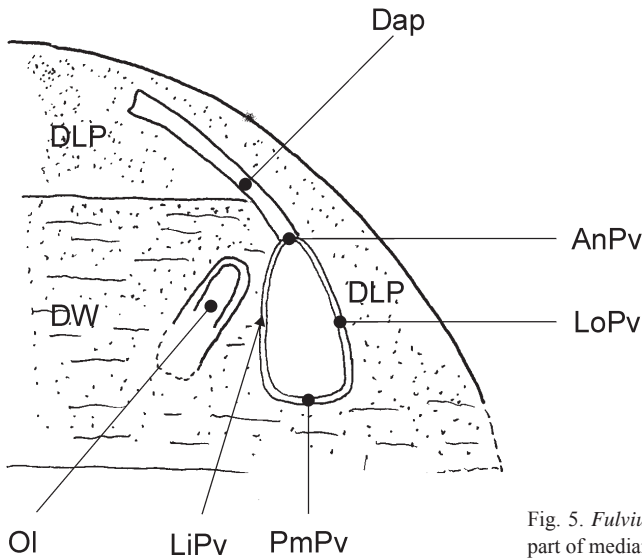


Fig. 5. *Fulvius stysi* sp. nov. Female genitalia (right part of median lobe) in dorsal view.

2.52 mm, width 1.0 mm, length of head 0.47 mm, width 0.69 mm, diameter of eye 0.22 mm. Lengths of antennal segments in mm: 0.25 : 1.0 : 0.65 : 0.55. Length of pronotum 0.47 mm (including pronotal collar), length of anterior margin 0.60 mm, lateral margins 0.50 mm, posterior margin 1.0 mm.

Genitalia. Parieto-vaginal rings large, pear-shaped (Fig. 5). Posterior margin (PmPv) of each ring wide, practically straight. Latero-outer and latero-inner margins (LoPv and LiPv) slightly narrower and convex. Anterior margin (AnPv) narrow, convex. Each ring with a dorso-anterior prolongation (Dap) sensu CHÉROT (2002). Dorso-labiate plate difficult to see, membranous. Dorsal wall (Dw) large, devoid of sclerite. Lateral oviducts stout, short. Anterior sac damaged. Posterior wall membranous, its so-called dorsal margin reinforced.

Differential diagnosis. *Fulvius stysi* sp. nov. differs from *F. subnitens* Poppius, 1909 by the darker body coloration, the eyes contiguous with the pronotal collar (Fig. 1), the coloration of the antennal segments, and the shape of parameres (Figs. 2-3).

Etymology. This species is named in honour of our friend Pavel Štys, an outstanding heteropterist.

Distribution. North-eastern Papua New Guinea.

Discussion

Within the *anthocoroides*-complex of *Fulvius* only *F. pallidus* Poppius, 1909, *F. sigwaltae* Gorczyca, 1998 and *F. variegatus* Poppius, 1909 are known from the Australian region. The new species is superficially similar to species of the *anthocoroides*-complex: the structure of tarsi and claws, as well as the eyes contiguous with the pronotal collar, suggest placement in

that group. Pronotal shape and male genital structure (Figs. 1-4), however, are unique. The shape of the parieto-vaginal rings and other vaginal structures vary substantially in the genus *Fulvius*, in contrast to the external anatomy (SADOWSKA-WODA et al. 2006: 632). The vaginal structures of *Fulvius stysi* sp. nov. are relatively simple. The posterior wall is membranous with a reinforced margin, as is also the case for a majority of *Fulvius* species, except for *F. anthocoroides* (Reuter, 1875). The lateral oviducts are stout, short and do not join in a common dorsal sac (as is also the case, for example, in *F. breddini* Reuter, 1902). The dorsal wall is membranous, as in other *Fulvius* species that have been studied. The parieto-vaginal rings are separated, pear-shaped, with a pair of elongated wide sclerites originating from their anterior margins. This is probably a species-specific character state, not previously reported in *Fulvius*, although at least two other species of the genus have relatively similar sclerites arising from several margins of parieto-vaginal rings. *Fulvius dimidiatus* Poppius, 1909 possesses two pairs of sclerites that unite the rings: one continuing along the anterior margins and the other along the posterior margins (SADOWSKA-WODA et al. 2006: 622, Fig. 18). *Fulvius gamboensis* Carvalho & Costa, 1994 also possesses two pairs of sclerites, one originating from the short, acute, hypothesized inner (or anterior?) margin, the other from its posterior margin (SADOWSKA-WODA et al. 2006: 629, Fig. 26). Given the present state of knowledge and the uniqueness of male and female genital structures, it is difficult to hypothesize relationships between *F. stysi* sp. nov. and the other members of the genus.

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