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New and little-known species of Mecoptera and Neuroptera in the Zoological Museum of Helsingfors.

By P. Esben-Petersen, Silkeborg.

(With 7 fig.)

Bittacus femoralis.

Klug, Königl. Akad. Wiss. Berlin, p. 98 (1836). - Brazil. Esben-Petersen, Collection Selys, Mecoptera, p. 152, fig. 176 (1921).

1 ♂ Minas Geraes, Brazil (Coll. Le Moul't).

The two type-specimens of Klug are placed in Berlin Museum, where I have seen them. Unfortunately both specimens have lost

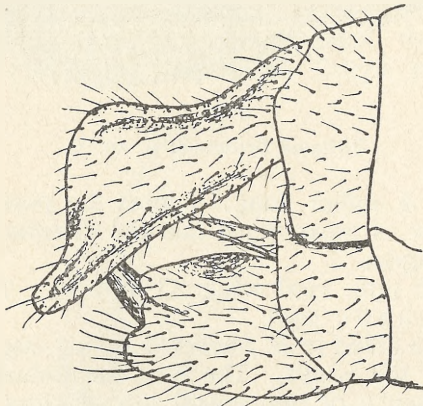


Fig. 1.

Bittacus femoralis Klug ♂ Anal appendages, seen from side.

their abdomen, and therefore I find it convenient here to give a figure of the anal appendages of the male, as that sex till now has been unknown. For the rest the species seems to be a very scarce one, and I do not know of any other record.

Bittacus geniculatus.

Erichson, Schomburgk Britisch Guyana III, p. 586 (1848); Esben-Petersen, loc. cit., p. 150, fig. 172 (1921).

1 specimen (abdomen lost), Brazil.

This species is easily recognized by the shape of the wings and by the dark and strongly prominent venation. This species also seems to be a very scarce one, and I have only seen the type-specimen and the specimen here mentioned.



Bittacus brunneus n. sp.

Head, palpi, antennae, thorax, abdomen and legs brown; the area between the ocelli blackish. Membrane of wings with a yellowish brown tinge, somewhat darker along apical margin; basal part yellowish coloured. Venation brown. Pterostigma yellowish brown and connected to *Rs* by two cross veins. In the fore wing *Sc* is connected to *C* by two cross veins, and to *R* by one cross vein, all the three veins are placed near the apical end of *Sc*. In the hind wing one cross vein between *Sc* and *C*, and one between *Sc* and *R*. Fork of *Rs* a little further out than fork of *M*. One cross vein between

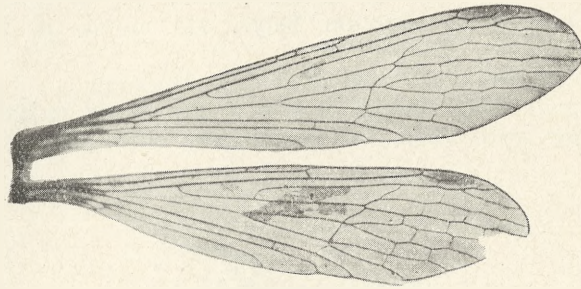


Fig. 2.

Bittacus brunneus n. sp. ♀.

*Cu*₁ and *Cu*₂. *1A* rather long; it joins the posterior margin at its middle. Inner row of cross veins has the direction towards the fore end of the pterostigma.

Fore wing 25 mm; hind wing 23 mm. 1 ♀ Villarrica, Paraguay, 10. V. 1024 (F. Schade leg.)

This species is allied to *B. femoralis* Klug, especially with regard to the venation of the wings. The best discriminating characters are, however, the presence of two apical placed cross veins between *Sc* and *C*, the short and rather broad pterostigma, and the direction of the inner row of cross veins.

Bittacus appendiculatus n. sp.

Head, palpi, antennae, thorax, abdomen and legs brown; on vertex a black spot enclosing the ocelli; tibiae with a narrow blackish brown band at apex. Wings with yellowish tinge. Venation brown. Pterostigma yellowish brown, connected to *Rs* by one cross vein. No apical cross vein between *Sc* and *C*. One cross vein between *Sc* and *R*. One cross vein between *Cu*₁ and *Cu*₂. *1A* rather short, especial in the fore wing, where it joins the posterior margin one third from base of the wing. Anal appendages of the male large, conspicuous and very complicate.

Fore wing 16 mm, hind wing 16 mm.

1 ♂ San-nen-Kai, Yunnan-Fou, Chine.

This species is closely allied to *B. takaoensis* Miyaké from Japan, of which species only the female sex is known. The two

species possess a number of common characters, f. inst. the short *Sc* and *1A*, and the short and almost triangularly shaped pterostigma, connected to *Rs* by one cross vein. In *takaoensis*, however, the number of cross veins in the apical part of the wings is less numerous than in *appendiculatus*, the cross veins are darker than the longitudinal

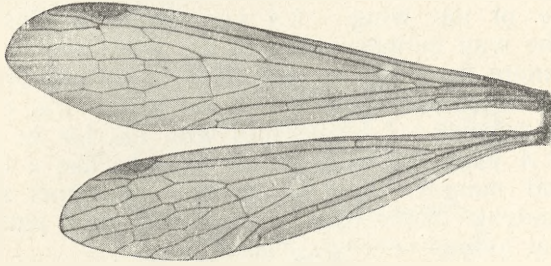


Fig. 3.

Bittacus appendiculatus n. sp. ♂.

veins and narrowly brownish shaded. In *takaoensis* the wings are also somewhat broader than in *appendiculatus*. In the description of *takaoensis* [Journ. Coll. Agric. Imp. Univ. Tokyo, p. 388, pl. 33, fig. 8

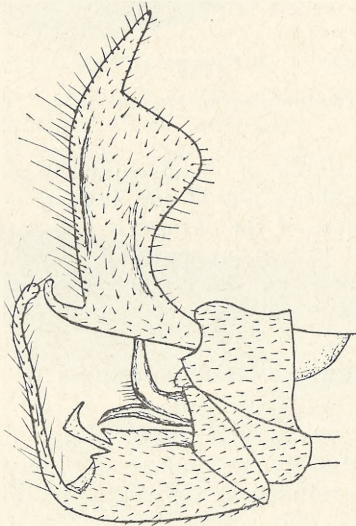


Fig. 4.

Bittacus appendiculatus ♂. Anal appendages, seen from side.

(1913)] Miyaké remarks: „Body totally black (black in the living as well as in the dried specimen), except the pleural membranes of the abdomen.“

Nannobittacus n. g.

Palpi and antennae as in the genus *Bittacus*. Eyes large and prominent, wide apart as in *Kalobittacus*. Legs long and slender;

femorae of equal thickness in their whole length. Basal joint of hind tarsus almost as long as second, third and fourth together; each of the three named joints of about the same length; fifth joint the shortest. Wings very narrow in basal third part. In the fore wing *M* is touching *Cu*₁ just at the fork of *Cu* (*Cu*₁ does not coalesce with *M* for a longer distance as in the known Bittacid-genera). *Rs* arises at the middle of the wing. *1A* very short, it joins the posterior margin half the way between base of the wing and the cubital fork; *2A* a little more than half as long as *1A*; *3A* not present. In the hind wing *Rs* arises at the middle of the wing. *Cu*₁ coalesces with *M* for a long distance. *1A* coalesces with *Cu*₂ for its whole length, and where *1A* joins the hind margin it looks like a cross vein between *Cu*₂ and margin. *2A* not visible. The inner series of cross veins quite straight. Some cells in the apical third part almost regularly hexagonal formed.

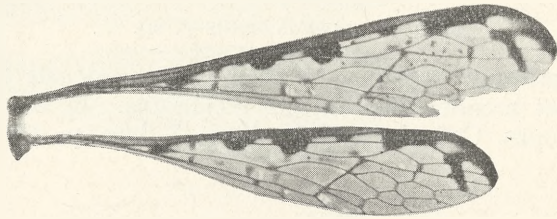


Fig. 5.

Nannobittacus elegans n. sp. ♂.

This interesting genus is closely allied to *Kalobittacus* and *Pazius* on account of the modification of the typical venation of the Bittacid-wing. As to the shape of the wings it has most likeness to *Pazius*, from which genus it differs in having its eyes wide apart. A good generic character is, however, that *M* and *Cu*₁ in the fore wing do not coalesce for a longer distance.

***Nannobittacus elegans* n. sp.**

Head and rostrum pale brown. Palpi dark brown with pale annulations. Above the antennae a broad black transverse band enclosing the ocelli. Antennae yellowish brown. Thorax pale brown above with a black cross band between the basis of each pair of the wings, and with some dark spots on front part of mesothorax; underside of thorax pale brown. Abdomen blackish brown, pale brown below; front part of each segment pale brown dorsally. Legs pale brown; a blackish band at apex of each femur and tibia. Wings hyaline with rather strong yellowish tinge and with sooty brown markings along front and apical margin. In both pairs of the wings *Sc* joins *C* almost at the level of the fork of *Rs*. At the origin of *Rs* a cross vein is found between *Sc* and *R*. Between *Sc* and *C* only a cross vein near base of the wing. Fork of *M* a little before fork of *Rs*. One cross vein between *Cu*₁ and *Cu*₂, placed before

fork of *M*. Between *M* and *Cu*₁ and between *Cu*₁ and *Cu*₂ (in both pairs of wings) narrow dark streaks, which look like dark cross veins. The pterostigma connected to the *Rs* by one cross vein, placed near fore end of the stigma.

Fore wing 15 mm; hind wing 13,5 mm.

1 ♂ Santarem, Brazil.

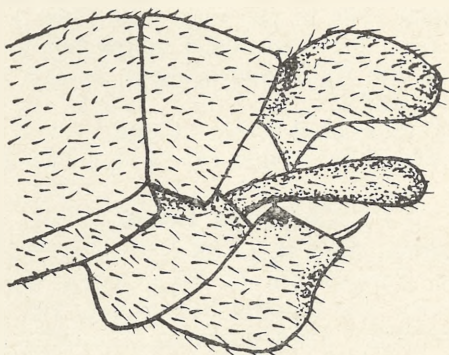


Fig. 6.

Nannobittacus elegans ♂. Anal appendages, seen from side.

***Euclimacia africana* n. sp.**

Head yellowish; a reddish brown transverse band from eye to eye, enclosing the insertion of the antennae; a reddish brown streak along hind border of vertex. The two basal joints of the antennae yellowish brown (the rest of antennae wanting). Prothorax short and



Fig. 7.

Euclimacia africana n. sp.

yellowish brown; at base of prothorax a black oval spot. Meso- and metathorax yellowish brown; on dorsum of the last named a black spot at the middle of front margin, and a small one at each side above base of hind wing. Underside of thorax dark. Abdomen wanting. Legs yellowish brown; fore legs somewhat darker. Basal part of fore wing with a strong yellowish tinge, especial at the extreme

base; costal and subcostal areas also strongly yellowish tinged. Across the fore wing from pterostigma to hind margin a broad obliquely placed sooty brown band. Along hind margin of the apical part of the wing a hyaline area. Hind wing hyaline with a yellowish tinge in the costal and subcostal areas; pterostigma long and dark brown. *1A* and *2A* in the fore wing forked near their tip; *3A* short and unforked. In the hind wing only *1A* is present; it is forked. From the three radial cells in the right fore wing 3, 3, and 2 branches arise respectively; from the same cells in the left fore wing 3, 4, and 2 branches arise; in the right hind wing 3, 3, and 2 arise, and in the left hind wing 2, 3, and 2.

Fore wing 16 mm; hind wing 14 mm.

1 specimen, Moncullo, Nubia (K. M. Levander leg.)

Chrysopa lucasi.

Navas, Broteria, Madrid, p. 39 (1910). — Tunis.

3 specimens, Transcaspia (J. Sahlberg and Ahnger leg.).

In „Neuropteren der inneren Sahara“, p. 157 (1918) (Archiv für Naturgeschichte, Berlin) I have given an account of the synonymy and of the occurrence of this small and interesting species. At that time I only knew the species from African localities, but since I have seen one specimen from Dalmatia (Fritz Wagner leg.) and an other from Amaria, River Tigris, taken at light by P. A. Buxton, 24. IX. 1919. Now we meet it from a new locality. The species seems to be a very wide-spread one as *Chrysopa nana* Mach Lachlan and *Chr. sogdiana* Mach Lachlan, which also are known from African and Asiatic localities. The species varies often as to the number of spots or markings on head and prothorax, but the venation of the wings presents good and distinct characters. Venation greenish. Where the cross veins touch the longitudinal veins small brown dots are present. The erected hairs on the veins are placed on very small but distinct brown dots.



