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Taxonomic position of *Paranimboa groehni* Sziráki, 2016, with remarks on the Cretaceous genus *Paranimboa* Engel, 2016 (Neuroptera, Coniopterygidae)

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Abstract: It is pointed out that *Paranimboa* Engel, 2016 and *Paranimboa* Sziráki, 2016 – which were described independently – refer to the same taxon. On the other hand, *Paranimboa litotes* Engel, 2016 and *Paranimboa groehni* Sziráki, 2016 are two clearly different species. Besides, with knowledge of the features of both species, a corrected description of the genus *Paranimboa* is given.

Paranimboa litotes Engel, 2016 was described recently as a new genus, new species from Cretaceous Burmese amber (Engel 2016). Date of publication: 1 December 2016. A few weeks later *Paranimboa groehni* Sziráki, 2016 was described by the present author as new genus(!), new species – also from Cretaceous Burmese amber (Sziráki 2016). Date of publication: 23 December 2016. The two species obviously belong to the same genus because of the unforked Rs, the enlarged length of the cubital and anal veins, the well developed gonarcus with caudal projection, the similar shape and structure of paramere and the presence of a small hypandrium. Regarding the situation objectively, present author – apart from his intention – gave a repeated description of *Paranimboa* Engel, 2016, erraneously stated it to be a new genus, and made an invalide type species designation. (The similarity of the new genus group taxon to the *Nimboa* Navas, 1915 predisposed the two authors toward the name *Paranimboa* – as it was mentioned by Professor Michael S. Engel in a personal letter.)

On the other hand, *P. groehni* and *P. litotes* clearly are two distinct species within the same genus. Determination at species level is possible only on the basis of male genitalia in the case of the vast majority of coniopterygids. Fortunately, the syntypes of *P. groehni*, as well as the holotype of *P. litotes* are well preserved fossils, therefore there is possibility to compare a significant part of their male genital sclerites. This comparison offers the following differences (Engel 2016: Fig. 3 and p. 7, Sziráki 2016: Figs 3–4):

- caudal projection of gonarcus long and bent outwards in *P. groehni*, while short in *P. litotes*;
- hypandrium pointed in *P. groehni*, tapering but blunt, and much shorter in *P. litotes*;
- paramere extending only slightly farther than middle of the ectoproct in *P. groehni*, and almost until the caudal ending of the latter sclerite in *P. litotes*.

Moreover, there are also some eidonomical differences between the two species (Engel 2016: Figs 3–4, pp. 7–9, Sziráki 2016: Figs 1–2, pp. 90–92):

- in *P. groehni* both wings 2.7–2.9 times longer than wide, in *P. litotes* the fore wing 2.4 times-, the hind wing 2.2 times as long as wide;
- wing membrane of *P. groehni* has a brownish tint which in both wings is lighter along the cubital veins, while in *P. litotes* – according to the original description – „membrane hyaline and clear, not imfumate and without pigmented patterning";

- cubital cross-vein of fore wing is oblique in *P. groehni*, while it is straight in *P. litotes*;
- in fore wing of *P. groehni* the cross-vein between A_2 and hind margin situated closer to the anal cross-vein than to A-fork, while in *P. litotes* it is closer to A-fork than to anal cross-vein.

A corrected description of the genus *Paranimboa* Engel given below, taking into consideration the characteristics significant at genus or subfamily level of both described species.

Small bodied coniopterygids. Head distinctly higher than long. Frons between the antennae well sclerotized. Maxillary and labial palpi have structure usual in the family. The number of the antennal segments is low; in the case of the known species it is 20. Flagellar segments are longer than wide. Eyes rather large, appearing much higher than wide.

Wings more or less elongated: fore wing about 2.5 – 3 times as long as wide. There are two distinct costal cross-veins. Radial cross-vein situated basally of the cross-vein-like part of Sc_2. Longitudinal vein Rs unforked, originating more or less distally from the basal third of wing length. Fork of M situated rather close to the distal edge of the wing (especially in the fore wing). Basal part of M and R seemingly cross each other. (Really these are coalesced for a short distance.) M without thickenings bearing distinctive setae. Cross-vein Rs-M bit M on stem in the fore wing, and near to the fork (either apically or basally of it) in the hind wing. Distal cross-vein M-Cu_1 is straight or slightly oblique, situated in the apical half in the fore wing, oblique, and placed about at the middle in the hind wing. Cu_2 runs very near to Cu_1. Longitudinal veins Cu_1, Cu_2, A_1 and A_2 of fore wing, and Cu_1, Cu_2 and A_1 of hind wing long; cosequently, separation between M_{1+2} and M_{3+4} on wing margin larger than marginal separation between M_{3+4} and Cu_1, and even A_2 of fore wing, and A_1 of hind wing ending near to the middle of the wing. Cross-vein Cu_1-Cu_2, as well as proximal and distal cross-veins between Cu_2 and A_2 distinctly developed. Anal cross-vein bit A_1 between the above mentioned two cross-veins. Marginal fringes apparently absent.

Legs long and slender. Thorax and some parts of terminalia heavily sclerotized. Pregenital part of abdomen without plicatures, and seems to have also a relatively strong sclerotization.

In male genitalia ectoproct arched and strongly sclerotized. Gonarcus well developed, broad, with a blunt caudal projection. Hypandrium small. Paramere contains a membraneous internal plate. Endings of parameres separated, and in dorsal view rounded caudally. Penis slightly sclerotized, and attached to the hypandrium.

References

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