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A new genus in the family Ptiloneuridae (Psocodea: ‘Psocoptera’: Psocomorpha: Epipsocetae) from Brazil

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Abstract

A new ptiloneurid genus from Brazil, *Brasineura* n. gen., is described and illustrated. It includes two species, both known only from males, one from the Chapada Diamantina (State of Bahia), and one troglomorphic species from the State of Pará. It differs from all other known ptiloneurid genera, in which the males are known, by the unique structure of the phallosome, and by having a uniquely shaped hypandrium of a single sclerite. An updated identification key to the genera of Ptiloneuridae is presented and the synonymy between *Brisacia* and *Loneura* is proposed.

Key words: taxonomy, Neotropics, Epipsocetae

Introduction

Ptiloneuridae is one of the families in the psocomorphan infraorder Epipsocetae (Yoshizawa 2002). It presently includes the genera *Belicania* García Aldrete, *Euplocania* Enderlein, *Omilneura* García Aldrete, *Perucania* New & Thornton, *Timnewia* García Aldrete, *Triplocania* Roesler, *Willreevesia* García Aldrete, all with the hindwing vein M unbranched, and *Loneura* Navás, *Loneuroides* García Aldrete, *Ptiloneura* Enderlein, and *Ptiloneuropsis* Roesler, these last four genera with hindwing vein M having from 2 to 5 branches. As for the forewing venation, the four latter genera have the forewing vein Rs of two branches, and the vein M may have from 3 to 8 branches. Besides the differences in wing venation, the ptiloneurid genera can be separated on the basis of differences on hypandrium and phallosome structures in the males, and on differences on subgenital plate, gonapophyses and ninth sternum in the females, although in general, the males provide more diagnostic characters.

Another gender within Ptiloneuridae would *Brisacia* that was described based on copal but its validity is questionable and this issue will be more specified in the discussion.

Recently, one of us (AMSN) found, in the Brazilian states of Bahia and Pará, three specimens that represent two related species of a ptiloneurid genus not assignable to any of the known genera above. The purpose of this paper is to describe and illustrate the species in the new genus, to present an updated identification key to the genera of Ptiloneuridae, and to discuss the unique structure of the phallosome of the new genus.

Material and methods

Three specimens, all males, from the Brazilian states of Bahia (one specimen) and Pará (two specimens), were available for study. They were dissected in 80% ethanol, and their parts were mounted on slides in Canada balsam. The remains of each specimen, after being dissected and mounted, are preserved in 80% ethanol, and are labeled with the same data as the slides. Standard measurements (in μm), were taken with a filar micrometer. Abbreviations of parts measured are as follows: FW and HW: right fore- and hindwing lengths, F, T, t1, t2 and t3: lengths of

which also, the hindwing M is 2-branched. The above indicates that the separation between *Brisacia* and *Loneura* cannot be maintained, and that the former must go in the synonymy of the latter.

All of the above justifies the creation of *Brasineura* as a distinct ptiloneurid genus, whose phallosome is unique in the family, strongly apomorphic, as follows: it is distinctly closed, rounded anteriorly, U-shaped, with the side struts in reality anterior and fused to the external parameres, that bear rows or fields of spines; it is the only genus having well developed lateral extensions of the phallobase, the anterior endophallic sclerites are widely separated, independent, and the posterior endophallic sclerites form a V-shaped structure, each arm of the V ending in an open or closed ring-like structure enclosing a membrane with pores. The central sclerite of the hypandrium is simple, approximately triangular, having a strongly sclerotized band along anterior border.

By the branching of the hindwing M, *Brasineura* belongs in the cluster *Ptiloneura-Ptiloneuropsis-Loneuroides-Loneura*, in which, by wing venation and hypandrium structure, it appears to be close to the latter. Synapomorphies with *Loneura* would be the branching of the hindwing M, and the branching of the forewing M.

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