



## New species of *Triplocania* Roesler with forewing M<sub>3</sub> forked (Psocodea: 'Psocoptera': Ptiloneuridae), from Brazil

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### Abstract

Four new Brazilian species of *Triplocania* with forewing M<sub>3</sub> forked are described and illustrated based on male specimens, namely: *Triplocania lamasi* n.sp. (Mato Grosso: Brazil), *Triplocania mariateresae* n.sp. (Rio de Janeiro: Brazil), *Triplocania newi* n.sp. (Tocantins: Brazil) and *Triplocania plaumanni* n.sp. (Santa Catarina: Brazil). They differ from all the other species in the genus, in which the males are known, by the hypandrium and phallosome structures.

**Key words:** Epipsocetae, taxonomy, neotropics.

### Introduction

The genus *Triplocania* Roesler, 1940 is one of 11 genera of the family Ptiloneuridae, and it is the most species rich genus of this family. The *Triplocania* species, according to wing venation, can be separated in two groups: a very large one, with caeciliusid venation (e.g., forewing Rs 2-branched, M with three primary branches), and a smaller group, characterized by having Rs 2-branched, and M with three primary branches, with M<sub>3</sub> forked, resulting in M<sub>3a</sub> and M<sub>3b</sub>. The genus presently includes 27 described species, and over a hundred undescribed ones (García Aldrete 2012); of the described species *Triplocania furcata* New and *Triplocania calcarata* New, belong in the second group mentioned above. The last article describing a species of *Triplocania* with forewing M<sub>3</sub> forked, dates from 1980 (*T. calcarata* New, 1980). The purpose of this work is to describe and illustrate four new Brazilian species of *Triplocania* with forewing M<sub>3</sub> forked.

### Material and methods

Seven specimens were available for study; they were dissected in 80% ethanol; their parts (head, right legs and wings, and genitals) were mounted in Canada balsam. Before dissecting, whole specimens were placed in 80% ethanol under a dissecting microscope, illuminated with cold, white light, and observed at 50X to record color. Standard measurements (in µm), were taken with a filar micrometer. Abbreviations of parts measured are as follows: FW and HW: right fore- and hind- wing length, F, T, t1, t2 and t3: lengths of femur, tibia and tarsomeres 1, 2 and 3 of right hind leg, fl...fn: lengths of flagellomeres 1...n of right antenna, Mx4: length of fourth segment of right maxillary palpus, IO: minimum distance between compound eyes in dorsal view of head, D and d: antero-posterior and transverse diameter, respectively, of right compound eye in dorsal view of head, PO: d/D. The types of three species will be deposited in the Invertebrate Collection of the Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Amazonas, Brazil; the species from Mato Grosso will be deposited in the collection of the Museum of Zoology, University of São Paulo (MZSP), São Paulo, Brazil.

M<sub>3</sub> is forked. Species of *Euplocania* Enderlein also have the forewing M of four branches, but the M<sub>3</sub> is not forked; other than the differences in wing venation, the two genera have male genitalia quite similar.

*T. lamasi* is close to *T. furcata* New, but differs from it and all other species by the structure of the phallosome and by presenting two striking autapomorphies: epiproct mesally with an almost elliptic protuberance, and hypandrium of four pieces. In some species of this group, the side sclerites are fused proximally to the central sclerite, resulting in a hypandrium of one piece (*T. calcarata*, *T. newi*); in other species (*T. furcata*, *T. plaumanni*, and *T. mariateresae*) the hypandrium has three pieces, a big central one flanked by two smaller pieces.

*T. mariateresae* is the second largest species of the genus. The largest species being *T. halffterorum*, García Aldrete, from the Mexican state of Veracruz. *T. mariateresae* is similar to *T. plaumanni*, both having a quite similar hypandrium, differing by details of it (e.g., size, posterior projections of central piece and size of concavity between projections). Also, the phallosome in both species is distinct (see Figs 14, 28).

*T. newi* is close to *T. calcarata*, from which it differs in the structure of the hypandrium and phallosome, particularly in details of the endophallic sclerites, such as different shapes of the mesal pair and by having more than three projections on the posterior pair.

Future phylogenetic studies will be essential to confirm if this group of species of *Triplocania* with forewing M<sub>3</sub> forked is monophyletic within the genus or not.

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## References

- García Aldrete, A.N. (2012) Two new species of *Triplocania* from Veracruz, Mexico (Psocodea: Psocoptera: Ptiloneuridae). *Dugesiana*, 18 (2), 169–173.
- New, T.R. (1972) Some Epipsocetae (Psocoptera) from Central Brazil. *Transactions of the Royal Entomological Society of London*, 123 (4), 455–497.
- New, T.R. (1980) Epipsocetae (Psocoptera) from the Reserva Ducke, Amazonas. *Acta Amazonica*, 10 (1), 179–206.  
<http://dx.doi.org/10.1111/j.1365-2311.1972.tb00848.x>
- Roesler, R. (1940) Neue und wenigbekannte Copeognathengattungen. I. *Zoologischer Anzeiger*, 129 (9/10), 225–243.