

## Studies in Neotropical Leptoceridae (Trichoptera), IX: a New Genus and Species from Southeastern Brazil

by

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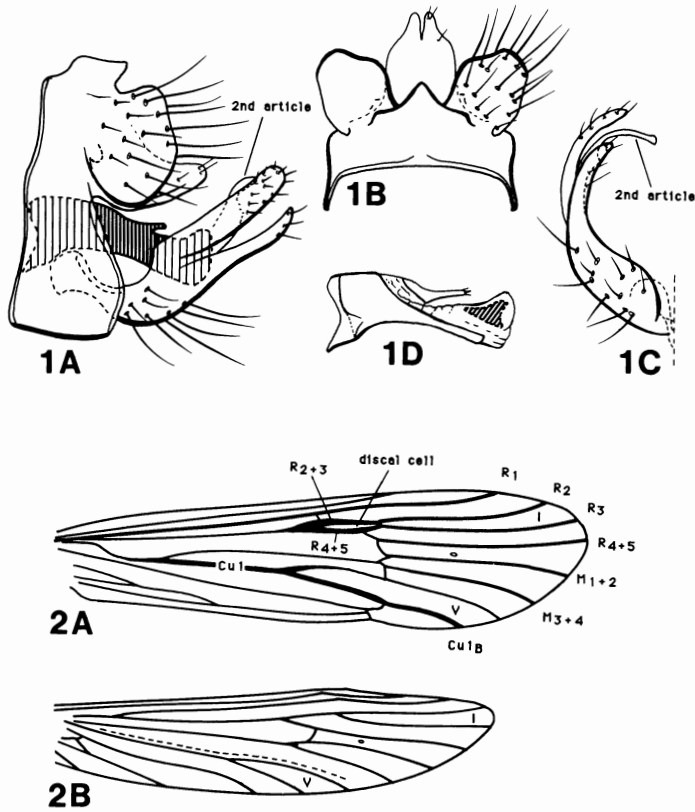
*Neoathripsodes anomalus*, a new genus and species of Leptoceridae (Leptocerinae) from southeastern Brazil, is described and illustrated. It is diagnosed by the thickened nature of the forewing venation and by the presence of a second article in the male inferior appendage. The female sex and immatures stages are unknown.

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### INTRODUCTION

Flint (1976) noted that within the Neotropics the mountains of southeastern Brazil harbor endemic caddisfly species apparently not closely related of other South American Trichoptera. He speculated, based on their similarity to African taxa, that these might be relicts of a Gondwanan connection between southeastern Brazil and southern Africa. Within the Leptoceridae, several genera, including *Grumichella*, *Atanatolica*, and *Notalina* have endemic, monophyletic clusters of species in southeastern Brazil (Holzenthal 1986, 1988). These species, however, are clearly related to congeners in northern South America and Australasia and are components of a trans-Antarctic, Neotropical-Australasian biogeographic track. Only a single Neotropical leptocerid genus, *Nectopsyche*, has a known sister taxon in Africa, *Parasetodes* (Morse 1981).

*Neoathripsodes*, a monobasic new genus, is known only from southeastern Brazil. The morphology of the male genitalia of the new genus is phenetically most similar to those of members of the leptocerine tribe Athripsodini. This tribe is richly represented in the Old World, especially Africa, with only a single genus, *Ceraclea*, occurring in the New World (eastern U.S. and Canada). *Neoathripsodes* shares several plesiomorphic characters with primitive Leptocerinae as defined by Morse (1981, fig. 1): (1) male inferior appendage with 2nd article, and (2) truncate mesopleural katepisternum. However, *Neoathripsodes* shares male ninth sternal and phallic sclerotized strips with Morse's Athripsodini node ancestor, 1-2-2 tibial spur formula with his Nectopsychini node ancestor, and narrow hind wings with his *Brachysetodes/Poecilopsyche*/higher Leptocerinae



Figs. 1, 2. *Neoathripsodes anomalus*, sp. n., male genitalia and wings. 1, Genitalia: A, left lateral; B, tergites IX, X, preanal appendages, dorsal; C, left inferior appendage, ventral; D, phallus, left lateral. 2, Wings: A, forewing; B, hind wing.

node ancestor. These conflicting characters place the new genus somewhere between Morse's (1981) Athripsodini and Leptocerini nodes. Note, however, that several species of the African genus *Homilia* (Athripsodini) also have 1-2-2 tibial spur formula and relatively narrow hind wings indicating a possible affinity with that taxon. The discovery of females and immatures (critical for a proper understanding of leptocerid phylogeny) would refine the phylogenetic placement of this genus within the subfamily Leptocerinae, where I here place it *incertae sedis*. The thickened character of the forewing venation renders the new genus distinct from all other described Leptoceridae.

It is interesting to speculate, if indeed *Neoathripsodes* is one of the more primitive leptocerine genera, that it represents a relict of an ancient, Gondwanan South American-African connection among the Leptoceridae. While I hesitate to describe a monobasic, *incertae sedis* new genus, I do so to call attention to this unusual new taxon and hope its entry into the literature will stimulate additional collecting and phylogenetic analysis. Types are deposited in the U.S. National Museum of Natural History, Smithsonian Institution, Washington, D. C. (NMNH) and the Museu de Zoologia, Universidade de São Paulo (MZSP), as indicated below.

### **Neoathripsodes, gen. n.**

Type species: *Neoathripsodes anomalus*, sp. n.

Diagnosis: Tibial spurs 1-2-2. Mesopleural katepisternum truncate dorsally, midcranial sulcus present, but poorly defined. Forewing venation (Fig. 2A) very unusual for family;  $R_1$   $R_2$ ,  $R_3$   $R_{2+3}$ ,  $R_{4+5}$ ,  $M_{1+2}$ ,  $M_{3+4}$ ,  $Cu1$ , and  $Cu1B$  thickened ( $R_{2+3}$ ,  $R_{3+4}$ ,  $Cu1$ ,  $Cu1B$  especially so); discal cell very small, narrow, almost obliterated by thickened nature of  $R_{2+3}$  and  $R_{4+5}$ ; forks I and V present, fork I sessile, fork V very deep, originating well before *m-cu* crossvein; first branch of M sessile. Hindwing venation more typical for family, forks I and V present, fork I deep, branch of M subsessile, originating before *r-m* crossvein (Fig. 2B).

Etymology: Greek, masculine, "new *Athripsodes*," referring to the New World distribution of this *Athripsodes*-like insect.

### **Neoathripsodes anomalus, sp. n. (Figs. 1,2)**

Male: Body brown, middorsal stripe of white hairs on head and thorax and dorsolateral surfaces of antennae; legs clothed dorsally with fine white setae, palps brown. Length of forewing 5.5-6.0 mm. Forewing brown, narrow line of white hairs along posterior border from near base to arculus, dense fringe of long yellowish hairs at wing tip. Genitalia (Fig. 1): Segment IX annular, pair of sclerotized strips in phallocrypt apparently fused with corresponding strips of phallic shield. Segment X saddle-shaped in dorsal view, apex bifid in dorsal view, longitudinal ridge on each side near ventral margin. Preanal appendages very broad, wider than long, covered with long setae. Inferior appendages each with dorsal, curved, setose, finger-like process and thin, curved ventral process; situated between these processes is long, thin, curved, flattened 2nd article, broad in basal 1/4 with pair of tiny teeth, abruptly narrow in apical 3/4. Phallic apparatus with phallobase well developed and ventrally nearly as long as phallicata; phallicata membranous dorsally, semi-membranous ventrally; phal-lotremal sclerite large; pair of small, apically setose parameres present.

## Female and Immatures: Unknown.

Holotype: male, Brasil, Rio de Janeiro: 1180 m, km 17, 18 km S Teresopolis, 18-19.iv.1977, C.M. & O. S. Flint, Jr. (MZSP). Paratypes: same data as holotype, 2 males (NMNH).

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