



## Description of the larva and pupa and redescription of the adults of *Isostomyia paranensis* (Brèthes) (Diptera: Culicidae)

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### Abstract

The present study includes descriptions of the larva and pupa and a redescription of the adults of *Isostomyia paranensis* (Culicidae: Sabethini), comparison of the species to *Is. lunata*, and discussion of its taxonomic position.

**Key words:** Culicidae, Sabethini, *Runchomyia*, *Isostomyia*, *Isostomyia paranensis*, *Isostomyia lunata*, Argentina

### Introduction

*Isostomyia paranensis* (Brèthes, 1910) is a little known sabethine mosquito from southern South America. The species was described from females collected at Tuyupare, Argentina, and was long confused with *Isostomyia lunata* (Theobald, 1901), which was described from females collected at Maua, Rio de Janeiro, Brazil. Some of the confusion resulted from the fact that females of these species are so similar that it is not immediately obvious that two species are involved, and some resulted from uncertainty over the identity of *Is. lunata*. Theobald (1901) contributed to the uncertainty over the identity of *Is. lunata* both by erroneously describing the species as having setae on the clypeus, thus misleading others into believing it was allied to species currently placed in the genus *Trichoprosopon*, and by misidentifying *Runchomyia frontosa* Theobald, 1903 as *Is. lunata*. Dyar and his associates also consistently misapplied the name *Is. lunata* to species currently placed in *Runchomyia sensu stricto*. When Dyar and Knab (1906) described the genus *Lesticocampa*, they designated *Wyeomyia lunata* as type, but the specimens before them were actually a species of *Runchomyia* (later described as *Lesticocampa rapax* Dyar & Knab, 1906, currently considered being a synonym of *Runchomyia frontosa*). Even in his last major work, Dyar (1928) described and illustrated a species of *Runchomyia* (apparently *Runchomyia reversa* Lane & Cerqueira, 1942) as *Is. lunata*. During the time when the name *Is. lunata* was misused for species now placed in *Runchomyia sensu stricto*, the name *Is. paranensis* was applied to both *Is. paranensis* and *Is. lunata*. The male genitalia illustrated as *Is. paranensis* by Dyar (1928) are actually those of *Is. lunata*.

Both Edwards (1932) and Lane (1939) listed *Is. lunata* and *Is. paranensis* as separate species of *Goeldia* in their catalogs, but neither provided characters to distinguish them. Lane and Cerqueira (1942) determined the true identity of *Is. lunata*, associated the sexes through progeny rearings, provided a detailed illustration of the male genitalia, and synonymized *Is. paranensis* with it. García and Casal (1965) studied a male from Argentina, determined that it had genitalia distinctly different from the true *Is. lunata*, and restored *Is. paranensis* to specific rank on this basis.

The generic placement of *Is. paranensis* has changed numerous times as it has become better known and as generic concepts for the more generalized American sabethine mosquitoes have changed. *Isostomyia paranensis* was initially described in the genus *Lynchiaria* Brèthes, but it came to reside in *Lesticocampa*