



Description of three new species of *Nemapalpus* (Diptera, Psychodidae, Bruchomyiinae) from Atlantic Forest in southeastern Brazil

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Abstract

Three new species of *Nemapalpus* were collected by CDC light traps in Atlantic Forest in the Brazilian state of Espírito Santo. They are described here as *Nemapalpus brejetubensis*, *N. espiritosantensis* and *N. capixaba*.

Key words: Psychodidae, Bruchomyiinae, *Nemapalpus*, Atlantic Forest, Espírito Santo, Brazil

Introduction

The family Psychodidae comprises six subfamilies (Bruchomyiinae, Phlebotominae, Psychodinae, Sycoracinae, Trichomyiinae and Horaiellinae) and has a worldwide distribution. Bruchomyiinae is composed of three genera: *Nemapalpus* Marcquart (1838), *Bruchomyia* Alexander (1920) and *Eutonnoiria* Alexander (1940) (Duckhouse 1973; Young 1979) and is considered by some authors to be the most plesiomorphic subfamily of the Psychodidae (Quate & Alexander 2000). *Nemapalpus* spp have a superficial resemblance to large phlebotomine sand flies but are most similar to *Bruchomyia* spp. Members of the genera can be separated easily by the position of wing vein CuA2. In *Nemapalpus* spp. this is short and curved, terminating at approximately the level of the base of CuA1, whereas in *Bruchomyia* it is much longer and nearly straight. Quate and Alexander (2000) provided a synopsis of New World species of *Nemapalpus* including a dichotomous key for males.

Eighteen members of the genus *Nemapalpus* have been described from the Neotropical region, including six from Brazil. Three new species of the genus *Nemapalpus* were collected during routine surveillance for sand fly vectors of *Leishmania* in Atlantic Forest in the Brazilian State of Espírito Santo and are described here.

Material and methods

Collecting took place from January-July 2007 in the Atlantic Forest Central Corridor, an area of 4.8 million ha. between latitudes 13°07'–20°56' S and longitudes 38°52'–41°52'W in Espírito Santo, SE Brazil. The mean annual temperature of this area is 16–25°C and it has an annual rainfall of 900–2100 mm. Highest elevation of the area is 2800 masl and only 5% is covered by pristine Atlantic forest (Fonseca 1985). The insects were captured in remnant primary forest in Córrego do Café (20°08,284`S; 41°18,310` W at 417 masl within the municipality of Brejetuba), as well as in two areas of subsistence agriculture characterized by coffee plantations and banana groves, *i.e.*, Santo Antonio (20°51,661`S; 40° 56,345`W at 150 masl within the