

A new species of *Nemopalpus* Macquart (Diptera, Psychodidae) from Brazil

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ABSTRACT. A new species of *Nemopalpus* Macquart (Diptera, Psychodidae) from Brazil. *Nemopalpus parvus* sp. nov. collected in the Atlantic rainforest of the state of Espírito Santo, in southeastern Brazil, is described and illustrated.

KEYWORD. Atlantic rainforest; Bruchomyiinae; Insecta; moth-flies; Neotropical region.

The genus *Nemopalpus* Macquart, one of the three genera of Bruchomyiinae (Psychodidae), is worldwide distributed with 41 extant species, 28 of them from the Neotropical region (Curler & Jacobson 2012). In Brazil, 14 species of *Nemopalpus* have been recorded with three species described from the Atlantic rainforest of the state of Espírito Santo: *N. brejetubensis*, *N. capixaba* and *N. espiritosantensis* (Santos *et al.* 2009; Curler & Jacobson 2012). In this paper, one new species from the Atlantic rainforest of Espírito Santo is described and illustrated.

MATERIAL AND METHODS

The specimens studied were collected between 2008 and 2011 with CDC (Centers for Disease Control) light traps in different localities of Espírito Santo state, in southeastern Brazil. All these localities are within the Atlantic rainforest domain, with coordinates ranging between latitudes 13°07'–20°56'S and longitudes 38°52'–41°52'W. The specimens, previously preserved in 70% alcohol, were treated with 10% KOH and mounted in Canada balsam. All measurements are in mm. Morphological terminology for Diptera follows that of Cumming & Wood (2009). The type specimens are deposited in the Entomological Collection Prof. Johann Becker of the *Museu de Zoologia da Universidade Estadual de Feira de Santana*, Brazil (MZFS).

TAXONOMY

Nemopalpus parvus Santos, Falqueto & Bravo, sp. nov.
(Figs. 1–6)

Diagnosis. Male. Wing with crossvein r-m on same level as median fork; R_2 longer than R_{2+3} ; M_2 incomplete; abdominal pleurites without sclerites bearing long hairs; segments 6 and 7 unmodified; gonocoxite with small median setose pro-

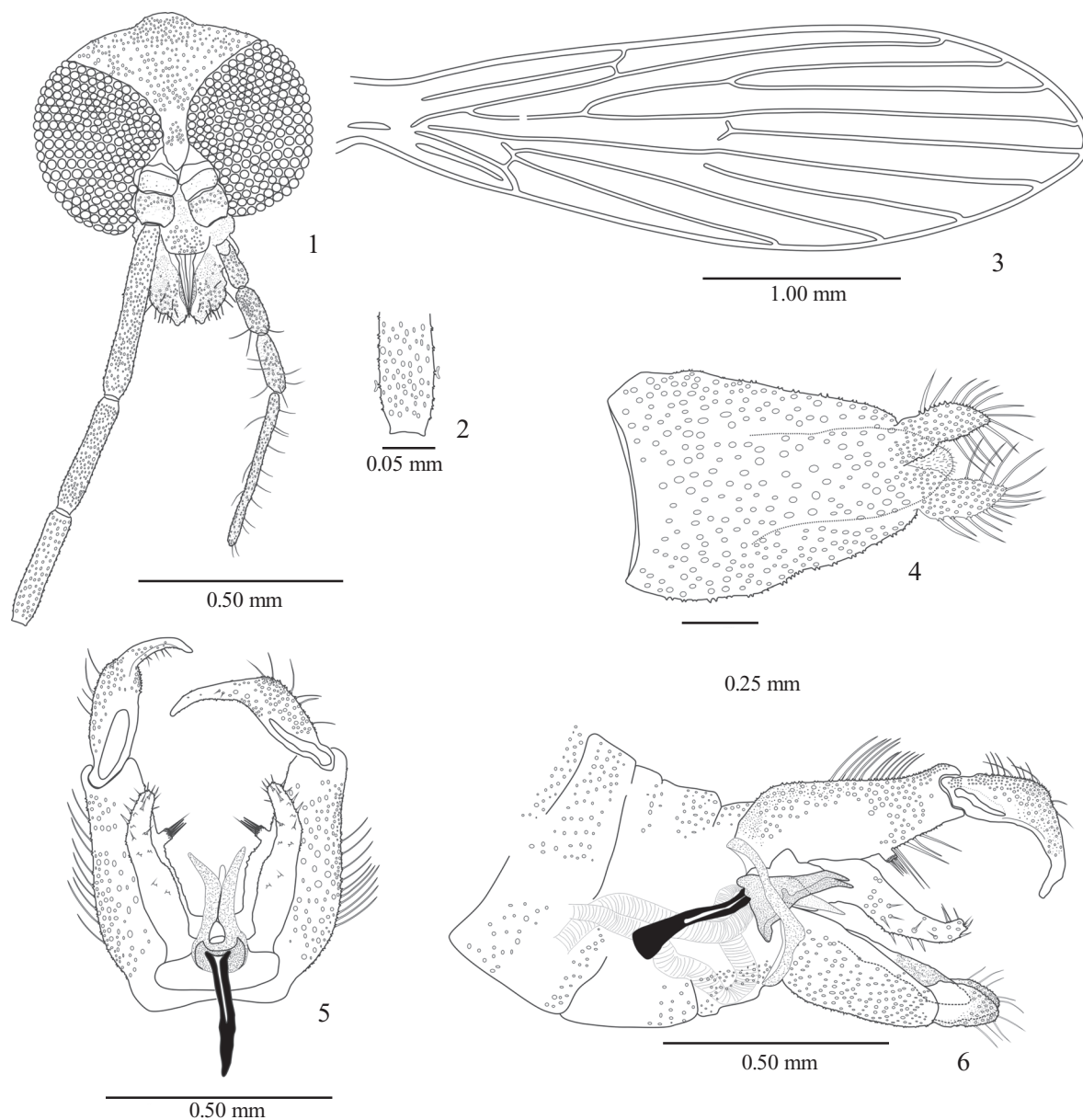
tuberance; gonostylus ending at curved tapering apex; parameres blade shaped with short spiniform bristles at the apex.

Description. Male. Length from thorax to the posterior end of terminalia: 4.2–4.6 mm ($n = 2$). Eyes separated by approximately 3.0 facet diameters; frontal area with 13–20 seta alveoli. Antenna incomplete only 13 flagellomeres present, 14th provably lost in preparation; length of flagellomeres 2+3 combined 1.4 times the length of flagellomere 1; pair of ascoids present, bifurcated. Palpus formula (1+2:3:4:5) = 1.0:0.9:1.2:3.0; sensilla absent on second and third segment of palpus; apical segment striated (Figs. 1, 2). Wing length: 3.4–3.8 mm ($n = 2$). Sc ending after level of radial fork, reaching C; crossvein sc-r reaching R_1 ; R_{2+3} shorter than R_2 ; base of R_5 not reaching R_4 and without spur; crossvein r-m incomplete, not reaching M_1 on same level as radial and median forks; M_2 incomplete, not reaching M_1 (Fig. 3). Abdominal pleurites without sclerites bearing long hairs; segments 6 and 7 unmodified. Male terminalia: hypandrium fused to gonocoxite; gonocoxite longer than ejaculatory apodeme with small median setose protuberance (Fig. 6); gonostylus short, 0.75 times the length of gonocoxite, ending at curved tapering apex; aedeagus bifurcated with blades apically divergent; pair of parameres present, blade-shaped with small and strong bristles at apex, 0.75 times the length of gonocoxites; ejaculatory apodeme narrow dorsally, slightly clavate laterally (Figs. 5, 6); epandrium longer than wide, trapezoidal, wider basally than apically (Fig. 4); cerci subelliptical in lateral view (Fig. 5), subtriangular in ventral view (Fig. 4); hypoproct lobe-like, rounded at apex (Fig. 4).

Female. Unknown.

Etymology. From the Latin *parvus*, short, small, referring to the short protuberance of the gonocoxite.

Type material. Holotype: male, Brazil, Espírito Santo, Cariacica municipality, *Reserva Biológica Duas Bocas*, 20°28'S, 40°46'W, 03.X.2008,



Figs. 1–6. *Nemopalpus parvus* Santos, Falqueto & Bravo, **sp. nov.**, holotype male. 1, head; 2, ascoid; 3, wing; 4, epandrium, cerci and hypoproct, ventral view; 5, terminalia ventral view; 6, terminalia, lateral view.

Santos, C. B. col. (MZFS). One male paratype, Brazil, Espírito Santo, Santa Teresa municipality, *Reserva Biológica Augusto Ruschi*, 19°54'S, 40°33'W, 16.XII.2011, Santos, C. B. col. (MZFS).

Remarks. In the key to males of New World *Nemopalpus* of Quate & Alexander (2000), the new species *N. parvus* is grouped with other species of the genus that has a crossvein r-m basal of, or on same level as median fork; the abdominal pleurites without sclerites bearing long hairs; and segments 6 and 7 unmodified. The new species differs from that group of species cited in the key of Quate & Alexander (2000) because R_{2+3} is shorter than R_2 while all other species have a vein R_2 shorter than R_{2+3} .

Other Neotropical species described after the work of Quate & Alexander (2000), *N. capixaba* Santos, Falqueto &

Alexander, *N. espiritosantensi* Santos, Falqueto & Alexander, *N. stuckenbergi* Wagner, *N. amazonensis* Wagner & Stuckenberg, *N. cancer* Wagner & Stuckenberg and *N. spinosus* Bravo & Barata possess, too, a vein R_2 shorter than R_{2+3} (Santos *et al.* 2009; Wagner & Stuckenberg 2012; Bravo & Barata 2012), therefore differing from the new species. Moreover, *N. similis* Wagner & Stuckenberg possesses a group of ornamental setulae on abdominal segments 6 and 7 (Wagner & Stuckenberg 2012) and thus it can be differentiated from *N. parvus* **sp. nov.** because in this latter species these abdominal setulae are absent. Finally, *N. parvus* **sp. nov.** differs from *N. brejetubensis* Santos, Falqueto & Alexander because the latter possesses the distal part of the gonostylus directed downwards (Santos *et al.* 2009), while it is straight in the former.

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