

Culicoides lobatoi, a New Brazilian Biting Midge of the *Limai* Group (Diptera: Ceratopogonidae)

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A new Brazilian species of the Culicoides limai group, C. lobatoi from Nova Friburgo, State of Rio de Janeiro, is described and illustrated from female specimens.

Key words: Neotropical bloodsucking midge *Culicoides limai* group - *Culicoides lobatoi* sp. n.

Studies of material from light trap collection made by Felipe-Bauer in Nova Friburgo, Rio de Janeiro, Brazil, revealed a new species described here based on female specimens.

In our study we used the terminology employed in the comprehensive revisions on *Culicoides*, by Wirth and Blanton for Panama (1959), the Amazon Basin (1973), and the West Indies (1974), and the Atlas of wing photographs of Neotropical species, by Wirth et al. (1988).

Culicoides lobatoi Felipe-Bauer, new species
(Figs 1-10)



Culicoides lobatoi sp. n., female. Fig. 1: wing photography.

Female: wing length 1.03 (0.95-1.08, n = 8) mm; breadth 0.52 (0.46-0.54, n = 8) mm.

Head: dark brown. Eyes (Fig. 3) slightly separated by a distance of 1/3 ommatidial facet, bare. Antenna (Figs 2, 5) brown except on the first 2/3 of the segments 4-7, which are paler; lengths of flagellar segments in proportion of 16-14-16-17-16-16-16-17-16-16-18-18-31; antennal ratio 0.77 (0.74-0.78, n = 7); sensilla coeloconica present on segments 3, 8-10, double on 3, triple on 9-10, and double or as often triple on 8.

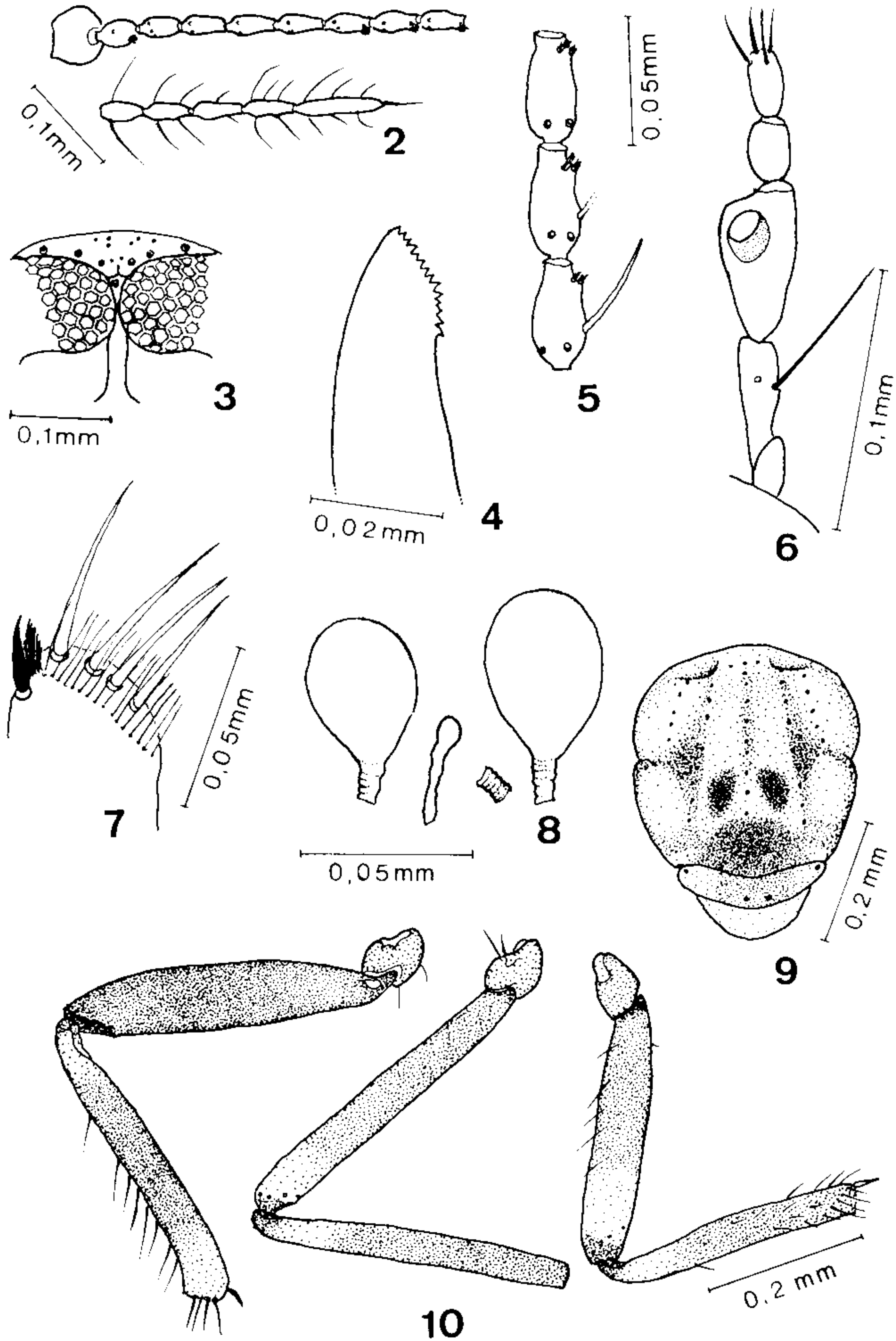
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Palpus (Fig. 6) brown; lengths of segments in proportion of 8-18-22-7-9; third segment swollen distally, with a large, deep, round sensory pit; palpal ratio 2.2 (1.9-2.3, n = 9). Proboscis dark brown, moderately long, P/H ratio 0.76 (0.71-0.83, n = 9); mandible (Fig. 4) with 14 (n = 6) rarely with 13 (n = 1) or 15 (n = 2) teeth.

Thorax: brown; scutum (Fig. 9) with prominent pattern, including a submedian anterior pair of elongated pale spots and two pairs of lateral pale spots, a prescutellar brown area and a median area with sublateral pair of dark brown bands; scutellum broadly brown in middle, pale on sides; postscutellum pale. Legs (Fig. 10) dark brown, knee spots blackish; fore- and midfemora with subapical and all tibiae with subbasal pale spots; hind tibia with 1/3 apical pale; first tarsomere of the hind leg brown and the further paler; hind tibial comb (Fig. 7) with four spines, the two nearest the spur longest, subequal. Wing (Fig. 1) with pattern as figured; cell R_5 with three pale spots, the poststigmatic area and in the middle of cell one large and broadly reaching wing margin, the one narrow and faint pale line in the distal tip of the cell; cell M_1 with two pale areas, the proximal large and oval, the distal one broadly reaching wing margin and connected with the distal pale line of the cell R_5 ; cell M_2 with area between medial and medio-cubital forks continuously pale connected with the first distal pale spot of cell, the second distal pale spot larger than first and meeting wing margin; cell M_4 with a broad rounded pale spot extending from vein M_{3+4} to wing margin; vein M_1 with a faint pale streak; anal cell with one large and strangulated pale spot in distal portion, extending from vein Cu_2 to margin of the cell; base of the wing with a pale spot extending broadly from costal vein to margin of anal cell; macrotrichia moderately dense on distal half of the wing, including anal cell; costal ratio 0.58 (0.54-0.59, n = 8); halter pale.

Abdomen: dark brown. Spermathecae (Fig. 8) two plus rudimentary 3rd and sclerotized ring; ovoid



Culicoides lobatoi sp. n., female. Fig. 2: antenna. Fig. 3: eye separation. Fig. 4: mandible. Fig. 5: antennal segments 8-10. Fig. 6: palpus. Fig. 7: hind tibial comb. Fig. 8: spermathecae. Fig. 9: mesonotum. Fig. 10: legs (left to right) hind, mid and fore.

with long well sclerotized necks, slightly unequal, measuring 0.038 by 0.048 mm and 0.033 by 0.043

mm, plus necks 0.011 mm long (n = 9); sclerotized ring with length 0.010mm (n = 9).

Male: unknown.

Distribution: Brazil (Rio de Janeiro).

Types: Holotype: ♀ (no. 209) Furnas do Catete, Nova Friburgo (42°33'W, 22°18'S), Rio de Janeiro, BRAZIL, X-XI.1987, Felipe-Bauer col., deposited in Instituto Oswaldo Cruz, Rio de Janeiro, Brazil. Paratypes: 4 ♀♀ (no. 210-213), same data as holotype but 4-13.X.1987, 4.XII.1987-11.I.1988, 11.III-14.IV.1988; 1 ♀ (no. 214) Pau da Fome, Jacarepaguá (43°20'W, 22°58'S) Rio de Janeiro, Rio de Janeiro, BRAZIL, VII.1974, Tavares col., deposited in Instituto Oswaldo Cruz, Rio de Janeiro, Brazil; 1 ♀, same data as holotype but 6.XI-3.XII.1987, deposited in National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA; 2 ♀♀ same data as holotype but 4-13.X.1987, one deposited in Museo de La Plata, Argentina and the other in Dept° de Epidemiologia, Faculdade de Saúde Pública, Universidade de São Paulo, São Paulo, Brazil.

Etymology: this species is named in honor of Dr Wladimir Lobato Paraense, in recognition of his important contributions to the study of the Brazilian planorbid molluscs during the past 40 years.

Discussion: this species most closely resembles *C. limai* Barreto, *C. antunesi* Forattini and *C. boliviensis* Spinelli & Wirth by general

aspects of the wings. *C. lobatoi*, *antunesi* and *boliviensis* have similar pale markings on all legs while *C. limai* presents an additional pale spot on subapical portion of hind femur. *C. lobatoi* presents P/H ratio greater than in *limai*, *antunesi*, and *boliviensis*, while these three species have sensilla pattern 3,7-10 and antennal ratio greater than 1, *C. lobatoi* shows values of 3,8-10 and 0.77 respectively.

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