

A New *Culicoides* from The Amazonian Region, Brazil (Diptera: Ceratopogonidae)

Maria Luiza Felipe-Bauer/⁺, Rosana de S Veras*, Eloy G Castellon*,
Nancy A Moreira

Laboratório de Díptera, Departamento de Entomologia, Instituto Oswaldo Cruz, Av. Brasil 4365, 21045-900
Rio de Janeiro, RJ, Brasil *Coordenação de Pesquisas em Entomologia, Instituto Nacional de Pesquisas da
Amazônia, Alameda Cosme Ferreira 1756, 69083-000 Manaus, AM, Brasil

A new Neotropical species of biting midge Culicoides (Haematomyidium), C. kampa Felipe-Bauer, Veras & Castellon, is described and illustrated based on female specimens from the Amazonian Region.

Key words: neotropical bloodsucking midge - *Culicoides (Haematomyidium) kampa* sp.n. - Amazonian region - Brazil

Material from light trap collections from Acre, Brazil included an undescribed species of *Culicoides* that we describe herein based on slide mounted female specimens.

The terminology used is that employed in *Culicoides* papers by Wirth and Blanton for Panama (1959), the Amazonian Basin (1973), and the West Indies (1974), and the atlas of wing photographs of Neotropical species by Wirth et al. (1988). A systematic key for the species of the subgenus *Haematomyidium* can be found in Vitale et al. (1981).

Culicoides (Haematomyidium) kampa Felipe-Bauer, Veras & Castellon new species
(Figs 1-10)

Type locality: Rio das Minas, Acre, Brazil.

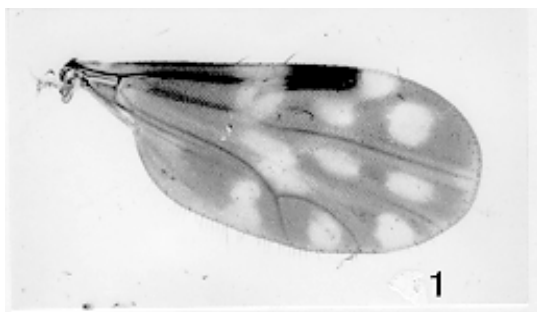
Female: wing length 0.73 (0.70-0.76, n = 4) mm; breadth 0.32 (0.32-0.35, n = 4) mm.

Head: brown. Eyes (Fig. 6) bare, broadly separated by a distance of 1.5 to 2 ommatidial facets. Antenna (Fig. 2) pale brown, pedicel brown; flagellomeres with lengths in proportion of 14-10-11-12-11-11-11-12-13-13-14-13-22; antennal ratio 0.81 (0.78-0.84, n = 3); sensilla coeloconica present on flagellomeres 1,6-8, double on 1 and 6, single or as often double on 7, and triple on 8 (Fig. 3). Palpus (Fig. 5) brown; lengths of segments in proportion of 5-19-21-8-7; 3rd segment slender, with a shallow, round sensory pit on distal third; palpal ratio 3.6 (3.3-4.0, n = 4). Proboscis long,

with P/H ratio 1.10 (0.97-1.16, n = 4). Mandible (Fig. 4) with 15-18 teeth.

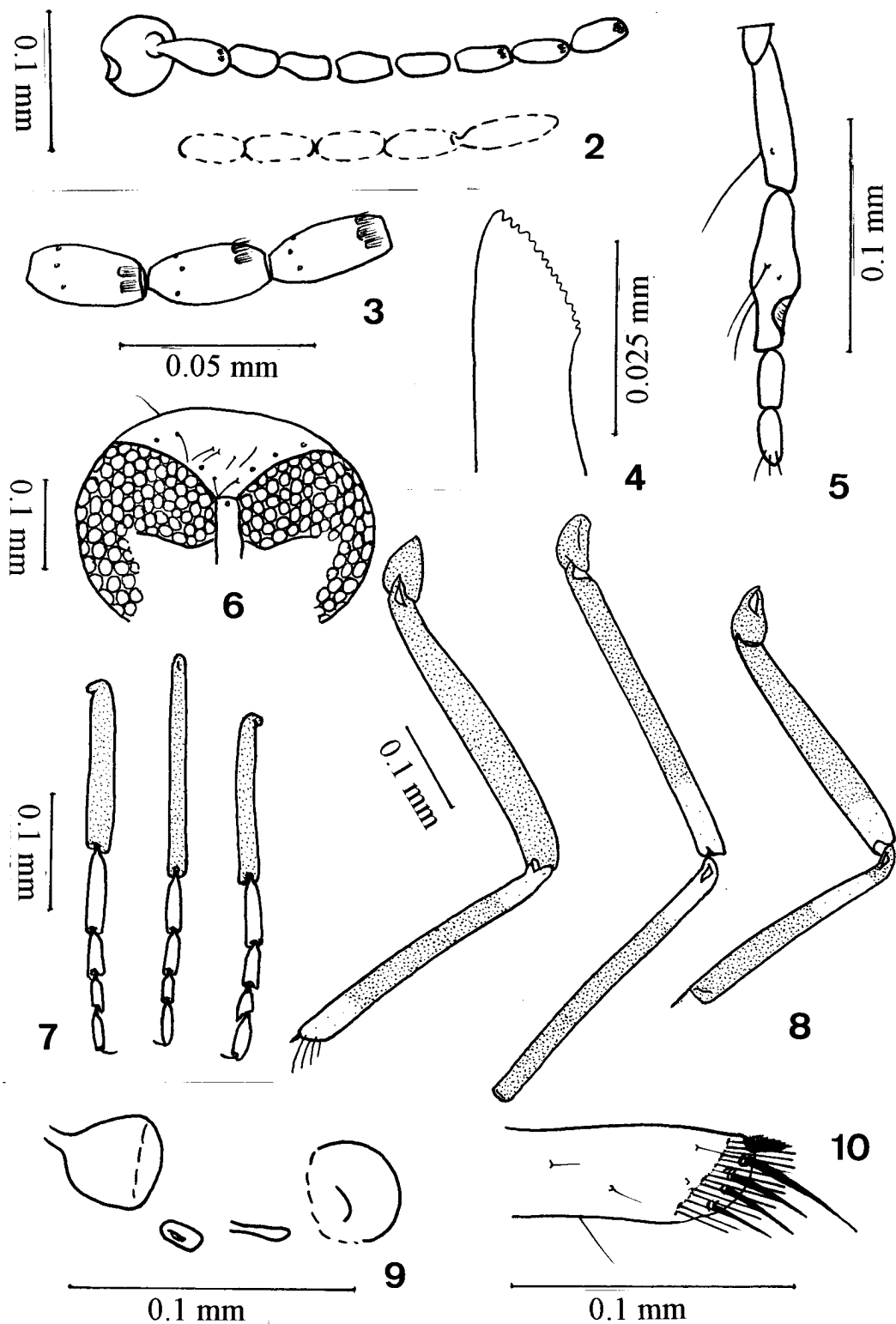
Thorax: brown; without definite pattern in slide mounted specimens. Legs (Fig. 8) mostly brown, coxae and trochanters brown; fore and mid femora with subapical and tibiae with subbasal pale bands; hind tibia pale on apical portion; hind tibial comb (Fig. 10) with four spines, the one nearest spur longest. Tarsi (Fig. 7) pale, with first tarsomere darker. Wing (Fig. 1) with pattern of pale spots as follows: cell r5 with three rounded separated spots, arranged in a triangle; one spot over r-m crossvein extending from vein M to costal margin; cell m1 with two rounded spots, distal one not reaching wing margin; cell m2 with three spots, one proximal to medial fork, 2nd one distal to mediocubital fork, one rounded spot at wing margin; cell m4 and anal cell each with a rounded spot reaching wing margin; base of the wing without pale spots; veins M1 and M2 with a faint pale spot on distal portion; macrotrichia absent; costal ratio 0.64 (0.63-0.65, n = 4). Halter pale.

Abdomen: brown. Two ovoid, subequal spermathecae (Fig. 9) with short, slender necks, measuring 0.027 by 0.027 mm and 0.027 by 0.021 mm (n =



Culicoides kampa sp.n., female. Fig. 1: wing photograph.

⁺Corresponding author. Fax: +55-21-5984342. E-mail: mlfbauer@gene.dbbm.fiocruz.br
Received 14 April 1999
Accepted 6 October 1999



Culicoides kampa sp.n., female. Fig. 2: antenna (flagellomeres 9-13 drawn imperfectly). Fig. 3: flagellomeres 6-8. Fig. 4: mandible. Fig. 5: palpus. Fig. 6: eye separation. Fig. 7: tarsi (left to right) hind, mid and fore. Fig. 8: legs (left to right) hind, mid and fore. Fig. 9: spermathecae. Fig. 10: hind tibial comb.

4); plus rudimentary third and a round sclerotized ring.

Male: unknown.

Distribution: Brazil (Acre).

Types: holotype female, Rio das Minas (8°26'27"S, 73°39'28"W), Acre, BRASIL, 18-19.III.1997, EF Morato col., light trap, deposited in Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Brazil. Paratypes: 3 females, Rio Azul, Acre, BRASIL, 24-25.XI.1996, EF Morato col., light trap [1 female, deposited in INPA and 2 females (no. 276-277), deposited in Instituto Oswaldo Cruz, Rio de Janeiro, Brazil].

Etymology: this species is named in honor of the Kampa Indians who live near the type locality.

Discussion: *C. kampa* is a typical member of the subgenus *Haematomyidium*, where it most closely resembles *C. ginesi* Ortiz, 1951 and *C. glabrior* Macfie, 1940 by the arrangement in a triangle of the three rounded pale spots in cell r5. Both species differ from *C. kampa* by their larger size, contiguous eyes, smaller palpal ratio and proboscis, and sensilla pattern in flagellomeres 1,5-8. In addition, *C. kampa* differs from *C. ginesi* by the absence of the pale bands on the hind femur and macrotrichia on the wing. It differs from *C. glabrior* by the presence of apical pale spots on the fore and mid femur and by the smaller size of the 2nd radial cell.

ACKNOWLEDGEMENTS

To Dr OP Forattini, Departamento de Epidemiologia, Faculdade de Saúde Pública, Universidade de São Paulo,

Brazil for the loan of the specimens of *Culicoides ginesi* for study and to Genilton José Vieira and Rodrigo Mexas for assistance with the wing photo.

REFERENCES

- Macfie JWS 1940. A report on a collection of Ceratopogonidae (Diptera) from British Guiana. *Entomol Mon Mag* 76: 23-32
- Ortiz I 1951. Estudios en *Culicoides* (Diptera, Ceratopogonidae) 9. Sobre los caracteres diferenciales entre *Culicoides paraensis* (Goeldi, 1905), *C. stellifer* (Coquillett, 1901) y *C. lanei* (Ortiz, 1950). Descripción de cuatro nuevas especies con la redescrición de algunas otras poco conocidas. *Rev Sanid Asist Soc* 16: 573-591.
- Vitale GC, Wirth WW, Aitken THG 1981. New species and records of *Culicoides* reared from arboreal habitats in Panama, with a synopsis of the *debilipalpis* group (Diptera: Ceratopogonidae). *Proc Entomol Soc Wash* 83: 140-159.
- Wirth WW, Blanton FS 1959. Biting midges of the genus *Culicoides* from Panama (Diptera: Heleidae). *Proc US Nat Mus* 109: 237-482.
- Wirth WW, Blanton FS 1973. A review of the maruins or biting midges of the genus *Culicoides* (Diptera: Ceratopogonidae) in the Amazon Basin. *Amazoniana* 4: 405-470.
- Wirth WW, Blanton FS 1974. The West Indian sandflies of the genus *Culicoides* (Diptera: Ceratopogonidae). *US Dept Agr Tech Bull* 1474: 1-98.
- Wirth WW, Dyce AL, Spinelli GR 1988. An atlas of wing photographs, with a summary of the numerical characters of the Neotropical species of *Culicoides* (Diptera: Ceratopogonidae). *Contr Am Ent Inst* 25: 1-72.