

Culex (Melanoconion) sacchettae, a New Species

from the State of São Paulo, Brazil (Diptera: Culicidae)

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ABSTRACT. The adult female and male of *Culex (Melanoconion) sacchettae*, a new species from the State of São Paulo, Brazil, are described. Its male genitalia and that of *Culex vomerifer* Komp 1932, to which it is closely related, are illustrated. Their phylogenetic affinity is briefly discussed.

INTRODUCTION

Dr. Oscar de Souza Lopes of the Instituto Adolfo Lutz, São Paulo, Brazil, collected mosquitoes during epidemics of Rocio encephalitis in the State of São Paulo in 1975-76. The Arbovirus Ecology Branch, Vector-Borne Diseases Division, Centers for Disease Control, Fort Collins, Colorado, processed these collections for arbovirus isolations and encountered considerable difficulty in identifying the culicines from this area. Since a new species, *Cx. (Mel.) lopesi*, was described earlier (Sirivanakarn and Jakob, 1979), this description of a new member of *Culex (Melanoconion)* thus represents the second new species from these collections. Initial designation as *Cx. (Mel.)* sp. BR51 was made by the junior author in the process of pooling specimens for virus isolation.

This species was tentatively identified as *vomerifer* Komp 1932 (Sirivanakarn and Jakob, 1979) on the basis of male genitalia (Rozeboom and Komp, 1950; Aitken and Galindo, 1966). Later, additional specimens, including adult males and associated genitalia slides, and pinned adult females, were referred to the senior author for specific determination.

The species was readily collected by CDC light traps supplemented with dry ice and was also found in human bait and stable trap collections. Other *Cx. Melanoconion* collected with this species were *taenioopus* Dyar and Knab 1907, *misionensis* Duret 1953, *intrincatus* Brethes 1916, *lopesi*, and an undetermined species near *erybda* Dyar 1924. This new species was one from which virus was frequently isolated, yielding at least two isolations each of Eastern equine encephalitis (EEE), Bertioaga, and Brucouha viruses.

We take pleasure in naming this new species in honor of Dr. Lia de Abreu Sacchetta who contributed greatly to the epidemic investigations and assisted in obtaining *Melanoconion* material from the São Paulo area.

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FEMALE. Wing: 2.9 mm. Forefemur: 1.44 mm. Proboscis: 1.73 mm. Abdomen: 1.91 mm. Similar to *vomerifer* in pattern of spotting on mesepimeron, differing in having pattern of white bands on hindtarsomeres 1-5. *Head*. Narrow decumbent scales of vertex dark anteriorly, pale whitish posteriorly; lateral patch of broad scales whitish, very conspicuous; erect scales slender, entirely dark. Palpus 0.16 length of proboscis. *Thorax*. Mesonotal integument dark brown, all scales entirely dark brown to black. Pronotal integument dark brown. Pleural integument dark brown on lower *ppn*, *psp*, *ssp*, *pra*; *stp* with a broad darkened area on anterior lower surface and upper corner, remainder of sclerite paler; *mep* with broad dark spots on lower and upper surface, median surface pale without a patch of minute translucent setae on posterior portion ventrad of upper *mep* setae. *Legs*. Coxae and trochanters pale; femora and tibiae of fore- and midlegs entirely dark scaled; fore- and midtarsi predominantly dark; anterior surface of hindfemur with distinct longitudinal pale strip extending from base to slightly beyond middle; hindtarsus with distinct narrow apical and basal white bands at joints of tarsomeres 1-4, tarsomere 5 entirely whitish. *Wing*. Veins R₂, R₃, R₄₊₅ and branches of M, with dense, broad ovate plume and squame scales. *Abdomen*. All terga entirely dark on dorsal surface, lateral surface of terga III-VII with basolateral pale spots; sterna with narrow basal pale bands, remainder dark scaled.

MALE. In general as described for female, differing in having all narrow decumbent scales in center of vertex entirely whitish, fewer wing scales, abdominal terga with broad transverse basal pale bands. *Head*. Palpus longer than proboscis by nearly the combined length of segments 4, 5; latter with indistinct basal pale bands and strongly plumose. Flagellar whorls of antenna strongly plumose.

MALE GENITALIA (Fig. 1). As figured, exceedingly similar to *vomerifer* in all aspects except for the following features. *Sidepiece*. Tergomesal margin with a clump of about 10 minute setae at a short distance below base of columnar stem of proximal division of subapical lobe. *Subapical Lobe*. Leaf of distal division narrower, obovoid in outline. *Clasper*. Preapical portion with distinct crest of spicules. *Phallosome*. Apical tergal process of lateral plate more or less jagged or bifurcate at extreme tip in lateral aspect.

PUPA and LARVA. Unknown.

TYPE-DATA. *Holotype*: male with genitalia slide (042877-2), Cananea (Brucouha), State of São Paulo, Brazil, sea level, caught in CDC miniature light trap, 3 April 1976, Oscar de Souza Lopes, coll., deposited in Faculdade de Higiene e Saude Publica de Universidade de São Paulo, São Paulo, Brazil (FH). *Allotype*: female (BR 6-301), Bambuzal, 30 March 1976, other data and depository same as holotype. *Paratypes*: 7 males (031577-4, -9; 041877-7, -8, -9, -10; 042877-1), same data as holotype except 4 March - 3 April 1976 (USNM); 3 males (050477-12, -13, -14); 2 males (BR 8-545); 2 males (78/175, 78/181), Porto do Ribeira, Igaúpe, 17-18 March 1976, other data same as holotype (USNM); 1 female (BR 6-301), same data as allotype (USNM); 4 males [78 BR-18, -30, -33,

-19 (genitalia slides only)], same data as holotype except 26 February 1976 (CDC); 1 male genitalia slide (78 BR-117) Pariquera Acu, 26 February 1976, other data same as holotype (CDC).

DISTRIBUTION. Known only from State of São Paulo, Brazil.

Material Examined. 22 specimens: 2 ♀, 16 ♂, 4 ♂ genitalia slides.

TAXONOMIC DISCUSSION. *Culex sacchettae* is related to *vomerifer* from Panama and *portesi* Senevet and Abonnenc 1941 from French Guiana. These three species evidently fall into a distinct complex within the *Cx. spissipes* group of Galindo (1969). The adults of *sacchettae* are strikingly different from those of *vomerifer* and *portesi* in that white bands are present on the hindtarsus, whereas these bands are lacking in the latter two species. The male genitalia of *sacchettae* are similar to that of *vomerifer* in most features, but distinct from it in the shape of the leaf of the subapical lobe and the presence of a small clump of minute setae on the upper tergomesal margin of the sidepiece.

ACKNOWLEDGMENT

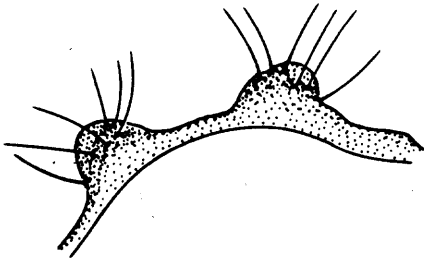
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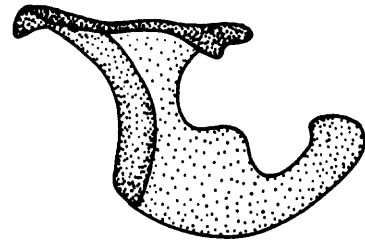
Fig. 1

A



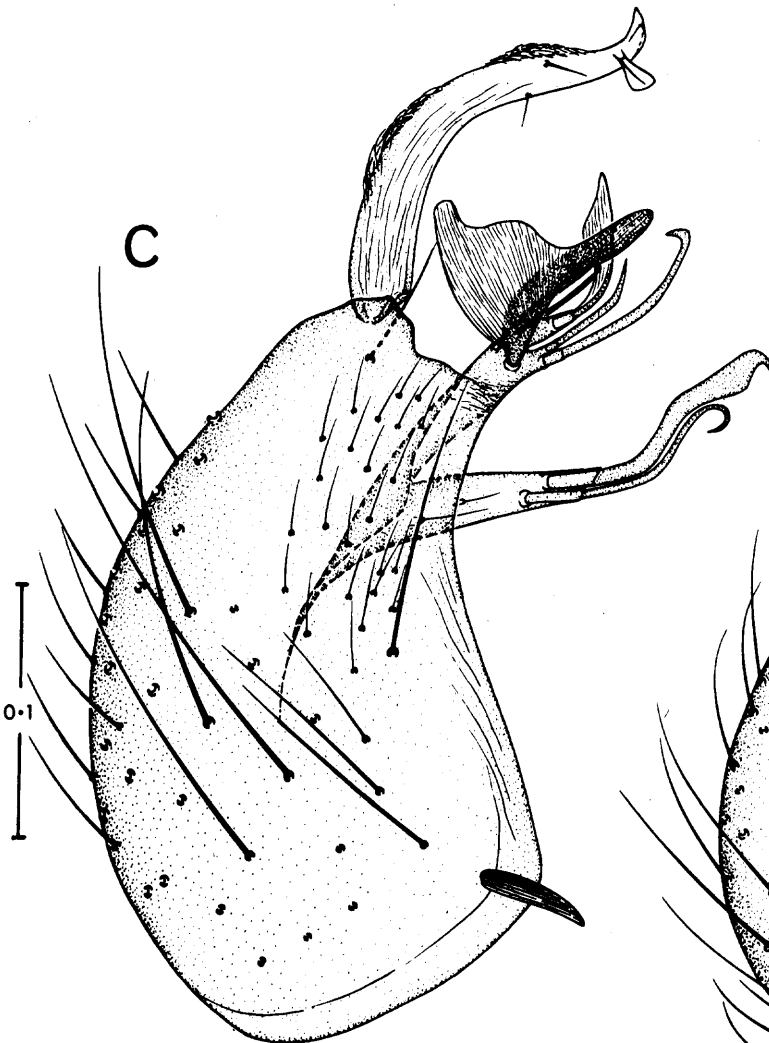
IX-T

B



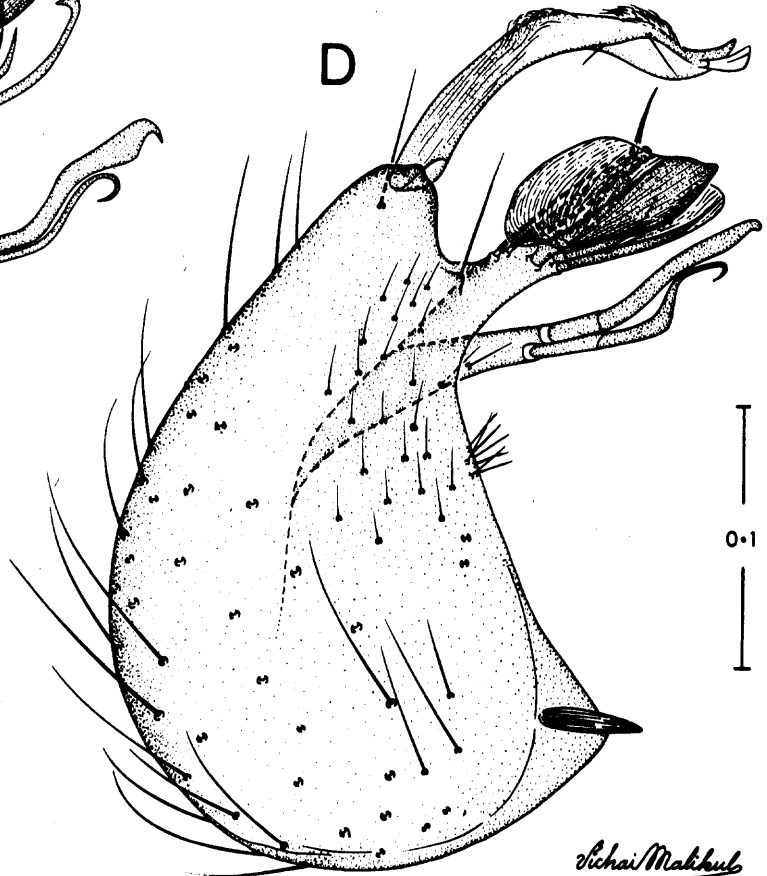
aedeagus (lateral view)

C



Culex (Melanoconion) vomerifer Komp

D



Culex (Melanoconion) sachettae

Sichai Mahkub