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First record of *Culex* (*Melanoconion*) *adamesi* (Diptera: Culicidae) from Guyana

NATHAN DANIEL BURKETT-CADENA[1*], TASHANNA S. BOWMAN[2], SHERRY-ANN BUTTERS[2], DWAIN D. POLLARD[2], KEISHA A. NELSON[3], REZA NILES-ROBIN[4], RACHEL SHUI FENG[5] & SIMONE L. SANDIFORD[6,7]

[1]*Florida Medical Entomology Laboratory, University of Florida, Vero Beach, Florida, USA*
nburkettcadena@ufl.edu; https://orcid.org/0000-0001-6168-1637
[2]*Medical Entomology Unit - Vector Control Service, Ministry of Health, Guyana*
tashannab26@gmail.com; https://orcid.org/0009-0000-8494-8955
sherryannbutters@gmail.com; https://orcid.org/0009-0008-3953-4006
frudepebbles11@gmail.com; https://orcid.org/0009-0006-3222-3809
[3]*Aedes Borne Diseases Unit, Vector Control Services, Ministry of Health, Georgetown, Guyana*
keishanelson2025@gmail.com; https://orcid.org/0009-0004-2362-7516
[4]*Vector Control Services, Ministry of Health, Georgetown, Guyana*
nilesrobin.vcs@gmail.com; https://orcid.org/0000-0001-5948-4335
[5]*Opp. LP#50 Gookool Street, Diego Martin, Trinidad and Tobago*
shuifengr@gmail.com; https://orcid.org/0009-0008-2616-1255
[6]*Department of Basic Medical Sciences, Pharmacology and Pharmacy Section, Faculty of Medical Sciences, The University of the West Indies Mona, Kingston, Jamaica*
[7]*Mosquito Control and Research Unit, The University of the West Indies, Mona, Kingston, Jamaica*
simone.sandiford@uwi.edu; https://orcid.org/0000-0003-2368-0902
**Corresponding author*

Culex (*Melanoconion*) *adamesi* Sirivanakarn & Galindo, 1980 (Diptera: Culicidae) is a member of the Crybda Group, Pedroi Subgroup of the Spissipes Section of the subgenus, a taxonomic grouping that also includes several natural (enzootic) vectors of Venezuelan equine encephalitis virus (Sallum & Forattini 1996; Belkin *et al*. 1970; Ferro *et al.* 2003; Weaver *et al*. 2004). Other members of the Pedroi Subgroup (*sensu* Sallum & Forattini 1996) are *Cx. crybda* Dyar, 1924, *Cx. epanastasis* Dyar, 1922, *Cx. pedroi* Sirivanakarn & Belkin, 1980, *Cx. ribeirensis* Forattini & Sallum, 1985, *Cx. extenuatus* Talaga & Duchemin, 2025 (in Talaga *et al*. 2025) and *Cx*. *carincii* Talaga & Duchemin, 2025 (in Talaga *et al*. 2025). Sirivanakarn & Galindo (1980) described *Cx. adamesi* from specimens (all life stages) collected in the Canal Zone of Panama (Fig. 1), but they also examined conspecific specimens from Colombia, Ecuador, French Guiana and northeastern Brazil (Pará State). Need *et al*. (1993) later reported the capture of females from the Iquitos area of eastern Peru, primarily using Shannon traps with human bait.

Relatively little has been published regarding the biology, ecology and medical importance of *Cx*. *adamesi*. As part of their description, Sirivanakarn & Galindo (1980) indicated that "adults preferred the blood of rodents, but also fed on other mammals and birds, both in the forest canopy and on the ground." A predilection for biting rodents is shared among several other species in the Spissipes Section (Tempelis & Galindo 1975; Christensen *et al*. 1996), a behavior which contributes to the importance of this group for transmitting Venezuelan equine encephalitis and Madariaga viruses (Weaver *et al*. 2004; Torres *et al*. 2017). Ferro *et al.* (2003) demonstrated that *Cx. adamesi* serves as a secondary vector of VEEV subtype ID in the Magdelena River Valley, Colombia. Adults and immature stages of *Cx. adamesi* have mostly been collected in humid lowland forests and associated wetlands (Sirivanakarn & Galindo 1980; Need *et al*. 1993). Larvae of *Cx. adamesi* have been collected from freshwater wetlands with emergent and floating vegetation in forest environments in Panama (summarized in Sallum & Forattini 1996).

Here, we provide the first report of *Cx. adamesi* from Guyana, northern South America. A single female was collected attempting to bite coauthor TB during landing collections conducted at a police station, 29 May 2025, at approximately 20:00 h, in Region 1-Arakaka (latitude: 7.578895, longitude: -60.0194). The specimen was pinned and the dorsum of the head, scutum and abdomen, along with lateral aspects of the thorax and legs, were photographed using a Canon digital SLR camera (5D) following methods described in Burkett-Cadena *et al*. (2022). The camera aperture was set to a very narrow focal range (5.0) so that numerous (70–150) images of narrow depth of focus could be taken in series. Resulting images were stacked using software (ZereneStacker Professional) then cleaned and edited using Photoshop

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2025 (Adobe, USA). The female was recognizable as a member of the Spissipes Section of the subgenus *Melanoconion* by the predominance of narrow scales on the vertex of the head (Fig. 2a). The specimen was clearly recognizable as *Cx. adamesi* by the presence of narrow golden scales on the vertex and scutum (Fig. 2a), the presence of a large patch of pale scales on the upper mesokatepisternum (Fig. 2b), presence of complete pale-scaled bands on abdominal segments II–VI (Fig. 2c) and the absence of pale "knee spots" or pale-scaled bands on the hindtarsomeres (Fig. 2d). These and all other characters examined agreed with those described in Sirivanakarn & Galindo (1980) and Sallum & Forattini (1996), including the color of the erect forked scales of the vertex and occiput, color of the pleural integument and color of the scales and setae of the thorax. The specimen is deposited in the Medical Entomology Laboratory, Vector Control Services, Ministry of Health, Georgetown (Guyana) for permanent reference.

FIGURE 1. New (cross) and prior (closed circles) distribution records of *Cx. adamesi*. The localities are based on records provided in Sirivanakarn & Galindo (1980), Need *et al*. (1993), Cano-Pérez *et al.* (2022) and Talaga *et al.* (2025).

In the adults, *Cx*. *adamesi* can be separated from *Cx*. *epanastasis*, *Cx*. *extenuatus* and *Cx*. *pedroi* by the completely dark-scaled hindtarsomeres, from *Cx*. *carincii* by the pleural integument without a conspicuous pattern of dark spots and from *Cx*. *crybda* and *Cx*. *ribeirensis* by the presence of complete pale-scaled bands on abdominal terga II–VI (Sallum & Forattini 1996; Talaga *et al.*, 2025).

This record fills a substantial gap in the distribution of *Cx. adamesi* in the neotropics. Considering that *Cx. adamesi* is also known from Brazil and French Guiana, it is plausible that this species is also present in Suriname. This record relies on one female captured by human landing catch and identified based solely upon external morphological characteristics. New species of *Culex* subgenus *Melanoconion* are regularly found in South America, some of which are morphologically indistinguishable from described species. This record would be strengthened by confirmation in the future with additional specimens, male genitalia and DNA sequences. Talaga *et al*. (2025) provided a robust framework for integrating morphological and molecular records of *Culex* species in South America, which could help to resolve the challenges of studying this diverse group.

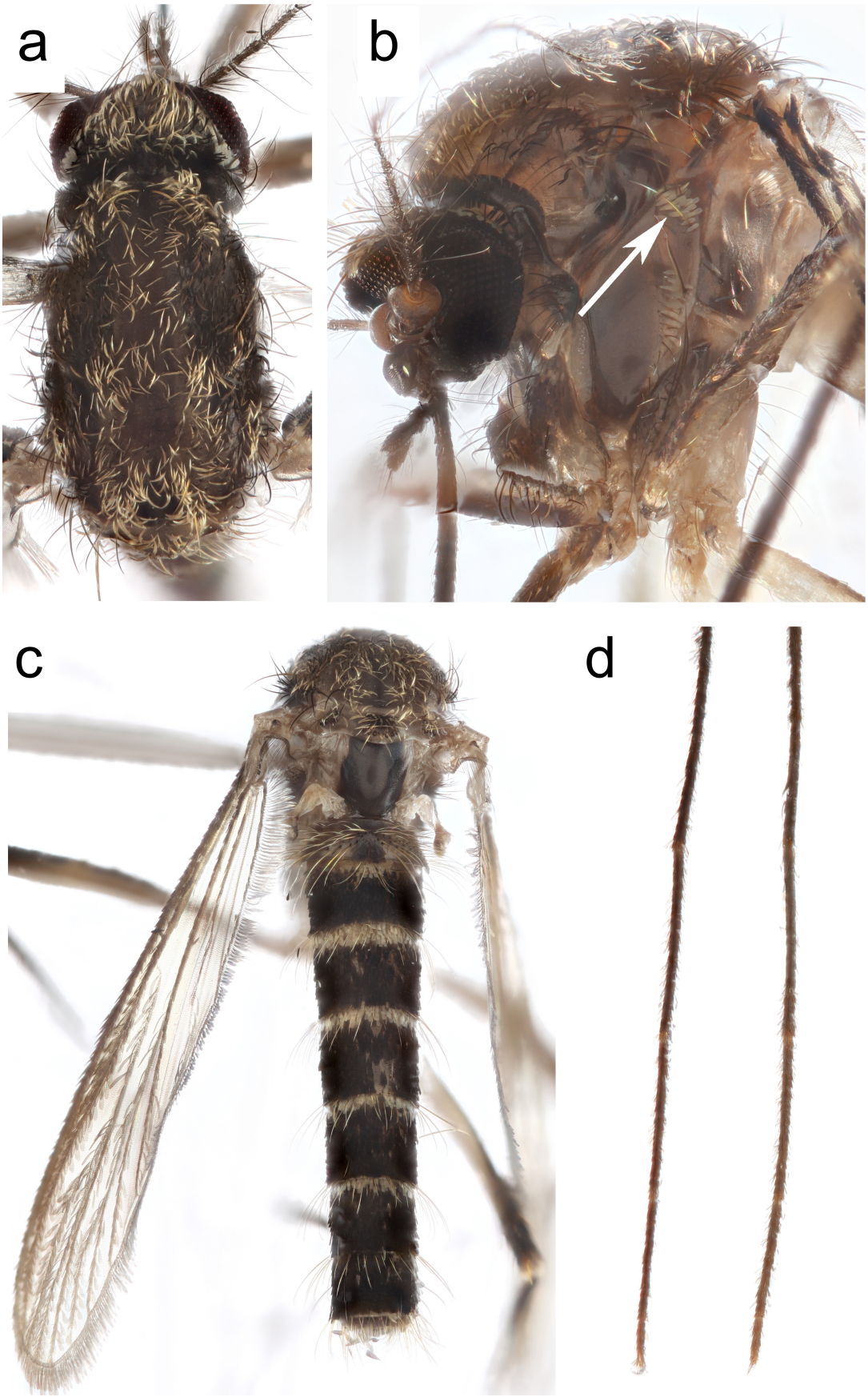

FIGURE 2. Habitus of *Cx. adamesi* from Guyana. A, Dorsal view of head and thorax; B, lateral view of head and thorax; C, dorsal view of abdomen; D, lateral view of hindtarsi. The arrow indicates a patch of pale scales on the upper mesokatepisternum.

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