SCIENTIFIC NOTES

AUSTRALASIAN *FORCIPOMYIA* MIDGE NEW TO FLORIDA (DIPTERA: CERATOPOGONIDAE)

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We take this opportunity to report the surprising presence in southern Florida of a distinctive species of the biting midge genus *Forcipomyia* Meigen belonging to a group of Old World species of the subgenus *Forcipomyia* s. str.

Forcipomyia (Forcipomyia) swezeyana Tokunaga and Murachi

Forcipomyia (Forcipomyia) swezeyana Tokunaga and Murachi, 1959: 145 (all stages; Guam, Tinian, Palau; reared from larvae in rotting papaya trunk); Tokunaga, 1959: 275 (as *swezeyiana*; Irian Jaya, Papua New Guinea; New Britian); Debenham, 1987: 303 (notes).

NEW RECORDS. **Florida:** Dade Co., Homestead, University of Florida Tropical Research and Education Center, 5.ii.1991, D. H. Habeck, reared from decaying spathe and spadix of *Philodendron*, 2 males, 3 females, 1 larva, 2 pupae. Orange Co., Maitland, Lake Hope, 12.vii.1985, W. W. Wirth, malaise trap, 1 female. Palm Beach Co., Lake Park, Meagher's Nursery, 1.iv.1988, K. Nicholson, reared from larvae inside decaying stem of banana, 4 males, 6 females, 8 larvae, 3 pupae.

DISCUSSION. This species is readily characterized and distinguished from all other known American *Forcipomyia* species by its uniform dark brown color with only bases of mid and hind femora and narrow apices of mid and hind tibiae pale; uniformly brownish wing and brown halter, and short, stubby, female antenna. The third palpal segment is short and fusiform, with small, round, sensory pit in middle of segment, somewhat as in species of the subgenus *Lepidohelea* and rarely seen in subgenus *Forcipomyia*. The sensilla trichodea on antennal segments 4-10 of the female are short and stout, nearly straight, blunt-tipped, and arising from greatly enlarged, hyaline pores. Tibiae of female without hastate setae. Two small, elongate, oval spermathecae. Male genitalia with aedeagus elongate shield-shaped, with a pair of sublateral vertical folds extending from base to near midway, apex with a small, bluntly pointed projection; parameres ribbonlike, tapering to narrow blunt apices, closely fused on proximal fifth, fused portion standing on a short, transverse bar linking the basal apodemes.

In the larvae of *F. swezeyana* the antennae are moderately long, conical, and borne on inconspicuous prominences; the *p* and *q* head setae are relatively short and narrowly lanceolate; the spear-shaped *a* setae of body segments 1-9 are moderately long and greatly expanded in midportion, microscopically spiculate on expanded portion; *a* seta of 10th (last) segment with the blade of the spear narrower and elongated; *b*, *c*, and *d* setae elongate, moderately stout, and minutely plumose except *d* seta minute on segment 1 (prothorax); *b* and *d* setae arising from common tubercles on segments 2-9. In full grown larvae nearing pupation, body segments 3-9 develop a blackish, transverse, cuticular bar connecting the bases of the *a* setae. Prothoracic pseudopod bifid, bearing 6 black hooklets on each lobe; anal pseudopod with 2 rows of black hooks, 10 in anterior

row and 8 in posterior row. Pupa with respiratory horn capitate with subspherical head on a short, slender stem, bearing 12 spiracular openings in a row on posterior edge of head. Pupal thorax and first 5 abdominal segments with 5 prominent tapering processes, some long, and some with stout terminal spines.

The adults of *F. swezeyana* are practically identical with those of *F. swezeyanaadfinis* Chan and LeRoux (1971) from Singapore, but the immature stages of the two species differ slightly. According to Chan and LeRoux the larvae of *F. swezeyanaadfinis* differ in (1) the *b* setae are not joined to the *d* setae on a common tubercle; (2) the anterior pseudopod bears 6 hooklets instead of 16 on each branch; and the pupae differ in (3) abdominal segments bear 4 instead of 5 pairs of large processes. Our Florida specimens are placed in *F. swezeyana* on the basis of character (1), with *b* and *d* setae borne on a common tubercle, and (3) the abdominal segments of the pupa bearing 5 pairs of large processes. In our larvae the anterior pseudopod bears 6 hooklets on each lobe as in *swezeyanaadfinis*, and we suspect that the count of 16 in Tokunaga and Murachi (1959) is a typographical error. Since the adults of the two species are practically indistinguishable, and the immature stages are separated on such problematical characters, we suspect that we are dealing with one slightly variable species, for which the name *F. swezeyana* has priority. Study of additional reared specimens from the Orient and Pacific will be necessary to determine possible synonymy.

Debenham (1987) places these two species in a distinct "*swezeyana* Group" of Australasian species of *Forcipomyia (Forcipomyia)*, along with 2 additional species, *F. pulla* de Meillon and Wirth (1981) from South Africa, and *F. crassipalpis* Debenham (1987) from New South Wales, Australia. The latter species was reared from the cactus, *Opuntia inermis*. In *F. crassipilosa* the antennal segments are more elongate than in *F. swezeyana*, palpal segments 4 and 5 are very short and stubby, and the male parameres are stouter. In *F. pulla*, known only from a unique male taken in a light trap, the aedeagus and parameres are much shorter and broader than in the related species.

The known members of the *F. swezeyana* group are Afrotropical, Oriental, and Australasian in distribution, with no known members from the American continents. The species have repeatedly been reared from the stems or pseudostems of tropical plants such as banana, cassava, cactus, and *Philodendron*, and such plants are often transported by commerce. It therefore seems safe to conclude that *F. swezeyana* is an immigrant species that was probably introduced in Florida unintentionally by human transport.

References Cited

Chan, K. L., and E. J. LeRoux. 1971. Nine new species of *Forcipomyia* (Diptera: Ceratopogonidae) described in all stages. Canadian Entomol. 103: 729-762.

Debenham, M. L. 1987. The biting midge genus *Forcipomyia* (Diptera: Ceratopogonidae) in the Australasian Region (exclusive of New Zealand) III. The subgenera *Forcipomyia* s. s., and *Lepidohelea*. Invertebr. Taxon. 1: 269-350.

De Meillon, B., and W. W. Wirth. 1981. Subsaharan Ceratopogonidae (Diptera) Vi. New species and records of South African biting midges collected by A. L. Dyce. Ann. Natal Mus. 24: 525-561.

Tokunaga, M. 1959. New Guinea biting midges (Diptera: Ceratopogonidae). Pacific Ins. 1: 177-313.

Tokunaga, M., and E. K. Murachi. 1959. Diptera: Ceratopogonidae. Ins. Micronesia 12: 101-434.