

und das ungewöhnlich weit proximal, nämlich in der basalen Fingerhälfte stehende Tasthaar *et* sehr gut charakterisiert. Sie lag mir inzwischen auch von Sumatra var.

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REDESCRIPTION OF *BRUNETTIA BIFORMIS* EDWARDS (Diptera : Psychodidae)

By Laurence W. Quate¹

Abstract: *Brunettia biformis* Edwards is redescribed and reillustrated to facilitate the description of other related species.

To facilitate the description of species of *Brunettia*, many of which are closely related, it is helpful to be able to compare them to a well established species. Taxonomic differences between species are often slight and descriptions can be more meaningful when

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compared to structures of another known species. *Brunettia biformis* is a useful species against which other species in the Asian and Pacific areas may be compared. It is the first species of the genus to be described in the area and seems quite closely related to many others. It is redescribed and refigured here as a basis for comparison of the *Brunettia* species currently being studied in the Asiatic region.

***Brunettia biformis* Edwards** Fig. 1.

Brunettia biformis Edw., 1928, *Insects of Samoa* (Brit. Mus. Nat. Hist.) **6** (2): 68.—Satchell, 1950, *Proc. R. Ent. Soc. Lond.* **B 19**: 184; 1953, *ibid.* **22**: 185.—Quate, 1959, *Ins. Micronesia* (Bishop Mus.) **12**(4): 443; 1959, *Pacific Ins.* **1**: 434.

♂. Body integument brown. Eyes contiguous but lower margin separated in V-shaped notch, bridge with 3 rows of facets; frons with hair patch having concave posterior margin and without posterior projection; cibarium broad, transverse bar well developed; palpus with segment 2 shorter than 3, ratio=4:20:27:30. Antenna 15-segmented; pedicel $2\times$ scape; terminal segment reduced, about $0.6\times$ size of preterminal; ascoids single-branched, long and sinuous.

Thorax with large, C-shaped patagium on anepisternite, densely covered with microtrichiae and pits, unmounted specimens with vestiture of short black scales. *Wing* very broad, without indentation on anterior border, membrane thickened and with small depression between R_1 and radial fork; radial fork little basad of medial; R_5 ending in wing tip. *Fore tibia and tarsus* enlarged, little larger than other legs, but otherwise unmodified; ratio of fore femur (including trochanter): tibia=55:40, mid=60:60, hind=60:75. *Genitalia* as figured; dististyle slender, gently curved and bearing 2 preapical spines; 2 pairs of

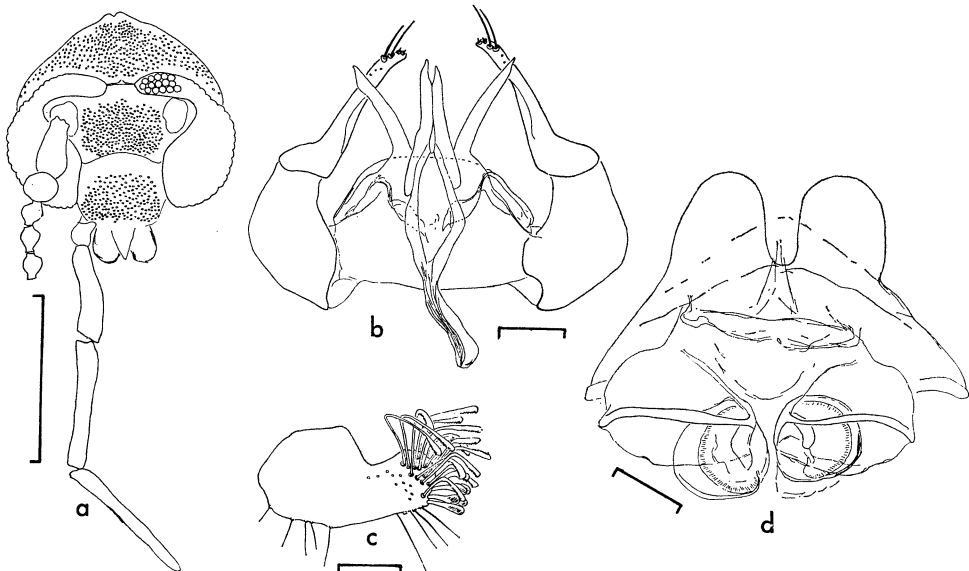


Fig. 1. *Brunettia biformis* Edwards. a, ♀ head; b, ♂ genitalia, dorsal; c, ♂ surstyle, lateral; d, ♀ genitalia, inner face. Scale line of head=0.3 mm, others=0.05 mm.

aedeagal shafts ending almost at same level; surstyle short, with small group of short tenacula preceded by larger group of long ones, tenacula with serrated, capitate tips.

Antenna 1.51 mm (1.27-1.65); wing length 2.49 ± 0.11 mm (2.27-2.65; N=27), width 2.08 ± 0.13 mm (1.80-2.25).

♀. Similar to ♂ but eyes separated and wing narrower; eyes separated by 4 facet diameters. Genitalia as figured.

Antenna 0.92-0.97 mm (most specimens broken, estimated range 0.7-1.1 mm); wing length 2.07 ± 0.1 mm (1.95-2.30; N=22), width 1.05 ± 0.13 mm (0.95-1.17).

DISTRIBUTION. Samoa, Fiji (Micronesia ?, see below).

Holotype ♂ (BMNH): Upolu, Samoa.

SPECIMENS STUDIED. SAMOA. Upolu: II.1955, N. L. H. Krauss, 2♀♀; Afiamalu, 15.VI.1960, 660 m, O. H. Swezey, ♂; Tapatapao, 20.VII.1940, 330 m, Swezey & Zimmerman, ♂; holotype. Tutuila: 2.XII.1956, W. R. Kellen, 2♂♂; Mt. Alava, 20-24.II.1965, Malaise trap, G. A. Samuelson, 11♂♂, 5♀♀. Manua Is.: Tavalogi, Tau I., 18-19.II.1965, 165 m, Malaise trap, G. A. Samuelson, 11♂♂, 16♀♀. FIJI. Viti Levu: Vunindawa, 2.V.1941, N. L. H. Krauss, ♂.

The main features which distinguish *biformis* from other species of *Brunettia* are the genitalia of both sexes, as shown in the illustrations, and broad wings of the male. These structures are fairly typical for the genus and probably are but little modified from the ancestral type. Even though found in a limited area far from continents, *biformis* shows generalized structures that make it a useful as a basis for comparison.

After studying many specimens from different localities, it appears to me that the male genitalia of *Brunettia* show little intraspecific variation and many species may be recognized by minor differences in the genitalia. Most interspecific variation is found in the shapes of the dististyle and relative lengths of the parts of the aedeagus. The female genitalia vary in the shapes of the apical lobes, the ornamentation on the inner face of the subgenital plate and the structure of the spermathecae, but often the differences between species are so slight that until females are association with males they cannot be assigned to species with confidence. In some species the male may show modification of the fore legs and wings, but these are usually sexual characters that do not appear in the female.

B. biformis has been recorded from Micronesia and a number of allopatric forms have been recorded there (Quate 1959). Although the status of these forms is still not clear and a change in nomenclature is not warranted, raising each to the status of species would not be unreasonable in view of differences of the same order which separate continental species.