

## A New Species of *Dichaetomyia* Malloch (Diptera: Muscidae) From the Fijian Islands<sup>1,2</sup>

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**Abstract:** *Dichaetomyia taveuniana*, n.sp., from Taveuni Island is described and illustrated and compared with *Dichaetomyia elegans* Malloch from Viti Levu, Vanua Levu, and Ovalau islands.

### INTRODUCTION

The genus *Dichaetomyia* Malloch is a large and evidently monophyletic genus of muscid flies, widespread throughout the Old World tropics and subtropics and currently containing just over 250 described species. Some 72 species were listed from the Australasian and Oceanian region (Pont, 1989). Since then, an additional Melanesian species has been described by Shinonaga (2004). Many of these species are known only from their original descriptions, but there are revisions of the Micronesian (Snyder, 1965) and Australian (Pont, 1969) species. Previous to this study, only two species were known from the Fiji Islands, *D. elegans* Malloch and *D. vicaria* (Walker).

The new species described here was found whilst sorting Malaise trap material from Viti Levu and Taveuni islands. The endemic and very striking *Dichaetomyia elegans* Malloch was found in some numbers from Viti Levu, but close study of the specimens from Taveuni showed that these belong to a different, closely related species that is described below as *Dichaetomyia taveuniana* new species.

*Dichaetomyia elegans* Malloch was described in detail by Malloch (1928: 468), and in the same year was also described as *Dichaetomyia prodigiosa* by Bezzi (1928: 176–179) in his monograph of the higher flies of the Fiji Islands. Bezzi's description also included some excellent illustrations of the male mid and hind legs and their remarkable ornamentation (Bezzi, 1928: fig. 52). The synonymy of *prodigiosa* with *elegans* was established by Malloch (1929: 170). As this species has been described and illustrated so well, our description below takes the form of a key couplet that enumerates the characters that distinguish *D. elegans* and the new species.

These two species are members of the *Dichaetomyia armata* group of species (Pont, 1969: 211), possessing a rather long scutellum that is setulose on the sides and along the ventral margin, meron setulose below spiracle, and lower katapisternal seta equidistant

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from the upper two katepisternal setae. They are among the species of the group with 3 pairs of postsutural dorsocentral setae, and also have male frons with 2 pairs of reclinate orbital setae, inner postpronotal seta short, notopleuron with setulae around the base of the second seta, only 1 postsutural intra-alar seta, postalar wall with a few short setulae, and sternite 1 setulose.

### MATERIAL AND METHODS

Specimens in this study derive primarily from collecting and trapping conducted by the FBA and NSF projects, types and voucher specimens of which will be deposited in the Fiji National Insect Collection, Suva (FNIC). Where series numbers permit, paratypes and duplicates are deposited in the Bishop Museum, Honolulu (BPBM) and the Natural History Museum, London (BMNH).

### SYSTEMATICS

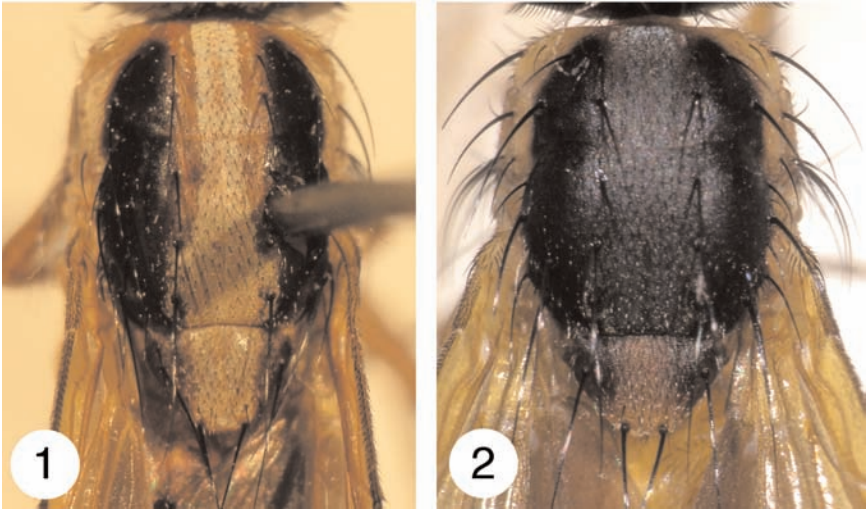
#### *Dichaetomyia taveuniana* Pont & Evenhuis, new species

**Diagnosis.** Males and females of *D. taveuniana* and *D. elegans* can be easily distinguished by the colour of the central scutal vitta and by the wing colour. Males can be distinguished by a number of secondary sexual characters in the mid and hind leg ornamentation, as detailed in the following key couplet:

Central part of scutum, between the broad black paramedian vittae, orange-yellow in ground-colour (Fig. 1). Wing (Fig. 3) tinged with orange in basal half, conspicuously dark smoky in apical half. ♂: mid femur with the long fine posterior to posteroventral setae continued from base almost to apex of femur; mid tarsus with the posterior hairs on tarsomeres 1 and 2 curled only at tips; hind femur with the anterodorsal row of setae complete, with the anterior row of setae becoming longer and more anteroventral in apical half and the 4-5 short anteroventrals after the last strong seta curved downwards as normal; hind femur on posteroventral surface with the median group of short setae consisting of 7 setae in a single row; hind tibia (Fig. 5) with the dorsal to anterodorsal hairs that cover the whole length longer and denser, and the anterodorsal hairs on tarsomere 1 long and fine, longer than the tarsal depth, apical half of hind tibia and tarsomere 1 also with long posterodorsal hairs; ventral process at middle of hind tibia with the spoon-shaped piece shorter and broader, and the inner piece shorter and square-ended. [The holotype ♀ of *elegans* Malloch and the lectotype ♂ of *prodigiosa* Bezzi are in the BMNH and have been studied by the senior author during preparation of this paper.] (Viti Levu, Vanua Levu, Ovalau) .....

..... ***Dichaetomyia elegans* Malloch**

Central part of scutum, between the broad black paramedian vittae, black in ground-colour (Fig. 2). Wing (Fig. 4) uniformly dark smoky. ♂: mid femur with the long fine posterior to posteroventral setae confined to basal two-fifths of femur; mid tarsus

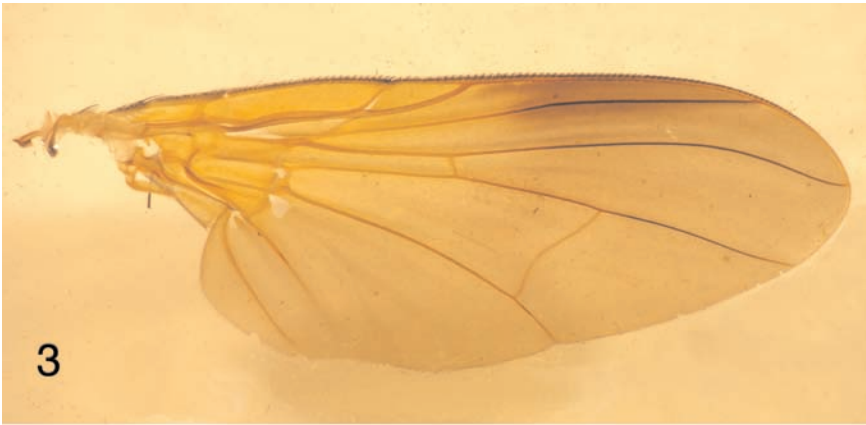


**Figures 1–2.** *Dichaetomyia* thoraxes, dorsal view showing medial patterning. 1. *D. elegans*. 2. *D. taveuniana*, sp. nov.

with the posterior hairs on tarsomeres 1 and 2 curled along their whole lengths; hind femur with the anterodorsal row absent, the anterodorsal to anteroventral surfaces in basal half covered with dense setae and setulae, the 6 short anteroventrals after the last strong seta upcurved, not downcurved; hind femur on posteroventral surface with the median group of short setae consisting of 12 setae, more extensive and not uniserial; hind tibia (Fig. 6) with the dorsal to anterodorsal hairs that cover the whole length shorter and sparser, and the anterodorsal hairs on tarsomere 1 inconspicuous and not as long as tarsal depth, apical half of hind tibia and tarsomere 1 without any posterodorsal hairs; ventral process at middle of hind tibia with the spoon-shaped piece longer and narrower, and the inner piece longer and smoothly rounded at tip.

Taveuni ..... ***Dichaetomyia taveuniana* Pont & Evenhuis, n.sp.**

**Types.** *Holotype* ♂ and 26♂, 55♀ *paratypes* from: FIJI: **Taveuni:** Devo Peak, 5.3 km SE Tavuki Village, 1064 m, 28 Jan–11 Feb 2005, 16°50'27.4"S, 179°59'4.1"W, Malaise, P. Vodo [FBA 515573–515654]. *Other paratypes:* FIJI: **Taveuni:** 14♂ 16♀, Devo Peak, 5.3 km SE Tavuki Village, 1064 m, 29 Nov 2004–14 Jan 2005, 16°50'27.4"S, 179°59'4.1"W, Malaise, B. Soroalau [FBA 515720–515749]; 2♀, same data except, 1–28 Jan 2005, Malaise, [FBA 515655–515656]; 1♂, 3.2 km NW Lavena Village, Mt. Koronibuabua, 16°51'17"S, 179°53'29.9"W, 235 m, 4–25 Mar 2005, Malaise, B. Soroalau [FBA 515657]; 1♂, 1–28 Jan 2005, Malaise, B. Soroalau [FBA 515658]; 18♂, 22♀, Devo Peak, 5.3 km SE Tavuki Village, 28 Jan–11 Feb 2005, Malaise, B. Soroalau [FBA 515659–515698]; 6♂, 15♀, Devo Peak, Tavuki Village, 892 m, 28 Jan–11 Feb 2005, Malaise, B. Soroalau [FBA 515699–515719]. *Holotype* will be deposited in FNIC. *Paratypes* in FNIC, BPBM, and BMNH.



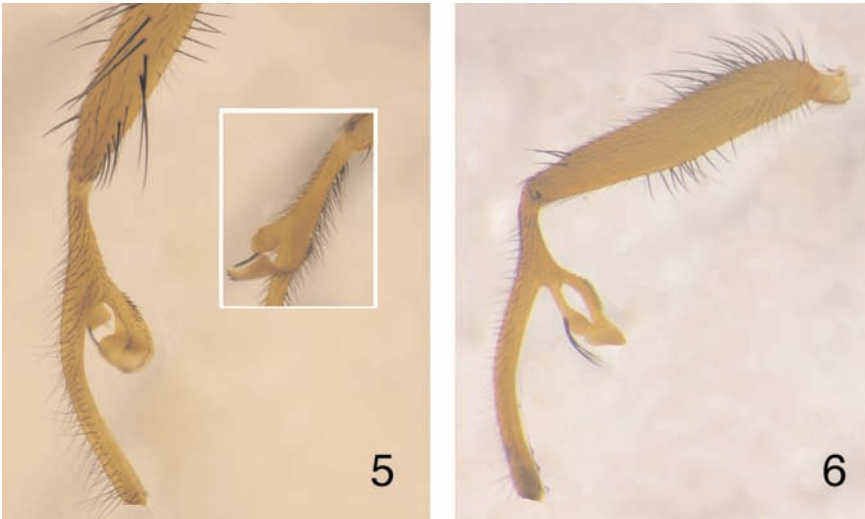
Figures 3–4. *Dichaetomyia* wings. 3. *D. elegans*. 4. *D. taveuniana*, sp. nov.

**Etymology.** Named for its geographic occurrence on the island of Taveuni.

**Distribution.** Restricted to the Fijian island of Taveuni.

#### ACKNOWLEDGMENTS

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**Figures 5–6.** *Dichaetomyia* male hind tibia showing modifications. **5.** *D. elegans*, left hind tibia and apex of femur, lateral view; inset: right hind tibia, mesal view. **6.** *D. taveuniana*, sp. nov., left hind tibia and femur.

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