

Frankliniella chrysanthemi Synonymous with *F. occidentalis*
(Thysanoptera: Thripidae)

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Frankliniella chrysanthemi Kurosawa (1941: 173) was described from 2♀♀ collected during a plant quarantine inspection at Yokohama on May 31, 1934, from chrysanthemum flowers taken aboard at Honolulu. This species was excluded in a review of the Hawaiian species of *Frankliniella* because of its uncertain status (Sakimura 1972). Its description indicates a close resemblance to *F. occidentalis* (Pergande), which is a common flower thrips in the Pacific coastal states, but the comb on tergite VIII was stated to be lacking. Through the cooperation of Narao Fukuhara, National Institute of Agricultural Sciences, Tokyo, the type series was obtained on loan for study. The comb was found to be very weakly developed, consisting of 2 to 3 pale and diminutive microtrichia, each 4 to 12 microns long, on each both extreme side of the hind margin. This comb was not readily discernible on the poorly cleared type specimens, even under very high magnification.

The comb on tergite VIII of *F. occidentalis* has been known to be apparently variable in development in different populations. Moulton (1948: 64 and 71) stated that in the pale form tergite VIII is without comb or with an extremely weak comb, usually visible only at sides; in the dark form the comb is complete but sparse. In the pale form, 5 to 6 weak microtrichia each are usually present on each side. In the cases diagnosed as without comb, 2 to 3 weak microtrichia are likely to be present at the extreme sides as was observed in *F. chrysanthemi*. It is interesting to note that *F. helianthi* Moulton, which is now considered conspecific with *F. occidentalis* and has been often collected from sunflower which belongs to the same family with chrysanthemum, was also described as without comb.

The measurements of antennal segments and major setae of *F. chrysanthemi* were all found well within the ranges of *F. occidentalis* as determined by Bryan and Smith (1956). The predominantly dark grayish antenna with pale segment I, and the extensive gray blotchings on abdominal segments are similarly conspicuous in both species. These observations lead to the conclusion that *F. occidentalis* (Pergande, 1895:392) = *F. chrysanthemi* (Kurosawa, 1941:173), **new synonymy**.

This new synonymy may imply that *F. occidentalis* could have established itself somewhere in Hawaii as early as 1934. If the origin of the type specimens of *F. chrysanthemi* could be confirmed, this collection would antedate by 20 years the earliest collection date of 1955 of *F. occidentalis* in Hawaii so far known (Sakimura 1972: 268). According to a research floriculturist and two former plant quarantine officials who are all familiar with the subject matter, there was no import trade of cut or potted flowers from California during the pre-air transportation period in the 1930s. Therefore, it seems unlikely that

the California-grown chrysanthemum would have been taken aboard at the Honolulu harbor, but instead likely that the flowers would have been Hawaii-grown. There are, however, two detracting possibilities from the above reasoning. One is a possible mix-up in determining the origin of the flowers, and the other is the possibility of accidental contamination of thrips from other California-grown flowers which might have been aboard. So the origin of type specimens of *F. chrysanthemi* may remain undetermined. Kurosawa died in 1967 and there is no way to ascertain the exact circumstances under which his collection was made.

LITERATURE CITED

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