

AN UNDESCRIBED WHITE FLY ATTACKING CITRUS IN PORTO RICO¹

By H. L. DOZIER

Entomologist, Delaware Agricultural Experiment Station

As certain white flies are considered to be among the worst pests of citrus in various parts of the world, it is interesting to present here the following description of a new citrus-feeding species. Although at present not of economic importance in its native home in Porto Rico, it is of potential importance to other citrus-growing countries.

Paraleyrodes naranjæ, new species

Very close to *Paraleyrodes goyabæ*, a Brazilian species, but easily distinguished by the difference in male genitalia.

Egg.—Length 0.240 mm., width 0.112 mm. Pale yellow in color. Scattered over leaf and lying rather prostrate, attached at one extremity to long pale stalk.

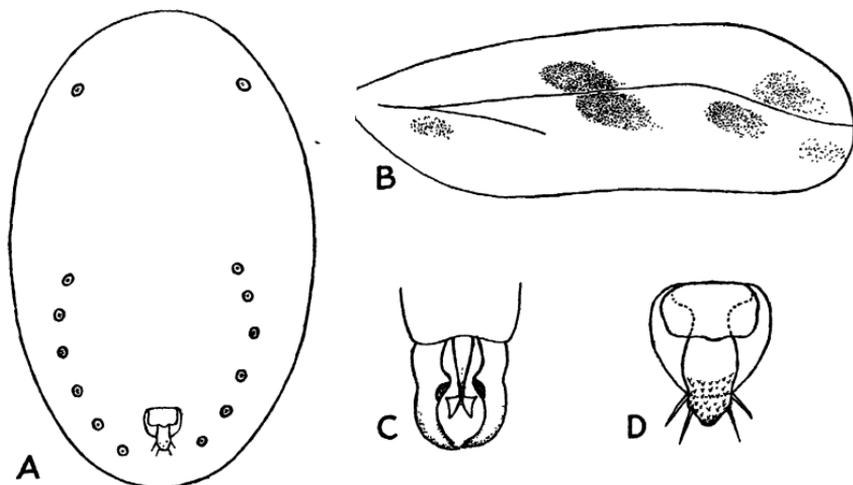


FIG. 1.—*Paraleyrodes naranjæ*; A, pupa case; B, adult forewing; C, male genitalia; D, vasiform orifice

SECOND LARVAL INSTAR.—Distinctly orange-yellow, with a very short and fine fringe of waxy hairs around the margin.

THIRD INSTAR.—The waxy fringe is much shorter than in the fourth instar and the thick wax filaments arising from the dorsal pores have not become so thick and high, although hiding the body even in this stage.

FOURTH INSTAR (pupa case).—Occurs scattered over the under surface of the leaf as small white waxy rosettes that measure about 1.50 mm. across. Case fringed with very broad white waxy filaments that curl downward, the case being completely hidden by the other very broad thick filaments that arise from

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the dorsal pores and grow upward, curving slightly. Size of case about 0.85 by 0.50 mm.

ADULT MALE.—Body uniformly pale yellowish with the claspers a very distinct red in freshly mounted specimens. Length from head to tip of claspers 1.14 mm. Antennae very peculiar, three-jointed; the first joint cup-shaped, whitish, length 0.04 mm., second joint subpyriform, whitish, length 0.05 mm., third joint, golden yellow, extremely long, 0.55 mm., very much imbricated, a few hairs at tip. Eyes distinctly constricted, dark reddish-brown. Fore wing 0.95 mm. by 0.40

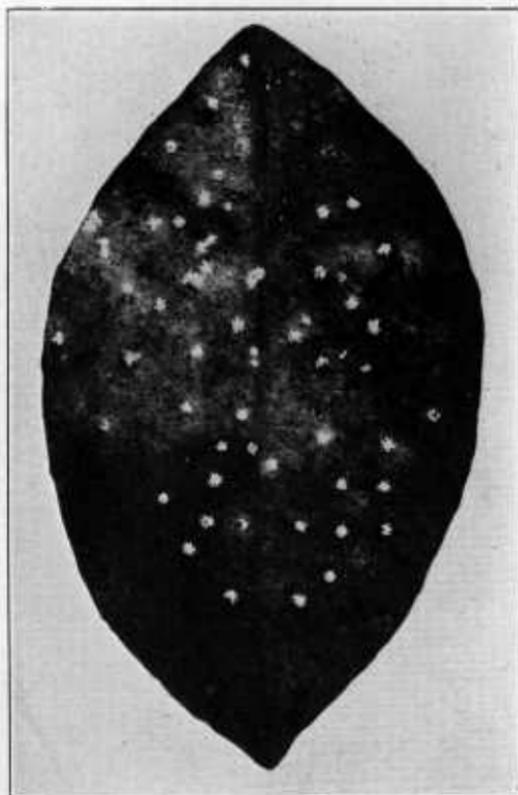


FIG. 2.—Sour-orange leaf infested with *Paraleyrodes naranjæ*.
Natural size

mm., with the radial sector and a short media retained, dusky spotted as in Figure 1; hind wings with single straight vein. Genitalia forcipate, the claspers 0.11 mm. in length, stout at base and curving.

ADULT FEMALE.—Smaller than the male, length to tip of ovipositor 0.81 mm. Body pale yellowish white. Antennae differ from those of male, being distinctly four-jointed.

Described from numerous adults, pupa cases, et cetera, collected by the writer on old sour-orange trees (fig. 2) in back-yard garden of Señor Hernandez Lopez at car stop 23, Santurce, Porto Rico, December 21, 1924, on which date they were abundant in association with the woolly white fly, *Aleurothrixus howardi* (Quaint.).

Paraleyrodes naranjæ in all of its stages, including the egg, lies amid very short fine broken waxen rods scattered indiscriminately over the lower surface of the leaf.

A single female parasite, *Encarsia variegata* How. (determined by Gahan), was reared from this material January 3, 1925. However, the species was very heavily parasitized. Thirty out of a total of 49 pupa cases mounted on slides, or 61.2 per cent, showed evidences



FIG. 3.—Pupa of the parasite *Encarsia variegata*, lying in the pupa case of the white fly. Greatly enlarged

of parasitism. A single pupa of the parasite almost completely fills the pupa case of the host (fig. 3). *Encarsia variegata* was described by L. O. Howard² as a parasite of *Paraleyrodes perseae* in Florida.

² HOWARD, L. O. ON TWO NEW SPECIES OF PARASITES OF ALEYRODIDÆ. Ent. Soc. Wash. Proc. 10: 64. 1908.

