

# HILGARDIA

*A Journal of Agricultural Science Published by  
the California Agricultural Experiment Station*

VOLUME 19

APRIL, 1950

NUMBER 18

## **TEXANANUS INCURVATUS**

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### **II. TRANSMISSION OF CALIFORNIA ASTER-YELLOWS VIRUS**

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## **COLLADONUS GEMINATUS and C. MONTANUS**

### **LIFE HISTORIES ON VIRUS-INFECTED AND ON HEALTHY PLANTS**

**Henry H. P. Severin and Edward C. Klostermeyer**

UNIVERSITY OF CALIFORNIA · BERKELEY, CALIFORNIA

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Genital characters, which are described and illustrated, indicate that the species occurring in California is identical with that occurring in Mexico. Color and markings are described in detail.

II. Transmission of California Aster-Yellows Virus . . . 544

*Texananus incurvatus* is the seventh phlepsid leafhopper that has been demonstrated to carry this virus. In single-insect tests, its efficiency in transmitting the virus was 22 per cent with celery, 1 per cent with asters. The virus was retained by single adults from 11 to 14 days.

III. Life History on Virus-infected and on Healthy Plants . . 546

The length of nymphal stages of *Texananus incurvatus* reared on healthy and on virus-infected plants did not differ significantly. On healthy plants, nymph mortality was high; on infected ones, negligible.

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Life Histories on Virus-infected and on Healthy Plants . . 553

Comparative life-history studies of these two species (selected for study because they experience no nymph mortality on either healthy or diseased celery plants) show no significant differences in the duration of nymphal stages between specimens reared on healthy celery and those reared on diseased celery. In *Colladonus montanus* the total duration of nymphal stages is shorter for the males than for the females. In both species, males were smaller than females. *C. geminatus* and *C. montanus* do not interbreed.

# H I L G A R D I A

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## TEXANANUS INCURVATUS

### I. TAXONOMY<sup>1</sup>

DWIGHT M. DeLONG<sup>2</sup> and HENRY H. P. SEVERIN<sup>3</sup>

*Texananus incurvatus* was described by Osborn and Lathrop<sup>4</sup> as a species of *Phlepsius* in 1923. In 1939 and again in 1944, the genital structures of the species were illustrated and its occurrence in Mexico discussed (DeLong, 1939, 1944). The present description is based on specimens collected in Solano County, California. The genital structures on these specimens proved to be identical with those on Mexican specimens.

**Characters.** In form and general appearance, *Texananus incurvatus* resembles *neomexicanus* and a few other species but can easily be distinguished from them by the internal genital structures of the males. The distinguishing characters of this species are shown in figure 1.

This is a rather small species with a bluntly angled vertex and with brown mottling. The length is 5.5 to 7.5 mm.

The vertex (fig. 1, A) is more than one and one half times as wide between the eyes at the base as the median length. It is distinctly produced but bluntly angled.

The vertex, pronotum, and scutellum are cream-colored with a few brownish markings. In well-marked specimens, there are four mottled areas appearing as indefinite spots on the anterior portion just above the margin. Two of these are proximal and are on either side of the apex; a smaller and more indistinct area is just inside of each ocellus. A very small but darker spot is on either side at the base. The pronotum is indefinitely mottled with brown, which is heavier along the anterior margin. The scutellum is cream to yellow, with darker areas in the basal angles. The elytra are pale, almost milky white, with the veins dark brown or black, and with brown pigment lines typical of the marking of the species of this genus. The markings are irregular, leaving paler areas, the most conspicuous of which are the three lobes along the commissural line. The face is rather heavily infuscated, particularly just beneath the margin.

<sup>1</sup> Received for publication July 6, 1948.

<sup>2</sup> Professor of Entomology, Ohio State University, Columbus, Ohio.

<sup>3</sup> Entomologist in the Experiment Station.

<sup>4</sup> See "Literature Cited" for citations, referred to in the text by author and date.

The seventh sternite of the female (fig. 1, *B*) is broadly, deeply, concavely rounded almost to the base of the segment. Portions of the preceding segment are visible at either side of the base of the concavity.

The male plates (fig. 1, *D*) are triangular and pointed at the apex. These are exceeded by the pygofer, which extends about half the length of the plates beyond their apices. The styles (fig. 1, *C*) are rather broad, deeply, roundedly excavated near their apices to form long, fingerlike processes which curve from the inner apical margin of the style and are directed outwardly. The aedeagus is rather short and is horseshoe-shaped, with the toe of the

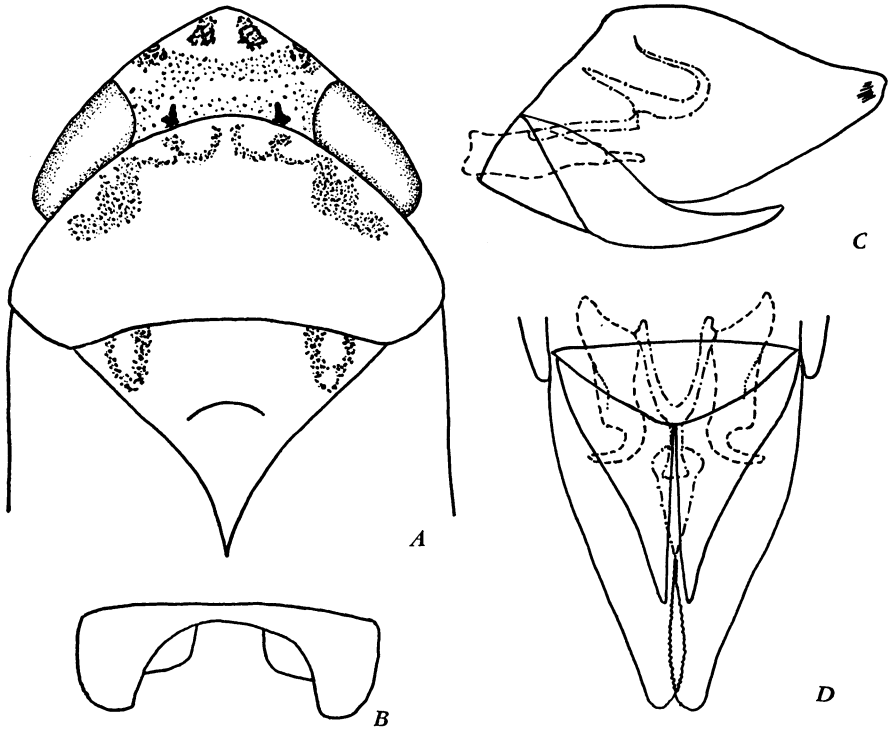


Fig. 1. *Texananus incurvatus*: *A*, head, pronotum, and scutellum, dorsal view; *B*, female seventh sternite, ventral view; *C*, male genital structures, lateral view; *D*, male genital structures, ventral view.

shoe caudal. The apex is tapered and pointed. The base is thickened at the point of attachment to the connective, then is tapered basally beyond this point.

**Geographic Range.** This species is known to occur in portions of Arizona, California, and the northwestern portion of Mexico. It has already been recorded for the states of Sonora and Jalisco, Mexico.

**Distribution and California Food Plant.** A single female of *Texananus incurvatus* was collected on alkali heath, *Frankenia grandiflora*, on October 11, 1946, on Mare Island, Solano County, by H. H. P. Severin.

## LITERATURE CITED

OSBORN, H., and F. H. LATHROP.

1923. The genus *Phlepsius* in North America. Ent. Soc. Amer. Ann. 16:310-62. (See especially p. 346.)

DELONG, D. M.

1939. Los Phlépsidos (*Phlepsius* y *Texananus*) de México (Homoptera-Cicadellidae). [Mex.] Escuela Nac. de Cien. Biol. An. 1:379-405.  
1944. The Mexican species of leafhoppers of the genus *Texananus* (Homoptera: Cicadellidae). Wash. Acad. Sci. Jour. 34:228-39.

The journal *Hilgardia* is published at irregular intervals, in volumes of about 600 pages. The number of issues per volume varies.

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