

A NEW GENUS OF ECONOMIC LEAFHOPPERS AND NOTES ON THE GENUS *ATANUS* OMAN

(Homoptera Cicadellidae)

DAVID A. YOUNG, JR.

Entomology Research Branch
Agricultural Research Service
U. S. Department of Agriculture
Washington, D. C.

Se crea el nuevo género *Paratanus* para *Atanus exitiosus* Beamer y se describen dos especies nuevas de Ecuador del mismo género. Este género tiene mucha importancia económica, porque es vector del virus *Chlorogenus patagoniensis* de la betarraga.

* * *

This paper describes two new species of leafhoppers that are closely related to one already known to transmit a virus disease of beets. The studies that established these relationships also revealed significant differences between these three species and a much more numerous assemblage of closely related forms heretofore thought to be congeneric with them. The pertinent published information concerning these insects is presented in the following paragraph:

The genus *Atanus*, with *Eutettix dentatus* Osborn as type, was described by Oman (1938: 381). The Osborn species was based on two females from Provincia del Sara, Bolivia (1923: 57). Beamer (1943: 178) described *Atanus exitiosus* which Bennett and Munck (1946) found to be the vector of *Chlorogenus patagoniensis*, the virus of yellow wilt of beet in Argentina. DeLong and Knull in their Check List (1945: 57) transferred the North American *Doleranus atascasus* Ball and *Thamnotettix perspicillatus* Osborn and Ball to *Atanus*.

As here interpreted, the identity of *Eutettix dentatus* Osborn rests on U. S. National Museum specimens from Misiones Province, Argentina, that P. W. Oman several years ago compared with Osborn's cotypes in the Carnegie Museum. Males of this (Argentine) population have been dissected and one is illustrated here. A number of other Neotropical species have been examined and found to be sufficiently closely related to the genotype to be included in the same genus. The two North American species also appear to be correctly placed in *Atanus*.

The monobasic Central American genus *Alanus* DeLong and Hershberger (1947) (type *Alanus albidus* DeLong and Hershberger) is so closely related to *Atanus dentatus* (Osborn) that it is necessary to relegate it to synonymy under *Atanus* Oman (new synonymy).

Two species submitted by H. R. Yust and *Antanus exitiosus* Beamer are sufficiently different from true *Atanus* Oman to warrant description of a new genus, described below.

This study is an example of the numerous interesting problems encountered in attempts to identify thousands of specimens sent in by entomologists attached to U. S. Operations Missions abroad. The solutions to most of these problems would contribute materially to the objectives of the mission, but too often pressing demands on time from other sources preclude treating these requests in the thorough manner they deserve. The present paper is a case in point, in that lack of time has prevented further exploration of the significance of the relationships of the forms discussed.

Paratanus new genus

Type of the genus *Atanus exitiosus* Beamer.

Head with crown short, obtusely produced with anterior margin rounded in dorsal aspect and broadly rounded to face in lateral aspect; ocelli on anterior margin of head near eyes. Pronotum short, subequal to crown in width. Forewing with outer anteapical cell elongate and slender; central anteapical cell slightly constricted at midlength; inner anteapical cell open basally; claval veins approximate at midlength, the outer one connected to claval suture by a crossvein. Clypellus broadest anteapically. Male style with narrowed apical portion longer and more weakly curved lateral than in species of *Atanus*. Connective Y-shaped with the «stalk» as long as the arms. Aedeagus with processes arising near base. Anal tube without processes.

This genus is closely related to *Atanus* Oman to which it runs in Oman's key (1938). It can be separated from Oman's genus by its style apices, the form of the connective which is U-shaped or Y-shaped with a very short stalk in *Atanus*, and by the origin of the aedeagal processes which is anteapical or apical on the aedeagal shaft in *Atanus*.

In addition to the genotype, the new genus includes two new species from Ecuador described below.

Key to species of *Paratanus*:

1. Female seventh sternum produced at middle of hind margin; male with aedeagal shaft relatively narrow in lateral aspect, processes ending considerably proximad of its apex *exitiosus* (Beamer)

- 1. Female seventh sternum with hind margin not produced, broadly, weakly convex, or emarginate at middle; male with aedeagal shaft relatively broad in lateral aspect, processes nearly attaining its apex 2
- 2. Male with aedeagal shaft smoothly convex along its anterior face, processes abruptly tapered at apex; scutellum with disc usually ivory; female seventh sternum shallowly emarginate at middle of hind margin *yusti* n. sp.
- Male with aedeagal shaft with anterior face expanded cephalad dorsally, weakly bisinuate ventrally, processes more gradually tapered; scutellum with disc suffused with brown; female seventh sternum transverse or broadly, weakly convex on posterior margin *sativae* n. sp.

Paratanus yusti n. sp.

Form. Head as wide as or very slightly wider than pronotum; crown with median length less than two-thirds interocular width. Pronotum with median length less than half width and more than half greater than median length of crown. Forewings exceeding abdomen. Pygofer with few discal macrosetae near midlength of dorsal margin; pygofer process weakly sclerotized, arising along caudoventral margin, extending caudodorsad slightly beyond apex of pygofer. Aedeagus short, digitiform, gradually curved caudodorsad, with a pair of elongate slender processes arising one on each side near base and extending parallel to shaft almost to its apex; gonopore subterminal on caudal surface. Female seventh sternum with hind margin straight or slightly sinuate on each side of shallow median emargination.

Color. Crown heavily marked with fuscous, the markings tending to be irregularly X-shaped on each side of median line; anterior margin between ocelli, median line and an expanded area on disc, a spot next each eye, and the posterior margin, unmarked dull yellow. Pronotum dull gray, transversely mottled with fuscous. Scutellum with ground color usually ivory, occasionally variously tinted with brown; basal angles black. Forewing hyaline, veins brown except ivory apices of claval veins; a small commissural fuscous area in angles formed by claval veins and claval suture at inner wing margin. Face tan, conspicuous arcs on clypeus laterally, a median line on clypellus and often markings adjoining loral sulcus and irregular markings on genae, fuscous. Venter black, irregularly marked with dull yellow. Legs dull yellow. Male plates, female seventh sternum except basally, ovipositor, and pygofer except dorsally, dull yellow.

From *exitiosus* (Beamer), *yusti* can be readily distinguished by its shorter, broader aedeagus in lateral aspect, and its aedeagal processus, which are more widely separated in ventral aspect than in the Beamer species and slightly convergent apically. In color, *exitiosus* is much less

heavily marked with fuscous and is without the conspicuous ivory scutellar marking.

Holotype male and seven paratypes of both sexes, Pomasqui, ECUADOR, 9-IX-1953, on potato, (U. S. National Museum Catalog Number 62396), a series of paratypes from Bella Vista, Ecuador, 19-X-1953, on potato, and from Lasso, Ecuador, 7-X-1954, on alfalfa, all collected by H. R. Yust, in U. S. National Museum collection. The species is named for its collector who has added a number of interesting specimens to the national collection. Dr. Yust states (in litt.) that the new species is an important pest of potato.

Paratanus sativæ n. sp.

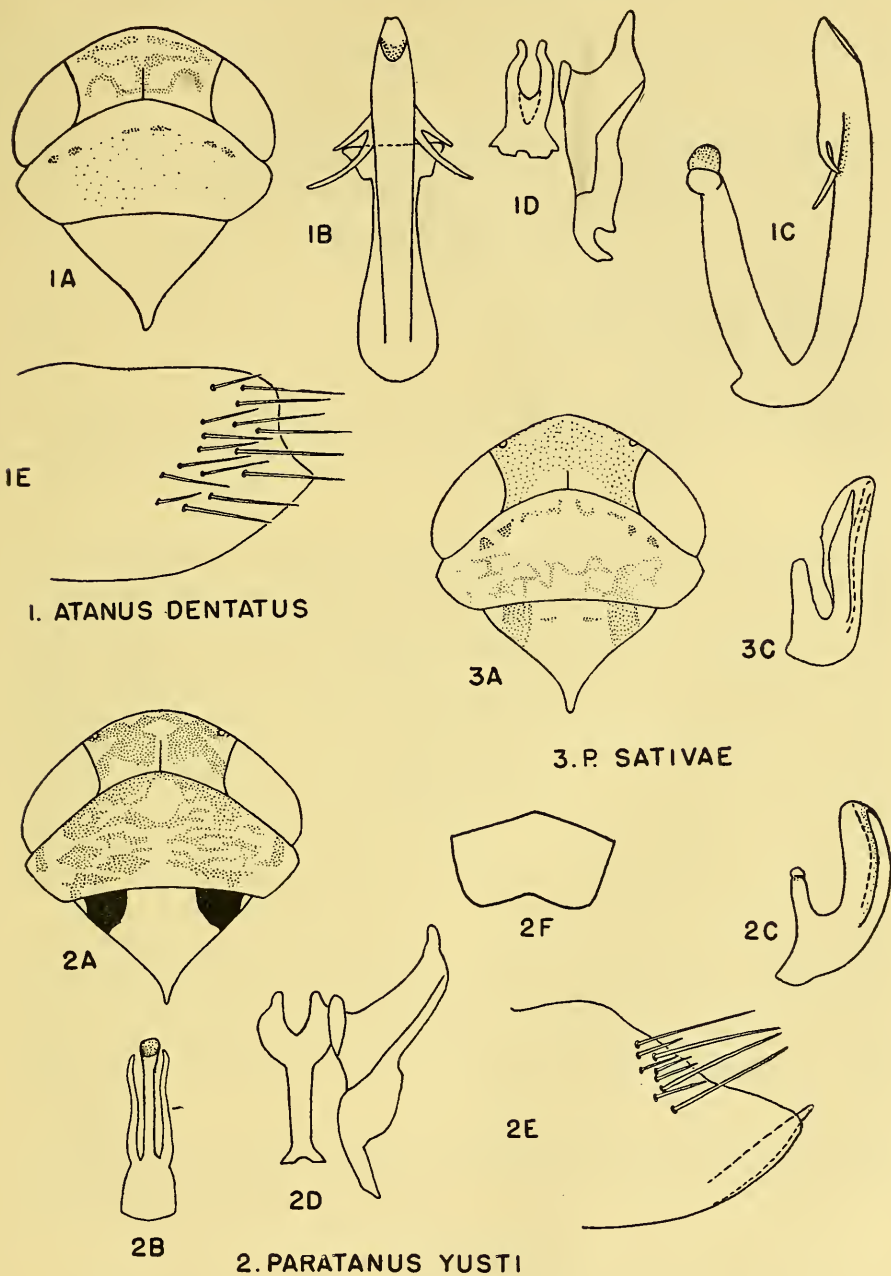
Form. Similar to *yusti* but male with aedeagus more expanded on anterior margin in lateral aspect and with gonopore slightly more caudal at apex of shaft; aedeagal processes broader at base, more acuminate at apex in lateral aspect, more appressed to shaft in caudal aspect. Female seventh sternum with hind margin not emarginate at middle, straight or broadly and weakly convex.

Color. Similar to *yusti*, but with crown marked with brown instead of black, leaving inconstant paler markings at base and apex, the basal ones consisting of a spot of variable size on each side of median sulcus, and the apical one usually forming at least an anchor-shaped marking. Scutellum suffused with light brown, the basal angles darker but not black. Forewing with veins pale. Face tan with incomplete dark clypeal arcs. Venter not as dark as in *yusti*.

Holotype male, one male and four female paratypes, Lasso, Cotopaxi Province, ECUADOR, 5-XI-54 (H. R. Yust), on alfalfa, in U. S. National Museum collection (Catalog Number 62545).

REFERENCES

- BEAMER, R. H., 1943, *A new Atanus from Argentina, South America*. Proc. Ent. Soc. Wash. 45: 173-179.
- BENNET, C. W. and MUNCK, C., 1946, *Yellow wilt of sugar beet in Argentina*. Jour. Agr. Res. 73: 45-64.
- DELONG, D. M., and HERSHBERGER, R. V., 1947, *A new genus and species of leafhopper from Central America related to Atanus*. Proc. Ent. Soc. Wash. 49: 231-232.
- DELONG, D. M., and KNOLL, D. J., 1945, *Check list of the Cicadellidae of America. North of Mexico*. 102 pp. Ohio State University Press.
- OMAN, P. W., 1938, *A generic revision of American Bythoscopinæ and South American Jassinæ*. Univ. Kan. Sci. Bull. 24: 343-420.
- OSBORN, H., 1923, I. *Neotropical Homoptera of the Carnegie Museum*. Ann. Carnegie Mus. 15: 8-26.



A. Anterior dorsum of male; B. Aedeagus, caudal aspect; C. Aedeagus, lateral aspect; D. Right style and connective, dorsal aspect; E. Male pygofer, lateral aspect; F. Female seventh sternum.