

A NEW SPECIES OF *OECANTHUS* FROM THE WEST
INDIES (ORTHOPTERA, GRYLLIDAE)

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Because of similarities in the antennal markings, the only species of *Oecanthus* known from the West Indies is generally thought to be the snowy tree cricket (*Oecanthus niveus* of authors, not of De Geer).³ Studies of the body and tegminal proportions, genitalia, and file, and descriptions of the song have convinced us that West Indian *Oecanthus* represent a species distinct from the snowy tree cricket. This new species is known only from the West Indies and has been collected on at least seven of the islands in the group.

Oecanthus allardi, new species

HOLOTYPE: Male; Christiansted, St. Croix, Virgin Islands, Oct. 1940, Harry A. Beatty, collector. Type No. 64826, U. S. National Museum.

Size, form, and background color (of dried specimens) similar to *O. quadripunctatus* Beutenmuller.

Basal segment of antenna with white swelling on inner edge of ventral face; swelling marked with black dot .16 mm. in diameter; slight infuscation at distal edge of swelling. Second antennal segment with ventral white swelling marked with a black ellipse .13 mm. long and .11 mm. wide. Except for tips of tibial spines, remainder of cricket without dark markings. Sensory area on terminal segment of maxillary palpus slightly more than half length of segment. Notch at apex of male genitalia as wide as deep (Fig. 1). Length of body 12.0, length of pronotum 2.0, caudal width of pronotal disk 2.0, length of tegmen 11.1, greatest tegminal width 4.7, length of hind femur 7.2 mm.

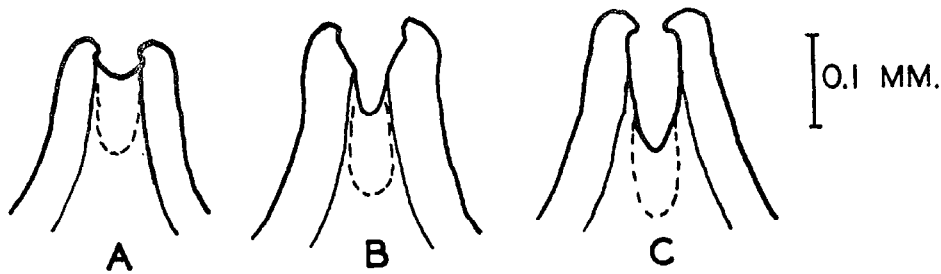


Fig. 1. Ventral view of apex of male genitalia. A. Holotype of *Oecanthus allardi*. B. Snowy tree cricket (*O. niveus* of authors), 8 mi. E. Padilla, Tamaulipas, Mexico. C. Snowy tree cricket, Erie County, Ohio.

ALLOTYPIC FEMALE: Same data and disposition as holotype. Color and markings as in holotype. Length of body 11.1, length of pronotum 2.0,

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caudal width of pronotal disk 1.8, length of tegmen 11.2, length of hind femur 7.6, length of ovipositor from bottom of mesal notch in subgenital plate 4.5 mm.

PARATYPES: 52 ♂♂, 54 ♀♀, 5 juv., as follows: Museum of Zoology, University of Michigan (75)—St. Croix, Virgin Islands: CHRISTIANSTED, Harry A. Beatty, Oct. 1940, 14 ♂♂, 9 ♀♀; Nov. 1940, 8 ♂♂, 4 ♀♀; Dec. 1940, 1 ♀; 1940, 3 ♂♂, 4 ♀♀; May 20, 1941, 4 ♂♂, 5 ♀♀. St. Thomas, Virgin Islands: s. side of island, Chester Roys, May 16, 1937, 1 ♀. St. Kitts, British West Indies: BASSETERRE, Chester Roys, May 24, 1937, 12 ♂♂, 8 ♀♀. Jamaica: LIGUANEA PLAIN, C. T. Brues, Nov.-Dec. 1911, 1 ♀. Puerto Rico: AGUIRRE, H. Osborn, Feb. 18, 1929, 1 ♀.

U. S. National Museum (33)—St. Croix, V. I.: C. E. Wilson, Feb. 1921, 1 ♀; near CHRISTIANSTED, Feb. 28, 1941, 1 ♀; H. A. Beatty, Sept. 1936, 2 ♂♂, 2 ♀♀, 2 juv. Puerto Rico: TALLABOA, July 23, 1914, 1 ♀; ENSENADA, June 14-19, 1915, 1 juv.; BOQUERON, L. C. Fife, Sept. 26, 1935, 1 ♂, 2 ♀♀; AGUIRRE, H. E. Box, Apr.-May, 1925, 3 ♂♂. Jamaica: 1 ♀; Jan. 25, 1920, 3 ♀♀; ST. ANDREW, Nov. 22, 1919, 1 ♀, Jan. 4-24, 1920, 1 ♀. Dominican Republic: CIUDAD TRUJILLO, H. A. Allard, Dec. 9, 1945, 1 ♀, Dec. 10, 1945, 1 ♀. Cuba: March 10, 1912, 2 ♀♀; CRISTO, ORIENTE, Oct. 3, 1913, 3 ♀♀; near VINALES, Sept. 16-22, 1913, 1 juv.; BARACOA, Aug. Busck, Sept. 1901, 1 ♂, Oct. 4, 1901, 2 ♂♂.

Academy of Natural Sciences of Philadelphia (3)—Jamaica: KINGSTON, Rehn & Hebard, July 4, 1920, 2 ♂♂, 1 juv.

There are several other West Indian records under the name *niveus*, as given in part by Ramos (1947, p. 11) for Mona Island, and by Rehn (1909, p. 222) for Cuba, which probably apply to *allardi*.

Two West Indian species unquestionably placed in *Oecanthus* by Kirby (1906, p. 75) were described as *Acheta crucis* Fabricius (1787, p. 232) from St. Croix, and *Acheta flavipes* Fabricius (1793, p. 30) from St. Thomas. It appears that neither of these species is correctly referred to *Oecanthus*.

This species is named in honor of Dr. Harry A. Allard, who suggested (1957) on the basis of the song that it might be distinct from the snowy tree cricket.

O. allardi is closely related to the snowy tree cricket and cannot be distinguished from it by the antennal markings. The males of *allardi* are distinct from those of the snowy tree cricket in their smaller size and more slender tegmina (Table 1). The apical lobes of the genitalia are separated by a notch with a depth of no more than one and one-half times the width. The males of the snowy tree cricket generally have a much deeper notch, but some Mexican specimens approach *allardi* in this respect (Fig. 1).

The structure of the stridulating file will separate *allardi* from most populations of snowy tree crickets. The file was examined by removing

³ The types of *Oecanthus niveus* (De Geer, 1773) (property of the Naturhistoriska Riksmuseum, Stockholm; examined by T. J. W.) belong to the species which previously has been called *Oecanthus angustipennis* Fitch, 1856, so that we regard *angustipennis* as a synonym of *niveus* (new synonymy). Therefore, the snowy tree cricket cannot correctly be called *niveus*. There are evidently at least two species of snowy tree crickets in the United States, and until the status of the West Coast species *O. rileyi* Baker, 1905, is clarified, no population of snowy tree cricket can be named with certainty.

TABLE 1.—MEASUREMENTS OF *Oecanthus allardi* COMPARED WITH THOSE OF THE SNOWY TREE CRICKET.*

	Length of Hind Femur	Length of Tegmen	Width of Tegmen	Tegmen Width/ Length
20 males of <i>allardi</i> ,	6.5-8.1	11.0-12.7	4.7-5.3	.40-.43
St. Kitts and St. Croix	(7.1)	(11.9)	(4.9)	(.410)
10 males of snowy tree cricket, Ohio	7.8-9.0 (8.4)	12.2-13.7 (13.3)	5.7-6.4 (6.2)	.45-.48 (.469)
10 males of snowy tree cricket, Tamaulipas and Michoacan, Mexico	7.4-8.4 (8.0)	12.9-14.3 (13.7)	5.8-6.6 (6.3)	.43-.50 (.460)

* All measurements in millimeters; averages shown in parentheses.

the right tegmen and mounting it in Hoyer's medium, ventral surface up, on a microscope slide. The teeth were counted with the aid of a compound microscope, and the length of the file was measured from the mesal surface of the knob which is at the lateral end of the file to the mesal edge of the last file tooth. The file is usually gently curved at one or both ends, but the length was determined along a straight line parallel to the central portion of the file. In ten specimens of *allardi* from St. Croix and St. Kitts the file teeth numbered 40-44 (av. 42.0); the file length measured 1.56-1.78 (av. 1.66); the teeth/mm. (number of teeth/file length) figured 24.1-27.3 (av. 25.3). Snowy tree crickets from Honduras (4 specimens), Tamaulipas, Mexico (5 specimens), and eastern United States (13) had similar numbers of teeth, but the *maximum* teeth/mm. figure was 23.9. Only in snowy tree crickets from Oregon and California did all file characters overlap with those given for *allardi*. A series of five snowy tree crickets from Michoacan, Mexico, had only 29-33 file teeth.

The females of *allardi* usually may be separated from those of the snowy tree cricket by their smaller size. The lengths of the tegmina and of the hind femur are the most helpful measurements. The maximum length of the tegmina for *allardi* in the specimens at hand is 11.9, of the femur, 7.7 mm. Almost all females of the snowy tree cricket exceed these measurements.

Little has been reported of the biology of *allardi*. The holotype and allotype were collected "on bush." C. E. Wilson (1923a) recorded *allardi* (as *niveus*) on tobacco and stated that although individuals sometimes fed upon the leaves they were considered beneficial because they also fed upon plant lice. Wilson (1923b, p. 10) recorded *allardi* on cotton and described its eggs as laid in rows in the cotton stalk, "forming long scars." The snowy tree cricket of eastern United States lays eggs singly in the bark of trees, but Fulton's (1925) Race B of the West Coast deposits eggs in a manner similar to *allardi*. Allard (1957) found the species in weeds and stated that singing individuals were not localized in colonies as snowy tree crickets often are, but they were scattered.

Allard described the song of *allardi* as a "high-pitched, clear, tinkling chirp." It is a nighttime singer as is the snowy tree cricket, but its rate of chirping is much slower. At 70° F. it produces about 18 chirps per minute as compared to 135 chirps per minute for Ohio specimens of snowy tree cricket and 91 chirps per minute for Oregon specimens of Race B of the snowy tree cricket. In Allard's observations, the chirp rate of *allardi* varied from 16 at 66° to 22 at 77°.

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