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THE SCIENTIFIC NAMES OF TWO COMMON FLORIDA CRICKETS (ORTHOPTERA, GRYLLIDAE)

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Abstract

Cyrtoxipha gundlachi and *Orocharis gryllodes* are two common, well-studied Florida crickets whose scientific names are in doubt. We determine that *C. gundlachi* Saussure (1874) may retain its name and designate a neotype to stabilize that interpretation. We find that *Cyrtoxipha orientalis* Desutter-Grandcolas (2003) is a valid species rather than a junior synonym of *Cyrtoxipha gundlachi* sensu Otte & Perez-Gelabert (2009) and that the Jamaican species *C. clarki* Otte & Perez-Gelabert (2009) is a close relative of *C. gundlachi*. Finally, we determine that the Florida species formerly known as *O. gryllodes* (Pallas 1772) is now *Antillicharis oriobates* Otte & Perez-Gelabert (2009).

Key Words: Trigonidiinae, Eneopterinae, scientific names, Caribbean crickets

Resumen

Cyrtoxipha gundlachi y *Orocharis gryllodes* son dos grillos de la Florida comunes y bien estudiados cuyos nombres científicos están en duda. Nosotros determinamos que *C. gundlachi* Saussure (1874) puede conservar su nombre y aqui designamos un neotipo para estabilizar esa interpretación. Encontramos que *Cyrtoxipha orientalis* DeSutter-Grandcolas (2003) es una especie válida y no un sinónimo menor de *Cyrtoxipha gundlachi* sensu Otte & Pérez-Gelabert (2009) y que la especies de Jamaica, *C. clarki* Otte & Pérez-Gelabert (2009) es un pariente cercano de *C. gundlachi.* Por último, se determina que la especie de la Florida antes conocido como *O. gryllodes* (Pallas 1772) es ahora *Antillicharis oriobates* Otte & Pérez-Gelabert (2009).

Palabras Clave: Trigonidiinae, Eneopterinae, nombres científicos, grillos del Caribe

Walker (1969a, 1969b), in revisions of U.S. species of *Cyrtoxipha* (Trigonidiinae) and *Orocharis* (Eneopterinae), described 2 new U.S. species of *Cyrtoxipha* and 4 new species of *Orocharis*, all of which occur in or are restricted to Florida. Because *C. gundlachi* and *O. gryllodes* were the oldest U. S. species in their genera (1874 and 1772, respectively) and both had type localities in the Caribbean, TW researched these 2 names carefully in an effort to assign them to the Florida species that were most likely deserving of them.

In 2009, Otte & Perez-Gelabert (2009) published "Caribbean Crickets", a 792-page monograph that described more than 500 new species and many new higher categories. Its treatments of *gundlachi* and *gryllodes* and its description of a new Florida species of *Antillicharis* brought into question whether the names assigned in 1969 to these 2 Florida species were still appropriate.

TRIGONIDIINAE: *Cyrtoxipha gundlachi* (sensu Walker 1969b)

Saussure (1874) described *gundlachi* from 7 specimens, 6 from Cuba and 1 from the southern United States. Walker (1969b) examined the 5 extant syntypes (all from Cuba) and discovered that Saussure had more than 1 species in his type-series and only 2 of the 7 specimens were indistinguishable from *gundlachi* (sensu Walker 1969b). In his revision, TW did not designate either of these syntypes as the lectotype. Instead he pointed out that future workers might discover better means of identification and find that the lectotype he had designated did not belong to *gundlachi* sensu Walker 1969b; and that so long as even 1 of Saussure's 7 syntypes was missing there would be no problem in preserving the usage of *gundlachi* that he was proposing.

Otte & Perez-Gelabert (2009) did not cite Walker's paper and based their treatment of *Cyrtoxipha gundlachi* (p. 144) on a male "exemplar" from Dominican Republic. They selected their exemplar based on illustrations of the genitalia of *C. gundlachi* in a paper by Desutter-Grandcolas (1987) on the structure and evolution of the male genitalia of crickets. They noted that the genitalic similarities between their exemplar and those of the holotype of *C. orientalis* Bland & Desutter-Grandcolas 2003 were so great that they made *C. orientalis* a synonym of their *C. gundlachi.* The genitalia illustrated by Desutter-Grandcolas and Otte & Perez-Gelabert (2009; Fig. 147 and 148) are clearly distinct from those of Walker's *C.*

gundlachi (1969b, Fig. 11). We therefore consider *Cyrtoxipha orientalis* Bland & Desutter-Grandcolas 2003 (= *C. gundlachi* sensu Otte & Perez-Gelabert 2009) a valid species.

As mentioned above, 1 of the 2 missing syntypes of *gundlachi* was from southern United States. In the interest of making the name *gundlachi* apply to a well-studied species already known by that name, we assume that the U.S. syntype was of the taxon *C. gundlachi* sensu Walker 1969 and designate a song-recorded male from Dade County, Florida, as neotype. Other label data of the neotype are "27 Apr 1963, T. J. Walker & J. D. Spooner, Coll#2, Song Recorded, 621-8." The specimen is in the Florida State Collection of Arthropods. Its song is archived by the Macaulay Library of Natural Sounds, Cornell University, as #119852 and can be downloaded at http://macaulaylibrary.org/audio/119852. Fig. 1A and 1B show the lateral aspects of the right and left lophi of the neotype. These exhibit the same asymmetry and identifying features as shown in Walker (1969b, Fig. 11).

Note on a Close Relative of *Cyrtoxipha gundlachi*

During the preparation of this paper, DF compared the genitalia of *C. gundlachi*, shown in dorsal view in Fig. 1C, with those of other *Cyrtoxipha* species in Otte & Perez-Gelabert's Caribbean Crickets. He found genitalia resembling those of *C. gundlachi* in only 2 of the 24 species—viz., *C. aguanueva* from Hispanola and *C. clarki* from Jamaica. TW was a collector of the specimens from which *C. clarki* was described and, at the time, he considered the songs of those males to be so similar to the songs of *C. gundlachi* in Florida that he thought the 2 taxa might be conspecific. He therefore recorded the songs of 14 Jamaican individuals and counted the file teeth of those males that he could capture. Analysis of the recordings revealed that the 2 taxa chirped at similar rates (2-3 chirps/s) but the pulse rate within the chirps, at 25 °C, was ca. 25 p/s for the Jamaica taxon, whereas for the Florida one, it was ca. 19 p/s. The number of teeth in the stridulatory file of 4 males from Jamaica ranged from 163 to 181 (mean = 171). In 10 Florida males the range was 186-193 (mean=192) (Walker 1969a). These results convinced TW that the Jamaican taxon should be classified as a species distinct from the similar one he knew as *C. gundlachi* in Florida.

ENEOPTERINAE: *Orocharis gryllodes* (sensu Walker 1969a)

When Walker (1969a) revised North American *Orocharis*, 2 of the 6 species he recognized already had long-used specific names. In attempting to determine if these long-used names were correctly applied, he learned that none of the European museums that he had been advised might have the type of *Gryllus gryllodes* Pallas could locate it. However, he did find that Pallas (1772), in describing *gryllodes*, had included a drawing of the holotypic male and that the drawing matched the US species that was known as *Orocharis gryllodes* and was not similar to the other 5 U.S. *Orocharis*.

The publication of "Caribbean Crickets" (Otte & Perez-Gelabert 2009) made it clear that the *gryllodes* that Walker had studied along the coasts of

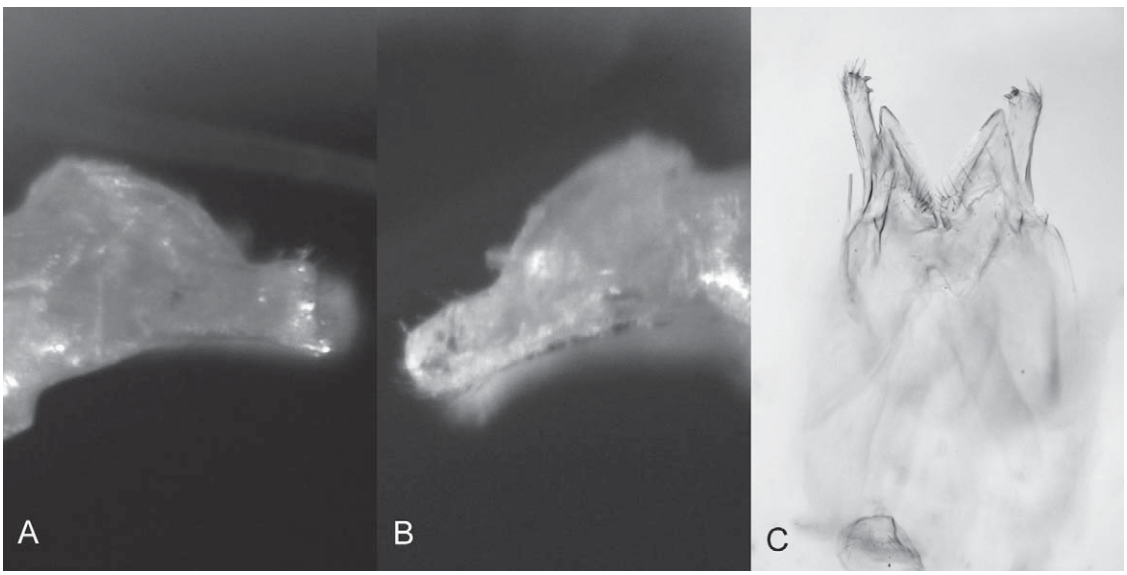

Fig. 1. Male genitalia of *Cyrtoxipha gundlachi* from south Florida. A and B. Left and right lophus of neotype male. In each of these two images the contralateral lophus can be seen out-of-focus behind the lophus in the foreground. C. Dorsal view of genitalia, male from Long Pine Key, Everglades National Park. (Photographs by DF.)

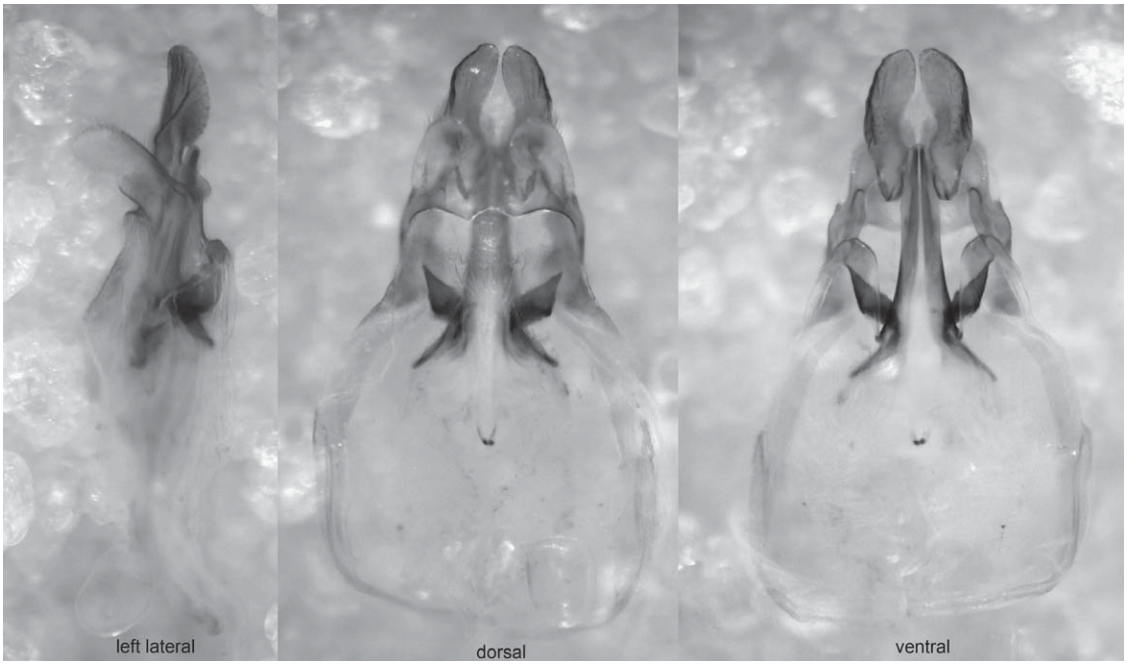

Fig. 2. Three views of the genitalia of a male from Flamingo, Florida, that had been identified as *Orocharis gryllodes* based on Walker (1969a). Comparison with Fig. 172 in Otte and Perez-Gelabert (2009) shows that these genitalia match those of *Antillicharis* (Fig. 172H) and not those of *Orocharis* (Fig. 172A). (Photographs by DF.)

the Florida peninsula might no longer be an *Orocharis.* On the basis of genitalic differences, Otte & Perez-Gelabert (2009) elevated *Orocharis* to the *Orocharis* group of the tribe Hapithini and placed 7 genera in that group, 5 of which were new. They also described a new species of Florida eneopterine as *Antillicharis oriobates* **sp. nov**. When DF compared the genitalia of a Monroe County, Florida, specimen that he had identified as *Orocharis gryllodes* (Fig. 2), he could not distinguish them from those of the holotype of *A. oriobates*. Later DF examined specimens that TW had collected in Levy and Martin Counties (on opposite coasts of Florida) and again found no way to distinguish them from *A. oriobates*. We therefore conclude that the specimens Walker (1969a) identified as *O. gryllodes* are now *Antillicharis oriobates*.

The above does not allow the placement of *gryllodes* Pallas in any of the 7 genera that now make up Otte & Perez-Gelabert's *Orocharis* group. Because Pallas's holotype is lost, a male neotype from the type locality (Jamaica) with dissected genitalia should be designated to give *gryllodes* a generic home. With help from Dan Otte, TW is preparing to do that.

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