

## SCIENTIFIC NOTE

**FIRST RECORD OF *SCAPTERISCUS ABBREVIATUS*  
FROM BELIZE (ORTHOPTERA: GRYLLOTALPIDAE)<sup>1</sup>**Sam W. Heads,<sup>2</sup> Steven J. Taylor,<sup>2</sup> and Jean K. Krejca<sup>3</sup>

Mole crickets of the genus *Scapteriscus* Scudder, 1868 (Orthoptera: Gryllotalpidae) are important pests, particularly where they occur adventively. Members of the genus are native to South America (Nickle, 2003; Rodríguez and Heads, 2012), though several species have been inadvertently introduced in the Caribbean region and the southeastern United States (Nickle and Castner, 1984) where they have become significant pests of vegetable crops and turf (Walker and Nickle, 1981; Walker and Dong, 1982). In the southeastern United States, *S. abbreviatus* Scudder, 1869, *S. borellii* Giglio-Tos, 1894 (known in the literature as *S. acletus* prior to Nickle, 1992) and *S. vicinus* Scudder, 1869 were introduced during the late nineteenth and early twentieth centuries, probably transported in the ballast of commercial shipping (Walker and Nickle, 1981). Of these species, *S. vicinus* and *S. abbreviatus* are the most significant pests (Walker and Dong, 1982) and cause considerable damage to agricultural crops and turf, with pasture, sod farms, seedbeds, ornamental lawns and golf courses particularly vulnerable (Frank and Parkman, 1999). According to Otte and Perez-Gelabert (2009) five species are known to occur in the Caribbean, namely *S. abbreviatus*, *S. didactylus* (Latreille, 1804), *S. imitatus* Nickle and Castner, 1984, *S. variegatus* (Burmeister, 1838) and *S. vicinus*. In Central America, *S. didactylus*, *S. variegatus* and *S. costaricensis* Nickle, 2003 occur in Nicaragua, Honduras and Costa Rica respectively (Rehn, 1903; Nickle, 2003). Of these, *S. costaricensis* may be the only species native to Central America, though this has yet to be confirmed beyond doubt and the possibility remains that it, too, is an adventive species from South America.

*Scapteriscus abbreviatus*, the short-winged mole cricket, is a medium-sized brachypterous species thought to be native to Uruguay and Brazil (Nickle, 2003). Here, we present the first report of *S. abbreviatus* from Belize; a single male collected by one of us (JK) after dark on 10-V-2012 along a sandy road on the eastern side of Caye Caulker (17.746850°N, 88.023839°W), a small coral island situated approximately 20 km E of the mainland and 2 km W of the Belize Barrier Reef. The specimen (Figs 1–3) is readily identified as *S. abbreviatus* based on the small (0.21 mm diameter) circular ocelli, the interocellar distance greater than 4x

<sup>1</sup> Received on May 29, 2013. Accepted on July 20, 2013.

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Figs. 1–3. *Scapteriscus abbreviatus* Scudder, 1869 (Orthoptera: Gryllotalpidae) from Caye Caulker, Belize: (1) dorsal habitus; (2) anterior view of head capsule; (3) lateral view of left prothoracic leg.

ocellar diameter, the widely spaced protibial dactyls, and the pronotal color pattern (see Nickle, 2003). The specimen is deposited in the insect collection of the Illinois Natural History Survey (INHS), University of Illinois with the number INHS 566603.

*Scapteriscus abbreviatus* has a complex history as an adventive species, having been transported and introduced to various Caribbean islands and the southern United States multiple times (Nickle and Castner, 1984; Nickle, 2003). While it can be an important pest (Walker and Nickle, 1981; Walker and Dong, 1982; Frank et al., 2007), its brachyptery significantly reduces its ability to disperse. Consequently, established populations tend to remain close to their original point of entry (Nickle and Castner, 1984). This is in marked contrast to the longer-winged species like *S. vicinus*, which engage in long distance mating flights and

disperse readily over large areas (Ulagaraj, 1975; Walker and Fritz, 1983). While limited dispersal capacity might help confine the economic impact of introduced *S. abbreviatus*, their preference for sandy areas can easily lead to repeated incidents of transportation in sand used for construction. This is of particular concern in areas where large quantities of sand are imported and moved frequently. In Belize, sand is regularly imported and shipped around the country for the construction of artificial beaches. Such beaches are built in place of coastal mangroves cleared during the development of seaside hotels, resorts and private dwellings (Zisman, 1993, 1998; Cooper et al., 2009; Canto, 2011). With the continued growth of tourism in Belize, it is likely that such activities will only increase in frequency and geographic extent, thereby making further introductions and/or spread of *S. abbreviatus* likely. Given the prevalence of manicured lawns and ornamental gardens on hotel and resort properties, the potential for *S. abbreviatus* to become a significant pest is of great concern to the Belizean recreation and tourism industry and warrants further investigation.

#### ACKNOWLEDGMENTS

We thank JoAnn Jacoby, Geoff Hoese, Aimee Beveridge, Kristina Hager, and Bruno Kuppinger for help with fieldwork in Belize, facilitated by the Institute of Archaeology, Archaeology Museum & Research Centre, and the Forest Department, Ministry of Natural Resources and the Environment, (both in Belmopan, Belize C.A.). Support was provided by the Subterranean Ecology Institute, Inc. and the National Speleological Society Foundation.

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