

SCAPTERISCUS ABBREVIATUS (ORTHOPTERA:
GRYLLotalpidae), A MINOR PEST ON ST. CROIX,
US VIRGIN ISLANDS

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Incorrect identification of mole crickets in many West Indian publications during the last 100 years has caused confusion of two kinds. First, the zoogeography of mole crickets in the Caribbean is unclear although Nickle & Castner (1984) clarified identity of the species in Puerto Rico and other islands. Second, it is unclear which species, if any, are important pests on many of the islands.

Scapteriscus didactylus (Latreille) is, or was, a major pest of many crops in Puerto Rico (Barrett 1902) and is a pest in parts of Hispaniola (Frank et al. 1987). It has been reported from the U.S. Virgin Islands of St. John and St. Thomas without indication of pest status, but not from St. Croix (Ivie & Nickle 1986). Adults can fly.

Scapteriscus vicinus Scudder, an immigrant from South America, is a major pest of pasture- and turfgrasses and vegetable seedlings in the southeastern USA. There are no confirmed records of its existence in the West Indies, although for decades this name was used erroneously by agricultural entomologists for *S. didactylus* in Puerto Rico. Four specimens collected in Christiansted, St. Croix, in 1939 were reported to

belong to this species (Beatty 1944) but their identification is dubious, and their current location is unknown (Nickle & Castner 1984, Ivie & Nickle 1986). Adults can fly.

Scapteriscus abbreviatus Scudder, an immigrant from South America, is a major pest of turfgrasses in Florida in the limited areas where it occurs. It was reported to occur in Puerto Rico without specific mention of its pest status (Wolcott 1936, Castner & Fowler). It was reported from St. Croix by Miskimen & Bond (1970), without indication of year of collection or pest status, but has not been reported from St. John or St. Thomas. Verification of its existence on St. Croix rests only on 3 specimens collected in Christiansted in 1940 (Nickle & Castner 1984, Ivie & Nickle 1986). Adults cannot fly.

For 3 days in June 1991, we tried to augment the information for St. Croix provided by Ivie & Nickle (1986) in three respects. Which, if any, mole cricket species is a pest on St. Croix? Does a flying mole cricket (*S. didactylus* or *S. vicinus*) occur on St. Croix? Does *S. abbreviatus*, which apparently has not been collected for over 50 years, still occur there?

We visited commercial agricultural areas (mainly tomato fields) and horticultural areas (nurseries for ornamental plants). We examined lawns and flower beds in urban areas and all three of the island's golf courses: Buccaneer Golf Course (BGC), Carambola Golf Club (CGC), and The Reef Golf Course (RGC). We looked for mole crickets along banks of streams and marine estuaries. We operated an UV light trap at dusk. We examined only sites that appeared suitable for habitation by mole crickets. When we discovered mole cricket galleries, we used highly diluted detergent in an attempt to flush mole crickets to the soil surface. We also examined the insect collection of the Cooperative Extension Service, University of the Virgin Islands, and of the USDA-ARS, both at Kingshill, St. Croix.

Soil conditions in June 1991 were extremely dry because of prolonged drought. Vegetables, ornamental plants, and the turf of two of the golf courses were kept alive by irrigation. At one of the golf courses (RGC), the turf of the fairways was dead due to irrigation restrictions. There was a trickle of water in a stream in the northwest of the island; streams elsewhere were dry. Saltwater intrusion into wells and the low water level in a reservoir were the immediate causes of the irrigation restrictions. However, long-term decline (over decades) in the island's water supply has caused loss of most of its agriculture; where once grew fields of sugarcane is now semi-arid brush. Long-term and short-term drought can be expected to reduce mole cricket populations or even eliminate them locally.

We found mole crickets only in the moister, northwestern part of St. Croix and only at two localities. All were *S. abbreviatus*, and 29 specimens were collected. Five were on a golf course (CGC) in sand and turf around the perimeter of a sand trap (damage to the turf was trivial), and seventeen were in drying mud in a low-lying wet area. Seven were found on a farm growing vegetables and ornamental plants; they were in a raised bed of sweet pepper seedlings where the heavy field soil had been mixed with sand, and the bed had been wetted by irrigation. Pepper seedlings were about 15 cm high, and about a third of them had been killed, evidently by mole crickets.

No mole crickets were collected at UV light. None was found in the insect collection of the Cooperative Extension Service or of the USDA at Kingshill, St. Croix. Apart from Beatty's (1944) statement, there is no evidence of a flying mole cricket on St. Croix. We think it likely that all the *Scapteriscus* specimens collected in Christiansted in 1939-1940 belonged to *S. abbreviatus*, but that Beatty (1944) erroneously reported some of them as *S. vicinus* and did not mention *S. abbreviatus* because he (correctly) believed all specimens to be conspecific.

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SUMMARY

A search for mole crickets on St. Croix in June 1991 revealed only *Scapteriscus abbreviatus*, which was damaging vegetable seedlings and turf. This adventive (= non-indigenous) species must be considered only a minor pest because it occupied a very small area of the island and caused minor damage. Low soil moisture in most agricultural and horticultural areas of St. Croix probably restricts population spread.

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