

Deletion of the Centipede *Theatops spinicaudus* (Wood) from the Hawaiian Fauna (Scolopendromorpha: Cryptopidae)

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ABSTRACT

Published records of the centipede genus *Theatops* and the species *T. spinicaudus* from Hawai'i appear to be based on a single sample reputedly collected there over a century ago. The genus otherwise occurs in North America and southern Europe, and *T. spinicaudus* is indigenous to the United States east of the Central Plains. Despite many recent collections of Hawaiian chilopods, *T. spinicaudus* has not been taken again and is not established on the islands. At best, the past collection reflects only inadvertent human importation, and it may represent a labeling error. Both the genus and species are deleted from the state's fauna.

Among the more curious of the world's centipede records are those of the scolopendromorph genus *Theatops* Newport (= *Opisthemega* Wood) and the species *T. spinicaudus* (Wood) from Hawai'i (Kraepelin 1903; Attems 1930, 1939; Lewis 1981). General citations for Hawai'i in generic listings by Attems (1930) and Lewis (1981) imply that *Theatops* is both native and widespread in the archipelago. The genus is indigenous to North America and the Mediterranean region of southern Europe, where there are 4 and 1 species, respectively (Crabill 1960; Kraepelin 1903; Attems 1930).

Theatops spinicaudus, common over 6,400 km to the east of Hawai'i in the United States east of the Central Plains, is unlikely to be indigenous to so remote an area as the Hawaiian Islands. Its known range extends from Chicago and central Iowa southeastward to central North Carolina and Alabama, with the westernmost authentic locality being in eastern Oklahoma (Auerbach 1951; Summers et al. 1980; Shelley 1987; plus unreported material I have examined). There is also a record from a cave in central Texas (Reddell 1965) that is a misidentification of a congener, *T. phanus* Chamberlin. Kevan and Scudder (1989) recorded *T. spinicaudus* from Burnaby Mountain, British Columbia, Canada, but Shelley (1990) deleted this record, a misprinting of *Scolopocryptops spinicaudus* Wood. Reports from Acapulco, Mexico (Meinert 1886; Bucherl 1942), based on a specimen at the Museum of Comparative Zoology, Harvard University (MCZ), reflect either a labeling error or a commercial importation, because *T. spinicaudus* does not occur outside the aforementioned area. Likewise, the record from "California" by Crabill (1960) does not reflect natural occurrence, and I have not seen any preserved specimens from this state. Thus, *T. spinicaudus* is native to the eastern United States, so an authentic Hawaiian record must also represent an introduction.

I became aware of this ostensible Hawaiian occurrence when I noted *T. spinicaudus* in a data base of the state's myriapods compiled by entomologists at the Bishop Museum. A literature

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check revealed the Hawaiian citation by Attems (1938), and in tracing the literature backwards, I learned that the only published record from the state, then called the Sandwich Islands, is the description of *Opisthemea insulare* by Meinert (1886). This name was proposed for 2 individuals collected by A. Garrett on an unspecified date over a century ago. Kraepelin (1903) placed *O. insulare* in synonymy under *T. spinicaudus* because he thought Meinert's description wholly agreed with this species. Kraepelin's decision has been accepted by subsequent authors. In an ordinal monograph preceding his Hawaiian paper (1938), Attems (1930) reported the Sandwich Islands in both the generic and specific accounts. Most recently, Lewis (1981) included Hawai'i in the distribution of *Theatops*.

I have examined the nontypical scolopendromorph material at the Bishop Museum and many other major and minor chilopod repositories in North America, all without finding a single Hawaiian specimen of any species of *Theatops*. Unless there are samples at European museums that I am unaware of, all the Hawaiian citations refer to the types of *O. insulare* described by Meinert (1886). The sample is available in the type collection at the MCZ and having examined the centipedes, I can confirm that they are *T. spinicaudus*. The vial label contains no additional information, so we do not know the exact date or on which island they were encountered, and the possibility of a labeling mix-up must be considered. Myriapod samples are so often mislabeled, that the likelihood that these individuals received the wrong data and never were from Hawai'i cannot be completely discounted. Thus, *T. spinicaudus* is neither indigenous to Hawai'i nor a widespread or an established introduction, as is the large centipede, *Scolopendra subspinipes* Leach. This species is common in Honolulu, has been collected at 4 other sites on O'ahu and on Hawai'i, Kaho'olawe, and Maui, and is represented by numerous specimens in museum collections, in contrast to the 1 sample of *T. spinicaudus*.

At best, *T. spinicaudus* is only an accidental importation into Hawai'i; it is not a component of the islands' terrestrial arthropod community and may never have been taken there. Accordingly, I formally delete both the genus and species from the state's fauna. Hawai'i should not be included in future range descriptions of these taxa.

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