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XXXVI.—Occurrence of a Holothurian new to the Fauna of Bermuda. By W. J. CROZIER.

(Contributions from the Bermuda Biological Station for Research.—No. 61.)

THE West-Indian affinities of the Bermudan fauna and flora (Britton, 1912, p. 193) have been evident to every student of these regions; yet, as Pilsbry (1900, p. 494) remarks in considering the Pulmonates, there is "abundant evidence of what we call chance, or the rigorous selective action of an over-sea journey, in the Bermudian assemblage." Continued collecting is disclosing further additions to the marine population in the shape of species identical with well-known West-Indian forms*. In one such case, which is the subject of this note, it seems to me that the addition may legitimately be considered as of recent date.

The pedate Holothurians of Bermuda waters have been collected ever since 1888 by Heilprin, Verrill, Clark (1901), and others. Each of the five species previously reported (*Cucumaria punctata*, *Stichopus möbii*, *Holothuria surinamensis*, *H. captiva*, and *H. rathbuni*) is well represented in the West-Indian area. Certain conspicuous Antillean types have, however, been lacking in the Bermudan collections; *Actinopyga* and several species of *Holothuria* are in this category†.

I have had occasion to examine with care several thousand specimens of *Stichopus möbii*, Semp.—with which, on superficial examination, *Actinopyga* might conceivably be confused,—and have, indeed, given particular attention to Holothurians collected at many points in Bermuda. No unusual specimens were observed until July 3, 1916, when there was secured from a depth of about 6 feet beneath low water, in the channel entrance to Hungry Bay (on the exposed south

* Among the Enteropneusta, for example, of which an illustrated account is in course of preparation, at least two of the four or more species which I have found occur also in the Bahamas and at Jamaica, as well (probably) as at other stations in the West Indies.

† Of the five apodous species found here (Clark, 1907), only two (*Chirodota rotifera* and *Synaptula hydriformis*) are typically West-Indian, while two others (*Leptosynapta inharens* and *L. roseola*) are northern forms; the remaining one (*L. acanthia*) appears to be peculiar to the Bermudas.

shore), an individual which was at once seen to be peculiar. The *Holothurian* was about 25 cm. in length, and of a deep yellowish-brown colour, unmarked by spots of any other hue. Anal teeth were particularly prominent, and the pediciles and ventral surface were tinged with greenish pigment, such as one is accustomed to see in *Holothuria captiva* and in *H. surinamensis* (Crozier, 1915, p. 274). *Stichopus* has no anal teeth, and totally lacks this green pigment. The specimen was unfortunately lost before detailed examination could be given it. Attempts to discover an additional example have thus far been fruitless.

The single specimen observed has, however, considerable zoö-geographical interest. It seems probable, from the external characters above mentioned, that it is an *Actinopyga*, presumably *A. agassizii* (Selenka) *, which is known from the Bahamas, Florida, Tortugas, Barbadoes, Jamaica, and Hayti (Sluiter, 1910). The inference seems fair that it represents a recent arrival in Bermudan waters, since previous extensive and detailed collecting has failed to reveal its presence, and since only a single specimen has been found. Concerning the method whereby, on this assumption, it came to Bermuda, one can only speculate. It may have been transported either (as a larva) by ocean currents or (as an adult) upon the bottom of a vessel. The latter seems the less probable.

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