

**A NEW LOCALITY AND DEPTH RECORD FOR THE RARE
STICHOPODID HOLOTHURIAN *Eostichopus arnesoni* CUTRESS
AND MILLER (ECHINODERMATA) FROM SALT RIVER
SUBMARINE CANYON, ST. CROIX, U.S. VIRGIN ISLANDS**

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Cutress and Miller (1982) described *Eostichopus arnesoni* from two specimens collected at a depth of 36m off southwestern Puerto Rico and one specimen collected between 9.15 and 347.7m off Grenada. A fourth specimen which appeared in a photograph in George and George (1979) taken between 18 and 42m off Grand Bahama Island, Bahamas, also appeared to be *E. arnesoni* (Cutress and Miller, 1982).

A 39.0 x 9.0 cm specimen of *E. arnesoni* was in situ examined and photographed with a Nikon F2 camera and a 55mm Micro-Nikkor lens in a Ikelite housing at 0945 hours 22 March 1983 by one of the authors (L.B.W.) on a gentle, large coral rubble slope 10m east of the base of the west wall of the Salt River Submarine Canyon at a depth of 38.1m, 40m north of the Hydrolab west wall plexiglass hemispherical way station (17° 59.9'N, 64° 01.9'W). The holothurian was situated on a mat of accumulated soft coral skeletons and debris. This is the third report of *E. arnesoni* and the second exact depth record. During training dives for the Hydrolab project at least once per month from early 1977 through March 1983, Dr. William Schane (Hydrolab Habitat Project, pers. comm.) has swum along the 30.5m Hydrolab excursion limit cross canyon line a portion of which runs to within 10m of the location reported here. He has frequently observed one or more specimens of what appeared to be *E. arnesoni* on the sand bottom from 29 to 33m in depth. These records extend the known depth range for *E. arnesoni* from 36 (Cutress and Miller, 1982) to 38.1m; and probably from 29 (Schane observations) to 38.1m in the Salt River Submarine Canyon.

Cutress and Miller (1982) suggested *E. arnesoni* must be rare because the striking coloration and large body size of this animal would have otherwise been noted by other investigators. Collection of a fourth museum specimen of this animal would have been valuable; however, the Salt River Submarine Canyon is a protected area in which specimens may not be collected for scientific documentation (Dr. Dennis Hubbard, Hydrolab Habitat Project, pers. comm.).

The protection of rare species is particularly important because such specimens can easily be eliminated from the study area. Such a negative effect of limited collecting made a rare aliciid anemone, *Alicia mirabilis* Johnson, 1861, unavailable for study in this area for three and one half years (Dr. Schane, pers. comm.) and eliminated a rare shrimp-anemone association near the habitat site (Williams and Williams, 1982). Protection of the specimens of *E. arnesoni* affords the opportunity to study the biology of an apparent resident population of these rare holothurians from a saturation habitat which allows extended bottom times for SCUBA divers in these depths.

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LITERATURE CITED

- Cutress, B. M. and J. E. Miller. 1982. *Eostichopus arnesoni* new genus and new species (Echinodermata: Holothuroidea) from the Caribbean. Bull. Mar. Sci. 32(3): 715-722.
- George, J. D. and J. J. George. 1979. Marine life: an illustrated encyclopedia of invertebrates in the sea. John Wiley & Sons, New York, 228 p.
- Williams, E. H., Jr. and L. B. Williams. 1982. First report of *Periclimenes yucatanicus* (Ives) (Decapoda, Palaemonidae) in association with a corallimorpharian anemone. Crustaceana 42(3): 318-319.