

Global Partnership to Standardize Holothuroid Systematics

The Aspidochirote Working Group*

Sea cucumbers are among the most poorly known macrobiota on coral reefs, and the systematics of holothuroids is in a relatively poor state worldwide. Less than half of reef-associated species have been described, poorly understood species complexes and non-monophyletic higher taxa are pervasive, most holothuroid systematists are near or past retirement age, and modern revisionary and phylogenetic methods entered the field only in the last five years. We are part of a U.S. National Science Foundation-funded effort to greatly improve our understanding of reef-dwelling aspidochirote holothuroids through large-scale, collaborative phylogenetic efforts, monographic revisions, and student training. Our group will work collaboratively to unravel a much larger portion of aspidochirote diversity than would otherwise be possible. Three major groups (Stichopodidae, *Bohadschia* and *Actinopyga*) will be revised. We plan to database and make available online all aspidochirote nomina and original descriptions, as well as locate as many type specimens as possible. We will also collaborate on a phylogenetic study of the order to include the development of a character matrix covering all major taxa. The resulting phylogenetic analyses of the order, the three focal groups, and other taxa will be used to develop a robust classification and to explore a variety of hypotheses in evolution, ecology, biogeography, and echinoderm biology.

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