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Abstract

Eleven stygobitic myodocopid ostracodes (two new—*Danielopolina palmeri* and *Spelaeoecia hox*) in the Order Halocyprida are reported from anchialine waters in 11 inland blue holes in Bahamas. One stygobitic halocyprid ostracode is reported from two localities in Bermuda, and one from a cave in Mexico. A new subfamily, Spelaeoeciinae, is proposed to contain the genus *Spelaeoecia*, and the subfamily Deeveyinae is elevated to family status. Two new species of clado-copid ostracode (*Pseudopolycope helix* and *Pontopolycope storthynx*), are described from a cave in Mexico and an oceanic blue hole in the Bahamas.

Nine species of myodocopid ostracodes (four new—*Rutiderma flex*, *Eusarsiella syrinx*, *Eusarsiella fax*, and *Synasterope matrix*) in the Suborder Myodocopina and one species in the Suborder Halocypridina are reported from ocean blue holes in the Bahamas. This is the first report of a halocyprid living in both an inland and ocean blue hole in the Bahamas. The sarsiellid genus *Dantya* Kornicker & Cohen 1978 is reported for the first time in the Bahamas, but the single juvenile specimen is left in open nomenclature as *Dantya* sp. A. The development of *Deeveya bransoni* and *Eusarsiella syrinx* is described in detail.

With the exception of one species of *Danielopolina* from deep waters of the South Atlantic, all other species of *Danielopolina*, *Spelaeoecia* and *Deeveya* have been previously found only in inland, anchialine caves. The discovery of *Deeveya* inhabiting deeper, hydrologically-isolated waters in ocean blue holes, which are otherwise comparable to classical anchialine environments, has raised questions concerning the geographic limits to the anchialine habitat and its supposed reliance on terrestrial inputs.

Key words: Halocyprida, Myodocopida, Ostracoda, anchialine caves, blue holes, Bahamas, Mexico, Bermuda

Introduction

The term anchialine was coined by Holthuis (1973: 3) to designate "pools with no surface connection with the sea, containing salt or brackish water, which fluctuates with the tides". During the Bermuda Marine Cave Symposium October 1984 the definition was modified as follows:

Anchialine habitats consist of bodies of haline water, usually with a restricted exposure to open air, always with more or less extensive subterranean connections to the sea, and showing noticeable marine as well as terrestrial influences (Stock *et al.* 1986: 91).

Caves opening beneath sea level and entirely filled with seawater were termed "submarine caves" and were not considered anchialine since they lack a terrestrial influence.

Until recently, the distinction between anchialine and submarine caves appeared valid based on significant hydrological and biological differences. Typically, anchialine caves are well stratified with a surface layer of