

January 2017

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Recommended Citation

Bruce, Niel L.; Brix, Saskia; and Balfour, Nicholas, "A new genus for *Cirolana troglexuma* Botosaneanu & Iliffe, 1997, an anchialine cave dwelling cirolanid isopod (Crustacea, Isopoda, Cirolanidae) from the Bahamas" (2017). *KIP Articles*. 3659.

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A new genus for *Cirolana troglexuma* Botosaneanu & Iliffe, 1997, an anchialine cave dwelling cirolanid isopod (Crustacea, Isopoda, Cirolanidae)

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Abstract

Cirolana troglexuma Botosaneanu & Iliffe, 1997 is redescribed and a *Lucayalana* Bruce & Brix, **gen. n.** established from a cave, Eleuthera. Specimens on which previous records of *L. troglexuma* (from Exuma Cays, Cat Island, an anchialine cave) are based are re-identified. Identifying characters and purported apomorphies for *Lucayalana* **gen. n.** are: frontal lamina short, narrow; pleonite 3 extending posteriorly to posterior of pleonite 5, laterally overlapping pleonites 4 and 5; vermicular margin RS not molariform. Mitochondrial COI and 16S loci and the nuclear 18S locus data show sequence data (BOLD, GenBank) show that *Lucayalana troglexuma* is genetically distinct to all other cirolanid sequences. Shared COI (with three females), 16S (eight females) and 18S sequences (two females).

Keywords

species, cave, DNA barcoding, distribution, Cirolanidae, taxonomy, island

Introduction

During the last decades, it has become increasingly obvious that species diversity in caves has only been discovered and described (Juan et al. 2010). A large number of new species has been revealed for cave decapods (Trontelj et al. 2007), bathynellaceans (Guzik et al. 2008) and isopods (Finston et al. 2009). Marine distributed lineages (e.g. Botosaneanu et al. 1986, Holsinger 1984).

The isopod family Cirolanidae Dana, 1852 is one of the most species rich of the free-living families within the Cirolanidae. Cirolanidae are predominantly marine, with relatively few species living in freshwater. The cirolanid species, have been predominantly found in anchialine systems as well as in freshwater habitats. Their ancestors becoming isolated during regressions of marine embayments in the Late Cretaceous or Tertiary usually completely eyeless, unpigmented stygobionts (Botosaneanu et al. 1986, Botosaneanu 2001). Subsequently (1986). Since then, 39 new species and seven new genera have been described resulting in 26 genera of freshwater Cirolanidae. Notably, the greater Caribbean region can be seen as a hotspot for cirolanid species