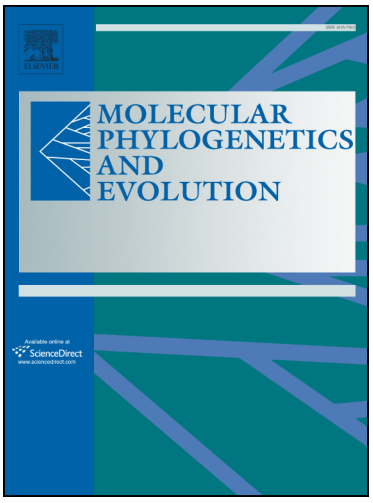

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Phylogenetic analysis shows the general diversification pattern of deep-sea notacanthiforms (Teleostei: Elopomorpha)

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Abstract

The Notacanthiformes is an ancient group of deep-sea ray-finned fishes comprising 27 species in two families; Halosauridae and Notacanthidae. Although many studies have tried to reconstruct the phylogenetic relationships among the major clades of Elopomorpha, little is known about the evolutionary history of notacanthiforms. Molecular and morphological data were used to test previous hypotheses regarding the phylogenetic relationships among notacanthiform taxa, and to unravel the origin and evolution of this group. The molecular analyses of notacanthids showed similar results to those previously obtained employing osteological data, which proposed the existence of the Lipogenyinae (*Lipogenys*) and Notacanthinae (*Notacanthus* + *Polyacanthonotus*) subfamilies. Nevertheless, when the external morphology data is considered *Lipogenys* is more related to *Notacanthus* than *Polyacanthonotus*. The analyses could not fully resolve the inner relationships of the