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A BONY FISH ASSEMBLAGE (TELEOSTEI) FROM THE EARLY MIOCENE OF THE SOUTHERN CARIBBEAN (COCINETAS BASIN, GUAJIRA PENINSULA)

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INTRODUCTION

The Cocinetas Basin is located in the eastern flank of La Guajira Peninsula, in north-eastern Colombia (Fig. 1A). During the early Miocene, large areas of this region had been submerged — the best evidence of this is represented by extensive and well-exposed deposits that have yielded a rich record of invertebrate and vertebrate fauna. We report the discovery of a new marine bony fish assemblage from a single locality (~16 Ma) of the Burdigalian Jimol Formation (Fig.1B). This geological unit is characterized by fossiliferous horizons with marine invertebrate taxa that had accumulated in foreshore or shoreface environments.

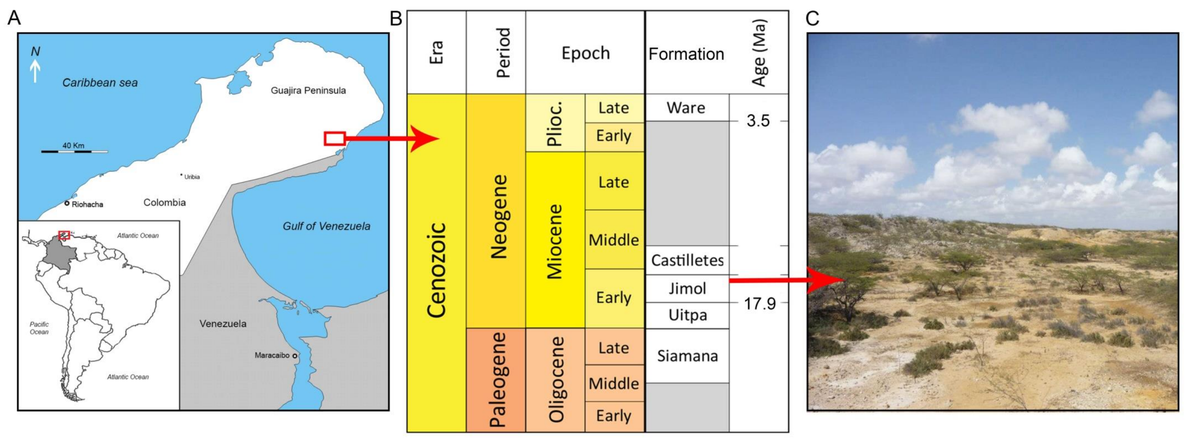


Figure 1. A. Location map. B. Generalized stratigraphy of the Cocinetas Basin. C. Outcrop of the Jimol Formation (locality: 290468).

MATERIALS AND METHODS

All the specimens referred to here (Fig. 2) are characterized by a total of 165 isolated dental elements; they are housed at the Mapuka Museum of Universidad del Norte (MUN-STRI), Barranquilla, Colombia.



Figure 3. Hypothetical paleoenvironmental reconstruction of Jimol Formation (locality: 290468) during early Miocene. Artwork: Yoel Arcenio.

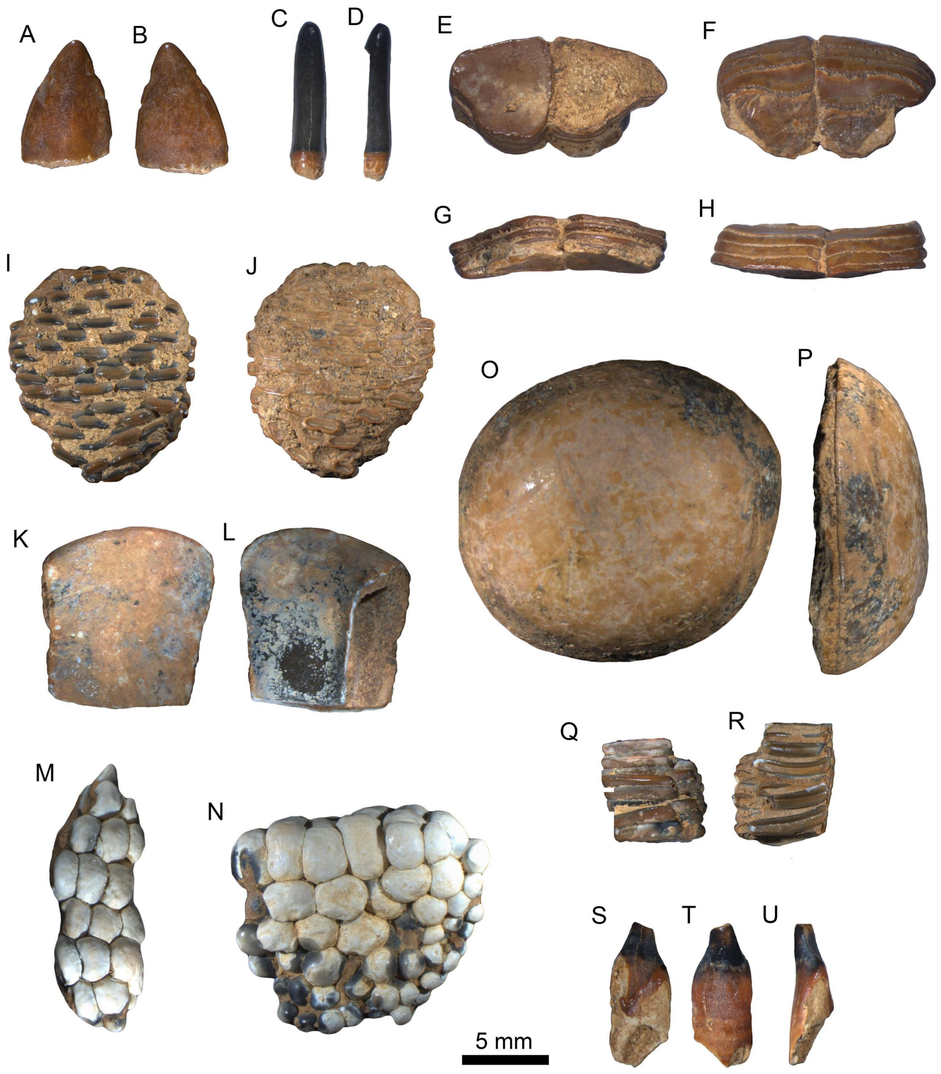


Figure 2. Fossil specimens from the locality 290468. A-B. *Sphyraena* sp. C-D. *Naso* sp. E-H. *Diodon* sp. I-J. Scaridae indet. K-L. *Diplodus* sp. M-N. Labridae indet. O-P. Sparidae indet. Q-R. Acanthuridae indet. S-U. *Balistes* sp.

RESULTS

We document at least eight taxa of bony fish, including Acanthuridae (*Naso* sp., and gen. indet.), Labridae indet., Scaridae indet., Sparidae (*Diplodus* sp., and gen. indet.), Sphyraenidae (*Sphyraena* sp), Balistidae (*Balistes* sp.) and Diodontidae (*Diodon* sp.). In this assemblage, the most abundant feeder group is a durophagous one. The habitat preferences of their living representatives, as well as of other associated assemblages such as corals, bryozoans, echinoderms, molluscs and elasmobranches (~20 shark and ray taxa), suggest a tropical shallow subtidal marine environment with conditions protected from major freshwater input (e.g. Fig. 3).

CONCLUSIONS

Many of these bony fish taxa from the Jimol assemblage are reported from the Colombian Neogene deposits for the very first time, providing insight into the coastal fish diversity that had inhabited the north-western margin of South America at a time when the region had been a gateway between the Atlantic and Pacific Oceans.

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