



## Benthic decapod crustaceans (Crustacea: Decapoda) of Cubagua Island, Venezuela

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### Abstract

The crustacean decapod fauna of Cubagua Island in the Caribbean Sea, Venezuela, an island much affected by coastal upwelling, was surveyed. A total of 178 species from 41 families were recorded, of which 56 species were new records for the island; eight genera and six species were new records for Venezuela. Most species had previously been recorded from the Caribbean province, 19.7% were endemic for the province, 64.1% had affinities to the Brazilian province, 57.3% to the Texan and Carolinian provinces and 45.5% showed continuous distributions across the provinces but showing less endemism and more affinities with Brazilian province than the general trends of distributions of decapods in the Caribbean. It appears that upwelling processes around the island hinders the development of the typical Caribbean marine ecosystems. The proximity with the northern limit of the Brazilian province also affects the biodiversity of the island.

**Key words:** Caribbean Sea, Crustacea, Decapoda, upwelling, biogeography

### Introduction

Cubagua is a 22 km<sup>2</sup> desertic island situated in the southeastern Caribbean Sea 17 km off the coast of Venezuela. The island is affected by strong coastal upwelling, with surface water temperature ranges between 22–28 °C and continuous high primary productivity (Gómez 1996; Monente 1997). Fringing coral reefs, rocky shores, *Thalassia testudium* beds, *Arca zebra* and *Pinctada imbricata* banks and sandy areas are found in shallow water (0–10 m deep). Economic activities include and artisan fishery exploited since the Sixteenth Century (Cervigón 1997).

Several studies have recorded species of decapod crustaceans for waters adjacent to Cubagua (Holthuis 1951; Haig 1956; Gore & Shoup 1968; Rodríguez 1980; Scelzo 1982; 1985; Piñango 1988; Marcano 1997; Hernández-Ávila 2002, 2004; Rodríguez *et al.* 2005; and Hernández-Ávila & Campos 2006). Information about the marine fauna of Cubagua Island was nevertheless incomplete since most of the area had not been sampled until now. The aim of the present study was to record biodiversity of crustacean decapods in Cubagua based on both new samples and published records.