



Checklist of reef decapod crustaceans (Crustacea: Decapoda) in the southern Gulf of California, México

LUIS HERNÁNDEZ^{1,2}, EDUARDO F. BALART^{2,3} & HÉCTOR REYES-BONILLA¹

¹Universidad Autónoma de Baja California Sur (UABCS), Departamento de Biología Marina, Carretera al Sur km 5.5, La Paz, B.C.S., 23080, Mexico. E-mail: lghm@uabcs.mx; hreyes@uabcs.mx

²Centro de Investigaciones Biológicas del Noroeste (CIBNOR), Mar Bermejo 195 Col. Playa Palo de Santa Rita, La Paz, B.C.S., 23090, Mexico. E-mail: ebalart04@cibnor.mx

³Corresponding author. E-mail: ebalart04@cibnor.mx

Abstract

Recent studies of reef fauna near La Paz bay and Loreto bay in the Gulf of California have promoted interest in recognize the assemblages of invertebrates close to the reefs. Crustaceans that inhabit coral heads have received little attention because of their small size. Additionally, the methods used in evaluating the reef community need to be carefully managed to avoid damaging the corals. A list of forty-four decapods species found at La Paz and Loreto areas is presented. Quarterly sampling trips were made from May 2004 to July 2008. At each area, six sites were selected because the coral substrate covered a suitable area. The marked survey sites were traversed by a SCUBA diver and censuses of conspicuous invertebrates were made. Attempts to avoid disturbing any aspect of the habitat was of primary importance. Of the 44 species recorded, just 20 species were common to both areas. Species richness for the two areas showed 70.9% similarity. Range extensions and new records for some species are presented.

Key words: La Paz bay, Loreto bay, Benthos, Marine Protected Areas, New records, Visual census

Introduction

Marine invertebrates play an essential role in the energy flux of benthic communities, as well as ecological indicators of disturbances. Of the larger marine invertebrates, mollusks, echinoderms, and crustaceans are the best known components in the Gulf of California (Solís-Marín *et al.* 1997; Holguín-Quñones *et al.* 2000; González-Medina *et al.* 2006). Crustacean decapods in the Gulf of California have been well studied (Brusca 1980; Villalobos *et al.* 1989; 1992; Wicksten & Hendrickx 1992; 2003).

On the other hand, invertebrates that inhabit reefs and coral heads of the Gulf have received little attention. This may be related to the difficulties of working in this fragile substratum and the methodology required to leave the reefs as undisturbed as possible. In La Paz bay, decapods associated with coral heads were studied near a very small island “Los Islotes” (24° 35'N, 110° 24'W) by Pereyra (1998), who found 32 species of crabs (*Brachyura* and *Anomura*) and by Hernández (1999) who found 27 species of shrimp (*Stenopodidea* and *Caridea*). These two investigations were performed with a destructive methodology (see Abele 1976; Gotelli & Abele 1983). There is no study of the coral-associated fauna at Loreto, but an unpublished checklist of 41 crustaceans at Isla Carmen (25° 57'N, 111° 10'W) is available on line (OVIS 2000).

Visual census techniques have been used for many years to assess reef fish populations and are regarded as relatively accurate and cost effective (Halford & Thompson 1994). The technique is ideally suited to monitoring abundance of coral reef fish because it provides data at community level without disturbances inherent in more destructive sampling techniques. Our objective was to assess the richness of decapods that are associated with coral heads in two protected marine areas in the Gulf of California.