



# OPISTHOBRANCH FAUNA OF ALACRANES CORAL REEF, YUCATAN PENINSULA, MEXICO



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## INTRODUCTION

The study of the opisthobranch mollusks is much less developed in the Atlantic coast of Mexico than in the Pacific. Specifically, no surveys aimed solely at the opisthobranch fauna have been made in the National Park "Parque Nacional Arrecife Alacranes" (PNA).

## STUDY AREA

National Park "Parque Nacional Arrecife Alacranes" (PNA) is a large reef area (25 km long and 14 km wide) located 140 km north of the Yucatan Peninsula, Campeche Bank (Fig. 1).



## METHODS

Four surveys were carried out in the PNA using direct and indirect sampling methods (brushing, vacuum pump, and a sledge net) (fig. 2) during May 2008, August and December 2009 and March 2010. The opisthobranchs were identified using specialized literature (e. g. Valdés *et al.* 2006).

## RESULTS

A total of 44 species, included in five orders and 19 families, were identified. This study includes 41 new records for the PNA. A list of the opisthobranch fauna is presented here for the first time (table 1). The most diverse order was the Nudibranchia with 15 species, followed by the Sacoglossa with 14 species. The Cephalaspidea and the Aplysiomorpha had seven species. The Pleurobranchomorpha was the less diverse group with only one species (*Pleurobranchus crossei*).

## CONCLUSIONS

We recognized 44 different species during four surveys.

The species *Elysia crispata*, *Elysia tuca*, *Dolabrifera dolabrifera*, *Dendrodoris krebssii*, and *Phidiana lynceus* were found in all the surveys.

## LITERATURE CITED

Valdés, A., J. Hamann, D. Behrens y A. DuPont, 2006. *Caribbean sea slugs. A field guide to the opisthobranch molluscs from the tropical northwestern Atlantic*. Sea Challengers, Washington, 289 p.

Table 1. Species list of opisthobranch collected in PNA. (\*) Previously recorded, the rest are new records for this reef.

**Order Cephalaspidea**  
Family Haminoeidae Pilsbry, 1895  
*Haminoea antillarum* (d'Orbigny, 1841)  
*Haminoea* sp.  
*Atys* cf. *macandrewii* Smith, 1872  
Family Bulliidae Gray, 1827  
*Bulla occidentalis* A. Adams, 1850\*  
Family Aglajidae Pilsbry, 1895  
*Aglaja felix* Er. Marcus & Ev. Marcus, 1970  
*Chelidonura hirundinina* (Quoy & Gaimard, 1833)  
*Navanax aenigmaticus* (Bergh, 1893)

### Order Sacoglossa

Family Juliidae E. A. Smith, 1885  
*Berthelina caribbea* Edmunds, 1963  
Family Oxynoidae Stoliczka, 1868  
*Oxynoe* cf. *azurpunctata* Jensen, 1980  
Family Boselliidae Ev. Marcus, 1982  
*Bosellia* cf. *mimetica* Trinchese, 1891  
Family Placobranchidae Gray, 1840  
*Elysia crispata* Mörch, 1863\*  
*Elysia ornata* (Swainson, 1840)  
*Elysia papillosa* Verrill, 1901  
*Elysia tuca* Ev. Marcus & Er. Marcus, 1967  
*Elysia subornata* Verrill, 1901  
*Elysia flava* Verrill, 1901  
*Elysia pratensis* Ortea & Espinosa, 1996  
*Elysia patina* Ev. Marcus, 1980  
Family Limapontiidae Gray, 1847  
*Costasiella ocellifera* (Simroth, 1895)  
*Placida kingstoni* Thompson, 1977  
*Cyerce* cf. *antillensis* Engel, 1927

### Order Aplysiomorpha

Family Aplysiidae Lamarck, 1809  
*Aplysia parvula* Mörch, 1863  
*Aplysia dactylomela* Rang, 1828  
*Aplysia brasiliana* Rang, 1828  
*Stylocheilus striatus* (Quoy & Gaimard, 1832)  
*Dolabrifera dolabrifera* (Cuvier, 1817)  
*Petalifera petalifera* (Rang, 1828)  
*Phyllaplysia engeli* Er. Marcus, 1955

### Order Pleurobranchomorpha

Family Pleurobranchidae Gray, 1827  
*Pleurobranchus crossei* Vayssière, 1897

### Order Nudibranchia

Family Polyceridae Alder & Hancock, 1845  
*Polycera* cf. *herthae* Ev. Marcus & Er. Marcus, 1963  
Family Chromodorididae Bergh, 1981  
*Risbecia nyalya* (Ev. Marcus & Er. Marcus, 1967)  
*Hypselodoris ruthae* Ev. Marcus & Hughes, 1974  
*Hypselodoris bayeri* (Ev. Marcus & Er. Marcus, 1967)\*  
Family Dorididae Rafinesque, 1815  
*Aphelodoris antillensis* Bergh, 1879  
Family Discodorididae Bergh, 1891  
*Jorunna spazzola* (Er. Marcus, 1955)  
Family Dendrodorididae O'Donoghue, 1924  
*Dendrodoris krebssii* (Mörch, 1863)  
Family Tritoniidae Lamarck, 1809  
*Tritonia bayeri* Ev. Marcus & Er. Marcus, 1967  
*Tritonia hamnerorum* Gosliner & Ghiselin, 1987  
Family Scyllaeidae Alder & Hancock, 1855  
*Scyllaea pelagica* Linnaeus, 1758  
Family Facelinidae Bergh, 1889  
*Phidiana lynceus* Bergh, 1867  
Family Aeolidiidae Gray, 1827  
*Aeolidiella alba* Risbec, 1938

### Unidentified nudibranchs

Sp no id 1  
Sp no id 2  
Sp no id 3

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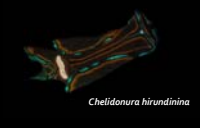
PAPIIT IN-220910 "Estructura de la comunidad de moluscos opisthobranchios del Parque Nacional Arrecife Alacranes, Yucatán, México" project; PAPIIME PE207210 "Mejoramiento de la enseñanza sobre Biodiversidad, Taxonomía y Sistemática de Biotas Marina y Litoral para manejadores de la Zona Costera: herramientas actuales" project; CONACYT-SEMARNAT 108285 "Delimitación y caracterización de los bajos arrecifales de Sisal: Descripción de los fondos marinos y cuantificación de biodiversidad" project. Shell International E&P for funding the "Caracterización Sedimentaria y Prospección Ecológica del Arrecife Alacranes" project (R. Garza, UNAM & E. Rankey, U. Miami).



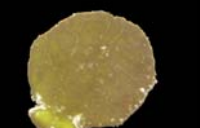
*Atys* cf. *macandrewii*



*Bulla occidentalis*



*Chelidonura hirundinina*



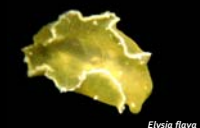
*Bosellia* cf. *mimetica*



*Elysia crispata*



*Elysia subornata*



*Elysia flava*



*Elysia papillosa*



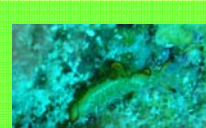
*Petalifera petalifera*



*Elysia patina*



*Cyerce* cf. *antillensis*



*Elysia ornata*



*Phyllaplysia engeli*



*Stylocheilus striatus*



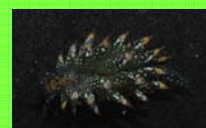
*Dendrodoris krebssii*



*Phidiana lynceus*



*Risbecia nyalya*



*Costasiella ocellifera*



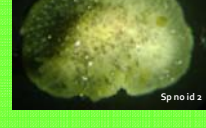
*Aphelodoris antillensis*



*Polycera* cf. *herthae*



Sp no id 1



Sp no id 2



Sp no id 3



*Aplysia dactylomela*



*Aplysia parvula*



*Dolabrifera dolabrifera*



*Pleurobranchus crossei*



*Hypselodoris bayeri*



*Jorunna spazzola*



*Dendrodoris krebssii*



*Scyllaea pelagica*



*Aeolidiella alba*



*Tritonia bayeri*



*Tritonia hamnerorum*