

TWO GASTROPODS ASSOCIATED WITH FLOATING OBJECTS FROM THE URUGUAYAN COAST

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ABSTRACT

The gastropods *Litiopa melanostoma* Rang, 1829 (Caenogastropoda: Litiopidae) and *Fiona pinnata* (Eschscholtz, 1831) (Nudibranchia: Fionidae) are recorded for the first time from Uruguayan waters based in material collected on the coast of Rocha. This is the southernmost record for these species in the Western Atlantic Ocean, and the first one of *F. pinnata* from the Atlantic South American coast.

KEY WORDS: Mollusca, *Litiopa*, *Fiona*, drifting objects, Southwestern Atlantic, Uruguay.

RESUMEN

Dos gasterópodos asociados a objetos flotantes de la costa uruguaya. Los gasterópodos *Litiopa melanostoma* Rang, 1829 (Caenogastropoda: Litiopidae) y *Fiona pinnata* (Eschscholtz, 1831) (Nudibranchia: Fionidae) son registrados por primera vez para aguas uruguayas, en base a material colectado en la costa de Rocha. Este es el registro más austral para esas especies en el Atlántico Occidental, y el primero de *F. pinnata* para la costa atlántica sudamericana.

PALABRAS CLAVE: Mollusca, *Litiopa*, *Fiona*, objetos flotantes, Atlántico Sudoccidental, Uruguay.

The study of the fauna associated with floating objects has special interest for the understanding of dispersal processes and mechanisms in aquatic ecosystems, and can provide additional support for hypothesis of physical oceanography.

Only one species of gastropod associated with floating objects has been recorded from Uruguayan waters: *Stylocheilus citrinus* (Rang, 1828) (Anaspeida), cited by Cachés (1973) and Figueiras & Sicardi (1974). However, preliminary data indicated the presence of two other species. In 2001, the herpethologist F. Kolenc (Montevideo) informed me about the finding, several years ago, of several specimens of a small, brownish sea slug associated with a piece of driftwood at Playa Grande, Santa Teresa, Rocha (fig. 1). Although this material was not kept, I suspected the presence of an unrecorded species of Nudibranchia for Uruguay. I also had examined shells (J. C. Zaffaroni private collection) of *Litiopa melanostoma* Rang, 1829 (Cerithioidea: Litiopidae), collected attached to a stranded buoy on the Uruguayan coast.

In January 2003, stranded floating objects were inspected for associated Gastropoda in two sections of the coast of Rocha (Fig. 1): a) Aguas Dulces and b) from Cerro Verde to Barra del Chuy. Flotsam inspected

by eye *in situ* (nearly 20) were those that had signs of colonization by crustaceans, hydrozoans or bryozoans. One object found in the second zone (between Punta Coronilla and Cerro Verde) was fixed in 10% formalin solution and washed in the laboratory through a 0.5 mm mesh sieve, in order to test the effectiveness of the visual inspection. I found that the communities developing on the stranded objects are easily damaged by abrasion and exposure to the sun, making it very difficult for associated gastropods to be well preserved, thus limiting our capacity to record them.

A light tube found at Aguas Dulces supported two specimens of *Litiopa melanostoma* and one of the nudibranch *Fiona pinnata* (Eschscholtz, 1831). At the second area a cane stranded at Punta Coronilla yielded four specimens of the last species. The object inspected at laboratory contained five juvenile specimens of *L. melanostoma*. All the three objects had many *Lepas* sp. attached. All this material is deposited in the Museo Nacional de Historia Natural (Montevideo).

Litiopa melanostoma have been reported as living on *Sargassum* (Houbrick, 1987), and in the Western Atlantic extending south to São Paulo State, Brazil (Rios, 1975). The present record is the southernmost in the Southwestern Atlantic.

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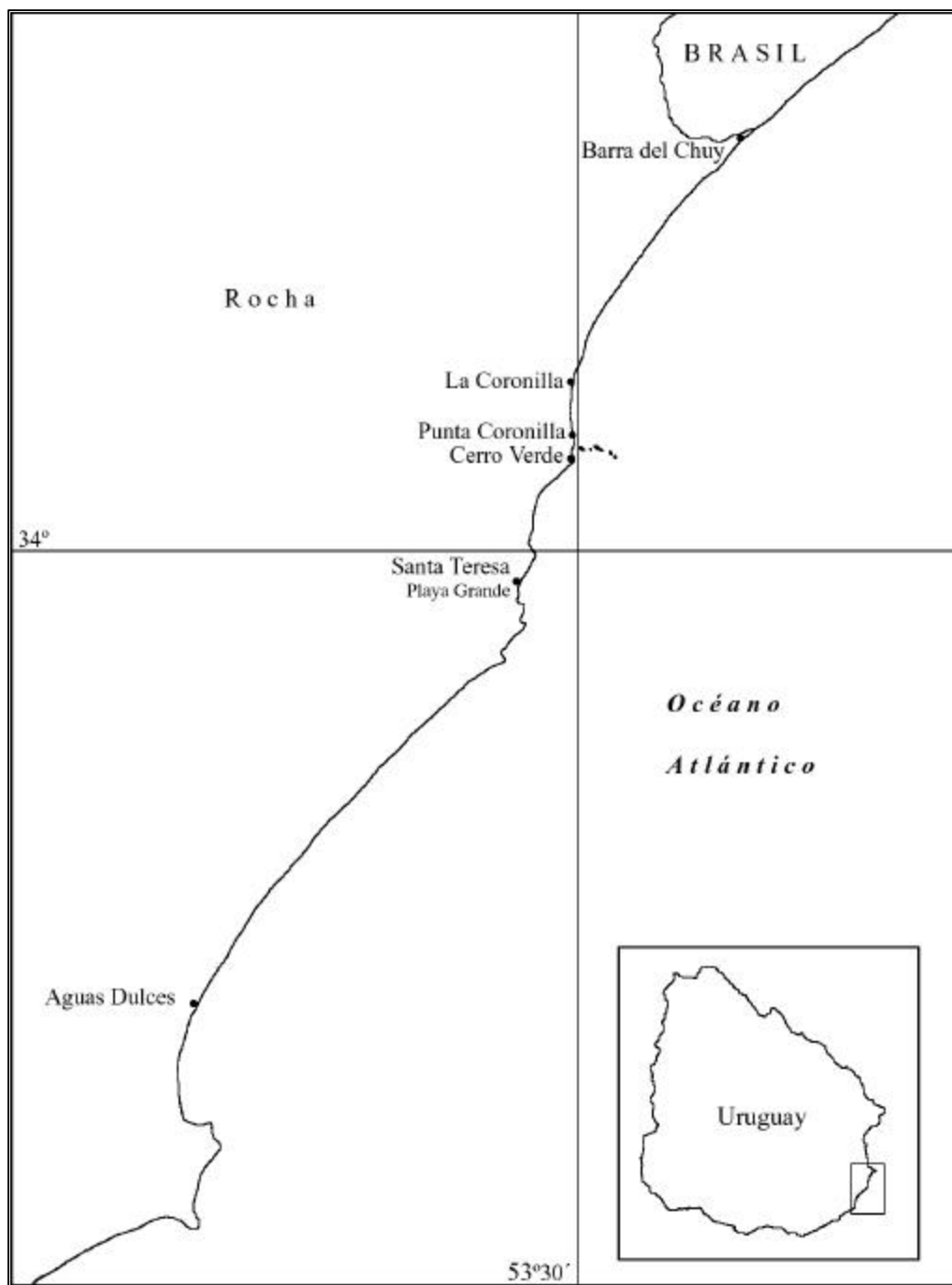


Fig. 1. Uruguayan localities mentioned in the text.

There are several nominal species of *Litiopa*, some regarded by different authors as synonyms of *L. melanostoma*. A modern taxonomic revision of all the nominal species of this genus is urgently required. The material reported here is assigned to *L. melanostoma* by the fact that this is the oldest (type) species of the genus, by comparison with the material reported by Houbriek (1987), and by the impossibility to make accurate comparison with the other, poorly characterized, nominal species.

Fiona pinnata lives on driftwood and floating algal masses, where it feeds on *Lepas spp.* It also lives and feeds on the hydrozoans *Velella velella* and *Porpita porpita*, and has also been reported on the gastropod *Janthina spp.* in a still unknown association (Bayer, 1963; Willan, 1979, and references therein).

Willan (1979) enumerated the known localities for this circumtropical and circumtemperate species. After Willan (1979), new records for this species were made, for example in Southern Africa (Gosliner, 1987).

In the Western Atlantic, *F. pinnata* has been reported from Florida and Georgia, USA (Bayer, 1963; Marcus & Marcus, 1967). The record presented here is the first one for the South American Atlantic coast.

All the specimens of nudibranchs here assigned to *F. pinnata* possess the unique characteristic of this monospecific genus: the presence of an undulating membrane along the dorsal part of the cerata.

In Southwestern Atlantic, the development of the communities in which both gastropod species here recorded inhabit is strongly linked with the Brazilian Warm Current. The stranding of these communities in

the Uruguayan coast is a common fact, at least in the summer months (pers. obs.).

It is here recommended that future studies on the gastropods associated with floating objects in Uruguayan waters should not be carried out only by visual inspection of the stranded objects in the field, but fixing these objects or portion of the epifauna for laboratory searching is required. Studies of actually floating material have never been carried out in Uruguayan waters and should be an important approach for the study of this fauna.

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