

## *Ranella olearium* (LINNAEUS, 1758) (GASTROPODA: TONNOIDEA): CONFIRMATION OF ITS PRESENCE IN URUGUAYAN WATERS

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### ABSTRACT

The presence of *Ranella olearium* (Linnaeus, 1758) in Uruguayan waters is confirmed by the record of two living specimens collected at upper bathyal depths (270-276 m) in an area directly influenced by subtropical waters. This species was otherwise mentioned from Uruguay without precise material or locality. This record is the southernmost in the southwestern Atlantic. The specimens from southern Brazil and Uruguay are considered to represent a pseudopopulation, as do most of the records outside the northeastern Atlantic. The concept of a southwestern Atlantic subspecies, *R. olearium barcellosi*, is rejected.

**KEY WORDS:** Mollusca, Ranellidae, *Ranella olearium*, biogeography, southwestern Atlantic, Uruguay.

### RESUMEN

*Ranella olearium* (Linnaeus, 1758) (Gastropoda: Tonnoidea): confirmación de su presencia en aguas uruguayas. La presencia de *Ranella olearium* (Linnaeus, 1758) en aguas uruguayas es confirmada a través de dos ejemplares obtenidos en fondos del talud superior (270-276 m) directamente influenciados por aguas subtropicales. Esta especie fue anteriormente mencionada para Uruguay sin localidad o material preciso. Este registro es el más austral del Atlántico Sudoccidental. Los ejemplares del sur de Brasil y Uruguay son considerados como pseudopoblación, al igual que la mayoría de los registros fuera del Atlántico Nororiental. Se rechaza aquí el concepto de una subespecie, *R. olearium barcellosi*, para el Atlántico Sudoccidental.

**PALABRAS CLAVE:** Mollusca, Ranellidae, *Ranella olearium*, biogeografía, Atlántico Sudoccidental, Uruguay.

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*Ranella olearium* (Linnaeus, 1758) is an outer shelf-upper bathyal species of Ranellidae well recorded from the northeastern Atlantic (SW British Isles to Mauretania, including Azores, Canary Island, Lusitanian and Meteor group seamounts), Mediterranean Sea, South Africa (Indian Ocean) and New Zealand (Dell & Dance, 1963; Beu, 1978; Kilburn & Rippey, 1982; Cosel, 1983; García-Talavera, 1987; Bouchet & Warén, 1993; Gofas & Beu, 2002). Other records, based on few specimens, come from northwestern Atlantic (Bermuda and Guadeloupe Islands), Caribbean Sea (Colombia and Tobago), southeastern Atlantic (Congo and Angola), southwestern Atlantic (southern Brazil), Tristan da Cunha, southern Indian Ocean (Saint Paul and Amsterdam Islands), Réunion (specimen in Muséum National d'Histoire Naturelle, Paris), and southwestern Pacific (Tonga and Chatham Islands)

(Dell & Dance, 1963; Arnaud & Beurois, 1972; Rios, 1975; Finlay & Vink, 1982; Cosel, 1983; Beu, 1985; Gofas & Beu, 2002; A. G. Beu, pers. comm.).

Rios (1975) and Figueiras & Sicardi (1980) included *Ranella olearium* in the Uruguayan malacofauna without locality records, except that the latter authors provided measurements from a shell supposedly collected from Uruguayan waters. The nearest published records are from the continental shelf and upper slope of the Brazilian state of Rio Grande do Sul (Matthews *et al.*, 1973). During an exploratory fishing cruise in September 2002 on the upper slope in northern Uruguayan waters, two specimens of *R. olearium* were collected. This represents the first precise record from these waters and the southernmost one from the western Atlantic.

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SUPERORDER CAENOGASTROPODA COX, 1959

ORDER SORBEOCONCHA PONDER & LINDBERG, 1997

SUBORDER HYPHOGASTROPODA PONDER & LINDBERG, 1997

INFRAORDER LITTORINIMORPHA GOLIKOV & STAROBOGATOV, 1975

SUPERFAMILY TONNOIDEA SUTER, 1913

FAMILY RANELLIDAE GRAY, 1854

SUBFAMILY RANELLINAE GRAY, 1854

Genus *Ranella* Lamarck, 1816

Type species (by subsequent designation by Children, 1823): *Ranella gigantea* Lamarck, 1816 [= *Ranella olearium* (Linnaeus, 1758)]. See Beu (1988).

***Ranella olearium*** (Linnaeus, 1758)

The synonymy of this species has been provided by Dell & Dance (1963), Beu (1978) and Bouchet & Warén (1993).

The specimens here reported come from 34°49.5'S-52°06.4'W in 270 m to 34°43.4'S-52°01.5'W in 276m. They were obtained alive with a bottom gill net, on a hard bottom. This zone is directly influenced, at least for most of the year, by warm (subtropical) waters (Thomsen, 1962; V. Scarabino, 1968; L. Ortega, pers. comm.).

The shells (the only part preserved) are housed in the Museo Nacional de Historia Natural, Montevideo. The maximum lengths (apex slightly broken) are 192 mm and 167 mm respectively.

The protoconch of this species, illustrated by Matthews *et al.* (1973) and Gofas & Beu (2002), is of planktotrophic (teleplanic) type, allowing a wide geographic range (Scheltema, 1971). Cosel (1983) discussed the disjunct distribution pattern of *R. olearium*, concluding that there is no oceanographic basis for strong gene-flow between the widely separated populations that occurs in this species. This might suggest that *R. olearium* represents a group of yet unrecognised lineages. However, in view of the fact that most of the records outside of the northeastern Atlantic are based on few specimens (with the exception of

South Africa and New Zealand), these are likely to represent pseudopopulations outside the normal breeding range of the species. The lack of records from the rest of the outer shelf and bathyal bottoms of the South American coast possibly reflects adult or larvae-settlement temperature preferences (see Cosel, 1983).

Matthews *et al.* (1973) proposed the new species *Bursa barcellosi* without comparison with *R. olearium*. Rios (1975; 1985) synonymised the two species but later (Rios, 1994) identified the Brazilian specimens as *R. olearium barcellosi*, arguing that this subspecies has more angulated whorls and smaller number of nodules (14-15) which are larger and more pointed than in typical *R. olearium*. However, this is a highly variable species, and the Brazilian specimens fall within the range of variation of Mediterranean-West African, South African and New Zealand specimens, where they range from strongly angulated, with few nodules, to evenly rounded, with several rows of small, close nodules (A. G. Beu, pers. com.). In view of the fact that these kind of minor differences are, in wide-ranging species of Ranellidae, of a phenotypic nature (Beu, 1998; 1999) and given the pseudopopulation model proposed above, the concept of a subspecies of *R. olearium* in the south western Atlantic is here rejected.

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