

CEPHALOPODA (MOLLUSCA) FROM THE SOUTHWESTERN AUSTRAL ATLANTIC: AN ONGOING INTEGRATIVE STUDY

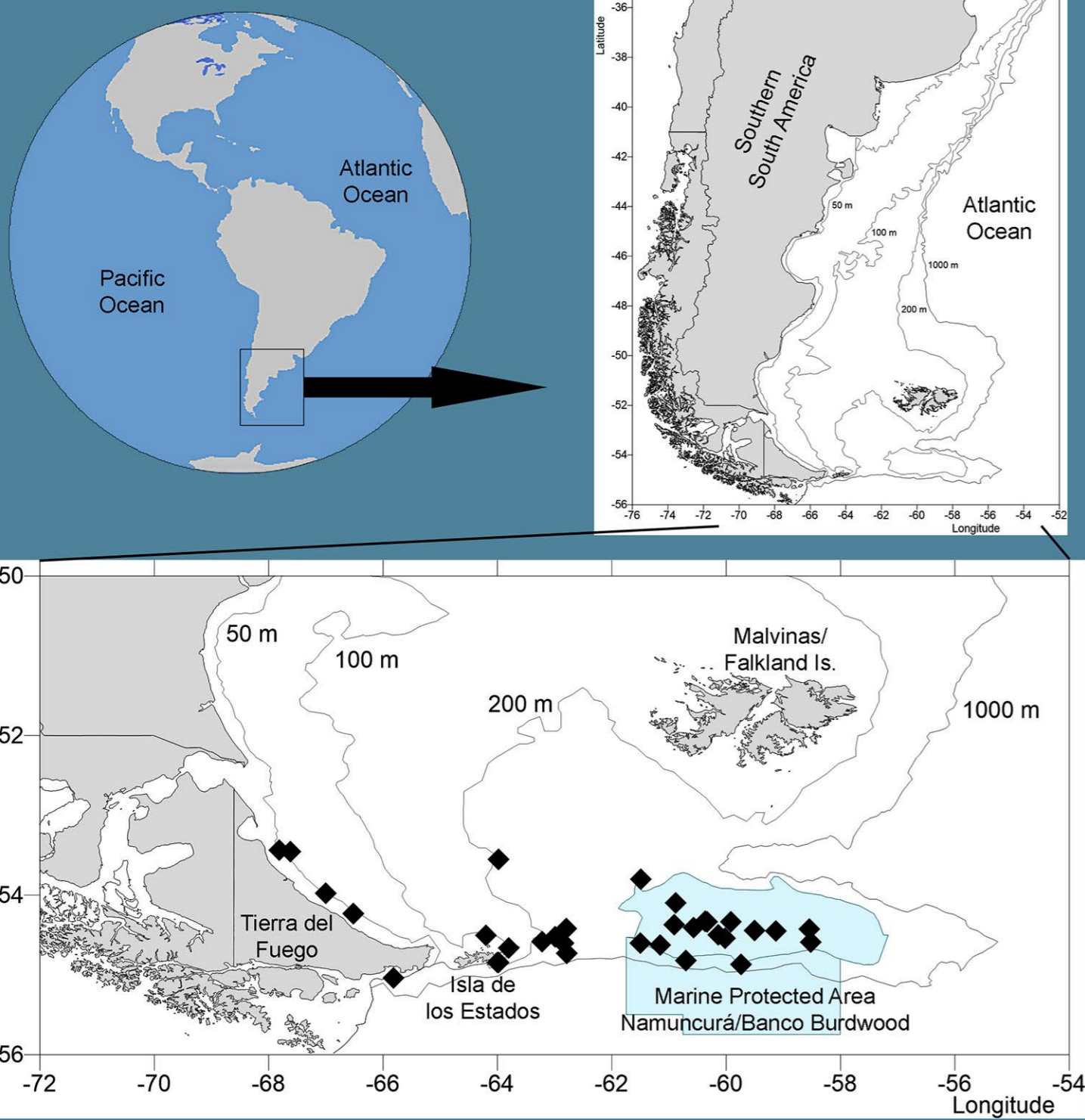


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INTRODUCTION

The Southwestern Austral Atlantic Ocean represents an area of great biological importance. However, knowledge on the marine biodiversity of this area is still limited. This is particularly noticeable in the case of the cephalopod fauna, for which many of the species remain only known from few (and occasional) records, and several nominal species have been mentioned without proper supporting information (photographs, vouchers, or similar).

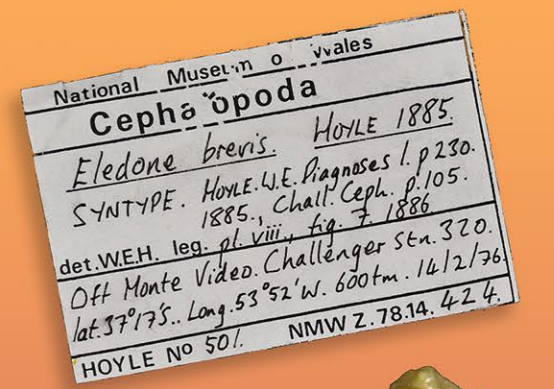


The aim of this research is to perform the first integrative study of the orders Octopoda and Sepiida (Mollusca: Cephalopoda) occurring in the Southwestern Austral Atlantic, by combining morphological, morphometric, anatomical and molecular characters.

MATERIALS & METHODS

Samples were collected between 2015 and 2018 aboard the Argentine research vessels GC-189 *Prefecto García* and BO *Puerto Deseado*. The specimens studied come from 37 sampling stations located between 53-55°S and 58-68°W, in 40 to 785 m depth. Recently sampled cephalopods were photographed to document characteristics of living specimens. Then, specimens were fixed for morphological, morphometric and anatomical studies, which were performed in the laboratory; a small piece of tissue was preserved in ethanol for molecular studies (COI).

For comparative purposes, the available type material of all nominal species described from this area was studied.

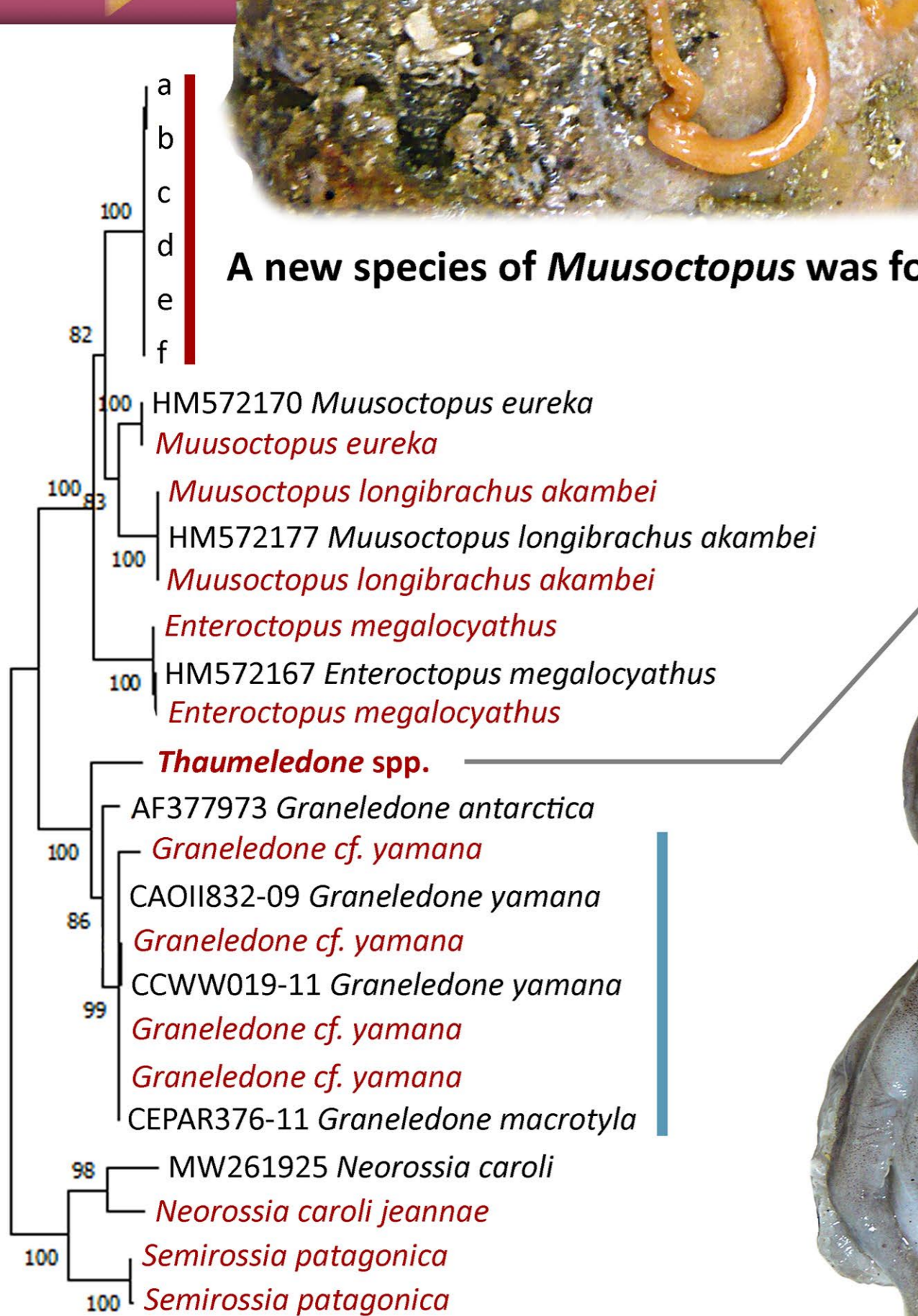


RESULTS

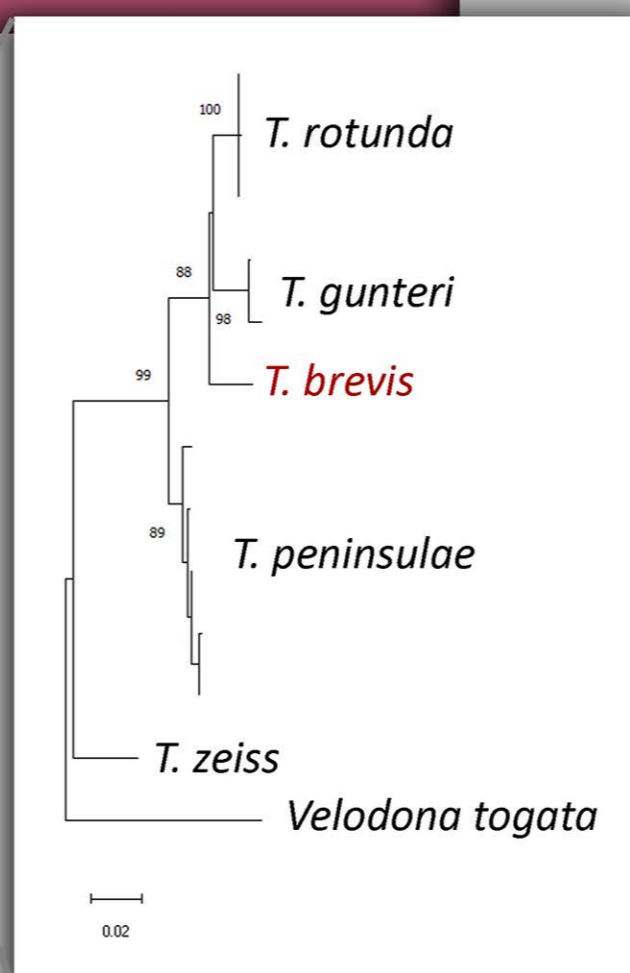
As part of this study 8 cephalopod species were recognized from the Southwestern Austral Atlantic, comprising two species of sepiolids and six species of octopods. Octopods belonged to the genera *Enteroctopus*, *Muusoctopus*, *Graneledone* and *Thaumeledone*.



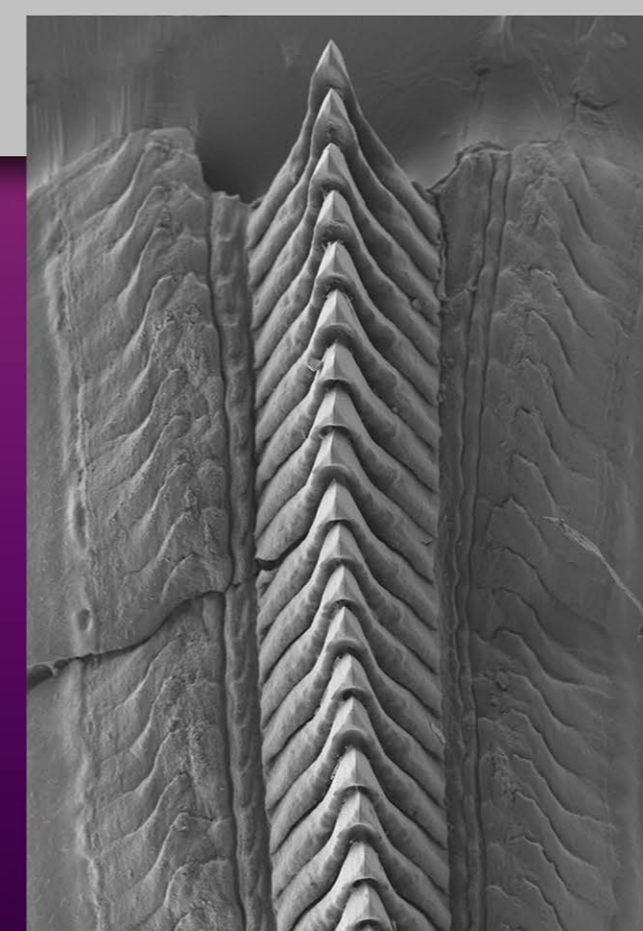
A new species of *Muusoctopus* was found!



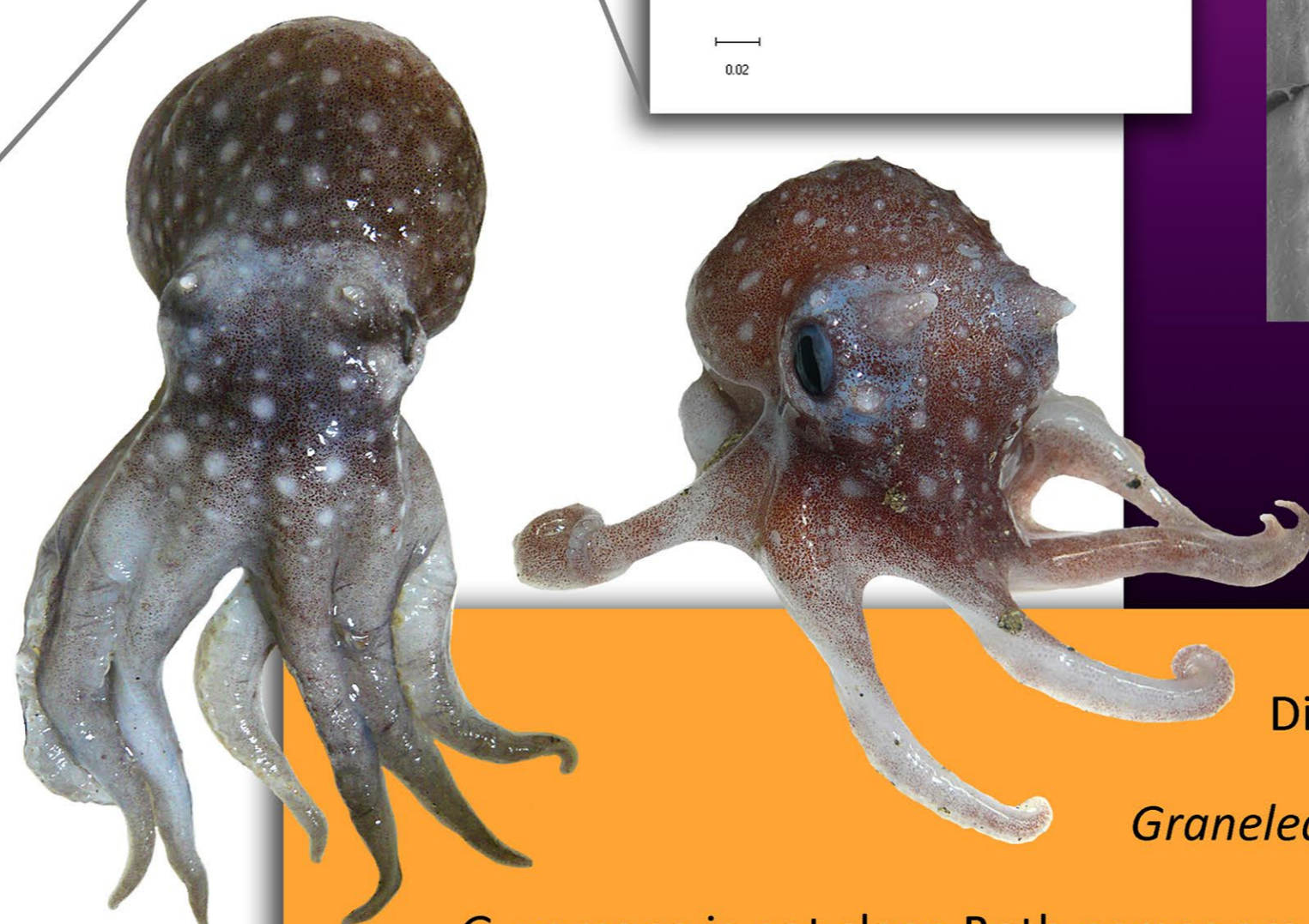
Phylogenetic reconstructions obtained via Neighbor-Joining (K2P model). Node values indicate bootstrap support values (1,000 iterations). Newly obtained sequences are marked in red.



Thaumeledone brevis is sequenced for the first time, allowing to interpret the peculiar radula within the group.



The two sepiolid species are allopatric: *Neorossia caroli jeannae* is found in deep waters surrounding Burdwood Bank and the Austral slope, whereas *Semirossia patagonica* occurs in shallower waters of the Patagonian shelf.



Distinction between *Graneledone macrotyla* and *G. yamana* is not clear. Both names are being indistinctly used to refer to specimens from the Argentine shelf and slope.

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