

The value of by-catch: Can we use the commercial species stock assessment cruises for the study of non-target species? The case of sponges

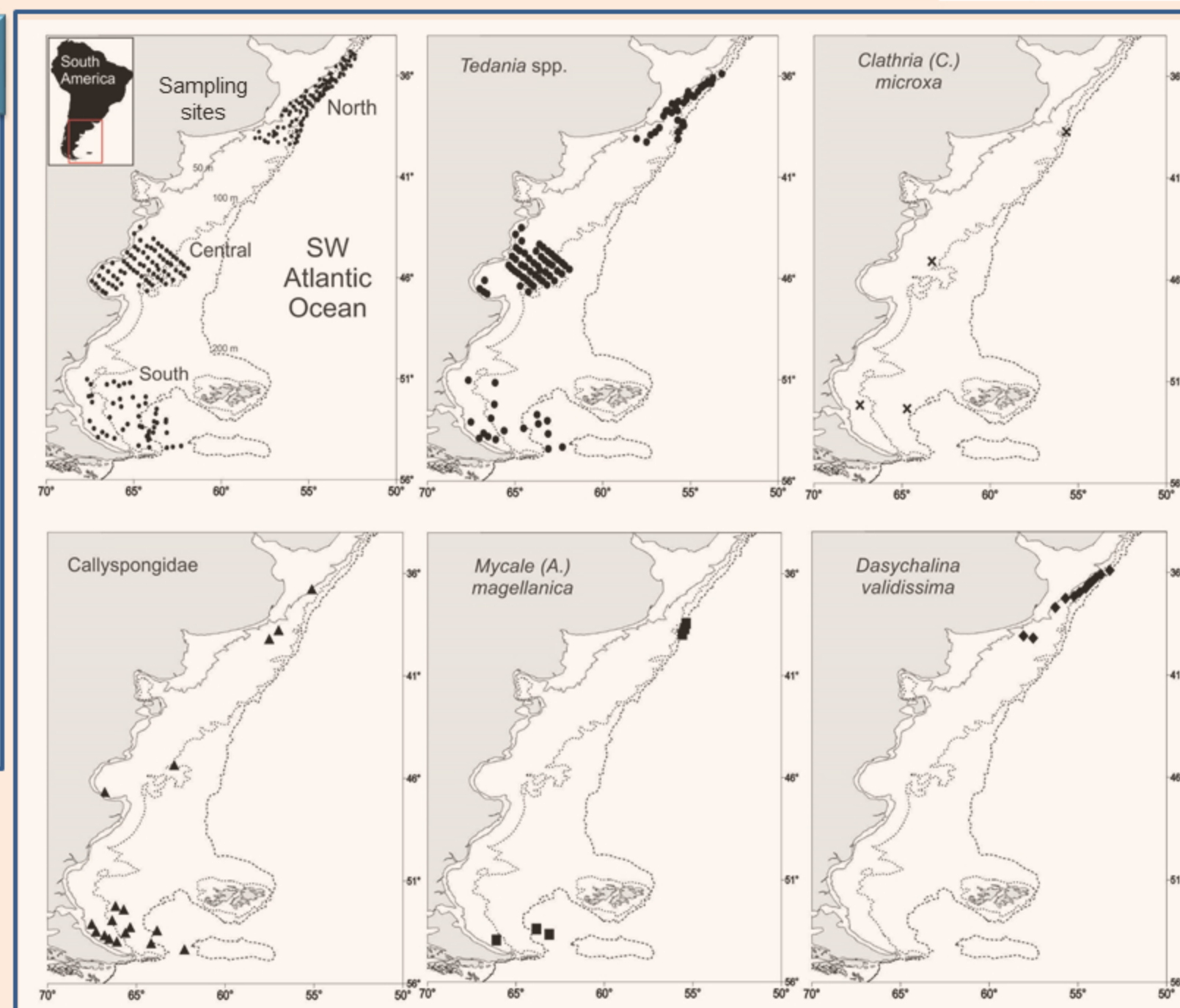
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INTRODUCTION, AIM & SOURCE OF DATA

In Argentina, the information on biodiversity of sponges is scarce and mainly restricted to serendipitous or intertidal findings, while research cruises are focused usually on species of commercial interest. In this work we present data on the contribution of sponges to benthic communities in three different regions of the Argentine continental shelf and slope (North, Central and South), between 34° and 55°S and between 47 and 551 m depth. The information was acquired from by-catch data of 5 stock assessment cruises performed by the Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP) devoted to the study of the Argentine hake (*Merluccius hubbsi*) and the long tail hake (*Macruronus magellanicus*) between 2021 and 2024.



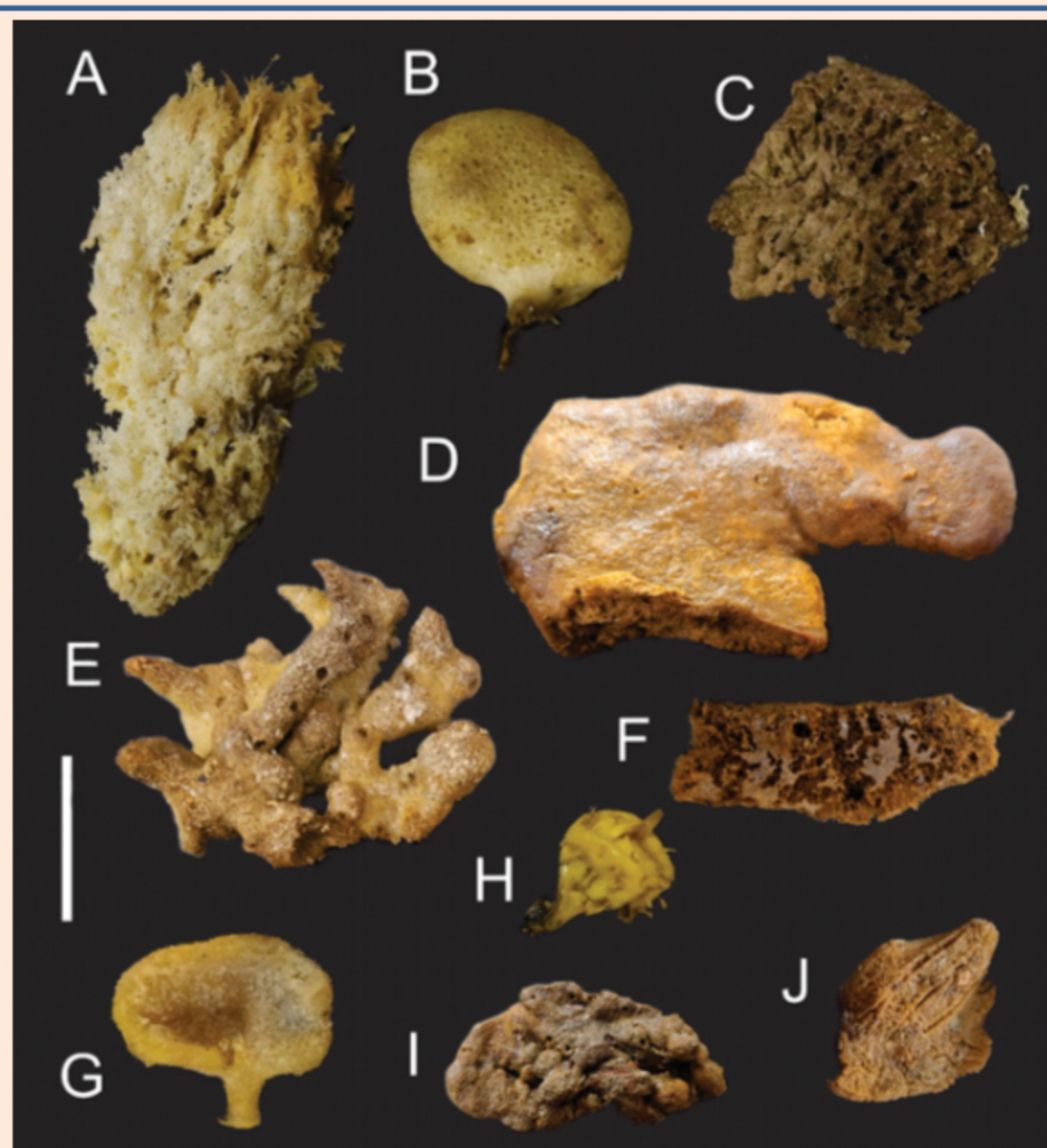
	North	Central	South	Total
N° analysed cruises	3	1	1	5
Total hauls	141	72	49	262
Total hauls with sponges	48 (34%)	55 (76,3%)	30 (61,2%)	133 (49%)
Average contribution of sponges to total by-catch (in %)	6,8	38,31	20,46	18,01
Average contribution of sponges to total by-catch (in density, kg/mn ²)	5,43	133,82	43,88	47,91
Total taxa richness	10	10	21	34
Taxa richness per site (average; range)	0,57; 1-4	1,12; 1-3	1,53; 1-5	0,9; 1-5

34 sponge species in total (see Table and maps):

- 3 taxa were shared among the three areas: *Tedania* spp., *Clathria* (*C.*) *microxa* and *Callyspongiae** (*Siphonochalina fortis* + *Callyspongia* sp.).
- *Mycale* (*Aegogropila*) *magellanica*, a common species from Argentina, was shared only among the North and the South regions.
- *Tedania* spp.#, mainly represented by the species *Tedania* (*Tedaniopsis*) *mucosa*, was the most frequently recorded sponge.

LIST OF THE RECORDED SPONGE SPECIES

	North	Central	South
<i>Amphilectus</i> sp.			X
<i>Antho</i> (<i>Plocamia</i>) <i>bremecae</i>			X
<i>Asbestopluma</i> sp.			X
<i>Callyspongiae</i> *	X	X	X
<i>Clathria</i> (<i>Clathria</i>) <i>microxa</i>	X	X	X
<i>Clathria</i> (<i>Clathria</i>) <i>discreta</i>		X	
<i>Clathria</i> sp.1	X		
<i>Clathria</i> sp.2			X
<i>Cliona</i> sp.		X	
<i>Craniella</i> sp.			X
<i>Dasychalina validissima</i>	X		
Dictyoceratida 1	X		
Dictyoceratida 2	X		
Dictyoceratida 3			X
<i>Dragmacidon</i> sp.			X
Hadromerida		X	
<i>Halicionissa sacciformis</i>		X	
Hexactinellida			X
<i>Inflatella belli</i>			X
<i>Iophon proximum</i>		X	
<i>Isodictya verrucosa</i>		X	
<i>Latrunculia</i> sp.			X
<i>Mycale</i> (<i>Aegogropila</i>) <i>magellanica</i>	X		X
<i>Myxilla mollis</i>			X
<i>Phakellia</i> sp. 1			X
<i>Phakellia</i> sp. 2			X
Porifera unident. 1	X		
Porifera unident. 2			X
<i>Pylocladia latrunculioides</i>			X
Raspaillidae			X
<i>Stelodoryx argentinae</i>	X		
Suberitidae		X	
<i>Tedania</i> spp.#	X	X	X
Tetillidae			X



- A. *Mycale* (*Aegogropila*) *magellanica*
- B. *Dasychalina validissima*
- C. *Clathria* (*Clathria*) *microxa*
- D. *Tedania* (*Tedaniopsis*) *mucosa*
- E. *Siphonochalina fortis* (*Callyspongiae*)
- F. *Isodictya verrucosa*
- G. *Antho* (*Plocamia*) *bremecae*
- H. *Inflatella belli*
- I. Dictyoceratida 3
- J. *Clathria* (*C.*) *discreta*

Scale bar: 4 cm

CONCLUSION

The North area is probably the better known region regarding sponge fauna compared to the other sampled regions and the records mostly belong to species largely known and most widely studied. However, the samples of several taxa recorded in the South and Central regions (i.e. Hadromerida, Suberitidae, *Phakellia* spp., *Amphilectus* sp., *Dragmacidon* sp., *Asbestopluma* sp.) will require more detailed taxonomic studies, as these species may increase our knowledge on sponge biodiversity and richness of Argentina by adding valuable information on rare species or may even constitute new species to science.