Contrasting morphology identification of several black corals (Hexacorallia: Antipatharia) from the Canary Islands with molecular data.

Marcos González-Porto, Deiene Rodríguez-Barreto, Laura Martín-García, Ana de la Torriente, Jesús M. Falcón, Álvaro Herrera-Cáceres, Alberto Serrano, Sebastián Jiménez-Navarro, Noemí Dionis-Insensé, Bertín García-Mañé, Clara Estil-las-García, Pablo Martín-Sosa

Some survey and sample data:
-3 SAC
-23 collected specimens
-Depths between 120 and 531 m

Family	Main species found in previous studies
Antipathidae	*Antipathes furcata* Gray, 1857
	Stichopathes gracilis Gray, 1857
	Stichopathes gravieri Molodtsova, 2006
	Stichopathes setacea Gray, 1860
Leiopathidae	*Leiopathes glaberrima* (Esper, 1792)
Myriopathidae	*Antipathella wollastoni* (Gray, 1857)
	Tanacetipathes cavernicola Opresko, 2001
Schizopathidae	*Bathypathes patula* Brook, 1889
	Parantipathes hirondelle Molodtsova, 2006

R/V Ángeles Alvariño

ROV Liropus 2000

8th International Symposium Deep-Sea Corals
29 May - 2 June Edinburgh, Scotland

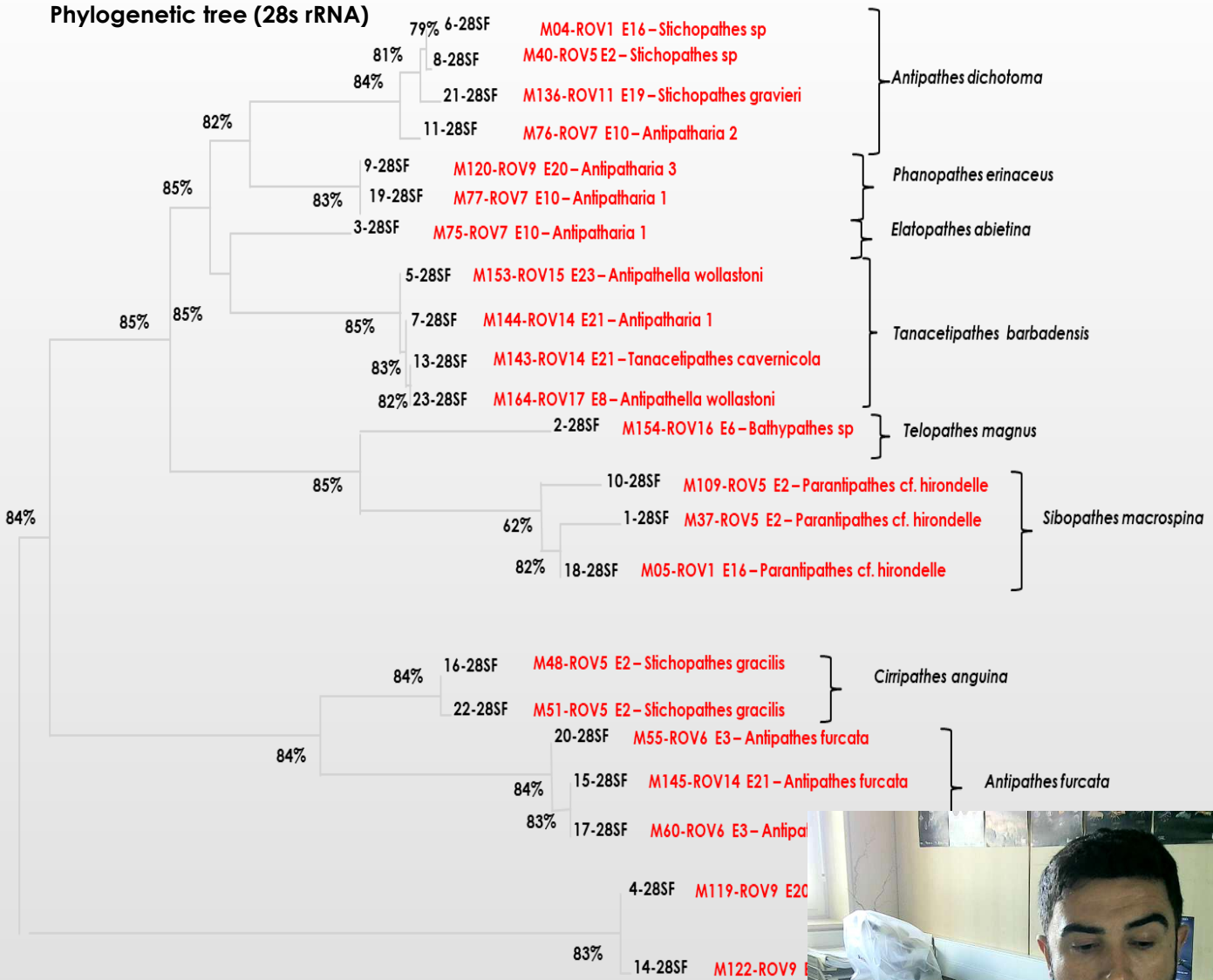
CSIC EsMarEs Estrategias Marinas protegiendo el

Molecular study

PROCESS

1. **Genomic DNA extraction**
2. **Marker amplification (PCR)**
3. **Amplicon purification**
4. **Cyclic sequencing**
5. **Sequence alignment** (Software: ClustalW2)
6. **Sequence Homology Comparison** (Software: BLAST-N)
7. **Neighbor Joining (NJ) Tree Inference→ PHYLOGENETIC TREE** (Software:MEGA11, composite maximum likelihood method to generate the pairwise matrix)

28S
IGR
COI



8th International Symposium Deep-Sea Corals
29 May - 2 June Edinburgh, Scotland

CSIC EsMarEs Estrategias Marinas protegiendo el

Results, conclusions and future

- The molecular studies…

1- …confirm morphological identifications
- ***-Leiopathes glaberrima***
- ***-Antipathes furcata***

2- …assign a taxon to previously unidentified species
- ***-Elatopathes abietina***
- ***-Phanopathes* sp.** (probably *P.erinaceus*)

3- …are not entirely conclusive but support morphological identification
- ***-Parantipathes hirondelle***
- ***-Bathypathes* sp.** (probably *B.patula*)

4- …could resolve identification discussions at the genus or species level
- ***-Antipathella vs Tanacetipathes***
- ***-Tanacetipathes cavernícola vs T.barbadensis*** (may be the same species (Loiola & Castro, 2005))

5- …could confirm the polyphyletic nature of some genera
- ***-Stichopathes* spp.** (*S.gracilis* and *S.gravieri*/*Stichopathes* sp. indet in two separate clades) (*Stichopathes* as a possible polyphyletic genus (Bo et al, 2018))

- And the next steps will be…

a- …the verification of the morphological identification of some of the specimens and the contact with experts

b- …the comparison of type material and its possible genetic study

a- …to increase the number of species to study