

# New symbiotic associations involving polynoids (Polychaeta, Polynoidae) from Atlantic waters, with re-description of *Parahololepidella greeffi* (Augener, 1918)

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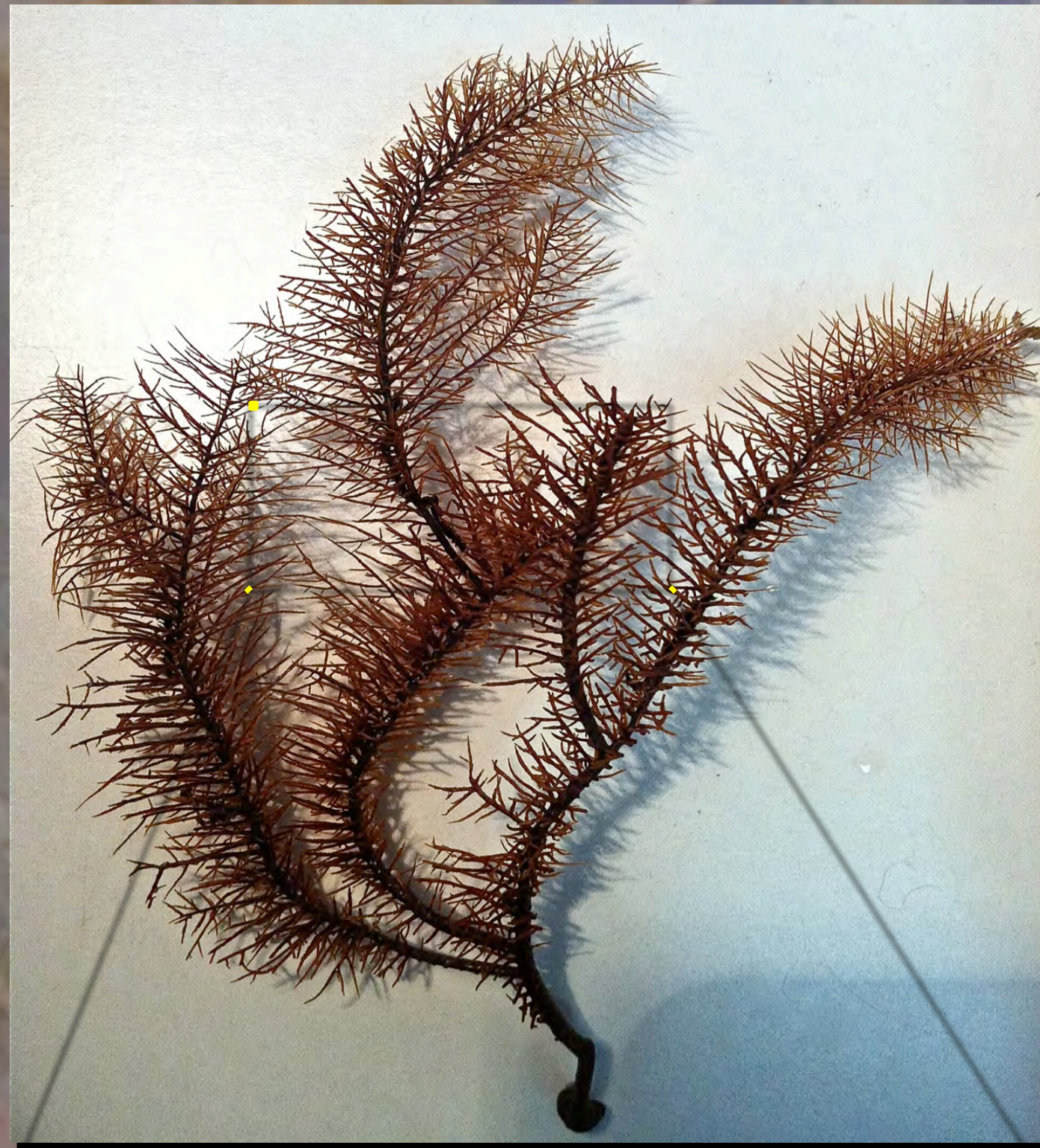
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The Polynoidae include more than 200 species of symbiotic polychaete species involved in about 550 relationships. Among them, some corresponds to species reported either as non-symbiotic or as free-living, which turned to be symbionts as soon as new or more precise observations are being carried out. In this poster, we present new data on symbiotic associations of polychaetes with cnidarian hosts from the Atlantic Ocean

## *Parahololepidella greeffi* (Augener, 1918)

The species was reported as free-living from shallow waters off Sao Tomé and Cape Verde Islands. New materials found in the Museo Nacional de Ciencias Naturales of Madrid (CSIC), also from Sao Tomé, were living in association with colonies of the antipatharian *Tanacetipathes* sp. They crawled on the main stems of the plumose branches of the coral, having very similar colour.

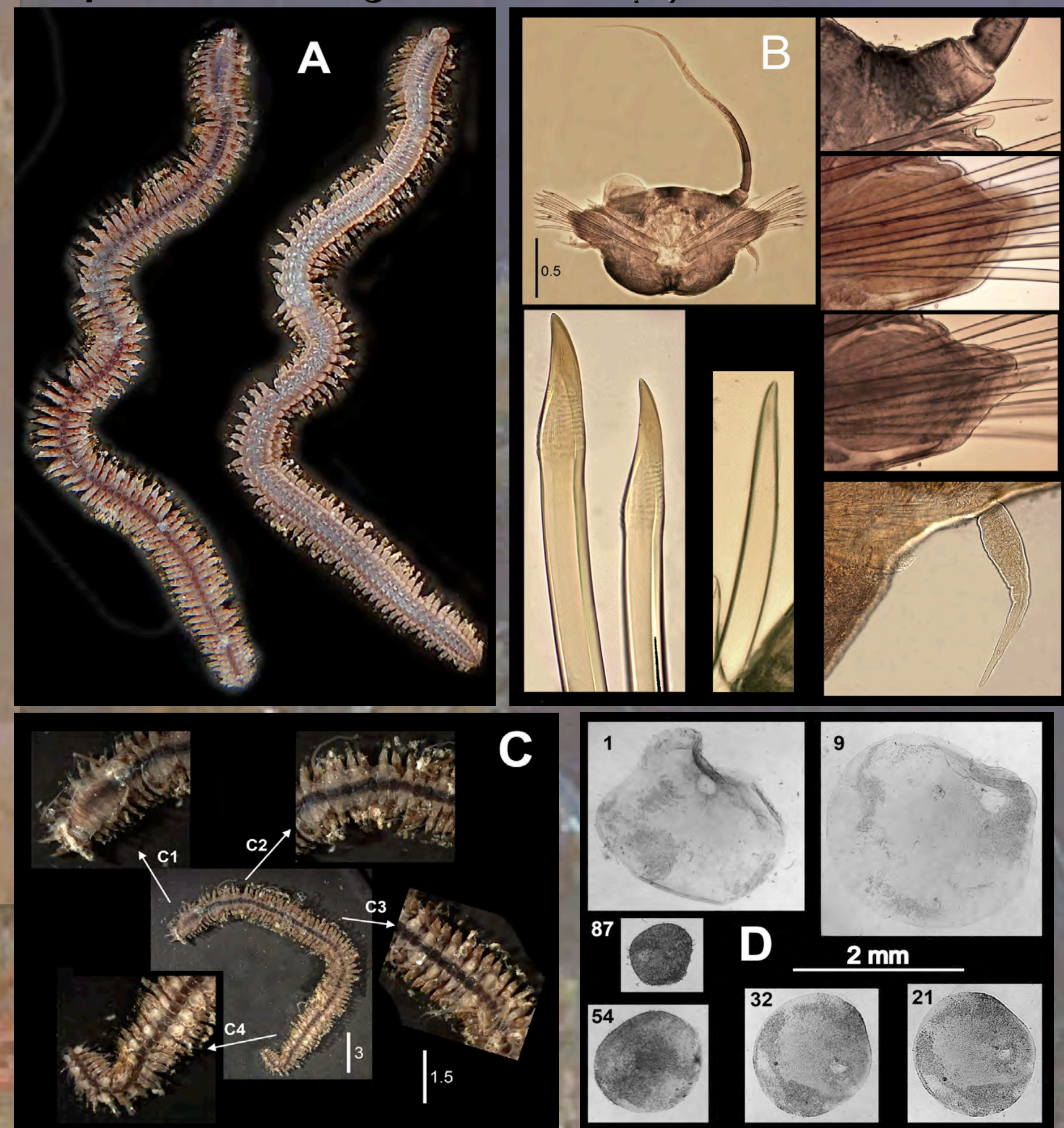
All six colonies examined harboured the polychaetes, most of them with several individuals on each colony (up to 6 in a 15x10 cm branch).



The morphology of these new specimens agrees well with the original description, except in the distribution of elytra after chaetiger 32.

The finding of new, complete specimens allowed to describe the shape and distribution of the elytra along the body, as well as to provide a precise diagnosis of both the genus and the species.

The figures present dorsal and ventral view of a large adult (A), the details of mid-body parapodia (B), the morphological details of a juvenile (C), and the elytral sequence from segment 1 to 87 (D).



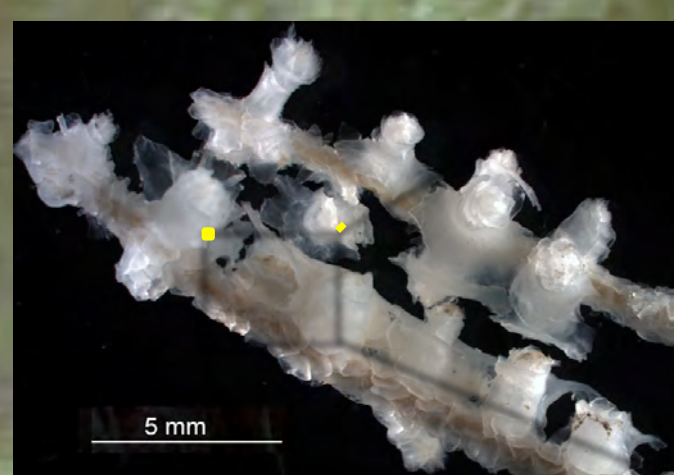
## *Gorgoniapolynoe caeciliae* (Fauvel, 1913)

The association between *G. caeciliae* and the deep sea Alcyonacea *Candidella imbricata* and *Corallium niobe* has been found in cruises of the INDEMARES project (07/NAT/E/000732), from 1288 to 1585 m depth in the Galicia Bank (NW Iberian Peninsula, 42° 27,7' - 58,4'N 11° 55,9' - 12° 3,8'W, *C. imbricata*) and Avilés Canyon (Bay of Biscay, 44° 1,5'N - 5° 42,9'W, 928 m depth, *C. niobe*).

In *C. imbricata*, the worm occurs inside galleries formed by highly modified sclerites. This finding represents the first mention of the association for the Spanish coasts. In *C. niobe*, the worm was found inside galleries in the main shaft of the branches, where it induced significant changes in their shape.

on *Candidella imbricata*

on *Corallium niobe*



## Polychaete species associated to antipatharians

Family	Species	Host	References
EUNICIDAE	<i>Eunice antipathum</i>	(Portualès)	<i>Distichopathes filix</i> 1,2
EUNICIDAE	<i>Eunice antipathum</i>		<i>Elaopathes abietina</i> 1,2
EUNICIDAE	<i>Eunice kristiani</i>	Hartmann-Schröder	<i>cf. Antipathes cylindrica</i> 1,2
EUNICIDAE	<i>Eunice marianae</i>	Hartmann-Schröder	<i>cf. Antipathes cylindrica</i> 1,2
POLYNOIDAE	<i>Antipathipolyeunoa nuttingi</i>	Pettibone	<i>Tanaecipathes tanacetum</i> 3,4
POLYNOIDAE	<i>Bayerpolynoe floridensis</i>	Pettibone	<i>Stylopathes columnaris</i> 3,4
POLYNOIDAE	<i>Benhamipolynoe anthipathicola</i>	(Benham)	<i>Parantipathes tenuispina</i> 5,6
POLYNOIDAE	<i>Benhamipolynoe anthipathicola</i>		<i>Stylopathes columnaris</i> 4,5,6
POLYNOIDAE	<i>Brychionoe karenae</i>	Hanley & Burke	<i>Leiopathes</i> sp. 7
POLYNOIDAE	<i>Eunoe purpurea</i>	Treadwell	<i>Bathypathes cf. alternata</i> 8
POLYNOIDAE	<i>Neohololepidella anthipathicola</i>	Hartmann-Schröder	<i>Elatopathes abietina</i> 2,9
POLYNOIDAE	<i>Neohololepidella anthipathicola</i>		<i>Distichopathes filix</i> 2,9
POLYNOIDAE	<i>Parahololepidella greeffi</i>	(Augener)	<i>Tanacetipathes</i> sp. 10
POLYNOIDAE	<i>Tottonpolynoe symantipatharia</i>	Pettibone	<i>Parantipathes</i> sp. 3
SYLLIDAE	<i>Bollandiella anthipathicola</i>	(Glasby)	<i>Antipathes</i> sp. 2,11,12

1) Hartmann-Schröder & Zibrowius 1998; 2) Molodtsova & Budaeva 2007; 3) Pettibone 1991; 4) Wagner et al. 2012; 5) Pettibone 1970; 6) Pettibone 1989; 7) Hanley & Burke 1991; 8) Barnich et al. 2013; 9) Molodtsova & Budaeva 2007; 10) Britayev et al. (this poster); 11) Glasby 1994; 12) Glasby & Krell 2009.

Our findings represent the first reports of the association of 1) *P. greeffi* with antipatharians and 2) *G. caeciliae* on *C. imbricata* for the Spanish coast. The symbioses of polychaetes with antipatharians currently involve 12 species participating in 15 associations.