NEW RECORDS OF HYDROPOLYPS (CNIDARIA, HYDROZOA) FROM SOUTH-WESTERN ATLANTIC OCEAN

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New records of hydropolyps (Cnidaria, Hydrozoa) from South-western Atlantic Ocean.– Eight hydroid species found in different sectors of the Argentine continental shelf are analyzed. Descriptions, measurements and illustrations for the new subantarctic records are shown: *Opercularella belgicae* (Hartlaub, 1904) (Leptomedusae, Campanuliniidae), *Campanularia agas* (Cornelius, 1982) and *Clytia hemisphaerica* (Linnaeus, 1767) (Leptomedusae, Campanulariidae). *Filellum antarcticum* (Hartlaub, 1904) (Leptomedusae, Lafoidea), *Synthecium robustum* Nutting, 1904 (Leptomedusae, Syntheciidae) and *Eudendrium ramosum* (Linnaeus, 1758) (Anthomedusae, Eudendriidae) are first records in the Argentine biogeographical province; whereas *Plumularia insignis* Allman, 1883 (Leptomedusae, Plumulariidae) and *Bougainvillia ramosa* (Van Beneden, 1844) (Anthomedusae, Bougainvilliidae) extend their distributions towards the north of the Argentine continental shelf.

Key words: Cnidaria, Hydropolyps, Distribution, Systematic, Argentine.

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INTRODUCTION

Until the sixties the hydroid fauna of South-western Atlantic Ocean was poorly known. The few studies published on this subject were based on samples of French, British and Russian expeditions, which only occasional material collected from Magellanic biogeographical province (subtemperate cold subregion), in the subantarctic. The hydroids from the northern sector of the continental shelf (Argentine biogeographic province or subtemperate warm subregion) remained unknown.

Studies of benthic hydroids from the entire subantarctic region began in the early sixties, mainly through the works of Blanco (ZAMPONI & MIANZÁN, 1994). Many of these studies were based on small collections from restricted areas, improving the biological knowledge of the Argentine continental shelf species (BLANCO, in press), but not of their geographical distribution.

The distribution of several hydroid species in this area is getting better known through recent records (GENZANO, 1988, 1990, 1992, 1993; GENZANO et al., 1991).

In this paper eight hydroid species found in different sectors of the continental shelf are cited. Descriptions, measurements and illustrations of the new subantarctic records

are presented. Gonothecae of *Opercularella belgicae* (Hartlaub, 1904) are described for first time.

MATERIAL AND METHODS

Hydroid colonies were collected using a Picard type dredge except for colonies of *Opercularella belgicae* which were collected by scuba. Hydroids were preserved in 5% formalin for later examination.

Drawing were made with the use of a camera lucida linked to a microscope.

RESULTS

Order Leptomedusae
Fam. Campanuliniidae

Opercularella belgicae (Hartlaub, 1904) (fig.1)
Campanulina belgicae Hartlaub, 1904: 10, figs. 8, 9
Campanulina belgicae Vanhöffen, 1910: 308, fig. 28
Campanulina belgicae Ritchie, 1913: 24
Campanulina belgicae Billard, 1914: 12
Campanulina belgicae Totton, 1930: 152, fig. 9
Opercularella belgicae Naumov & Stepanjants, 1962: 77
Opercularella belgicae Blanco, 1984: 11, figs. 16, 17, 18, 19

Collection record
8 X 93, Mar del Plata Harbor 38°08'S-57°31'W, depth 2.5 m.

Description
Abundant colonies attached to colonies of *Bicelariella* sp. (Bryozoa).

Colony erect with few stems branching sympodically.

The majority of hydrothecae have peduncles shorter than hydrotheca and not markedly demarcated from it, with occasional nodes immediatly above origins of hydrotheca.

Hydrotheca oval-shaped, thick with diaphragm incompletely developed. The operculum has between 8 and 10 flaps. Hydranths with tentacles which vary in number (14 to 17).

Gonophores
There are no previous reports on the gonophores of this species.

The colonies showed few immature and imperfectly preserved gonophores arising from hydrorhiza on short and annulated pedicels. Gonothecae are small, smooth, elongated, tapering below and truncate

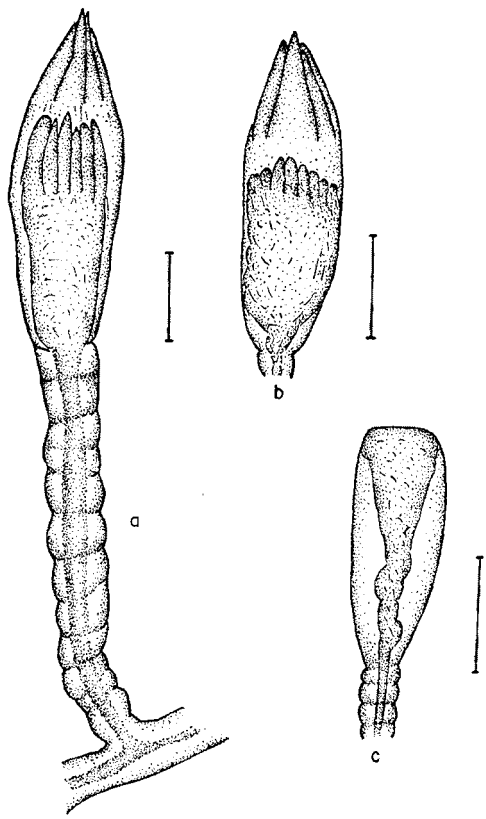


Fig. 1. *Opercularella belgicae* (Hartlaub, 1904): a, b. Hydrotheca; c. Gonotheca. (Scale bar 0.1 mm).

Opercularella belgicae *(Hartlaub, 1904): a, b. Hidroteca; c. Gonoteca. (Escala 0,1 mm).*

Table 1. Main measurements (mm) of *Opercularella belgicae* (Hartlaub, 1904), *Campanularia agas* (Cornelius, 1982) and *Clytia hemisphaerica* (Linnaeus, 1767).

Principales medidas (mm) de Opercularella belgicae *(Hartlaub, 1904),* Campanularia agas *(Cornelius, 1982) and* Clytia hemisphaerica *(Linnaeus, 1767).*

	n	$\bar{x}$	s. d.	Range
Opercularella belgicae				
Stolon				
diameter	10	0.053	0.013	0.040-0.078
Pedicel				
length	14	0.210	0.120	0.060-0.400
diameter	19	0.055	0.008	0.039-0.070
Hidrotheca				
length	28	0.284	0.052	0.220-0.390
diameter	28	0.109	0.015	0.090-0.140
Gonotheca				
length	7	0.216	0.018	0.190-0.240
diameter	7	0.990	0.018	0.085-0.109
Campanularia agas				
Pedicel				
diameter	7	0.074	0.016	0.058-0.120
Hydrotheca				
length	7	0.990	0.117	0.890-1.200
diameter (over all margin)	7	0.631	0.083	0.540-0.716
Clytia hemisphaerica				
Pedicel				
diameter	15	0.140	0.024	0.120-0.180
Hydrotheca				
length	15	1.800	0.250	1.300-2.200
diameter (over all margin)	15	1.000	0.150	0.800-1.300

above. Measurements are summarized in table 1.

Remarks

The genus *Opercularella* includes species that produce fixed sporosacs and also some species with unknown gonophore, which were provisionally included into the genus.

Descriptions are incomplete because the gonothecae found were scarce and immature. The generic name is thus still provisional pending on a better knowledge of the gonophore.

The specimens analyzed show no differences in size with the original description of HARTLAUB (1904) (judging from his magnified figure) nor with the Antarctic specimens reported by BLANCO (1984).

Distribution

This species is common in the Antarctic (VANHÖFFEN, 1910; RITCHIE, 1913; BILLARD, 1914; TOTTON, 1930; STEPANJANTS, 1979; BLANCO, 1984) and it has also been found in South-eastern Pacific Ocean (Chile, LELOUP, 1973) and East of

Kerguelen (49°28'S-70°47'E, 650 m, MILLARD, 1977).

This is the first record for the South-western Atlantic Ocean.

Fam. Campanulariidae

Campanularia agas (Cornelius, 1982) (fig. 2)
Campanularia laevis Hartlaub, 1905: 565, fig. pl
Campanularia laevis Vervoort, 1972: 85, fig. 25a-c
Campanularia laevis Leloup, 1973: 12, fig. 9
Campanularia agas Cornelius, 1982: 54

Collection record
Survey OB 06/87, 7 VI 87, station 3, 38°29'S-56°43'W, depth 74 m. Survey H-0693, 20 VII 92, station 43, 37°33'S-56°17'W, depth 60 m.

Description
The material consists of abundant colonies, unbranched and without gonothecae.

The primary pedicel of about 12 mm length, born on a thick hydrorhiza creeping on tubes of Polychaeta. The pedicel has no annulations on origin from hydrorhiza, but it has three or four rings just under the hydrotheca and a single well marked spherule below the theca.

Hydrotheca of very variable size, deep and cylindrical. The margin has 12-16 (usually 14) square-topped teeth (length 0.048-0.071 mm), separated by rounded incisions. Measurements are summarized in table 1.

Remarks
CORNELIUS (1982) proposed the name *Campanularia agas* for the Hartlaub species, because *Campanularia laevis* Hartlaub, 1905 is a junior homonym of *Campanularia laevis* Couch, 1844.

The material described by VERVOORT (1972) and LELOUP (1973) as *C. laevis* is in fact *C. agas*; but the description of *C. laevis* of HICKSON & GRAVELY (1907), VANHÖFFEN (1910) and RITCHIE (1913) must be considerated as *Campanularia hicksoni* (Totton, 1930) (TOTTON, 1930; BLANCO, 1984).

Under these synonyms, *C. hicksoni* has an circumantarctic distribution (BLANCO, 1984) while *C. agas* has a South-west Atlantic and South-east Pacific distribution (Argentine and Chile).

Distribution
Campanularia agas was originally recorded from the coast of Chile (Calbuco, 41°S and 71°W, HARTLAUB, 1905; LELOUP, 1973), and Strait of Magellan (53°23'S and 70°54'W, VERVOORT, 1972). The present record is the first one for the Argentine biogeographic province.

Clytia hemisphaerica (Linnaeus, 1767) (fig.3)
Medusa hemisphaerica Linnaeus, 1767: 1098
Laomedea gracilis M. Sars, 1851: 138
Clytia gracilis Millard, 1957: 196; Millard, 1958: 172, figs. 3B, 3E, 3G
Clytia johnstoni Ralph, 1957: 820; Millard, 1958: 172, figs. 3A, 3D, 3F
Phialidium hemisphericum Russell, 1953: 285, figs. 172-179
Clytia hemispherica Rees & Thursfield, 1965: 95
Clytia hemisphaerica Millard, 1966: 478, figs. 14A-F; Leloup, 1973: 14
Laomedea (Phialidium) pelagica Vervoort, 1968: 15, fig. 5
Clytia gigantea Leloup, 1973: 13, fig. 12

Collection record
Survey OB 05/88, 16 X 88, stations 42, 46°39'S-66°00'W, depth 79 m; station 43, 46°43'S-66°12'W, depth 79 m.

Description
Abundant colonies without gonophores, growing on the bivalve *Chlamys patriae* were analyzed.

Branched stolon of 0.17 mm in diameter. Hydrothecal pedicel irregularly branching and annulated at the base (12 annulations) and at the distal end (3-5 annulations).

Hydrotheca deep-campanulate, with almost parallel sides, margin with 8-14 square-topped teeth (length 0.065-0.089 mm). Diaphragm straight and distinctly demarcated, separating a deep basal chamber. Hydranth with 22 tentacles. Measurements are summarized in table 1.

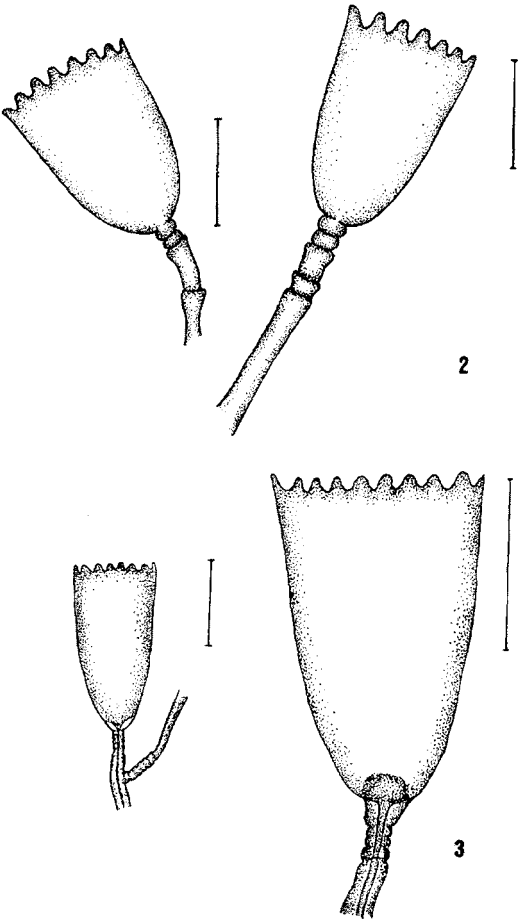
There are no differences between this material and that described by LELOUP (1973) as *Clytia gigantea* (Hincks, 1866), from South-east Pacific (Chile).

Remarks

According with CORNELIUS (1982) "two factors have contributed to the profusion of redescriptions of this species and consequent number of synonyms: it is nearly cosmopolitan, and it is highly variable".

Distribution

Cosmopolitan. This record is the first from Argentina continental shelf.



Figs. 2-3. Hydrotheca of: 2. *Campanularia agas* (Cornelius, 1982); 3. *Clytia hemisphaerica* (Linnaeus, 1767). (Scale bars 2: 0.5 mm; 3: 1 mm).

Hydroteca de: 2. Campanularia agas *(Cornelius, 1982); 3.* Clytia hemisphaerica *(Linnaeus, 1767). (Escalas 2: 0,5 mm; 3: 1 mm).*

Fam. Lafoidea

Filellum antarticum (Hartlaub, 1904)
Lafoea antarctica Ritchie, 1904: 11, pl. 2, fig. 2
Reticularia antarctica Totton, 1930: 160, fig. 17
Filellum antarcticum Millard, 1975: 177, figs. 58G-H

Collection record
Survey OB 02/87, 13 III 87, station 4, 38°45'S-56°13'W, depth 87 m. Survey 0B 04/87, 6 V 87, station 4, 38°44'S-56°13'W, depth 87 m.

Remarks
All the material was growing on tubes of polychaetes.

Distribution
All previous records are from Antarctic and Subantarctic waters (Chile, Australia and Antartida, MILLARD, 1975). In the South-western Atlantic Ocean this species was found in Malvinas Islands and Burdwood Bank (BLANCO, in press).

This is the first record for Argentine biogeographic region.

Fam. Syntheciidae

Synthecium robustum Nutting, 1904
Synthecium robustum Nutting, 1904: 136, pl. 41, figs. 4-6
Synthecium chilense Hartlaub, 1905: 67, figs. E, F, G
Synthecium robustum Ritchie, 1907

Collection records
Survey OB 02/87, 13 III 87, station 3, 38°28'S-56°44'W, depth 76 m; station 4, 38°45'S-56°13'W, depth 87 m. Survey OB 04/87, 5 V 87, station 4, 38°45'S-56°13'W, depth 87 m. Survey OB 06/87, 7 VII 87, station 3, 38°29'S-56°43'W, depth 74 m. Survey OB 04/88, 9 X 88, station 4, 38°11'S-57°12'W, depth 84 m.

Distribution
Species very frequent in South-western Atlantic, into the subtemplate cold subregion (Magellanic biogeographic province) (VERVOORT, 1972; BLANCO, 1976; BLANCO & REDOLATTI, 1978; STEPANJANTS, 1979). This is the first record out of this subregion.

Fam. Plumulariidae

Plumularia insignis Allman, 1883
Plumularia flabellum Allman, 1883: 19, pl. 1
Plumularia insignis Allman, 1883: 21, pl. 2
Plumularia abietina Allman, 1883: 21, pl. 3
Plumularia insignis var. *flabellum* Billard, 1910: 34, fig. 15
Plumularia insignis var. *abietina* Billard, 1910: 35
Plumularia sp. Naumov & Stepanjants, 1962: 99, fig. 19

Collection record
Survey OB 02/87, 13 III 87, station 6, 39°20'S-55°11'W, depth 507 m.

Distribution
Plumularia insignis is a deep water species (100-600 m) known from Prince Edwards Island, Marion Island, Kerguelen and Heard Islands and East Indies (BILLARD, 1910; NAUMOV & STEPANJANTS, 1962; MILLARD, 1977).

STEPANJANTS (1979) mentioned *P. insignis* from the Subantarctic region off Patagonia (680 m) without indicating the exact place of the record.

Order Anthomedusae
Fam. Bougainvilliidae
Bougainvillia ramosa (Van Beneden, 1844)
Eudendrium ramosum Van Beneden, 1844: 57, pl. 4, figs. 10-13
Bougainvillia ramosa Allman, 1872: 311, pl. 9, figs. 1-2
Bougainvillia ramosa Blanco, 1988: 97, figs 1-2

Collection record
San Clemente Stream, Samborombóm Bay, 26 II 92, 36°18'S-56°47'W, depth 2 m.

Distribution
This species has a cosmopolitan distribution with only two records from the Subantarctic region, BLANCO (1988) mentioned the polyp forms from Blanca Bay (38°40'S-61°40'W) whereas the medusae forms were found in Mar del Plata, 37°08'S-57°31'W and between 41°08'S, 42°19'S and 60°57', 62°51'W (RAMIREZ & ZAMPONI, 1980, ZAMPONI, 1983).

This record extends the distribution of the polyps toward the north into the San Clemente brook (Bahía Samborombón) where salinity is very low (9.3-13.3%).

Fam. Eudendriidae

Eudendrium ramosum (Linnaeus, 1758)
Tubularia ramosa Linnaeus, 1758: 804
Eudendrium ramosum Allman, 1872: 332, pl. 13
Eudendrium ramosum Millard, 1975: 85, figs. 31A-D

Collection record
Survey OB-02/87, 13 III 87, station 6, 39°20'S-55°11'W, depth 507 m (on an undetermineted gorgonacean). Survey OB-04/88, 9 X 88, station 2, 38°15'S-57°05'W, depth 59 m (on the sponge *Tedania* sp.).

Distribution
Wide distribution in North Atlantic, Arctic, Mediterranean, Scheylles, South Africa (MILLARD, 1975) and Antarctic region (BLANCO, 1984). Recorded in South-western Atlantic for the Magellanic biogeographic province, 44°48'S-65°30'W (GENZANO et al., 1991).

This is the first record in the Argentine biogeographic province.

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