

# Ceriantharia (Cnidaria: Anthozoa) from the Faroe Islands

Koraldýrini Ceriantharia í føroyskum sjóðki

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## Úrtak

Í greinini verður greitt frá um ceriantariu-ormar í føroyskum havðki og í grannahøvum. Í BIOFAR tilfarinum vóru tvey sløg av botntengdum ceriantariu-ormum: *Cerianthus vogti* Danielssen, 1890, ið fyrr er funnin í Føroyum, og so eitt minni slag *Botrucnidifer norvegicus* Carlgren 1912, sum higartil bert er funnið í Tróndheimsfjørðinum. Eitt triðja slag, sum áður er funnið í Føroyum: *Arachnactis albida* M. Sars, 1846, var ikki í BIOFAR tilfarinum. Ein neyv lýsing av *Cerianthus vogti* Danielssen, 1890 er eisini gjørd.

## Abstract

The cerianthid fauna from the Faroe Islands and adjacent regions is described and the taxonomy and systematics for the area is provided based on the BIOFAR samples. In the BIOFAR samples, two species of benthic cerianthids were found: *Cerianthus vogti* Danielssen, 1890, already reported from the Faroes; and a dwarf cerianthid, *Botrucnidifer norvegicus* Carlgren 1912, previously recorded from the Trondheim Fjord (Norway) only. The third species reported from the Faroe Islands - the planktonic larvae *Arachnactis albida* M. Sars, 1846 - was not found in the BIOFAR samples. The diagnosis of *C. vogti* Danielssen, 1890 is given.

## Previous investigations

Our knowledge about cerianthids from the Faroe Islands is not very extensive. Only a few papers deal with cerianthids from this region. The main reason for this lack of information is not due to the rareness of cerianthids in the North Atlantic. Conversely, in some habitats cerianthids are among the predominating groups (Molodtsova and Malakhov, 1995; Jensen, 1992). However, due to their strong longitudinal musculature, cerianthids are able to contract quickly and hide themselves immediately in the recesses of long vertical tubes, so that it is very hard to collect them by such traditional gear as trawls and drags. Moreover, it is almost impossible to use underwater photos for determination of cerianthids, because of the high uniformity of their external appearance. The colour patterns of the bodies and tentacles of cerianthids are very variable and their smooth bodies have no additional structures suitable for distinguish-



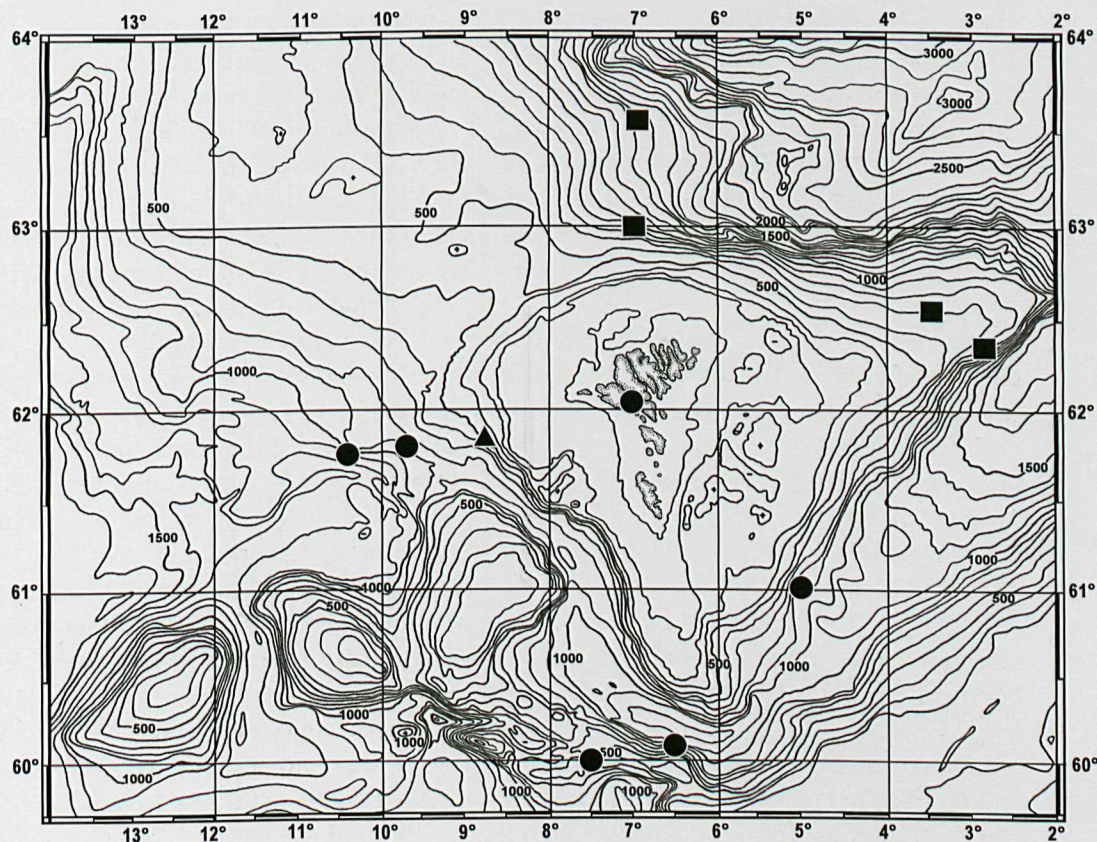


Fig.1. Records of *Cerianthus vogti* Danielssen, 1890 (filled square), *Botrucnidifer norvegicus* Carlgren, 1912 (filled circle) and *Arachnactis albida* M. Sars, 1846 (filled triangle) from the Faroe Islands.

ing between species, as with, for example, the verrucae or marginal sphaerulae of sea anemones. Thus, anatomical analysis is the only method available to make a reliable determination

The history of investigations in the Faroese Fishery Territory was exhaustively recited by Brattegaard and Meland (1997). In the present paper, we consider the history of investigations of cerianthid fauna from the Faroe Islands only.

Up to 1942, only the planktonic larva *Arachnactis albida* M. Sars, 1846 had been reported from the region. This larva was first described as a separate species in the middle of the 19<sup>th</sup> century off Florøe Isl. and later repeatedly recorded from the Norwegian Sea, the North Sea, the Mediterranean, the Faroes, the Irish Sea and adjacent regions of the North Atlantic. An exhaustive morphological description of *A. albida*, from preserved material, was given by Ed.



van Beneden (1897; 1923), Carlgren (1906; 1912) and Bourne (1919), but so far no one has been able to trace the development of this larva and establish its benthic stages. Mature gonads were found several times in the mesenteries of *Archnactis albida* and the hypothesis of paedogenesis was extensively discussed (Bourne, 1919; Leloup, 1954).

*Archnactis albida* was first recorded from the Faroe Islands in 1889, when Boveri reported it from the Faroe Channel (*Triton*, 1882). The same larva was reported off the Wyville-Thompson Ridge in 1895, (Vanhöffen, 1895), from the Faroe Channel in 1897 (Fowler, 1897) [*Research*, 1895-1897], and then, in 1906, by Carlgren (1906) [*Ingolf*, 1895-1896]. In 1942, Leloup reported *A. albida* south of the Faroe-Shetland Channel and, in 1954, from the Faroe Channel.

In 1942, in a review of Anthozoa distribution, Carlgren briefly mentioned the only adult form known from the Faroes – *Cerianthus vogti* Danielssen, 1890, collected by the "Ingolf" Expedition (St. 138) at a depth of 887 m. The species was reported north of the Faroes and has never been recorded again from the region.

### Material and results

The present study is based on the BIOFAR benthic samples taken in 1987-1993. The cerianthids were found only at five stations.

All cerianthids from the BIOFAR samples were determined in conformity with common practice: the preserved specimens were dissected longitudinally, laid open,

fastened with pins to a paraffin wax plate and the arrangement and structure of the mesenteries were studied.

The results of the original studies of the BIOFAR materials, as well as data from the literature, are summarised in the taxonomy list systematics below. For each species in the list the following information is given: valid name with author and publication year; synonymy list; reference to a good description of the species; previous records from the Faroe Islands; the BIOFAR station numbers where it has been found; area description; depth range; temperature range of near bottom water (for benthic species); notes on the distribution and the depth range in the Atlantic Ocean with references to corresponding monographs and papers. Additionally, for *Cerianthus vogti* Danielssen, 1890 the diagnosis of the species is provided, since the characteristics crucial for the determination of the species were totally absent in previous descriptions.

### Order CERIANTHARIA

#### Suborder SPIRULARIA

#### Family CERIANTHIDAE

#### Genus *Cerianthus* Delle Chiaje, 1830

#### *Cerianthus vogti* Danielssen, 1890 (fig. 1, fig.

2. a – b)

Synonyms: *Cerianthus abyssorum* Danielssen (1890)

Good description: None.

Previous records: Danish-Ingolf Expedition St. 138 (Carlgren, 1942).

BIOFAR stations: 459, 768, 772, 9012.

Area: deep waters north of the Faroe Islands and Faroe-Shetland Channel.

Depth range: 800-1022 m.

Temperature: -0.5 °C – -0.85 °C.

Atlantic distribution: the Faroe Islands, Norwegian Sea, east of Iceland.

Atlantic depth range: 600-2926 m (Danielssen, 1890,



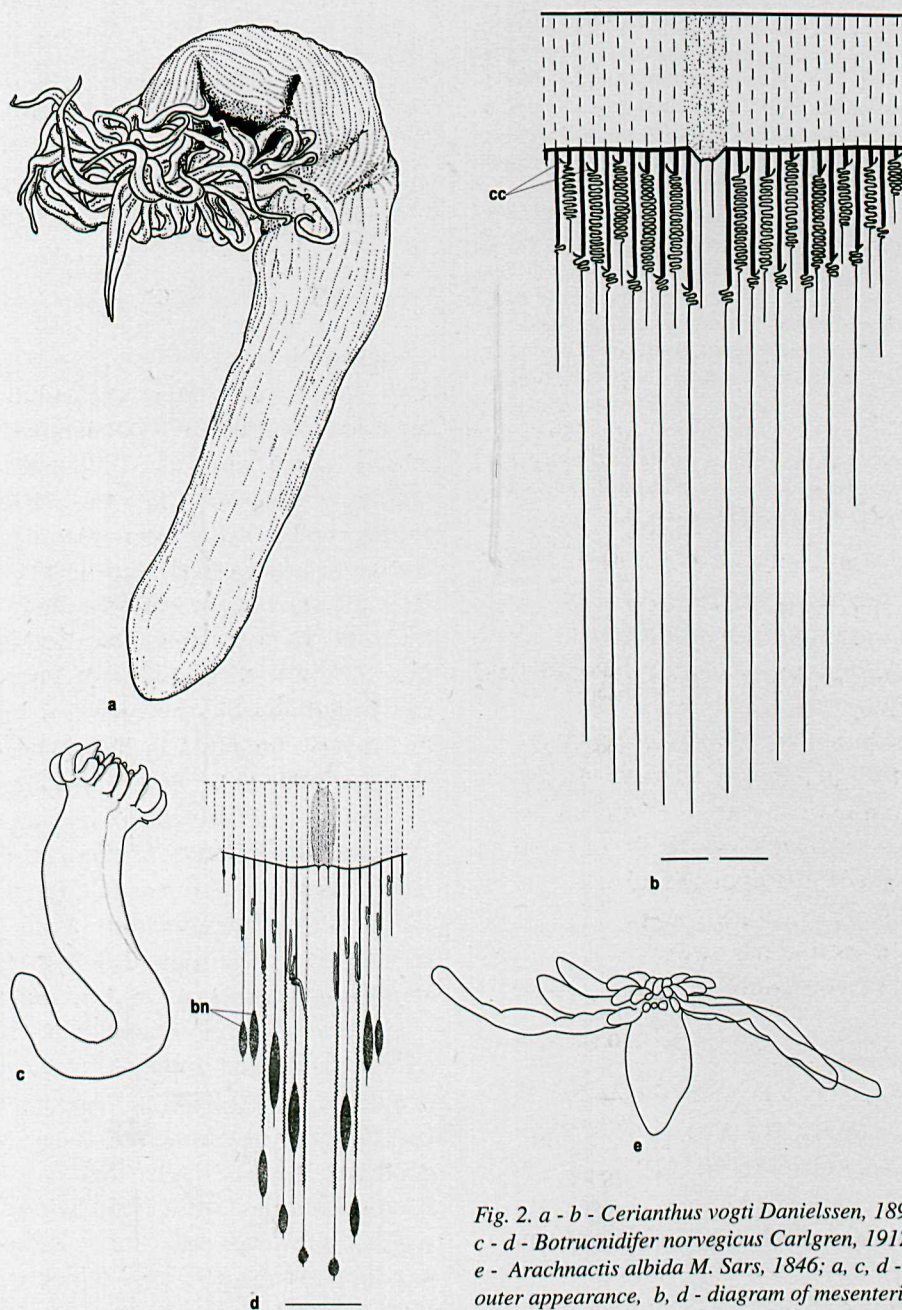


Fig. 2. a - b - *Cerianthus vogti* Danielssen, 1890  
 c - d - *Botrucnidifer norvegicus* Carlgren, 1912  
 e - *Arachnactis albida* M. Sars, 1846; a, c, d -  
 outer appearance, b, d - diagram of mesenteries  
 arrangement.



Carlgren, 1912, Jensen, 1992).

Diagnosis (according to Carlgren, 1912; Molodtsova, 2001): medium-sized species with up to 40 marginal tentacles and about the same number of labial tentacles. Marginal tentacles are arranged in at least 2 cycles, set very close together. Labial tentacles are in 4 cycles. A directive labial tentacle is present. Siphonoglyph narrow, hyposulcus distinct, but small. Protomesenteries 2 and fertile metamesenteries (*M*- and *m*-) reach to the aboral pole of the gastral cavity and consist of three regions: ciliated tract, cnidoglandular tract and craspedion. Protomesenteries 3 are about 1/3 of the gastral cavity and consist of a rather short ciliated tract region and well-developed cnidoglandular tract. Sterile metamesenteries (*B*- and *b*-) have the same structure as protomesenteries 3 and differ in length from each other in the same quartet of metamesenteries. In the aboral end of the ciliated tract region of all mesenteries, but directives, there is a short single craspedoneme, which sometimes could be masked by the dense cnidoglandular plexus.

#### Family BOTRUCNIDIFERIDAE

Genus *Botrucnidifer* Carlgren, 1912

***Botrucnidifer norvegicus*** Carlgren, 1912 (Fig. 1, Fig. 2. c – d)

Good description: Carlgren (1912: 30-34).

Previous records: None.

BIOFAR stations: 532; 783 (den Hartog: personal communication).

Area: Faroe-Shetland Channel.

Depth range: 260-396 m.

Temperature: 6.80 °C.

Atlantic distribution: Norwegian Sea, Trondheim Fjord.

Atlantic depth range: 50-400 m (Carlgren, 1912, 1931).

Remarks: all specimens of this species were found among colonies of ahermatipic corals and gorgonians (Carlgren, 1912).

#### Suborder PENICILLARIA

#### Family ARACHNACTIDAE

Genus *Arachnactis* M. Sars, 1946

***Arachnactis albida*** M. Sars, 1846 (fig. 1, fig. 2 e)

Synonyms: *A. Lo Biancoi* van Beneden (1923).

Good description: Carlgren (1906); van Beneden (1923).

Previous records: (Sars, 1846; Vanhöffen, 1895;

Carlgren, 1906; Leloup, 1942, 1954).

BIOFAR stations: None.

Area: south and south-west of the Faroe Islands, Faroe-Shetland Channel, Wyville-Thompson Ridge.

Depth range: 0-100 m.

Temperature: not known.

Atlantic distribution: Norwegian Sea, North Sea, Irish Sea, English Channel, Mediterranean Sea (Carlgren, 1906; Leloup, 1929, 1931, 1960).

Atlantic depth range: pelagic: 0-1000 m.

Remarks: planktonic larvae, bottom stage is unknown.

#### Conclusion

Two species of benthic cerianthids were recorded from the BIOFAR samples: *Cerianthus vogti* Danielssen, 1890 and *Botrucnidifer norvegicus* Carlgren, 1912. The former had already been recorded from the Faroe Islands (Carlgren, 1942), but the later species was recorded for the first time from the Faroe Islands. This was also the first time it had been recorded outside of the Trondheim Fjord (Norway). Probably this dwarf cerianthid is distributed in the North Atlantic more widely than previously thought. Remarkably, *B. norvegicus* was always found in colonies of ahermatipic scleractinians and gorgonians (Carlgren, 1912; 1931). Further investigations of this species are needed to determine if *B. norvegicus* is an obligate commensal of deep sea corals.

*Cerianthus vogti* Danielssen, 1890 is widely distributed in the Northern Atlantic at a depth of 600-2800 m. Apparently, the vast majority of cerianthids found at these depths in the Norwegian Sea, around the Faroe Islands and off Iceland belong to this species. However we cannot exclude the possibility of the discovery of new deep sea species in the above-referenced area mentioned area.



Among the BIOFAR samples, there were no specimens of shallow-water species *Cerianthus lloydii* Gosse, 1859 common in North Atlantic and Russian Arctic seas (Molodtsova and Malakhov, 1995). This species, as well as its planktonic larva, known as *Synarachnactis bournei* (Fowler, 1897), has never been recorded from the Faroe Islands. There is no explanation, however, for its absence in the region. It is likely that this species will be found in the area around the Faroe Islands in the future at a depth of 100-150 m.

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