POLYCHAETES OF THE FAMILIES GLYCERIDAE, GONIADIIDAE AND NEREIDIDAE FROM THE NORTH ATLANTIC AROUND THE FAROES, TOGETHER WITH A DESCRIPTION OF A NEW SPECIES OF RULLIERINEREIS (NEREIDIDAE)

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Fourteen species of polychaetes from the families Glyceridae, Goniadidae and Nereididae were found in the BIOFAR material from the area around the Faroes at 20-2420 m depth. One species new to science, Rullierinereis faroensis, was obtained by the R/V Dana, south of the Faroes at 100 m depth. Six of the other species are new to the Faroes. The existence of two different water masses, Arctic water coming from north and east and Atlantic water coming from south, partly explain the distribution of the species.

Contribution from the BIOFAR project.

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KEYWORDS: Polychaetes; Faroes; deep water.

INTRODUCTION

The present paper is based mainly on material obtained by the BIOFAR programme during 1987-1990 and treats species belonging to the three polychaete families Glyceridae, Goniadidae and Nereididae. In addition material collected by R/V Dana in 1961, south of the Faroe Islands, has been included. The material comprised 15 species from the three families, one new to science, only 8 of which were previously known from the Faroes (DITLEVSEN 1929). DITLEVSEN (1929) also found two species which were not present in the BIOFAR material: Hediste diversicolor (O.F. MÜLLER, 1776) (as Nereis diversicolor) and Platynereis dumerilii (AUDOUIN & MILNE EDWARDS, 1834) (as Nereis dumerilii). The differences between earlier collections and the BIOFAR material are surely due to the much deeper samples taken by BIOFAR and also to the finer mesh size: ½ mm versus 1 mm in earlier samples. In the 1929 publication of Ditlevsen, only material from littoral and sublittoral zones was treated, whereas the BIOFAR material was sampled at depths of 20-2420 m, mostly between 100 and 1000 m.

Around the Faroes two different water masses meet (WESTERBERG 1990). This gives interesting information on the reasons for the distribution of the different polychaete species. North and east of the Faroes is the Arctic water, with temperatures below 0 °C at the bottom. This water mass comes from the Norwegian Basin and goes through the Faroe-Shetland Channel into the Faroe Bank Channel. The other water mass is the Atlantic water, which comes from south and southwest and gives high temperatures, 8-9 °C, on the banks southwest of the Faroes (Faroe Bank, Bill Bailey’s Bank and Lousy Bank) and on an area between 100 and 200 m southwest of the Faroe Islands. The remaining area around and close to the Faroe Islands, with depths between 300 m and the littoral zone, has bottom temperatures between 6 and 8 °C.

MATERIAL AND METHODS

A description of sampling methods, treatment of material and a station list are given in NØRREVANG & al. (1994). The material given to me was kept in tubes of 80 % ethyl alcohol after initial fixation in 4 % formaldehyde solution. It was studied using a Wild M8 stereo microscope with magnification 6x-50x (zoom); slide preparations were examined using a Kyowa compound microscope (10x, 20x, 40x and 100x objectives and 10x oculars). Preparations for permanent slides were dehydrated in absolute alcohol and mounted in Euparal. Drawings were made by the staff artist at the Zoological Museum, University
of Copenhagen (ZMUC) using a drawing tube. Scales for drawings of parapodia were made by placing the permanent slide with the figured parapodium on a stage micrometer (1/100 mm) and measuring the distance between two fixed points on the drawing. Specimens in alcohol were measured by placing them over a ruler and measuring to the nearest 1 mm. Most of the examined material is kept in the collections of the Natural History Museum, Torshavn (NHMT); a few specimens have been retained for the Zoological Museum, University of Copenhagen (ZMUC). These have a catalogue number, the material kept in NHMT has not.

SYSTEMATIC PART

Family Glyceridae GRUBE, 1850
Genus Glycera SAVIGNY, 1818
Glycera alba (O.F. MÜLLER, 1776)

Remarks. This species is fairly easy to recognize as it has only one postsetal lobe on the parapodia and two presetal ones. Moreover, it has only two rings on the midbody segments. However, it has often been confused with Glycera lapidum, which has three rings on all segments and dorsal presetal lobes that are much shorter than the ventral ones.

G. capitata is recorded from 18 stations around the Faroes from 255-997 m depth, with temperatures from 0 to 7.9 °C. DITLEVSEN (1929) found it only at Trangisvaag on Sudero, southwest of the Faroes, and on the Faroe Bank (58-120 m).

Distribution. Arctic, North Atlantic (Iceland, Faroes, Norway (along the coast), Denmark to Portugal, Azores, Madeira, Davis Strait to Rhode Island), Mediterranean, Pacific (Japan, Alaska to Mexico), South Atlantic (West Africa), Antarctic. 1-3500 m.

Glycera lapidum QUATREFAGES, 1866 (Fig. 2)

Glycera lapidum – FAUVEL 1923:386-387, fig. 151 f-m; WESENBERG-LUND 1951:50, 175 (chart 24); KIRKEGAARD 1992:166-168, fig. 78; 1995:25.

Fig. 1. *Glycera capitata* ØRSTED, 1843. Distribution in the Faroes 253-997 m.

Fig. 2. *Glycera lapidum* QUATREFAGES, 1866. Distribution in the Faroes, 32-1319 m.
Remarks. As mentioned under Glycera capitata, *G. lapidum* has rounded postsetal lobes on the parapodia and two finger-shaped presetal lobes, of which the dorsal is much smaller than the ventral one. Moreover it has always three rings on all the segments. O’Connor (1987) describes four varieties of *G. lapidum* based on different shape of the aileron and different length of the parapodial presetal lobes. Fauvel (1923, p. 387) suggests the species to be a variety of *G. capitata* and many polychaete specialists follow him, so the distribution of *G. lapidum* is uncertain. However, I regard that O’Connor’s investigation (1987) confirms the position of *G. lapidum* as a separate species.

This species has never been recorded from the Faroes before, but has probably been confused with *G. capitata*. It has been recorded from several places in Iceland by Weisenberg-Lund (1951), mostly from shallow water, and also from Norway, Denmark and the British Islands.

*Glycera lapidum* was present at 148 BIOFAR stations all over the investigated areas, from low water close to the islands to 1300 m in the deeper part of the surroundings. Fig. 2 shows it to be common all around the Faroes in both cold and warm waters.


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Glycera rouxii Audouin & Milne Edwards, 1833


Remarks. *Glycera rouxii* can be recognized by its finger-shaped, retractile branchiae, which are placed at anterior side of the parapodia. Both presetal lobes are triangular; the dorsal postsetal lobe is also triangular with a pointed tip, the ventral one is rounded.

This is mostly a Lusitanian species, so it is interesting that it was recorded from a place southwest of the Faroes, at six stations close together, most at about 350 m (200-355 m) and with bottom temperatures about 8-9 °C (7.9-8.9 °C).

The species was previously known from the Faroes from one specimen from Trangisvág (Sudero), at 66 m. From Iceland it was reported by Einarsson (1941) from 110-140 m and by WESENBERG-LUND (1951) from seven different stations in Faxafloi from low water. It has also been recorded from the west coast of Norway (north to Lofoten, 68°30’N), but not from Greenland. In Denmark it is the most common glycerid, both in the North Sea and all inner Danish waters.

Distribution. Eastern Atlantic from Norway to South Africa, Indian Ocean, Pacific. 10-4380 m.

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Glycera tesselata Grube, 1863


Material. BIOFAR Stn 516, 6-7 °C, 1 spec. (ZMUC-POL:00350).

Remarks. *Glycera tesselata* is characterized by the lack of branchiae, by having 2 triangular, pointed presetal lobes and 2 rounded postsetal lobes, and by a characteristic aileron (jaw support) (KIRKEGAARD 1992, fig. 80).

It is remarkable to find this species so far north. It is a typical warm water species with its nearest record in the North Sea. It has never been recorded from Greenland, Iceland, the Faroes or western Norway. The present specimen was taken in the warm water coming from southwest.

Distribution. Atlantic (Faroes to West Africa, North Carolina), Indian Ocean, Pacific. 20-1500 m.

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Family Goniodidae Kinberg, 1866

Genus Glycinde Muller, 1858

**Glycinde nordmanni** (Malmgren, 1865)


Remarks. *Glycinde nordmanni* is the only species belonging to the genus *Glycine* in the North Atlantic area. It can be recognized by the lack of pharyngeal chevrons and by having only spinigers in the neuropodia.

Around the Faroes it was only recorded from the area southwest of the islands, from 150 to 405 m in fairly warm waters (4-8 °C). It has never been recorded from Iceland or Greenland. This is in accordance with its common distribution along the European coast from the Mediterranean to the North Sea and along the coast of Norway. In Denmark it is known from the Skagerrak and the Kattegat.

Distribution. North Atlantic from the Mediterranean to Norway (Lofoten) and south of the Faroes 0.5-405 m.
Fig. 3. *Goniada maculata* ØRSTED, 1843. Distribution in the Faroes, 32-655 m.

Fig. 4. *Goniada norvegica* ØRSTED, 1844. Distribution in the Faroes, 252-702 m.
**Goniada norvegica**

*1-2500 m. to North Carolina, Iranian Gulf, North Pacific. Russian border) to South Africa, Gulf of St. Lawrence.*

**Distribution.** Atlantic (Norway (Oslofjord to the Arctic water. In the material from BIOFAR it was recorded both close to the islands and on the large shelf plain around the islands, at depths of about 200-300 meters (see Fig. 3). It was also recorded from a single station with a depth of 655 m. At these areas the temperatures were 6-8 °C. It was not recorded from stations in the Arctic water.**

DITLEVSEN (1929) states that this species is one of the most common polychaetes in the Faxafloi (Iceland). In the present investigation it was also found down to 277-444 m. These stations are situated close to the Arctic water, i.e., the temperature at the bottom varies between 2.6 and 6.5 °C. It was recorded from many stations around 300-400 m and down to 700 m (Fig. 4). This is interesting because the species has never been recorded from low water in the fjords. DITLEVSEN (1929) has only one record of this species at 150 m southwest of Sudero. Off Iceland it is distributed both in warmer water along the south coast as well as in the Arctic water along the east coast.

**Distribution.** Atlantic (Norway (to Finnmark, 71°N), Faroes, Iceland, west coast of Europe, West Africa (Zaire), Massachusetts to Long Island Sound and West Indies). In Denmark it is only found in the North Sea and in Skagerrak. 50-1000 m.

**Remarks.** *Goniada maculata* can be recognized by its two presetal lobes except on the first 38-48 anterior segments, where there is only one, and by having 7-11 chevrons on each side of the pharynx.

In the material from BIOFAR it was recorded both close to the islands and on the large shelf plain around the islands, at depths of about 200-300 meters (see Fig. 3). It was also recorded from a single station with a depth of 655 m. At these areas the temperatures were 6-8 °C. It was not recorded from stations in the Arctic water. DITLEVSEN (1929) states that this species is one of the most common polychaete species in the Faroes in the shallow waters in the fjords, not surpassing 100 m depth. DITLEVSEN (1929) has only one record of this species at 150 m southwest of Sudero. Off Iceland it is distributed both in warmer water along the south coast as well as in the Arctic water along the east coast.

**Distribution.** Atlantic (Norway (Oslofjord to the Russian border) to South Africa, Gulf of St. Lawrence to North Carolina), Iranian Gulf, North Pacific. 1-2500 m.

**Goniada norvegica** ØRSTED, 1844  
(Fig. 4)

**Goniada norvegica** – FAUVEL 1923:393-394, fig. 154 a-g; DITLEVSEN 1929:24-25; WESENBERG-LUND 1951:51 (chart 25); KIRKEGAARD 1992:174-176, fig. 82; 1995:30.


**Remarks.** All segments have 2 presetal lobes on the parapodia, 15-20 V-shaped chevrons on each side of the pharynx.

The distribution of *Goniada norvegica* in the deep water around the Faroes (Fig. 4) appears to be like that of *G. maculata*, but it was also recorded from the area northwest of the Faroes with temperatures of 2-4 °C and in the deep water north of the islands with temperatures of 0-0.5 °C. It was recorded from many stations around 300-400 m and down to 700 m (Fig. 4). This is interesting because the species has never been recorded from low water in the fjords. DITLEVSEN (1929) has only one record of this species at 150 m southwest of Sudero. Off Iceland it is distributed both in warmer water along the south coast as well as in the Arctic water along the east coast.

**Distribution.** Atlantic (Norway (to Finnmark, 71°N), Faroes, Iceland, west coast of Europe, West Africa (Zaire), Massachusetts to Long Island Sound and West Indies). In Denmark it is only found in the North Sea and in Skagerrak. 50-1000 m.

**Genus Goniadella** HARTMAN, 1950

**Goniadella bobretzkii** (ANNENKOVA, 1929)

**Goniadella bobretzkii** – ANNENKOVA, 1929:495-497.


**Remarks.** *Goniadella bobretzkii* has both spinigers and falcigers in the neuropodia and it has also many chevrons on each side of the pharynx.

The species was only obtained from 5 stations northeast of the Faroes, at depths of 277-444 m. These stations are situated close to the Arctic water, i.e., the temperature at the bottom varies between 2.6 and 6.5 °C.

The species is only known from a few places in the world. It has never been recorded before from the Faroes, nor from Iceland or Greenland. It was described from the Black Sea (ANNENKOVA 1929) and reported much later from the southern part of the North Sea (ZIEGELMEIER 1953). It surely must have a wider distribution in the North Atlantic, but may have been overlooked.

**Distribution.** Black Sea, North Sea, Faroes, Norwegian coast: Skagerrak, North Sea, and one record from Middle Nordland, ca 67°N, 5-444 m.
Fig. 5. *Nereis pelagica* LINNAEUS, 1758. Distribution in the Faroes, 50-656 m.

Fig. 6. *Nereis zonata* MALMGREN, 1867. Distribution in the Faroes, 66-245 m.
Family Nereididae JOHNSTON, 1845

Genus Eunereis MALMGREN, 1867

Eunereis elitoralis – ELIASON, 1962


Eunereis elitoralis – KIRKEGAARD 1992:293-294, fig. 145.

Material. BIOFAR Stn 749, 62°47’N, 5°51’W, 497 m, 1 spec. (ZMUC-POL:00367).

Remarks. The specimen is complete, 20 mm long, 1 mm wide with 99 segments. Paragnaths are only present on zones IV, VI and VII-VIII; the eyes are very small and the dorsal cirri are longer than the dorsal parapodial lobes. The present specimen has 9 paragnaths on zone IV (ELIASON: 5-6), 1 on zone VI (2-3) and 2 on zone VII-VIII (4-6). However, ELIASON only got 3 specimens from 3 stations in the Skagerrak, so the variation in the number of paragnaths may be greater than his material indicates. All other characters fit well with ELIASON’S description and figures.

The present specimen was obtained from a station northeast of the Faroes in the cold Arctic waters, with temperature of 2 °C.

Distribution. Skagerrak, Faroes, Norwegian coast north to Sogn, 61°N. 126-497 m.

Eunereis longissima (JOHNSTON, 1840)

Nereis (Eunereis) longissima – FAUVEL 1923:351, fig. 138 a-d.

Nereis longissima – DITLEVSEN 1929:19.


Remarks. This species has paragnaths only on zone VI, 1-8 in a small group. It has 1-2 homogomph falcigers in the notopodia from setiger 65-70. These falcigers have a rounded top with small teeth below the top.

Eunereis longissima is a rare species around the Faroes, previously only recorded once in Kollefjord (Strømø) and once in Trangisvaag (Sudero), both places with few specimens. The present two specimens are from Strømø and Østerø. The species has never been recorded from Iceland or Greenland, so it appears to have a more southern distribution in the Northeast Atlantic. In Danish waters it is distributed from the North Sea to the northern part of Øresund.

Distribution. Northeast Atlantic from the coast of Norway to Bergen, 60°N, the Faroes and along the west coast of Europe to the Mediterranean. 10-2000 m.
Nereis zonata MALMGREN, 1867

Nereis zonata – FAUVEL 1923:338-339, fig. 130 g-h; DITLEVSEN 1929;18; WESENBERG-LUND 1951:41 (chart 20); KIRKEGAARD 1992:314-315, fig. 154.


Remarks. Nereis zonata may be difficult to distinguish from N. pelagica, especially the small, young specimens, so probably it has often been mistaken for this much more common species. The way to distinguish between the two species is given under N. pelagica.

Fig. 6 shows the distribution of N. zonata from the present investigation. The species is distributed all over the Faroe Shelf on 25 stations, at 66 to 420 m depth, and in some of the fjords. A single record is at Bill Bailey’s Bank, W of Faroe Bank. All these stations have bottom temperature between 6 and 10 °C. Before this investigation the species was considered rare in the Faroes. DITLEVSEN (1929) indicates that it was only recorded by WILLEMOES-SUHM (1873) in Nolsøfjord, and he himself has only 4 records from Iceland, one by FAUVEL (1913), one by SÆMUNDSSON (1918) and two herself. However, I feel sure that it is much more widely distributed in the fjords, but has been recorded as N. pelagica (see above).

It is widely distributed in the Arctic, both at West and East Greenland, Spitsbergen, Hudson Bay and Bering Sea. In Denmark it is rather rare, known only from the North Sea, the Skagerrak and the northern Kattegat. It thus appears to have a more northern distribution than N. pelagica.

Distribution. Arctic, Massachusetts, Iceland, Faroes, Norway (probably entire coast), England, Denmark, Bering Sea, Japan. 1-1000 m.

Genus Rullierinereis PETTIBONE, 1971

Rullierinereis faroensis sp. nov. (Fig. 7)

Material. Faroe Bank, Dana Stn, 60°59’N, 8°48’W, 100 m, 21 Aug 1961, 1 spec. (ZMUC-POL:00891, holotype).

Description. Holotype 25 mm long, 1 mm wide. Posterior end missing, 60 setigers present. Body cylindrical, tapering posteriorly. Prostomium with two small tentacles in front and two cylindrical, biarticulate palps (Fig. 7A). No eyes, 4 pairs of tentacular cirri of different lengths, longest reaching setiger 7. Setigers 1 and 2 with finger-shaped dorsal cirri and single notopodial ligule without setae (Fig. 7B). Neuropodia on these setigers like those of following. Middle parapodia with very long, thin dorsal cirri, two notopodial ligules, lower one twice as long as upper one (Fig. 7C). Between these ligules only a few homogomph spinigers. Neuropodia with rounded aciculur lobe and triangular lower lobe. Ventral cirrI long, finger-shaped, nearly reaching tip of lower lobe. Neuropodia with upper bundle of 4 homogomph spinigers, and a lower bundle of 3 heterogomph falcigers. Posterior setigers with very long and thin dorsal cirri (Fig. 7D). Notopodia on this section with only one homogomph falciger (Fig. 7E). The blade of this is short, oval and without spines. Upper bundle of neurosetae comprised of 5 homogomph spinigers and 4 heterogomph spinigers; lower bundle with heterogomph falcigers with long blades with dentation on inner edge (Fig. 7E). Pharynx without paragnaths and papillae. Two horny jaws. No sexual products present.

Remarks. The only hitherto known species of Rullierinereis without eyes is R. anoculata CANTONE, 1982. This species also has similar notopodial homogomph falcigers, but differs from R. faroensis by the shape of the parapodial lobes. (CANTONE 1982: 104-105, figs 1 and 2). Another similar species is Rullierinereis tenerifensis NUÑEZ, 1984, with similar shape of the parapodial lobes. However, this species has eyes and there are small spines on the blades of the homogomph falcigers (NUÑEZ & al. 1984: 17, fig. 2).

Distribution: Northeast Atlantic, south of the Faroes. 100 m.

Genus Websterinereis PETTIBONE, 1971

Websterinereis glauca (CLAPARÈDE, 1870) (Fig. 8)


Description. Holotype 25 mm long, 1 mm wide. Posterior end missing, 60 setigers present. Body cylindrical, tapering posteriorly. Prostomium with two small tentacles in front and two cylindrical, biarticulate palps (Fig. 7A). No eyes, 4 pairs of tentacular cirri of different lengths, longest reaching setiger 7. Setigers 1 and 2 with finger-shaped dorsal cirri and single notopodial ligule without setae (Fig. 7B). Neuropodia on these setigers like those of following. Middle parapodia with very long, thin dorsal cirri, two notopodial ligules, lower one twice as long as upper one (Fig. 7C). Between these ligules only a few homogomph spinigers. Neuropodia with rounded acicular lobe and triangular lower lobe. Ventral cirri long, finger-shaped, nearly reaching tip of lower lobe. Neuropodia with upper bundle of 4 homogomph spinigers, and a lower bundle of 3 heterogomph falcigers. Posterior setigers with very long and thin dorsal cirri (Fig. 7D). Notopodia on this section with only one homogomph falciger (Fig. 7E). The blade of this is short, oval and without spines. Upper bundle of neurosetae comprised of 5 homogomph spinigers and 4 heterogomph spinigers; lower bundle with heterogomph falcigers with long blades with dentation on inner edge (Fig. 7E). Pharynx without paragnaths and papillae. Two horny jaws. No sexual products present.

Remarks. Websterinereis belongs to a group of nereids with no paragnaths on the pharynx, but which may have papillae instead. Websterinereis is characterized by having long dorsal cirri, only homogomph spinigers in the notopodia and some neuropodial heterogomph falcigers.
The pharynx is provided with papillae. The species *W. glauca* has no presetal notopodial lobes, which are present and distinct in the other known species of this genus.

*W. glauca* is a Lusitanian species, and is mostly distributed in warm water in the Atlantic and the Mediterranean. Around the Faroes most records were obtained from the warm area southwest of the islands (Fig. 8). The temperatures at the bottom here are from 6 to 9 °C. It was also recorded from several stations northwest of the Faroes, where the bottom temperatures are from 2 to 4 °C and, quite remarkably, also at some stations east of
the Faroes, in the Arctic water with temperatures down to –0.6 °C. The present material includes 43 specimens from 23 stations, 225-1022 m. This is the first records of this species from the Faroes. The species has not been recorded from Iceland, but Weisenberg-Lund (1950) reported it in the ‘Ingolf’ material from West Greenland, in deep water from 600 to 2258 m. The temperatures here were 2.4-3.9 °C. I have checked the material and it is correctly identified. It thus seems that the species can also live at low temperatures.

**Distribution.** Atlantic from West Greenland and the Faroes, western Europe and West Africa to Angola. Indian Ocean, south of Sri Lanka. 5-3310 m.

**Conclusions**

Of the species treated herein, *Glycera lapidum* is distributed all over the investigated area and can endure both high and low temperatures (Fig. 2). Three other species, *Goniada maculata, Nereis zonata* and *Nereis pelagica*, appear to prefer the shelf area around the islands, with depths between 300 m and the littoral (Figs 3, 5, 6); temperatures are between 6 and 8 °C, although *N. pelagica* and *G. maculata* also were found at lower temperatures on the slope and on the shelf. *Glycera lapidum* and *N. zonata* are mostly distributed in the Northeast Atlantic, while *N. pelagica* and *Goniada maculata* have a world-wide distribution. Two species, *Glycera capitata* and *Goniada norvegica*, are distributed in the deeper and colder area around the shelf (Figs 1, 4). Both species were recorded from 250 to around 1000 m in the Arctic water with temperatures below zero. *Glycera capitata* is known from both the Arctic and the Antarctic and from deep water in both the Atlantic and the Pacific, down to 3500 m. *Goniada norvegica* is only known from the North Atlantic down to 1000 m. *Websterinereis glauca* is a typical Lusitanian species found in shallow water from England to the Mediterranean, but also from shallow water along the west coast of Africa. It is the first record from the Faroes and is mostly distributed in the warmer water, west and southwest of the islands (Fig. 8).

There are 6 species new to the Faroes of which 2, *Glycera tesselata* and *Eunereis elitoralis*, were only recorded from the bathyal zone (400-2000 m). The remaining four species, *Glycera lapidum, Glycinde nordmanni, Goniadella bobretzkii* and *Websterinereis glauca*, were also recorded from the littoral and sublittoral zones. There is also a new species, *Rullierinereis faroensis* sp. nov. from 100 m depth. Three species, *Nereis pelagica, N. zonata* and *Glycera capitata*, which earlier had been re-
corded from the littoral zone at the islands, have now also been recorded from the bathyal zone. The two closely related species *Eunereis longissima* and *E. litoralis* differ in their depth distribution. *E. longissima* is a shallow-water species, while *E. litoralis* is only known from the bathyal zone.

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