A new species of leuconid (Crustacea, Cumacea), *Leucon (Crymoleucon) noerrevangi*, from the Faroe Islands

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A new species of leuconid (Crustacea, Cumacea), *Leucon (Crymoleucon) noerrevangi*, is described from the BIOFAR sampling program of the Faroe Islands. The species is distinguished from others in the genus by the combination of characters: carapace dorsal crest anterior 2/3 serrate and 1 tooth posteriorly; frontal lobe with lateral group of spines; pseudorostral lobe with group of spines; uropod rami subequal and distally quadrate.

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The genus *Leucon* is found throughout the world's oceans. Of the 64 species in the genus, approximately one-third are found in the North Atlantic. The diversity of *Leucon* described from the North Atlantic is probably due in part to the extensive benthic sampling that has taken place in this ocean; however, the discovery of a new species in the BIOFAR collections demonstrates that even well sampled areas may still contain undescribed species.

MATERIAL AND METHODS

BIOFAR station data is listed in Nørrevang & al. (1994). The goals of the BIOFAR and BIOFAR 2 sampling programs are amply discussed in Brattegard & Meland (1997).

Family Leuconidae

Leucon (Crymoleucon) noerrevangi sp.n.
Figs 1-6

Type material

Holotype: Stn 263, ovigerous ♀♀ (Zoologisk Museum, Copenhagen, CRU-3413). Paratypes: Stn 9014, adult ♂ (Zoologisk Museum, Copenhagen, CRU-3414); Stn 263, 7 ovigerous ♀♀, 6 subadult ♀♀, 6 subadult ♂♂, 2 manca 2 (Zoologisk Museum, Copenhagen, CRU-3415); Stn 263, 6 ovigerous ♀♀, 7 subadult ♀♀, 6 subadult ♂♂, 2 manca 2 (USNM 420435).

Other material examined

Stn 82, 4 ♀♀; Stn 95, 6 ♀♀; Stn 137, 3 ♀♀; Stn 263, 19 manca 1, 15 manca 2, 105 ♀♀, 45 ♂♂, 88 juvenile; Stn 294, 1 ♀, 1 ♂; Stn 380, 14 manca 2, 39 ♀♀, 15 ♂♂; Stn 381, 15 ♀♀, 3 ♂♂; Stn 411, 11 ♀♀, 7 ♂♂; Stn 415, 1 ♀♀, 3 ♂♂; Stn 416, 7 manca 2, 140 ♀♀, 55 ♂♂; Stn 417, 1 manca 1, 11 manca 2, 14 ♀♀, 43 ♂♂; Stn 421, 1 manca 2, 158 ♀♀, 40 ♂♂, 5 juvenile; Stn 422, 5 ♀♀, 2 ♂♂; Stn 424, 1 manca 2, 22 ♀♀, 5 ♂♂, 3 juvenile; Stn 458, 10 ♀♀, 5 ♂♂; Stn 500, 1 ♂; Stn 501, 2 ♀♀; Stn 696, 21 ♀♀, 5 ♂♂; Stn 730, 2 ♀♀, 2 ♂♂; Stn 738, 4 ♀♀, 1 ♂♂; Stn 9014, 2 manca 2, 103 ♀♀, 53 ♂♂.

Diagnosis

Within the subgenus, having the combination of: carapace dorsal crest anterior 2/3 serrate and 1 tooth posteriorly; frontal lobe with lateral group of spines; pseudorostral lobe with group of spines; uropod rami subequal and distally quadrate.

Description

Adult female, 5 mm. Carapace pseudorostral lobes upturned, less than 1/5 total carapace length; dorsal crest with 1 large posterior tooth, anterior 2/3 serrate; frontal lobe with prominent group of lateral spines; pseudorostrum bears few large teeth on ventral margin. Antennal notch broad, weakly serrate; serrations continue ventrally onto anteriormost ventral margin. Branchial siphon not extending beyond pseudorostral lobes (Fig. 1).

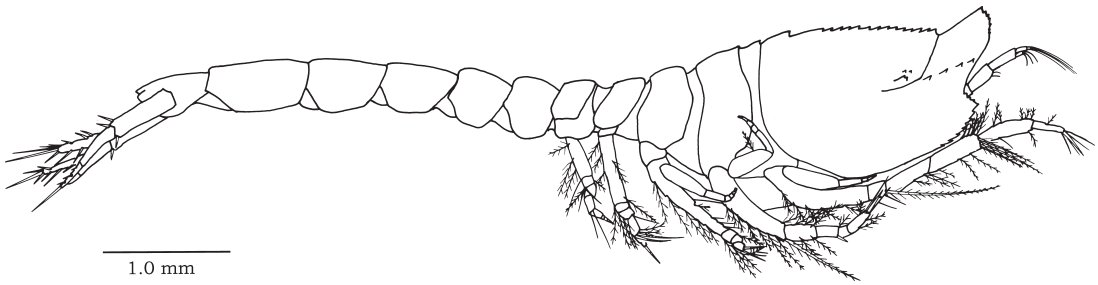

Fig. 1. *Leucon (Crymoleucon) noerrevangi* sp.n. Adult ♀.

Antennule elongate and stout, extending beyond pseudorostrum; peduncle articles 2 and 3 subequal in length; accessory flagellum reaching 1/2 length of main flagellum basal article (Fig. 2A).

Maxillule with 2 lobes; outer bearing double row of stout, toothed setae apically, and single simple seta on lateral margin; inner bears 2 long simple setae, 1 short stout sparsely plumose seta, and 1 slender simple seta apically (Fig. 2B).

Maxilla with 2 lobes; broad lobe apical margin bearing long simple setae row medially**,** irregular row of short stout plumose setae with very short setules laterally; 2nd lobe with equal rami, each bears 3 long stout simple setae (Fig. 2C).

Maxilliped 1 basis produced as blunt lobe distally, bears few small plumose setae and 1 long plumose seta; ischium not present; merus with few threadlike setae on lateral margin; carpus medial margin with double row of short simple setae and 1 long plumose seta at each distal corner; propodus with 2 plumose setae distally; dactyl with 1 simple seta distally (Fig. 2D).

Maxilliped 2 basis proximal margin with 5 long simple setae, medial proximal margin with 2 simple setae, medial distal margin 1 long plumose seta, lateral distal corner with 1 short stout simple seta; ischium present; merus with 1 long plumose seta at medial distal corner, lateral margin with several threadlike setae; carpus medial margin with double row of simple setae; propodus with long plumose seta proximally, several simple and 1 plumose setae distally; dactyl with 1 simple seta distally (Fig. 2E).

Maxilliped 3 basis with 2 very stout plumose setae distally, inner margin with several plumose setae; ischium present; merus with tooth at center of lateral margin, 1 very large plumose seta distally and 1 small plumose seta at medial distal corner; carpus with 3 small plumose setae on medial margin, 1 seta at distal corner; propodus with 1 plumose seta on lateral margin and medial and lateral distal corners; dactyl with several long simple setae apically; exopod slender, basal article with 2 plumose and 1 simple, setae, flagellum bears long plumose setae (Fig. 2F).

Pereopod 1 dactyl half as long as propodus, carpus and propodus subequal, merus and ischium together equal to carpus, basis and exopod slender, exopod with short plumose setae on dorsal margin of basal article; all setae plumose except simple setae on dactyl tip and short setae at distal corner of basis (Fig. 3A).

Pereopod 2 dactyl equal to carpus and propodus together, ischium present; 2 stout simple setae at distal corner of carpus, setae on dactyl tip simple, all other setae plumose; basis and exopod slender, exopod with several short plumose setae on lateral margin of basal article (Fig. 3B).

Pereopod 3 basis longer than distal articles combined, ischium present, basis and exopod slender; simple annulate setae on dactyl, carpus, propodus, elsewhere setae plumose; exopod with short plumose setae on lateral margin of basal article (Fig. 3C).

Pereopod 5 with simple annulate setae on dactyl, propodus, carpus distal corner, plumose setae elsewhere (Fig. 3D).

Uropod rami longer than stout peduncle, endopod subequal to exopod in length, both rami quadrate distally; uropod endopod distal article shorter than proximal, with regularly spaced row of setae on medial margin, bare on lateral margin but for 1 small seta at distal corner of proximal article; exopod sparsely setose, medial margin with 4 long simple setae, few short simple setae on lateral margin; peduncles with several short setae on medial margin (Fig. 4A).

Adult male, 5.4 mm; subadult male, 4.8 mm. Carapace in subadult male as in female (Fig. 5A). Adult male carapace with no dorsal crest or teeth, very smooth; pseudorostrum short, barely upturned, antennal notch obsolete, carapace ventral margin serrate below pseudorostrum and at antero-ventral corner (Fig. 5B).

Antennule similar to female, bearing several setae on peduncle article 2 distally, main flagellum terminal setae annulate (Fig. 2G).

Antenna peduncle article 5 longer than articles 2-4 together, article 4 less than 1 third length of article 5; peduncle article 2 bears 2 stout plumose setae, article 3 bears 1 stout plumose seta; peduncle articles 4 and 5

Fig. 2. *Leucon (Crymoleucon) noerrevangi* sp.n. A-F adult ♀, G-H adult ♂: A, antennule; B, maxillule; C, maxilla; D, maxilliped 1; E, maxilliped 2; F, maxilliped 3; G, antennule; H, maxilliped 3.

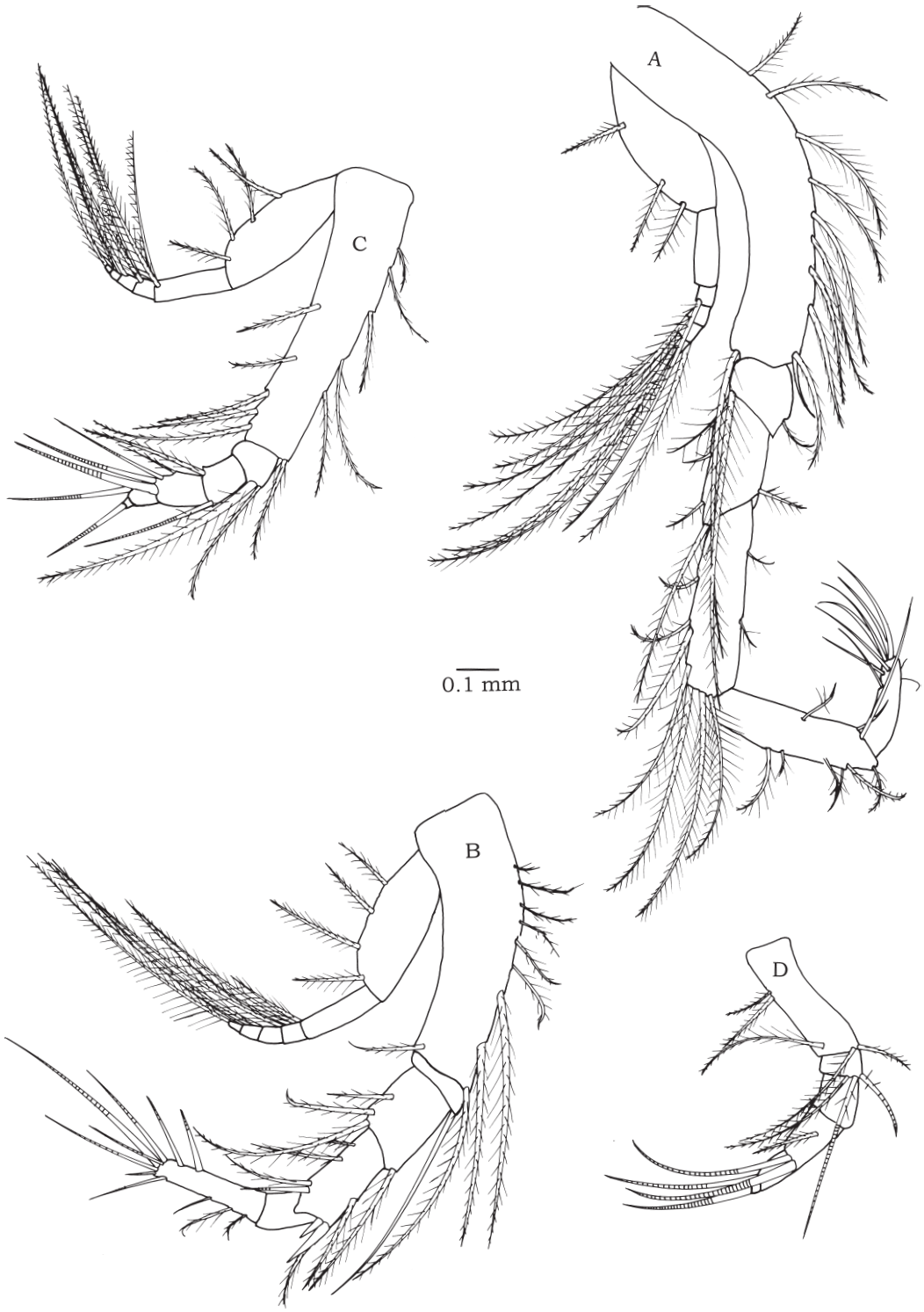

Fig. 3. *Leucon (Crymoleucon) noerrevangi* sp.n. Adult ♀: A, pereopod 1; B, pereopod 2; C, pereopod 3; D, pereopod 5.

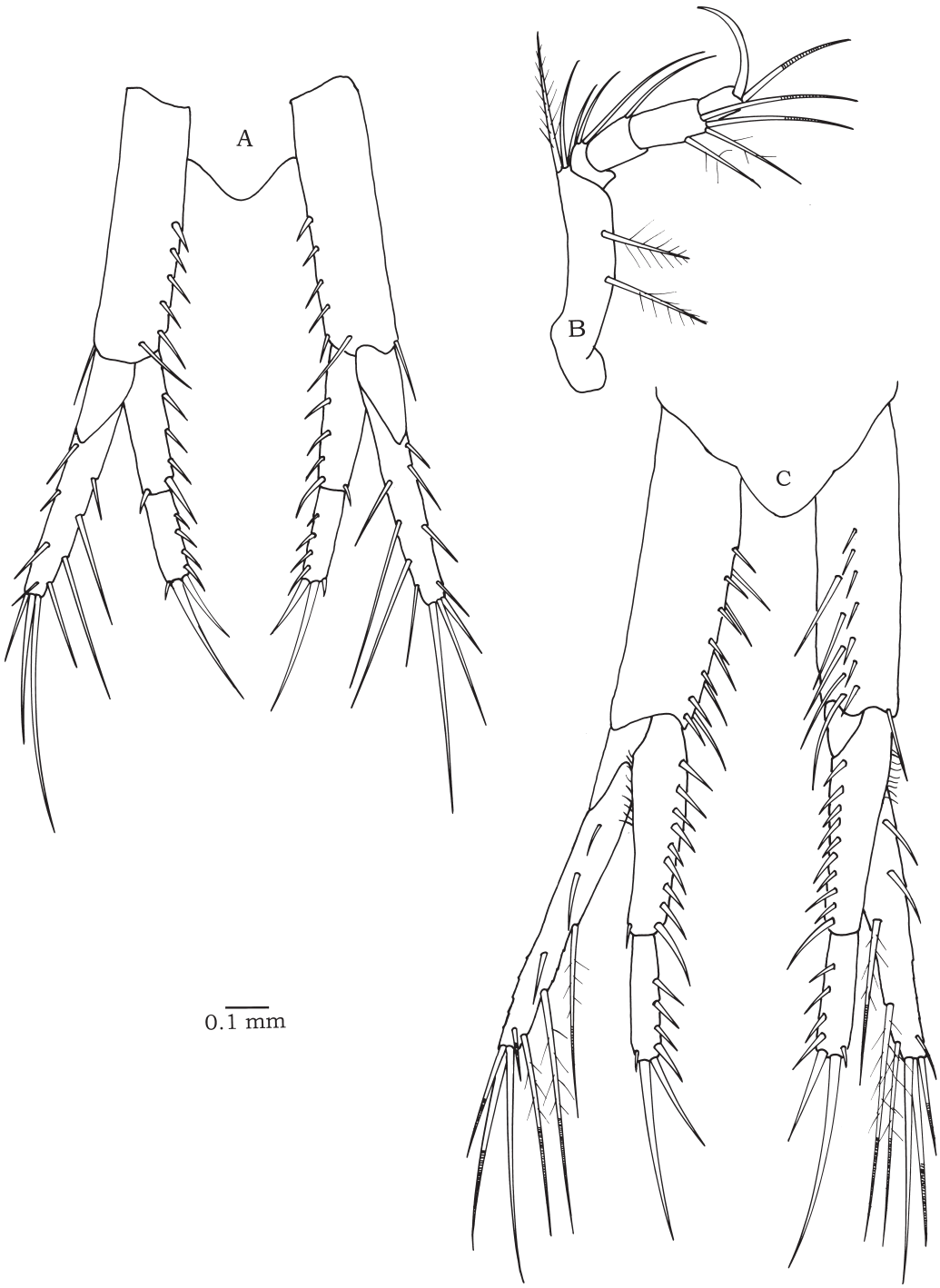

Fig. 4. *Leucon (Crymoleucon) noerrevangi* sp.n. A, adult ♀ uropods; B, adult ♂ pereopod 5; C, adult ♂ uropods.

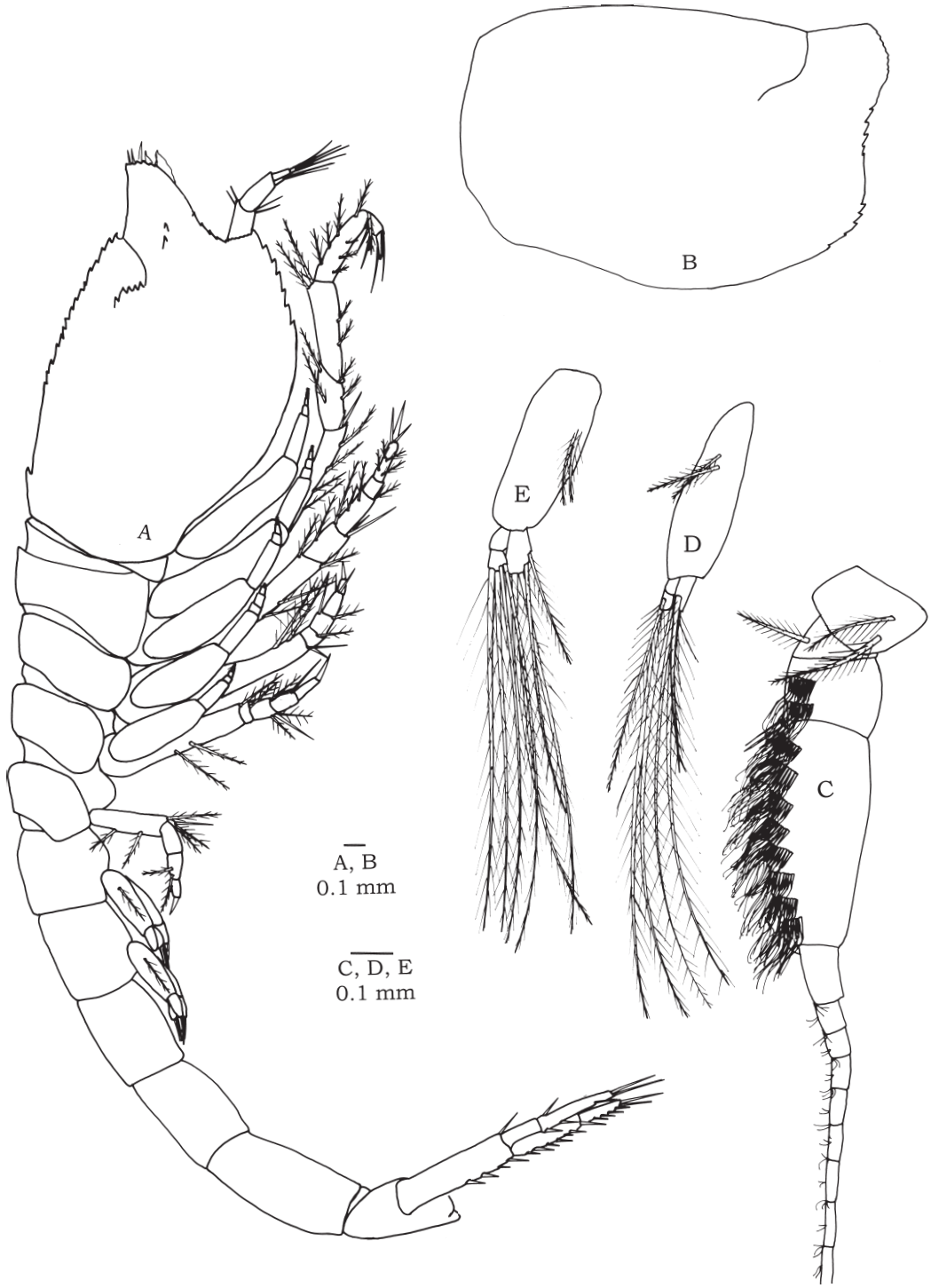

Fig. 5. *Leucon (Crymoleucon) noerrevangi* sp.n. A, subadult ♂; B-E adult ♂ B, carapace; C, antenna; D, pleopods 1; E, pleopods 2.

Fig. 6. *Leucon (Crymoleucon) noerrevangi* sp.n. Adult ♂: A, pereopod 1; B, pereopod 2; C, pereopod 3.

with brush of fine setae arranged in rows on anterior margin, article 4 with 2-3 rows, article 5 with 8-9 rows; flagellum more than 45 articles, increasing in length distally, with a few fine setae at the distal corner and midlength of each article, total antenna length approaching end of pleon (Fig. 5C).

Pereopods 1-4 basis and exopod basal article expanded (Fig. 6A-C). Pereopod 5 with several annulated setae on dactyl and propodus, not plumose, all other setae plumose (Fig. 4B). Pleopods biramous, basal article much longer than rami, medial ramus uniarticulate, lateral ramus biarticulate, rami bear long stout plumose setae (Fig. 5D-E). Uropod peduncles and rami bearing many setae, long medial setae on exopod plumose annulate (Fig. 4C).

Remarks

Using the key to the family Leuconidae in Watling 1991, within the sub-genus *Leucon (Crymoleucon), L. (C.) noerrevangi* is most similar to *L. (C.) vanhoeffeni* Zimmer, 1907, *L. (C.) sagitta* Zimmer, 1907, and *L. (C.) kerguelensis* Zimmer, 1908. *Leucon (Crymoleucon) noerrevangi* can be distinguished based on the following characters: In *L. (C.) vanhoeffeni* and *L. (C.) sagitta*, the uropod exopod is clearly longer than the endopod, in *L. (C.) kerguelensis* the uropod exopod is clearly shorter than the endopod, whereas in *L. (C.) noerrevangi* the uropod rami are subequal. *Leucon (Crymoleucon) sagitta* bears many long setae on the uropod peduncles and endopod margins while *L. (C.) noerrevangi* bears few, short setae on the uropod peduncles and endopod margins. *L. (C.) kerguelensis* has no teeth on the dorsal crest while *L. (C.) noerrevangi* has multiple teeth on the dorsal crest. In its possession of lateral spines on the frontal and pseudorostral lobes *L. (C.) noerrevangi* differs from all species in the sub-genus *Crymoleucon*.

Using the Watling 1991 key, within the similar sub-genus *Leucon (Leucon)*, *L. (C.) noerrevangi* is most similar to *L. (L.) nathorstii* Ohlin, 1901. *Leucon (C.) noerrevangi* can be distinguished based on the following characters: In *L. (L.) nathorstii* the uropod endopod is much longer than the exopod and there is a single spine on the frontal lobe, while in *L. (C.) noerrevangi* the uropod endopod and exopod are sub-equal, and there is a lateral group of spines on the frontal lobe and another group of spines on the pseudorostral lobes.

Etymology

This species is named in honor of Prof. Dr. Arne Nørrevang in recognition of his efforts to secure the success of the BIOFAR program and his contributions to the biology of cold water marine species.

Distribution

Known from the seas around the Faroe Islands at depths from 402 to 1319 m and temperatures from –0.9 to 6.0 °C.

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