A new parasitic isopod of the genus Norileca (Crustacea, Cymothoidae) from the Arabian Sea

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A NEW PARASITIC ISOPOD OF THE GENUS *NORILECA* (CRUSTACEA, CYMOTHOIDAE) FROM THE ARABIAN SEA

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ABSTRACT: A new species *Norileca borealis* belonging to the family Cymothoidae is described in detail and illustrated. The new species is distinguished from the other members of the genus by the details of maxilla 2, maxilliped, pleotelson and pereopod 1.

KEY WORDS: Isopoda, fish parasite, new species, Arabian Sea.

INTRODUCTION

The genus *Norileca* was established by Bruce (1990) for *N. indica* (Milne-Edwards, 1840). The genus contains only two species one the type species and other *N. triangulata* (Richardson, 1910). The new species described herein is the third member of the genus. Ghani and Shireen (1995) recorded the type species *N. indica* (Milne-Edwards) from the coast of Karachi (Arabian Sea).

METHODS

No specimens were obtained by personal collecting. The holotype female (25.0 mm) and a paratype male (23.0 mm) of the species were obtained in association with the host fish. The identification of the host fish was confirmed by an ichthyologist, Department of Zoology, University of Karachi. The hosts of the remaining two specimens are unknown.

The measurements of length are from the anterior margin of the cephalon to the apex of the pleotelson and are in millimeters (mm).

The type material has been deposited in the Zoological Museum, University of Karachi, Pakistan.

TAXONOMY

Family Cymothoidae Leach

Norileca borealis sp. nov.

(Figs. 1-4)

Material examined: Holotype non-ovigerous female, 25.0 mm, obtained in association with the host fish. Paratypes: 1 male, 23.0 mm, attached with holotype female on the same host fish. 1 ovigerous female, 25.0 mm, 1 male, 26.0 mm, host not known, Arabian Sea, 9 May, 1993.

Type Locality: Northern Arabian Sea.

Etymology: The name is derived from Latin word borealis for meaning northern. This

refers to the first new species of the genus recorded from the northern Indian Ocean.

Host: The holotype female and a paratype male (23.0 mm) are from *Rastrelliger kanagurta* (Cuvier, 1817). They were attached on the dorsal side of the head near the operculum.

DESCRIPTION

Female: Body (Figs. 1,2A) weakly vaulted about 2.0 times as long as wide, widest at pereonite 4, twisted to right side. Cephalon (Figs. 2A,B) moderately, immersed in pereonite 1, anterior subtruncate, slightly turned down, eyes large. Coxae of pereonites 2 to 7 each shorter than respective segments. Posterior margin of pereonite 7 weakly concave, right lateral margin of pleonite 1 concealed by pereonite 7 (Fig. 2A). Pleonite 1 (Fig. 2B) longest, slightly wider than pereonite 7, pleonite 5, distinctly narrower than 1, pleotelson (Fig. 2C) triangular.

Antenna 1 (Fig. 3A) bases set widely apart, composed of 8 articles (Fig. 2C) last article with terminal bunch of minute setae. Antenna 2 (Fig. 2D) slightly longer, with nine articles. Mandible palp (Fig. 3B) large, article 2 expanded, article 3 small, base of incisor (Fig. 3C) with 2 stout spines. Maxilla 1 (Fig. 2F) with 4 terminal spines. Maxilla 2 (Fig. 2E) with 1 spine on medial and 4 on lateral lobes. Maxilliped article 3 (Fig. 3D) with 3 large recurved spines.

Pereopods 1 to 3 shorter than 6 to 7 (Fig. 3F). Pereopod 1 (Fig. 3E) merus with a spine on distomedial angle, basis with feeble carina. Pereopods 4 with well developed carina on basis, dactylus of all pereopods curved reaching to distal margin of carpus. Pleopods lamellar. Pleopod 1 (Fig. 4A) with endopod proximomedial lobe weakly developed and peduncle lateral lobe fairly developed. Pleopod 2 (Fig. 4B) with appendix masculina and peduncle lateral lobe highly developed. Pleopods 3-5 (Fig. 3 C-E) with endopod proximomedial lobes well developed and peduncle lateral lobes of pleopods 3 and 5 well developed.

Fig. 1. *Norileca borealis* sp. nov., holotype, 25 mm.

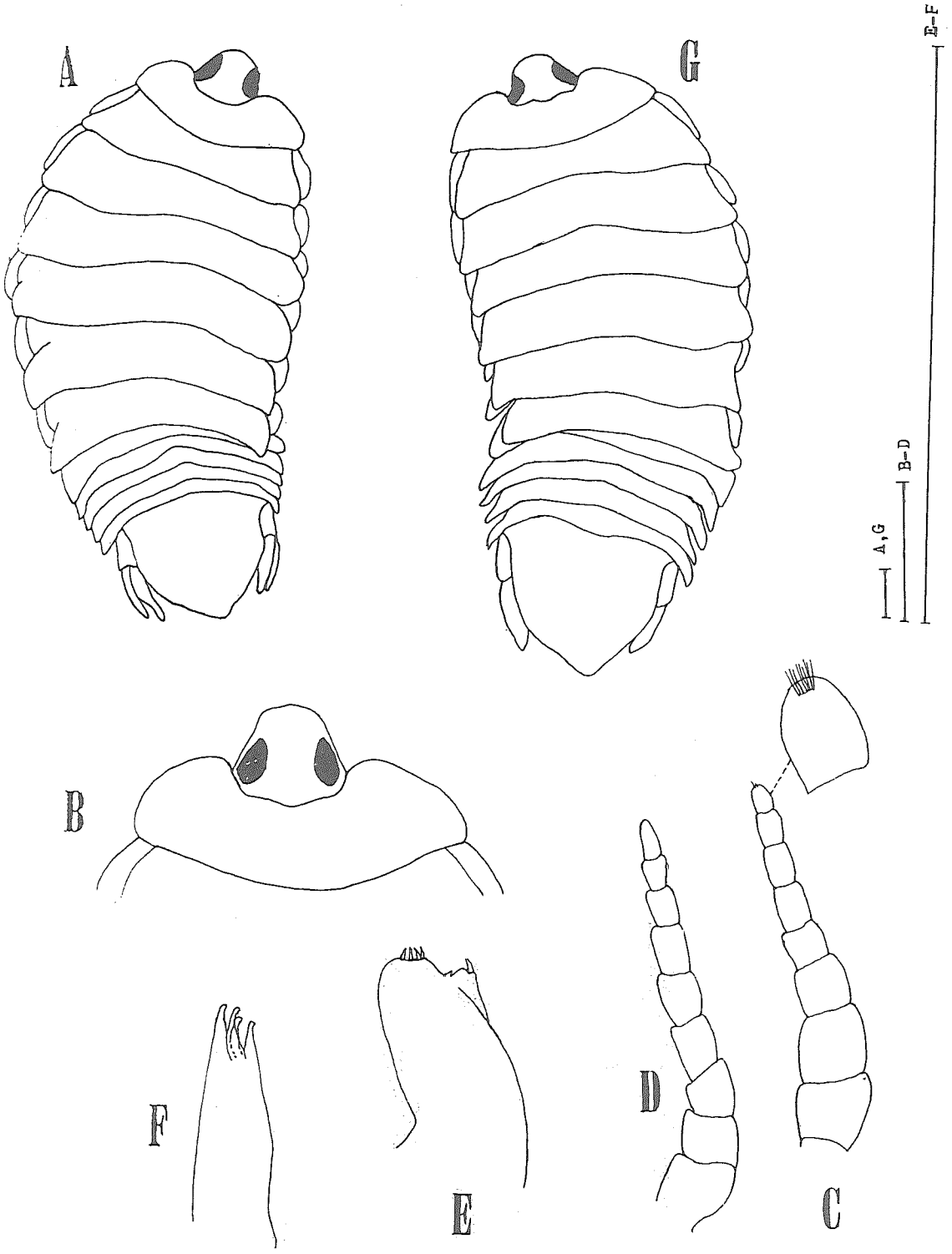

Fig. 2. *Norileca borealis* sp. nov. holotype, 25.0 mm. A, dorsal view; B, cephalon, pereonite 1; C, antenna 1; D, antenna 2; E, maxilla 2. Ovigerous female, paratype, 25.0 mm. F, maxilla 1. paratype, 23.0 mm. G, dorsal view. Scale lines = 1.0 mm.

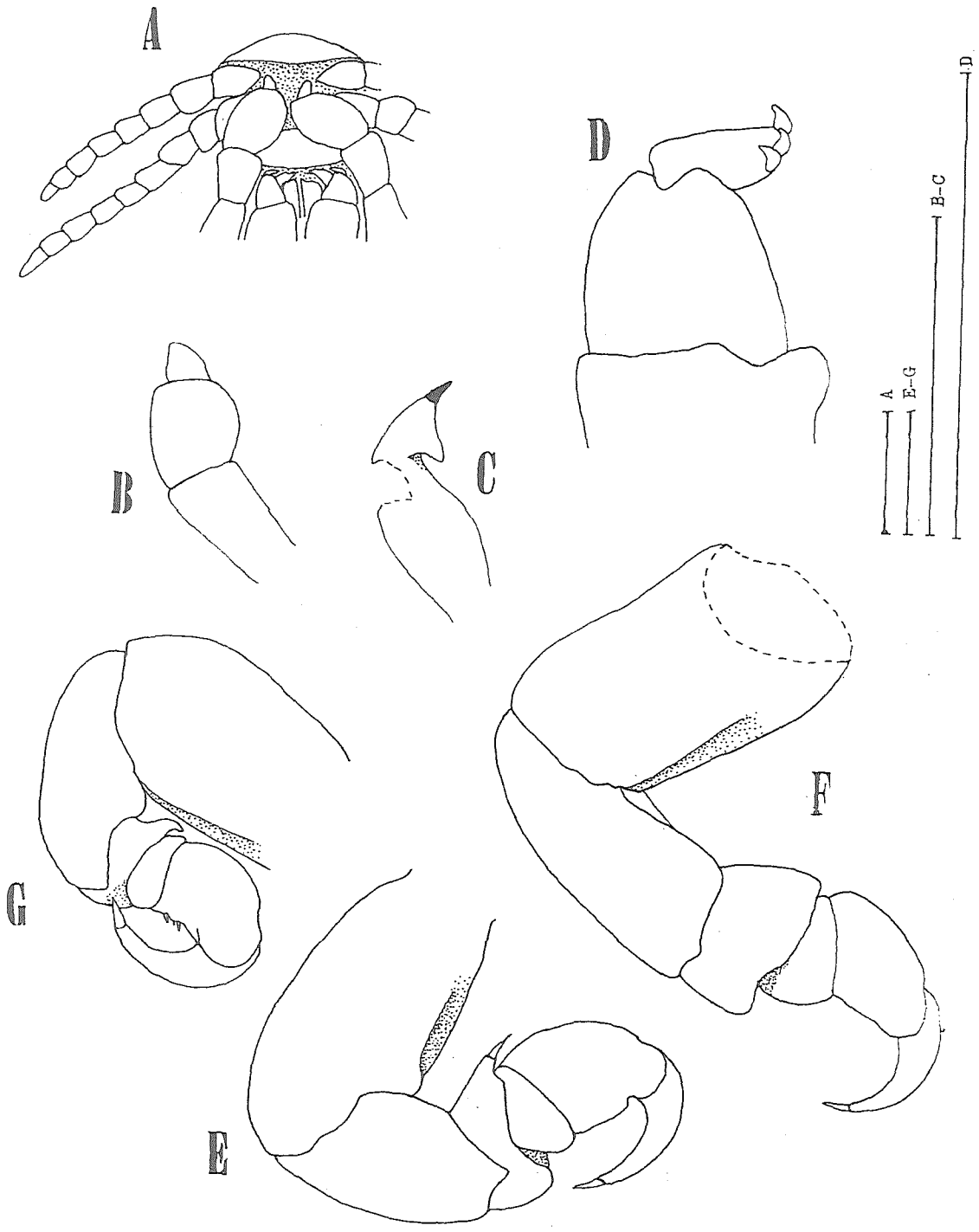

Fig. 3. *Norileca borealis* sp. nov. holotype, 25.0 mm. A, frons; B, mandible palp; C, mandible incisor; E, pereopod 1; F, pereopod 7. Ovigerous female, paratype, 25.0 mm. D, maxilliped. paratype, 23.0 mm. G, pereopod 1. Scale lines = 1.0 mm.

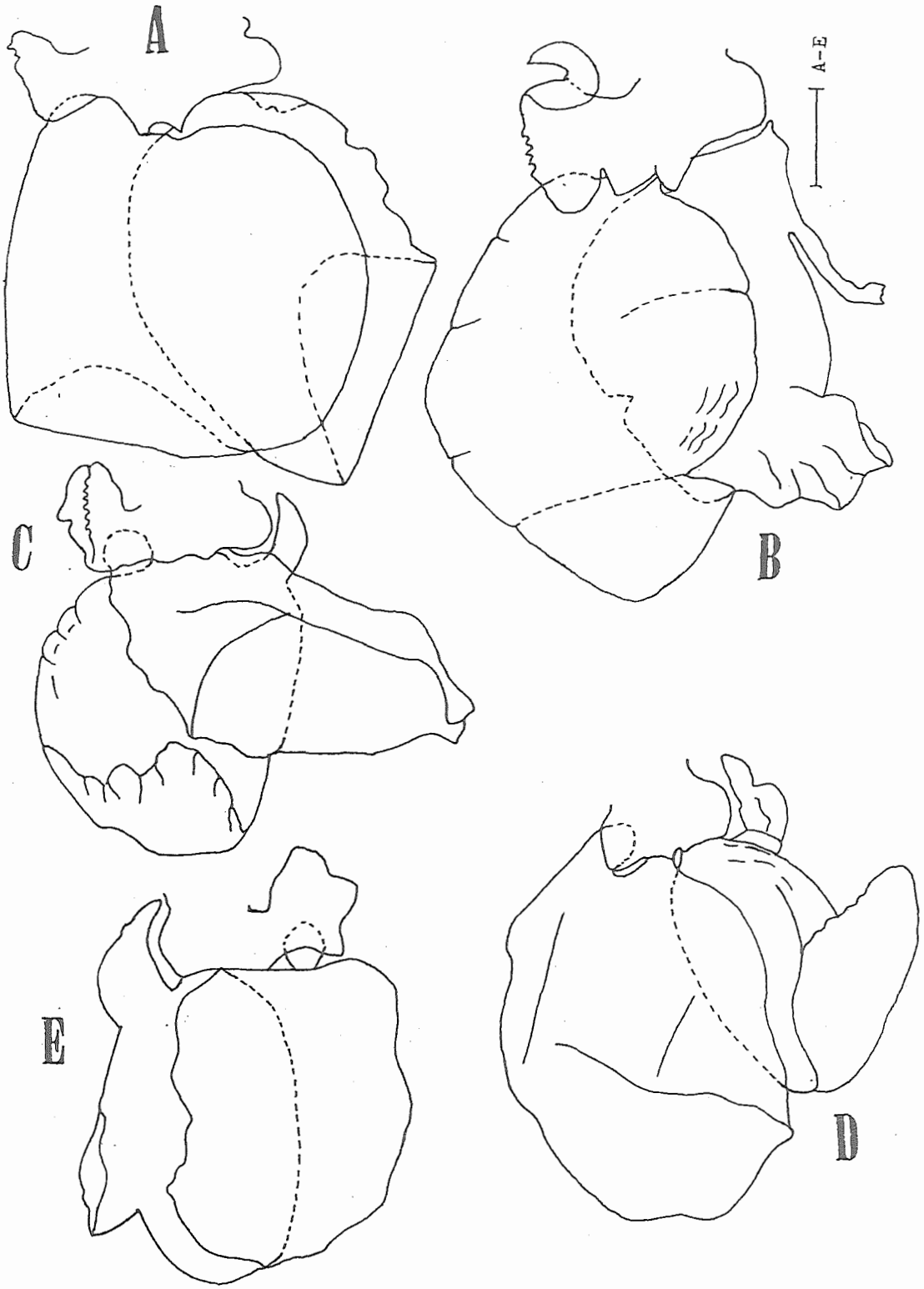

Fig. 4. *Norileca borealis* sp. nov. holotype, 25.0 mm. A-E, pleopods 1-5. Scale line = 1.0 mm.

Brood pouch made up of five pairs of oostegites arising from anterior side of sternites 1 to 4 and 6. Oostegites of sternite 1 are the smallest not overlapping each other. Oostegites 2 to 4 gradually increasing in size. Oostegites 6 are the largest and curve under to enclose the marsupium posteriorly.

Male (23.0 mm): Body (Fig. 2G) moderately vaulted. 2.2 times as long as wide, widest at pereonite 3, twisted to left side. Coxae longer than in female.

Pereopod 1 (Fig. 3G) merus without spine on distomedial angle, propodus with 2 spines on lateral margin. Pleopod 2 without appendix masculina.

DISCUSSION

N. borealis sp. nov. closely resembles *N. indica* but the shorter coxae of pereonite 2, straight sided pleon, armature of maxilla 2 and maxilliped, morphology of mandible palp and the different pleotelson shape and the length of pleotelson, easily distinguishes *N. borealis* and *N. indica*.

This species also shows some similarity to *Norileca triangulata* (Richardson, 1910). *Norileca borealis* sp. nov. can be separated from *N. triangulata* by having twisted body and ventrally bent anterior margin of the cephalon and by the armature of maxilla 2 and pereopod 1. It also differs in details of pleon, and pleopods morphology.

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