

**A NEW RECORD OF *EXCIROLANA ORIENTALIS*
(DANA, 1853), A CIROLANID GENUS AND
SPECIES (ISOPODA, FLABELLIFERA)
FROM THE PAKISTAN COAST**

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ABSTRACT: *Excirolana orientalis* (Dana, 1853) belonging to the Cirolanidae, hitherto unknown from Pakistan, is collected from the rocky intertidal region of Manora Island, Karachi coast. The specimens are fully described and illustrated. A list of the known species of the genus *Excirolana* is also provided since the genus is also first time reported from here.

KEY WORDS: Isopoda, new record, Karachi.

INTRODUCTION

Excirolana orientalis (Dana, 1853), recently collected from the Karachi coast, provides the first record of the genus and the species from the Pakistan waters.

Most species of *Excirolana* are tropical and have been found in the Indian, Atlantic and Pacific Oceans. Of the 15 species in the genus, 5, 4 and 7 species are recorded from the Indian, Atlantic and Pacific Oceans respectively.

Table 1: Distribution of the known species of *Excirolana* (Dana, 1853)

S.No.	Species	Indian Ocean	Atlantic Ocean	Pacific Ocean
1.	<i>E. affinis</i> (Jones, 1971)	Kenya	—	—
2.	<i>E. argentinae</i> (Giambiagi, 1931)	—	Argentina	—
3.	<i>E. armata</i> (Dana, 1853)	—	Brazil	—
4.	<i>E. braziliensis</i> Richardson, 1912	—	Brazil	—
5.	<i>E. chamensis</i> Brusca & Weinberg, 1987	—	—	Panama
6.	<i>E. chilensis</i> Richardson, 1912	—	—	Chile
7.	<i>E. chitoni</i> (Richardson, 1905)	—	—	California
8.	<i>E. geniculata</i> Jones, 1971	Kenya	—	—
9.	<i>E. hirsuticauda</i> Menzies, 1962	—	—	Chile
10.	<i>E. latipes</i> (Barnard, 1914)	South Africa	—	—
11.	<i>E. linguifrons</i> (Richardson, 1899)	—	—	California
12.	<i>E. mayana</i> (Ives, 1891)	—	Yucatan, Florida Mexico, Venezuela	—
13.	<i>E. monodi</i> Carvacho, 1977	—	—	Chile
14.	<i>E. natalensis</i> (Vanhoeffen, 1914)	South Africa	—	—
15.	<i>E. orientalis</i> (Dana, 1853)	Madagascar to tropical Australia	—	Philippines, Japan

SYSTEMATIC ACCOUNT
Genus *Excirolana* Richardson, 1912

Diagnosis:

“Cephalon with prominent rostrum separating antennular bases; fused with flattened frontal lamina. Clypeus with short, broadly triangular blade projecting anteroventrally. Antennal peduncle with four or five articles. Maxillipedal endite with single coupling hook. Pleopods 3-5, endopods lacking marginal setae. Pleonite 5 with free lateral margins, not overlapped by pleonite 4. Uropod sympod produced along mesial margin of endopod” (Kensley and Schotte, 1989: 149).

***Excirolana orientalis* (Dana, 1853)**
 (Figs. 1-3)

Cirolana (Eurydice) orientalis Dana, 1853: 773, pl. 51.

Cirolana orientalis Hansen, 1890: 353, pl. IV; Stebbing, 1900: 633; Thielmann, 1910: 17; Richardson, 1910: 4.

Excirolana orientalis Richardson, 1912: 201; Hale, 1925: 156, 1929a: 34; Nierstrasz, 1931: 148; Pichon, 1967: 70, 83; Roman, 1970: 174; Jones, 1971: 213, 1979: 667; Holdich, Harrison and Bruce, 1981: 587, fig. 12; Bruce, 1982: 613, 1986: 41.

Cirolana bombayensis Joshi and Bal, 1959: 58, pl. 1.

Exirolana orientalis Fishelson, 1971: 128 (err. typ.).

Material Examined:

Manora Island, 24°47'40"N, 66°58'39"E. 15 November, 1996, 21 males, 6.0-8.0 mm, 40 females, 5.8-9.0 mm.

Description of Adult Male:

Cephalon (Fig. 1A) slightly more than 2 times as wide as long, without submarginal and interocular furrows, rostrum well developed and dilated anteriorly, maxillipedal somite complete, eyes lateral, of dark orangish or brown colour. Cephalon and body surface without ornamentation and setae. Pereonite 1 longer than pereonite 2, maximum breadth at pereonite 5, pereonite 1 (Fig. 1B) with 1 fine longitudinal furrow on lateral surface, coxae 7 visible dorsally, each coxae with entire carina and without setae on posterolateral angles. Lateral margins of pleonites 4-5 acute. Pleotelson with a depression on each lateral side anteriorly, lateral margin slightly convex, without setae, apex (Fig. 1C) rounded bearing short plumose setae and spinules and a medially directed spine on each lateral side, apex provided with a notch with about 5 spines interspersed with plumose setae.

Frontal lamina (Fig. 1D), anterior margin truncate and broader than proximal portion, lateral margins straight, clypeal region developed, projecting anteroventrally, acutely pointed in lateral view.

Antenna 1 (Figs. 2A, 2B), flagellum not extending to posterior margin of pereonite 1, peduncle 3-articled flagellum composed of 9 articles, each article (Fig. 2B) with a pair of aesthetascs except on last 2 articles. Antenna 2 (Fig. 2C), peduncle 5-articled, article 3 with 1 and article 4 with 2 setae on distomedial angles, article 5 longest and with a few

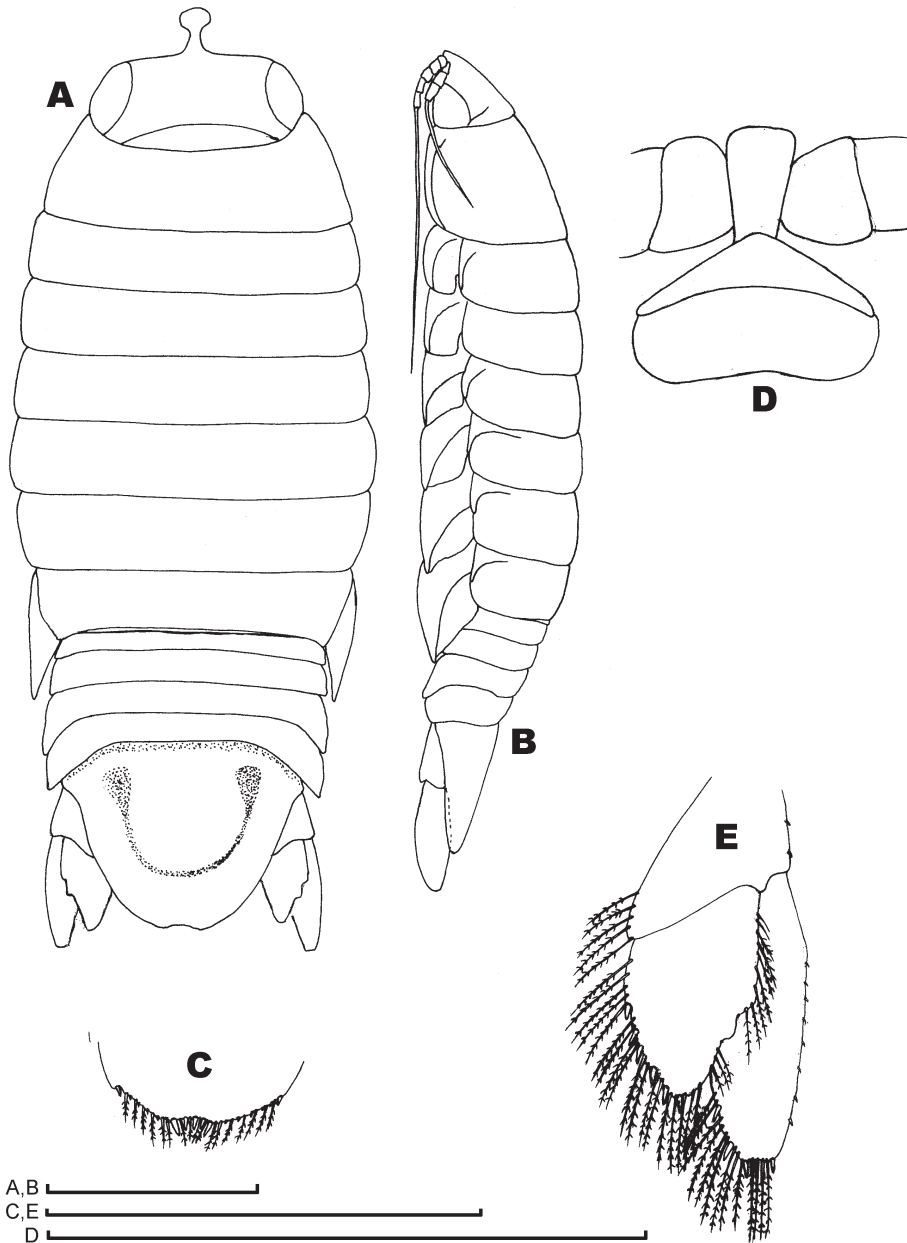


Fig. 1. *Excirolana orientalis* (Dana, 1853), male, 5.8 mm. A, dorsal view; B, lateral view; C, pleotelson apex; D, clypeal region; E, uropod. Scale 1.0 mm.

setae on each distal angle, flagellum extending beyond the posterior margin of pereonite 3, composed of about 17 articles, each article (Fig. 2D) bearing 2 bunches of fine setae on distomedial angle. Mandible (Fig. 2E), incisor medial cusp about twice as long as middle cusp, lateral cusp blunt and shorter, spine row well developed with about 12 spines, palp article 2 longest, slender, bearing 7 setae on distolateral margin, lateral margin of article 3 fringed with simple setae. Maxilla 1 (Fig. 2F), lateral lobe with 10 spines and 2 setae on distal margin, medial lobe broken. Maxilla 2 (Fig. 2G), lateral lobe 2-segmented, distal margin bearing 5 long setae, 3 of them pectinate; central lobe with 7 setae on distal and medial margins; medial lobe anteriorly produced, triangular, anterior and medial margin bearing simple long setae. Maxilliped (Fig. 2H), endite with 1 coupling hook, distal margin thickly setose, bearing 7 long, plumose setae; palp articles 2-4 medial margins thickly setose, palp articles 2 and 4 bearing only 1 seta on distolateral angle, lateral margin of palp article 3 fringed with about 6 setae.

Pereopod 1 (Fig. 3A), basis distolateral margin with 4 simple setae; ischium lateral margin with 2 spines, distomedial margin armed with 4 spines; merus lateral margin with 5 pegs, 3 spines and 1 seta, distomedial angle bearing 2 spines, carpus lateral margin with 1 spine and 1 seta, distal margin bearing 1 seta, propodus lateral margin with 3 spines, each with a subterminal setule, distolateral angle with 1 spine and 3 setae, distomedial angle with 1 seta, dactylus (Fig. 3B) with accessory unguis and 1 seta, medial submarginal row absent. Pereopod 2 (Fig. 3C) basis distolateral angle with 3 long simple setae and 1 spine, ischium distolateral margin with 4 stout spines and 2 setae, distomedial margin bearing 2 spines and 1 long seta; merus lateral margin armed with 3 pegs, 4 blunt spines each with a subterminal setule and 1 seta, distomedial angle with 1 spine and 2 setae, distomedial margin bearing 2 stout spines and 1 seta; carpus lateral margin with 3 spines and 1 seta; propodus lateral margin with 2 spines each with a subterminal setule, distolateral angle with 1 spine and 1 seta, distomedial angle with 1 seta; dactylus (Fig. 3D) with well developed accessory unguis and 1 seta, medial submarginal row of setae absent. Pereopod 7 (Fig. 3E), basis distolateral angle with 4 setae and 1 spine, ischium lateral side bearing 2 marginal and 2 submarginal spines, distal margin armed with 7 spines and 2 setae; lateral margins of merus and carpus each with a group of 3 spines, distal margins of merus and carpus bearing clusters of spines; propodus lateral margin with a pair of spines, distolateral angle bearing 2 spines; dactylus (Fig. 3F) with distinct accessory unguis and 1 seta, medial submarginal row with 3 setae.

Penes (Fig. 3G) present as separated and posteriorly directed 2 lobes.

Pleopod 1 (Fig. 3H) rami slender, apices rounded, exopod slightly longer than endopod; peduncle lateral margin produced into a lobe, medial margin (Fig. 3I) with 4 coupling spines and 1 plumose seta. Pleopod 2 (Fig. 3J) exopod longer than endopod, appendix masculina distinctly shorter than exopod, (Fig. 3L) stout, bearing setules on proximomedial margin, arising subbasally, tapering to medially deflected apex; peduncle lateral margin lobed, medial margin (Fig. 3K) with 3 coupling spines and 2 plumose setae. Pleopods 3-5 (Figs. 3M, O, Q) endopods naked, exopods larger than endopods; proximomedial angle of endopod of pleopod 5 produced into a short anteriorly directed lobe, peduncle lateral margins of pleopods 3-5 lobed, those of pleopods 4 and 5 bearing a terminal seta, peduncle medial margins of pleopods 3 and 4 (Figs. 3N, P) each with 3 coupling spines and 2 plumose setae.

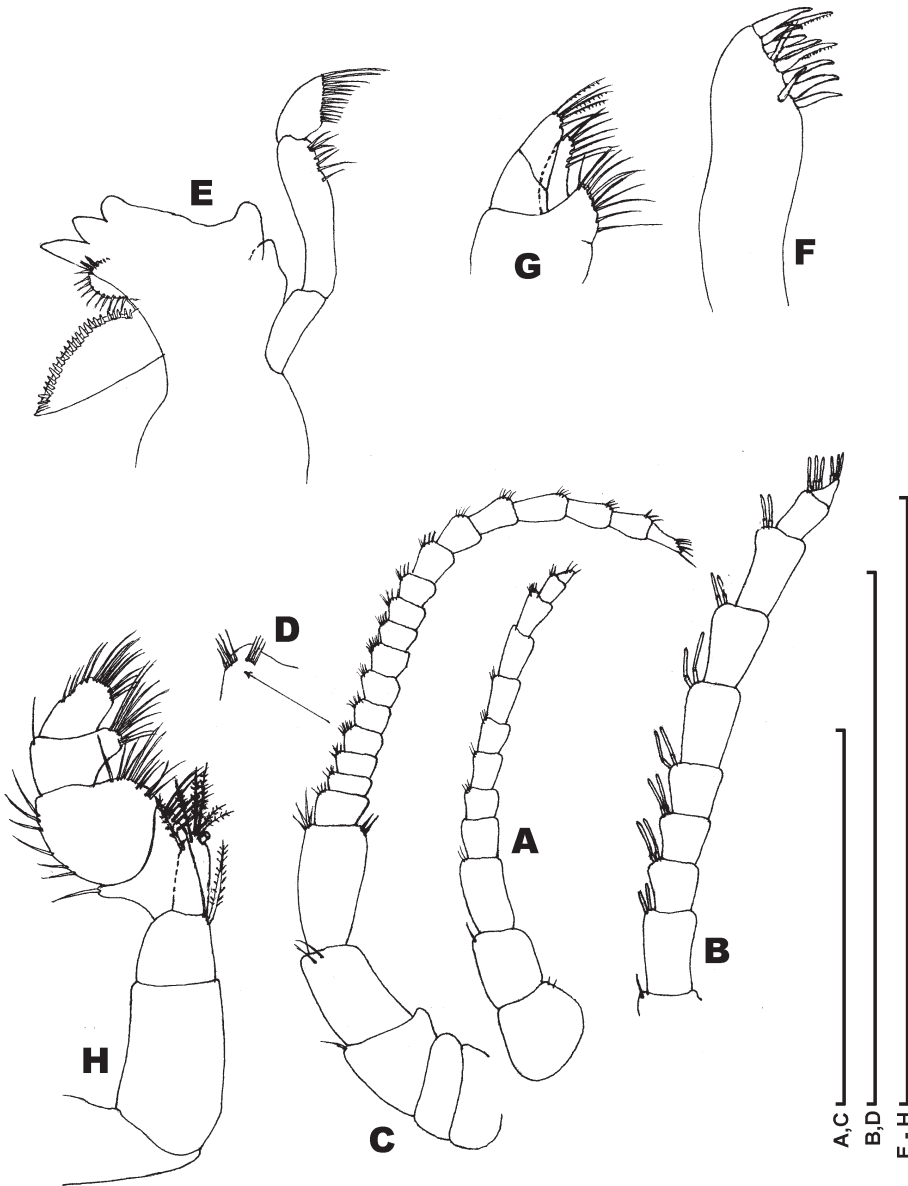


Fig. 2. *Excirolana orientalis*, male, 6.0 mm. A, antenna 1; B, antenna 1 flagellum; C, antenna 2; D, antenna 2, flagellar article 5; E, mandible; F, maxilla 1; G, maxilla 2; H, maxilliped. Scale 1.0 mm.

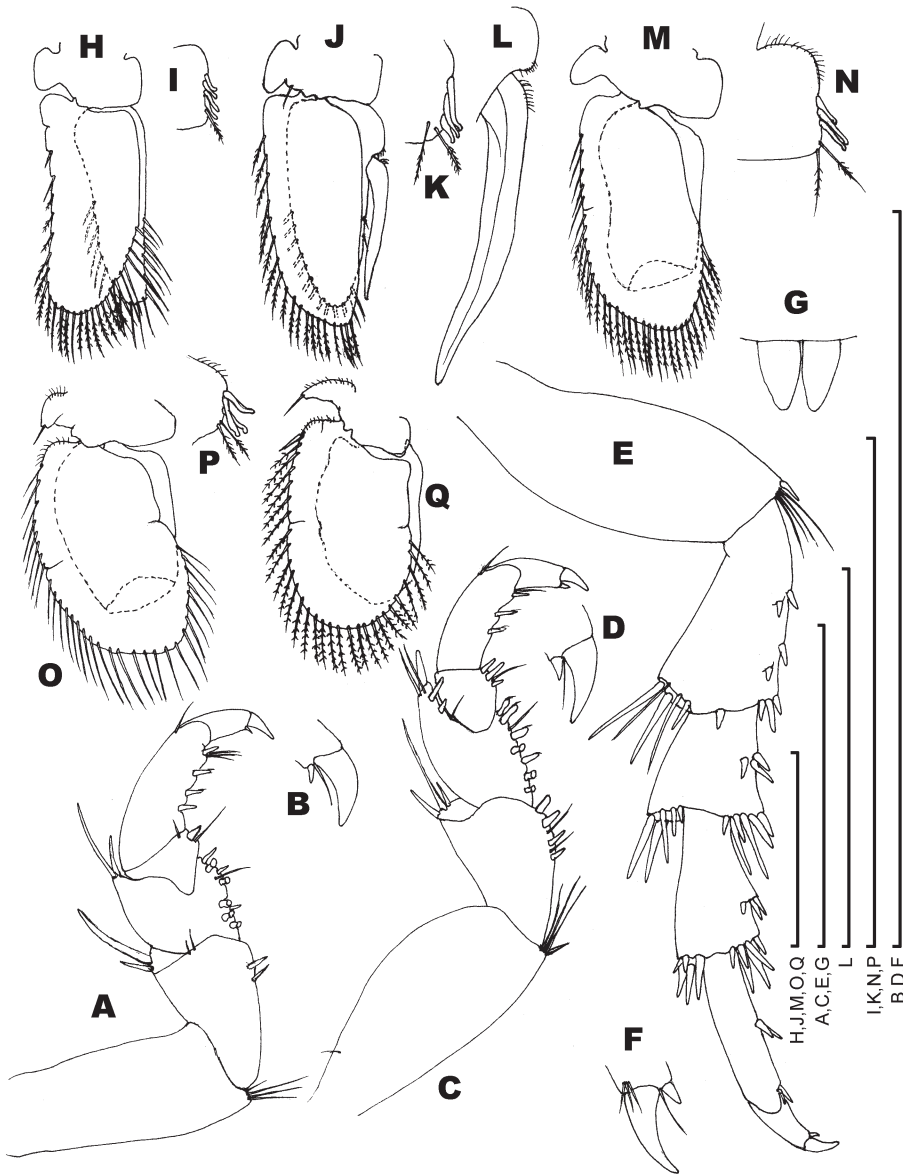


Fig. 3. *Excirolana orientalis*, male, 6.0 mm. A, pereopod 1; B, pereopod 1 dactylus; C, pereopod 2; D, pereopod 2 dactylus; E, pereopod 7; F, pereopod 7 dactylus; G, penes; H, pleopod 1; I, pleopod 1 peduncle; J, pleopod 2; K, pleopod 2 peduncle; L, appendix masculina; M, pleopod 3; N, pleopod 3 peduncle; O, pleopod 4; P, pleopod 4 peduncle; Q, pleopod 5. Scale 1.0 mm.

Uropod (Figs. 1A, E) extending beyond distal margin of pleotelson. Exopod longer than endopod, lateral margin bearing spinules, devoid of setae, distal margin truncate, bearing 1 spine on each lateral end and long plumose setae between these 2 spines; distomedial margin fringed with long plumose setae and 2 spines. Endopod broad proximally, lateral margin indented, distal margin smoothly rounded bearing long, plumose setae and 1 spine, entire medial margin setose and with 5 spines.

Female:

Similar to male except for the primary sexual characters.

Distribution in the Indo pacific:

Known from Sulu Sea- Philippines; New Guinea; Queensland – Australia; Indonesia; Penang – Malaysia. Nicobar Islands; Madagascar; Kenya; Red Sea; Persian Gulf and Bombay, now range extends to Pakistan.

Remarks:

The detailed description and illustrations of this species have been given by Holdich *et al.* (1981) and Bruce (1986). The present material agrees closely with the Australian material except that the dactylus of pereopod 1 in Australian male has medial submarginal row of setae well developed (Bruce, 1986; Fig. 24C), while it is absent in the males from Pakistan.

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