

A new species of *Joeropsis* (Isopoda, Asellota, Joeropsidae) from a Sabellid reef in Pakistani waters (northern Arabian Sea)

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Abstract: This paper describes a new microscopic isopod species belonging to the asellotan genus *Joeropsis*. The holotype was collected alive from a polychaete colony in the intertidal region of Sandspit, Karachi. The species can be diagnosed on the basis of the following characters: a dome-shaped rostrum, a lightly armed pleotelson, having a submarginal setose ridge; an extended maxilliped basis and a cephalon covered with dark pigment in patches. The species will also be the first asellotan representative from Pakistan coast.

Key words: New species, *Joeropsis*, Isopoda, Pakistan.

Introduction

The suborder Asellota Latreille, 1803 is one of the most diverse groups of isopods, comprising about 25% of all the marine species. Members of the family Joeropsidae Nordenstam, 1933 have been known from all the continents and oceans. Nevertheless no report of any asellote has been published from Pakistan. This paper describes new species of the genus *Joeropsis*, and also represents the first record for the suborder from our area.

The holotype is housed in the repository of Marine Reference Collection & Resource Centre (MRC), University of Karachi.

Joeropsis karachiensis sp. nov.

(Figs. 1-4)

Diagnosis :

The species can be diagnosed on the basis of the following characters : a dome-shaped rostrum, a lightly armed pleotelson, having a submarginal setose ridge, an extended maxilliped basis and a cephalon covered with dark pigment in patches.

Material:

Holotype MRC Cat. No. ISO 10, male, Sandspit, Karachi, 26th March, 1999 from a polychaete colony (*Sabellaria spinulosa*) at low tide.

Description :

Total length 3.0 mm, body (Fig. 2A) parallel-sided, about 4 times longer than wide. Half of dorsal surface of head covered with dark pigment patch (Fig. 1A) ; lateral surface of almost all pereonites with small dark pigment spots. Antero-lateral angles of cephalon not very acute;

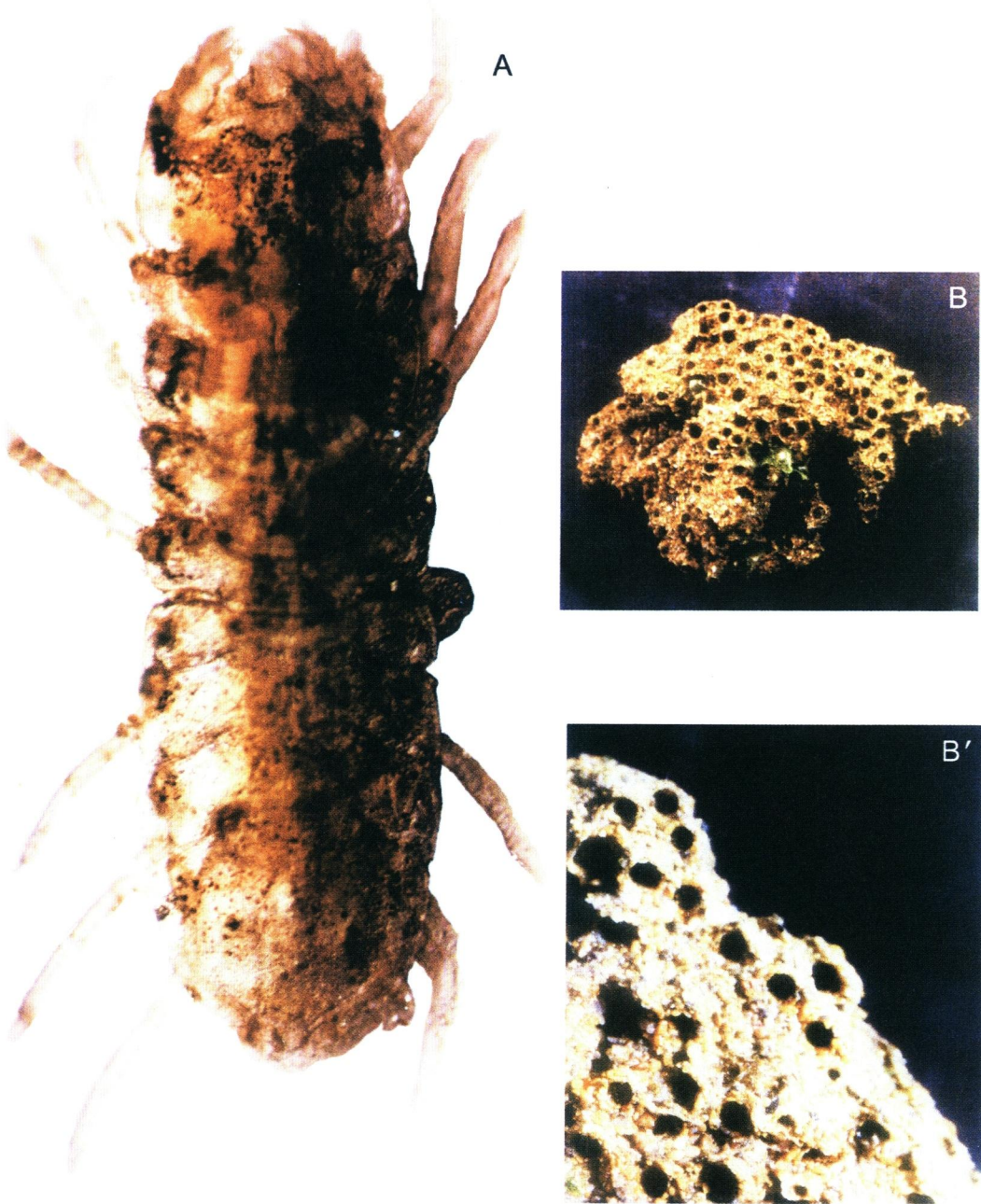


Fig. 1. A, *Joeropsis karachiensis* sp. nov. photograph of live specimen.
B, Sabellid reef; B', same, magnified.

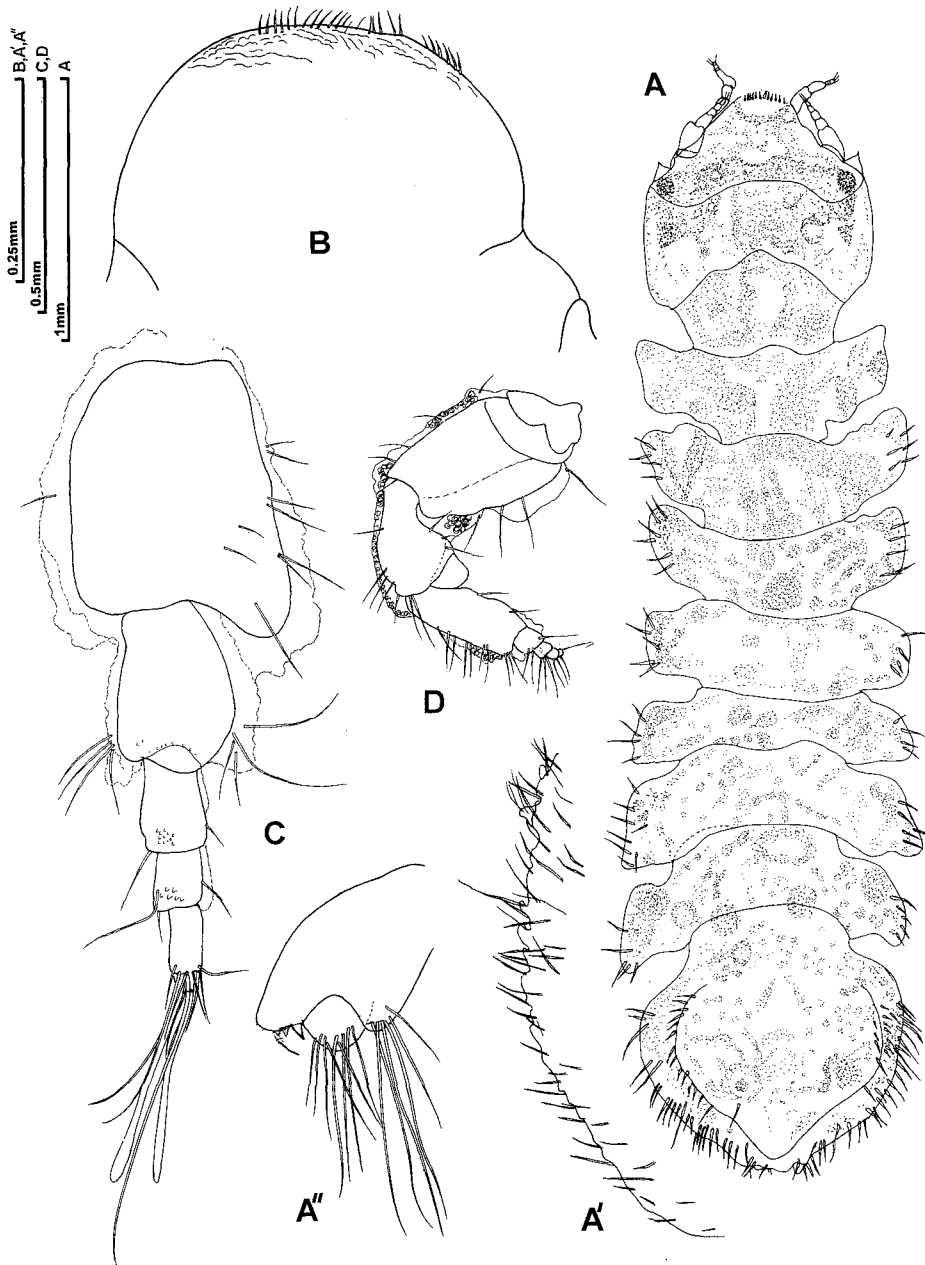


Fig. 2. *Joeropsis karachiensis* sp. nov. Adult male; T. L. = 3.0 mm.
 A, dorsal view; A', lateral margin of pleotelson with denticles; A'', uropod; B,
 rostrum; C, right antenna 1; D, right antenna 2.
 Scale line A = 1 mm.
 Scale line C-D = 0.5 mm.
 Scale line B, A', A'' = 0.25 mm.

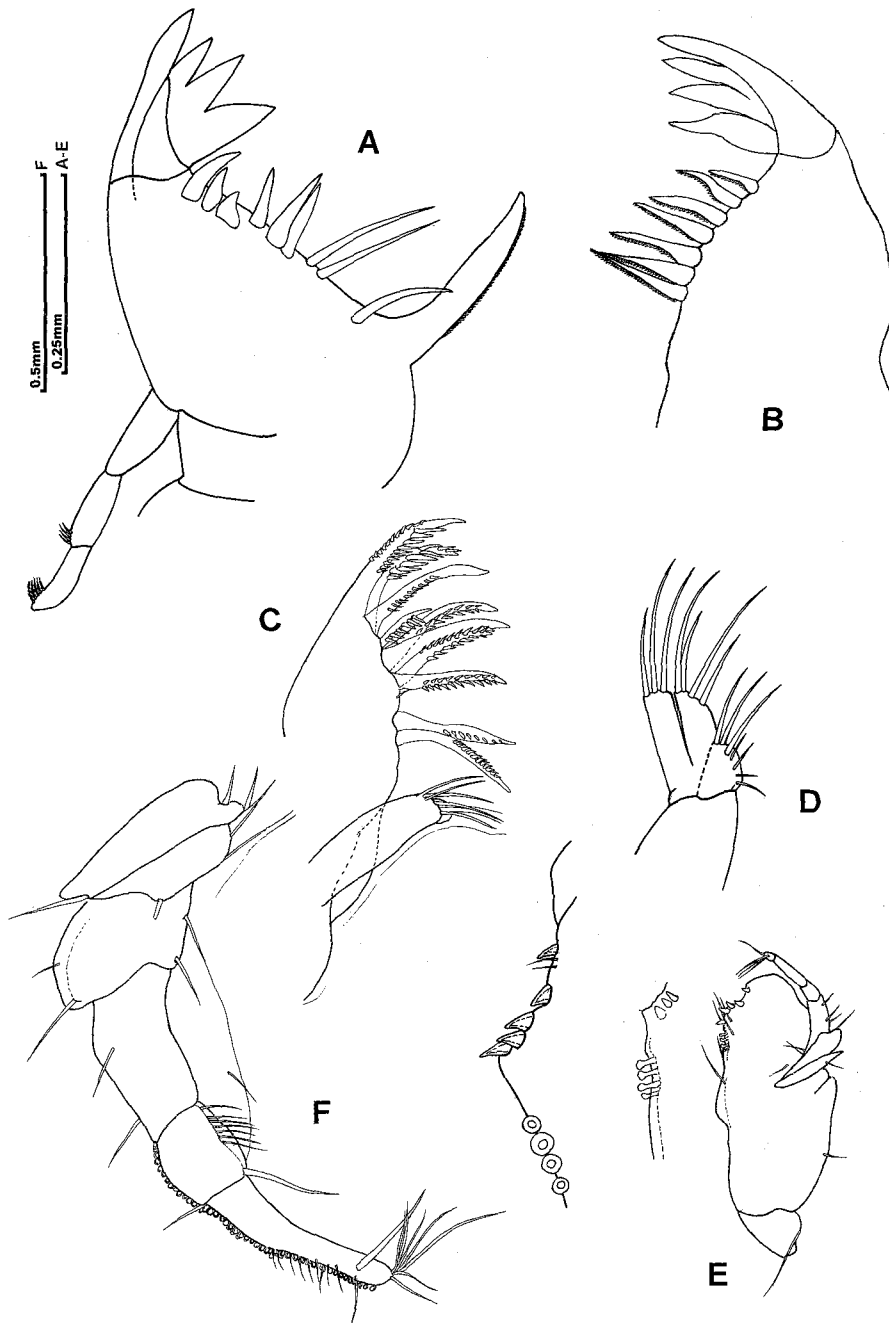


Fig. 3. *Joeropsis karachiensis* sp. nov. Adult male; T. L. = 3.0 mm.
 A, right mandible; B, left mandible; C, right maxilla I; D, right maxilla 2; E,
 right maxilliped; F, maxillipedal palp.
 Scale line A, B, C, D, E = 0.5 mm.
 Scale line F = 0.25 mm.

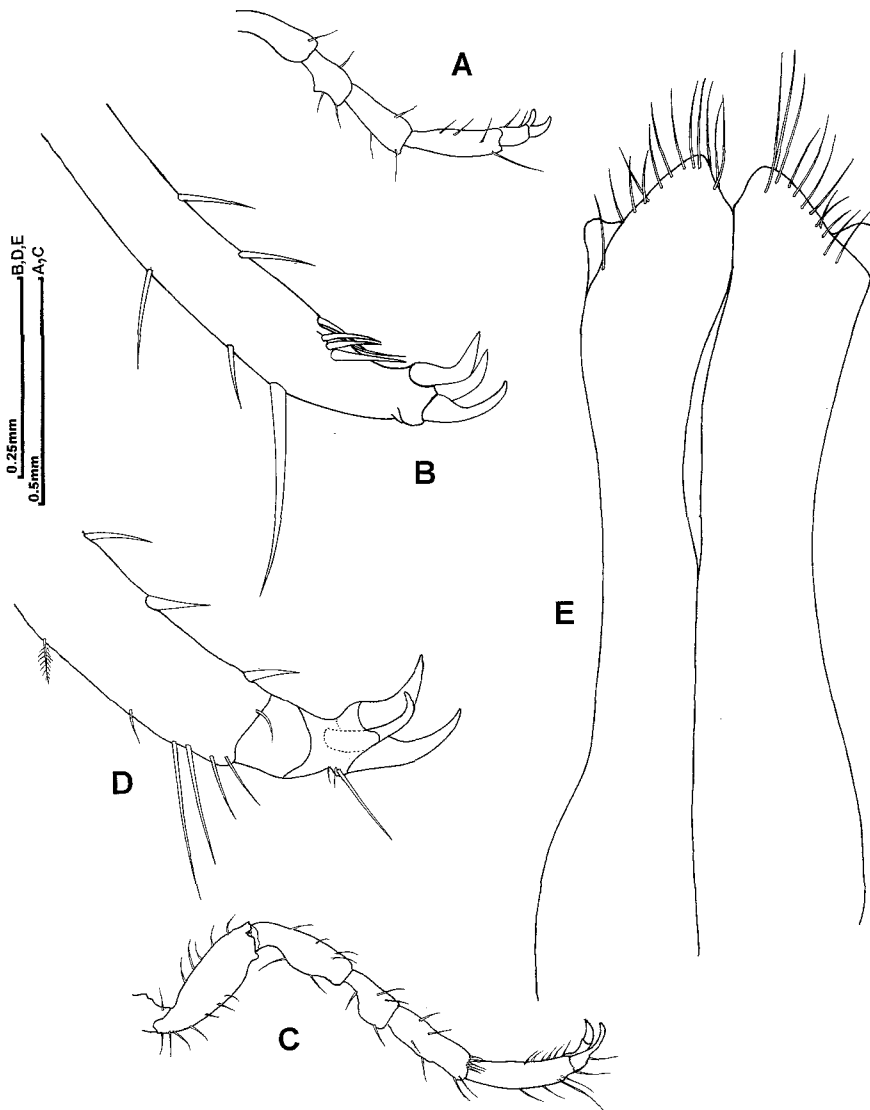


Fig. 4. *Joeropsis karachiensis* sp. nov. Adult male; T. L. = 3.0 mm.
 A, right pereopod 1; B, dactylus of pereopod I; C, right pereopod 7; D,
 dactylus of pereopod 7; E, right pleopod I.
 Scale line = A, C = 0.5 mm.
 Scale line = B, D, E = 0.25 mm.

cephalon (excluding rostrum) 1.2 times wider than long, with pigmented dorso-lateral eyes. Rostrum (Fig. 2B) dome shaped, with transparent scales subapically and fringe of hair apically. Lateral margin of pereonites smooth, few setae in the submarginal area, lateral margin of pleotelson with 4-5 denticles (Fig. 2A').

Antenna 1 (Fig. 2C) of 2 peduncular and 4 flagellar segments, surface with few granules, basal peduncular segment the longest, its margins produced into transparent fringe of shallowly rounded teeth and few setae; this membrane extends to other joints; penultimate flagellar joint with 2 strongly developed aesthetascs, ultimate joint small, with 7 small and large setae. Antenna 2 (Fig. 2D) of 6 segments; basal segment the longest, almost all margins produced into transparent fringes.

Mandibles (Fig. 3A, B) asymmetrical. Right mandible with a palp of 3 articles; spine row of 7 spines on left, 9 on right; molar slender, tapering.

Maxilla 1 (Fig. 3C) inner ramus with 6 distal setae; outer ramus with 9 stout dentate spines. Maxilla 2 (Fig. 3D) inner ramus with 6 simple setae; outer lobes each bearing 4 setae.

Maxilliped (Fig. 3E) endite broad, bearing four coupling hooks, medio-distally emarginate, armed with 5 stout, flattened spines; palp (Fig. 3F) of 5 articles, penultimate article the longest.

Pereopods similar (Fig. 4A, B) without any armature except for few setae on all the segments, the dactylus with three terminal ungui (Fig. 4B, D).

Pleopod 1 (Fig. 4E) laterodistal lobes triangular, blunt; mesiodistal lobes triangular, with 12-13 marginal setae.

Uropod (Fig. 2A'') with mediiodistal angle not hook like but acute, inner ramus bearing 6 setae, outer ramus shorter with 9 long and short setae.

Female:

Unknown.

Remarks:

The genus *Joeropsis* Koehler, 1885 was the only one genus in the family Joeropsidae until Just (2001) described two new genera *Rugojoeropsis* and *Scaphojoeropsis* from the lower shelf and upper bathyal of southeastern Australia. The genus *Joeropsis* contains 54 widespread species in the tropical and temperate waters (Just, 2001). *Joeropsis rathbunae* is probably pantropical cosmopolite (Menzies and Glynn, 1968). From the Indian Ocean, 23 species have been summarized by Kensley (2001), and 7 species were described as new by Kensley and Schotte (2002), but no species were collected for the northern Arabian Sea. Kensley and Schotte (2002) gave five characters for discriminating *Joeropsis* species: "degree of setation of the body; serration of the lateral margins of the cephalon; shape of the rostrum; presence and absence of a strong mediiodistal tooth on the uropodal protopods; serration of the lateral margins of the pleon", and colour pattern of live or freshly dead specimens. Using Kensley and Schotte's (2002) key *J. karachiensis* can be included within the species group having pleotelson margin fewer than 7 teeth. However the teeth in our specimen are visible only under high magnification, also the pleotelson is distinct from other species having a submarginal row of setae on the ridge which perhaps separates *J. karachiensis* from known congeners (Schotte, pers. comm. Q. B. K). Two other species, *J. waltervadi* Kensley, 1975 and *J. bicarinata* Just, 2001, differ from other species of *Joeropsis* in having such longitudinal ridges running along the dorsum, which is confined to the pereon in *J. waltervadi* while sharp keel extends to the pleotelson in *J. bicarinata*. In *J. karachiensis* the pattern of longitudinal ridges is different from the above given patterns in the two species, here being confined only to the pleotelson. Other characters in which *J. karachiensis* differs from all *Joeropsis* species, is the maxilliped

basis which reaches to middle of palp article 2 resembling to that of *Scaphojoeropsis* Just (2001).

Etymology:

The specific epithet, *karachiensis* refers Karachi, where the first specimen of the suborder was recorded.

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