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NOTES AND NEWS

NEW RECORDS OF TWO INTERESTING MARINE ISOPODS FROM KARACHI, WITH A SUMMARY OF PREVIOUS RECORDS OF ISOPODS FROM COASTAL AREAS OF PAKISTAN

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The order Isopoda is generally divided into 10 suborders (Gnathidea, Anthuridea, Microcerberidea, Flabellifera, Asellota, Callabazoidea, Valvifera, Phreatoicoidea, Epicaridea and Oniscidea). Of these except the Oniscidea, which are terrestrial and semiaquatic, remaining orders are aquatic.

Kensley, 2001 has given 268 species of Isopods from the Indian region which includes Pakistan, India, Myanmar, Arabian Sea, Bay of Bengal, Sri Lanka, Maldiv Islands, Lakshadweep Islands, Gulf of Mannar and Andaman Sea. While the isopod fauna of much of the Pakistan coast is imperfectly known, however reports over the last few years have slowly added to some knowledge of the area. Several other new records and new species await to be added to the faunal list of the region.

From Pakistan so far nearly 50 species have been reported, in the following manner (sources arranged alphabetically, number of species in brackets). **Anthuridea** (9) see Javed and Yasmeen, 1992; Kensley, 1982; Negoescu, 1980. **Epicaridea** (7) see Chopra 1923; Ghani, 1995; Ghani and Tirmizi 1993, Kazmi, 1995, 1996a,b, 1997; Kazmi and Bourdon; 1997; Kazmi and Tirmizi, 1994; Kazmi and Kazmi, 1995; Kazmi and Markham, 1999; Markham, 1980; Markham and Kazmi, 1998; Qazi, 1959. **Flabellifera** (27) see Barkati and Tirmizi, 1990; Bruce, 1986; Bruce and Javed, 1987; Eleftheriou and Jones, 1976; Ghani, 1996; Ghani and Ali, 1998; Ghani and Shireen, 1995, 2000; Javed, 1990; Javed and Ahmed, 1987, 1988a,b; Javed and Yousuf, 1995a,b; 1996, 1997; Javed and Yasmeen, 1989, 1990, 1992, 1994, 1995, 1999; Karim, 1975; Shireen, 2000, 2001; Shireen and Ghani, 2000. **Oniscidea** (2, terrestrial) see Kazmi and Yousuf, in press; Schotte, 1995.

From the recently collected samples representatives of two suborders of isopods are obtained, which are not so far included in the faunal list of Crustacea from Karachi coast. The small size of the specimens and their living style seem to be the two reasons for them to go unnoticed. The two suborders are identified as Asellota and Microcerberidea, considered as sister groups by Brusca and Wilson (1991). The species are still undetermined.

Asellota:

This suborder is group of small isopod crustaceans which live in various habitats from fresh water, subterranean waters, tidal pools, littoral zones to abyssal bottom. There are two representative: one small specimen which was screened from seaweeds at Karachi coast identified as belonging to Halicarids in the first sorting, is now identified as belong

to isopod family Santiidae and to the genus *Halacarsantia* established by Wolff (1989), reflecting the resemblance to marine mites Halicaridae. The other one is a small specimen belonging to the family Jaeropsidae and the genus *Jaeropsis* Koehler, 1885. This being described separately. The specimens of *Halacarsantia* are briefly described here.

***Halacarsantia* sp.:**

The specimen, a female measures 4.5mm in length. The head and pleotelson are equally long (Fig. 1A). The pereonites 2-5 are equal in length medially, the pereonites 6-7 are shorter than the preceding pereonites. The anterolateral corner of the head is evenly rounded. Eleven spine like setae are present in fringe a frontal lobe of the head. Anterolateral corner and eye buldge are also setose. Three, occasionally four stout setae are present at lateral margin of each pereonite.

The article I and II of antenna 1 (Fig. 1B) are equal. The article 2 is with a dorsolateral projection and setae. The article 3 and 4 are subequal in length. The article 5 is the longest with setae and an unusually long aesthetasc. The antenna 2 (Fig. 1C) has the peduncle articles subequal in length and a setose flagellum. The maxilla is as illustrated in Fig. 1D. The pereopod 1 (Fig. 1E) is shortest of all the pereopods. The dactylus is two-thirds as long as the propodus ending in a along claw like spine. The pereopods 2-7 (Fig. 1F-K) are similar in shape, all their dactyli ending in two claws of subequal length. The uropods (Fig. 1L) has the first article longer and wider than the second article. The first article has two terminal setae and the second with 5 setae.

Remarks:

Halacarsantia is a small genus, including only four species. My observations were that the specimen is close to *H. justii* Wolff, 1989 from Thailand in shape of legs and length of uropods. But according to Wolff (personal comm.) the specimen can be referred also to *H. colombiensis* Wolff and Brandt since the shape of the head margin is closer to it, also the specimen differs from the already described species in "apparent lack of the projection on article 2 of peduncle antennula". (Wolff, personal comm.).

The present record of the genus *Halacarsantia* from the northern Arabian Sea shows its range of distribution. Since the isopod fauna of the northern Indian ocean is poorly known (Muller, 1991), so it would not be surprising that the species discovered may turned out new to science.

Microcerberidea:

Most known species are highly specialized and live in interstitial habitats of the beaches of tropical to temperate coasts (Coineau, 1986). From Karachi two specimens measuring, 0.6mm in size were collected on 28 July, 1998 from the sand of Bulleji at 6-10cm depth. They belong to the only family of the suborder – Family Microcerberidae and most probably to the genus *Coxicerberus* Karaman. They are briefly described here.

***Coxicerberus* sp.:**

The body (Fig. 2A) is nearly 7 times as long as wide, without pigment, the eyes are absent. The rostral point is absent. Two pleonites (1 and 2) are long, the pleotelson is 1.5 times the length of pleonite narrowing distally, the anus being terminal.

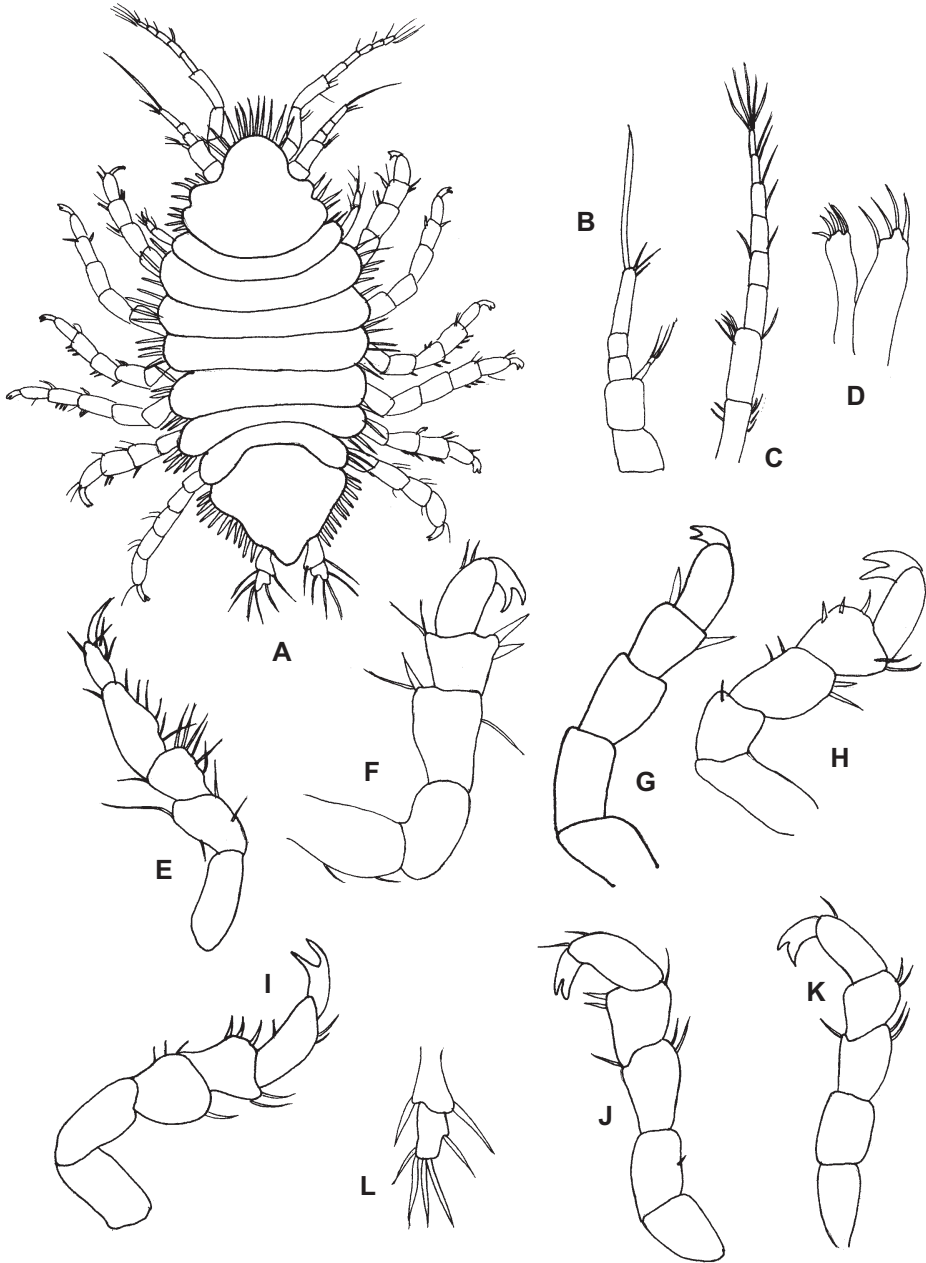


Fig. 1. *Halacarsantia* sp. A, entire, dorsal view; B, antenna 1; C, antenna 2; D, maxilla 1; E-K, pereopods 1-7; L, uropod.

The antenna 1 (Fig. 2B) has 2 peduncular and 2 flagellar articles. The first peduncular article is with one seta, while the second article with 3 outer and one apical seta; the first flagellar article has two unequal setae, the distal article is provided with 2 inner and three apical setae and one long aesthetasc. The antenna 2 (Fig. 2C) is composed of 5 peduncular articles and 5 flagellar articles, the second peduncular article is broadened with lateral point bearing 2 setae laterally and tooth like process medially, the setation is shown in fig. 2C; the first flagellar article is provided with one aesthetasc, the last flagellar article bears 3 setae and slender aesthetasc-like sensillum. The mandible, maxillae and hypopharynx are shown in Fig. 2D. The maxilliped (Fig. 2E) palp of 4 articles, setation sparse, endite small on last article 2 claw-like setae and one short setae. The pereopod 1 (Fig. 2A and F,F') is inserted laterally on pereonite 1, it is subchelate, its carpus has a pointed lobe and several setae on the palm of propodus there are two teeth on a projection and simple setae on the medial surface. The dactylus ends in long apical claw, 2 small claws, ventral to it are there first one is toothed and two setae are present on the outer surface. The pereopod 2-4 are similar; coxae are modified, their bases have triangular process on anterior margins; the ischi are long, cylindrical and unarmed; the meri are short, broaden distally; the carpi and propodi are long, cylindrical; the dactyli are short, with 2 strong claws, the dorsal claw is short and hook-like, one seta is present between the claws (Fig. 2A'). The pereopods 5-6 are without visible coxae, their shape is similar to pereopods 2-4. The pereopod 7 is abnormal in shape (Fig. 2A). The pleopod 1 is absent; the pleopod 2 being not visible (may be it is a female); the pleopod 3 is uniramous (Fig. 2G) and pleopod 4 biramous (triramous?); protruding laterally in dorsal view; the pleopod 5 is missing, in its place two setae are seen. The uropodal (Fig. 2A'') sympod is with 4 (?) simple setae, lacking exopod, while the endopod is long and cylindrical, its setation as in figure.

Remarks:

Wagele *et al.* (1995) downgraded the suborder Microcerberidea to Microcerberidae and postulated that they belong to a branch of freshwater Asellota – the Aselloidea but I follow the classification synopsis given by Bowman and Abele, 1982, who included the family in the suborder Microcerberidea Lang, 1961.

In the Indian Ocean the Microcerberidea is represented by the genus *Coxicerberus* (7 spp) but none from the Arabian Sea. The specimens are only provisionally placed in the genus *Coxicerberus*. It is hoped that additional collection will help in ascertaining the genus and also the species.

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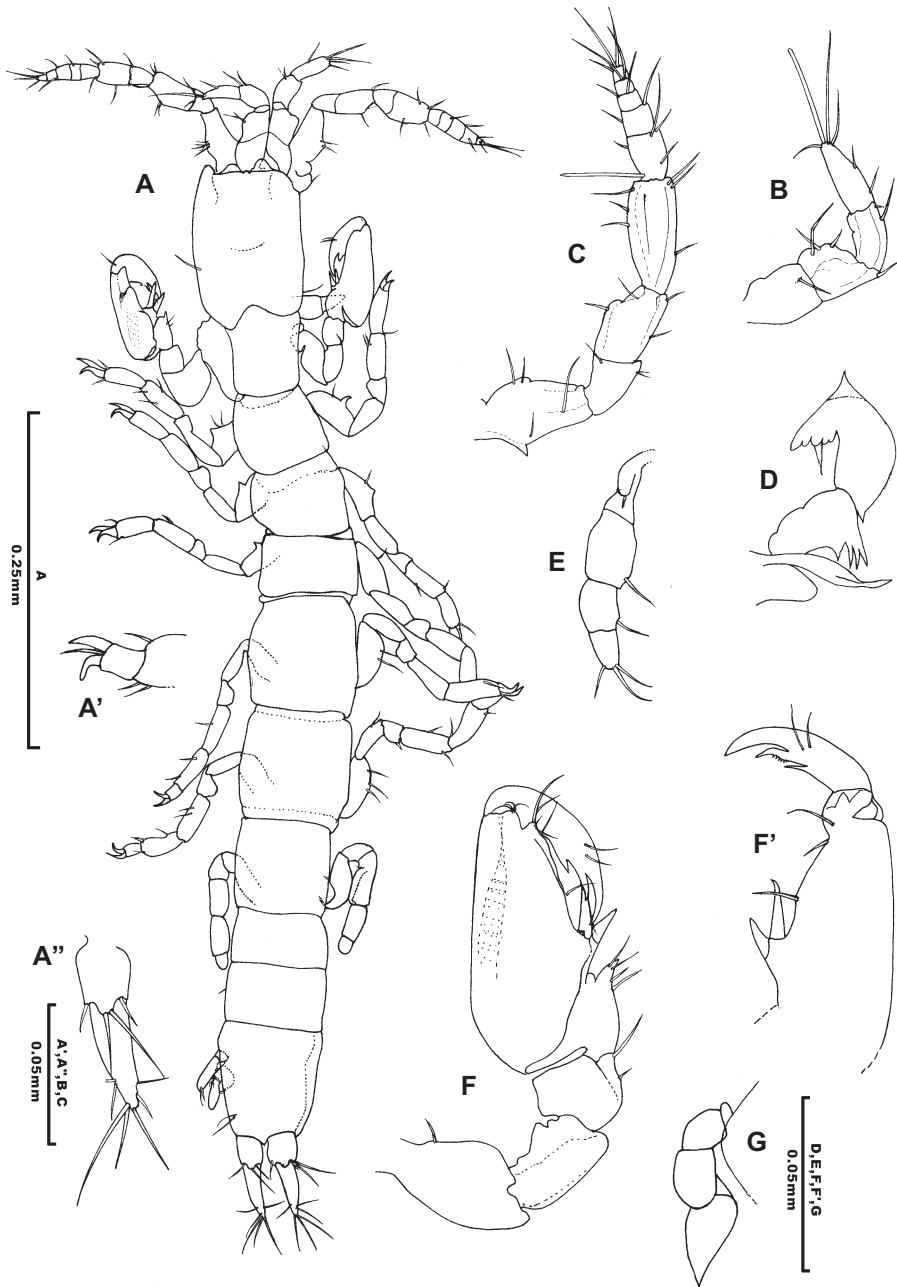


Fig. 2. *Coxicerberus* sp. A, entire, dorsal view; B, antenna 1; C, antenna 2; D, mandible, maxillae and hypopharynx; E, maxilliped; F, F', pereopod 1; G, pleopod 1.

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