

TWO NEW SPECIES OF THE GENUS *DYNAMENELLA*
FROM THE NORHTERN ARABIAN SEA (ISOPODA)

BY

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RÉSUMÉ

Deux nouvelles espèces, *Dynamenella granulata* et *Dynamenella bullejiensis* de la côte de Karachi, sont décrites et figurées. La nouvelle espèce *D. granulata* est étroitement apparentée à *D. savignyi* (H. Milne Edwards, 1840) dont elle diffère par la granulation du pléon et du pléotelson, et par l'appendix masculina très allongé et fortement armé. *D. bullejiensis* est rapidement séparé des espèces existantes du genre par la surface pubescente du corps et l'armature différente du pléotelson et de l'appendix masculina. Ces espèces sont les premières *Dynamenella* signalées de la mer d'Arabic.

INTRODUCTION

The isopod fauna of Pakistan, Arabian Sea, is very poorly known. Species of the genus *Dynamenella* Hansen, 1905, have been recorded from the Red Sea (Monod, 1933), from the eastern coast of Africa (Barnard, 1914, 1940) and from the southern coast of India (Pillai, 1954, 1965). But no species has been reported from the Arabian Sea (Harrison & Holdich, 1982: 108, fig. 7B), the two species described below are new to science and they provide the first record of the genus from the Arabian Sea.

***Dynamenella granulata* sp. nov.** (figs. 1-3)

Material examined. — Holotype adult male, 4.2 mm (Z.M.U.K.P.-W.J.-1), Bulleji Beach, Karachi coast, Pakistan. Collected from algae of intertidal region, 11 April 1983. Paratypes collection details as above. 1 adult male, 3.7 mm, 1 ovigerous female, 3.8 mm (Z.M.U.K.P.-W.J.-2).

Etymology. — The specific name *granulata* is derived from the Latin granum meaning a grain.

Description of holotype. — Cephalon (fig. 1A) with a rostral process and sinuous frontal margin, pereon surface smooth except for granulated transverse lines on posterior margins of pereonites 5-7. Pleon with granulations and a pair of large submedian granulated tubercles, pleotelson surface granulose, bearing 12 prominent granulated tubercles arranged in 4 longitudinal rows, median pair of rows forming an inverted Y, subapical foramen closed and circular posteriorly, extending anteriorly into a smaller

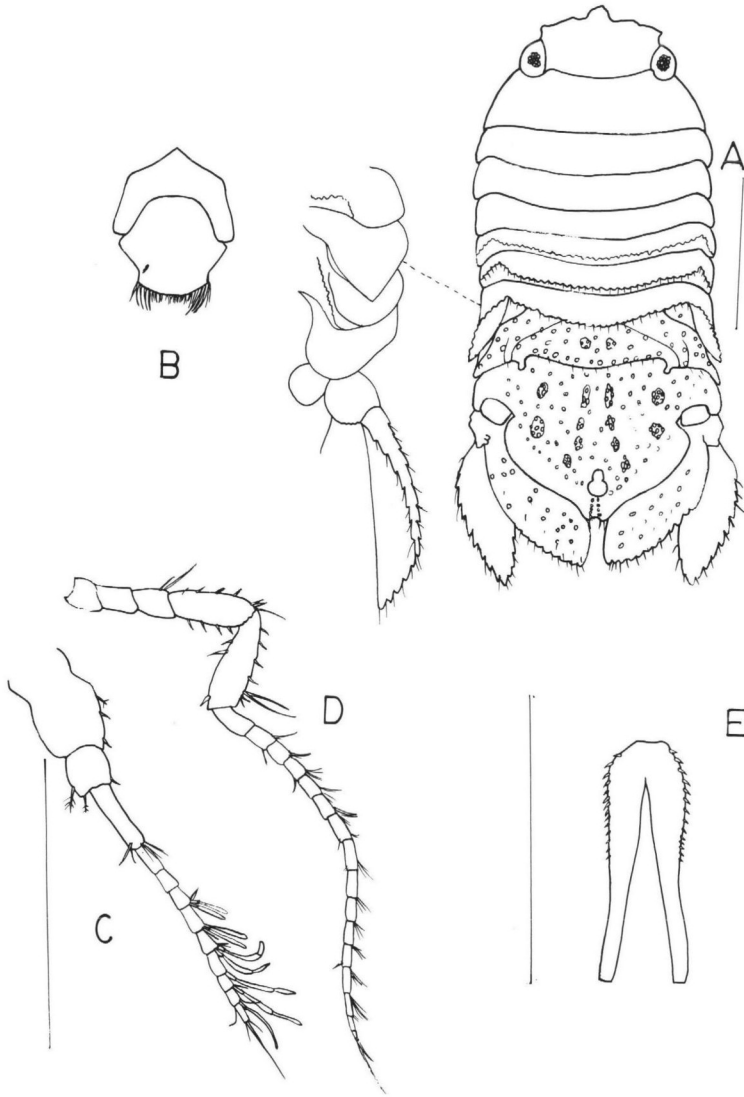


Fig. 1. *Dynamenella granulata* sp. nov., adult male, 4.2 mm. A, dorsal view; B, clypeal region; C, antenna 1; D, antenna 2; E, penes. Scale A-E = 1 mm.

half circle. Apex with longitudinal row of granules and terminal notch. Ventral margin of pleotelson as illustrated in fig. 3A.

Clypeus (fig. 1B) pentagonal, labrum with thick setae on posterior margin.

Antennae slender. Antenna 1 (fig. 1C) with peduncular article 1 stout and longest, article 2 shortest, article 3 slender, flagellum with 9 articles. Antenna 2 (fig. 1D) with peduncular articles 1-3 and 4-5 subequal in length, flagellum with 16 articles extending almost to the level of pereonite 5. Mandible and

maxilliped as illustrated in figs. 2A, B. Pereopod 1 (fig. 2C) short and stout, pereopod 2 and 3 long and slender (fig. 2D), pereopods 4-6 rather short and stout, pereopod 7 long and stouter than pereopods 2-3. Pleopod 1 (fig. 3B) with endopod and exopod subequal in length, inner margin with small thick setae. Pleopod 2 (fig. 3C) with appendix masculina extending much beyond the extremity of the endopod which has an acute apex with a long plumose spine-like structure, proximal half of appendix masculina with groups of spines on outer as well as inner margins and also on the surface, more than the distal half densely covered with delicate setae. Exopod of pleopod 3 (fig. 3D) without articulation, peduncle of pleopods 1-3 with 2 coupling spines, pleopods 4-5 as illustrated in figs. 3E, F. Exopod of uropod (fig. 1A) shorter than endopod, with smooth dorsal surface and serrated margins, endopod surface with granules and outer margins serrated. Sexual dimorphism not very pronounced.

Penes (fig. 1E) elongated, stout, fused at base, beset with spinules on each proximo-lateral side.

Ovigerous female (3.8 mm). — Cephalon and pereon (fig. 2E) same as described for the adult male except for pereonite 5 and 6 which lack the granulated transverse lines. Granulated tubercles of pleon and pleotelson (fig. 2E) more pronounced as compared to male, subapical foramen more or less triangular and situated more towards the apex. Brood pouch consisting of anterior and posterior pockets, both opening at the level of pereopod 4.

Antenna 1 with an eight-, and antenna 2 with a 12-articulated flagellum. Rami of uropod (fig. 2E) smaller than in adult male, with weak marginal serrations.

Colour of specimens in alcohol. — Mottled dark reddish brown over dorsal surface. Ventral pereon and appendages lacking chromatophores.

Remarks. — *D. granulata* closely resembles *Dynamenella savignyi* (H. Milne-Edwards, 1840), but the granulated surface of the pleon and pleotelson, and the much elongated appendix masculina furnished with spines and setae, easily distinguishes *D. granulata* from *D. savignyi*. Monod (1933) has figured *D. savignyi* in detail, under the name *Dynamenopsis dumerili* (Audouin, 1826), but he did not figure the penes which in the case of the present species has a characteristic shape and armature. Recently Harrison & Holdich (1982) when revising the genera of eubranchiata sphaeromatids, placed *Dynamenopsis dumerili* as reported by Monod (1933) in the species *Dynamenella savignyi* (H. Milne-Edwards, 1940).

***Dynamenella bullejiensis* sp. nov. (figs. 4-5)**

Material examined. — Holotype adult male, 3.9 mm (Z.M.U.K.P.-W.J.-3), Bulleji Beach, Karachi Coast, Pakistan. Collected from algae of the intertidal region, 27 August 1984. Paratypes, from same locality, 1 adult male, 4.1 mm, 1 subadult male, 3.7 mm (Z.M.U.K.P.-W.J.-4), 2 non-ovigerous females 2.2-3.0 mm (Z.M.U.K.P.-W.J.-5).

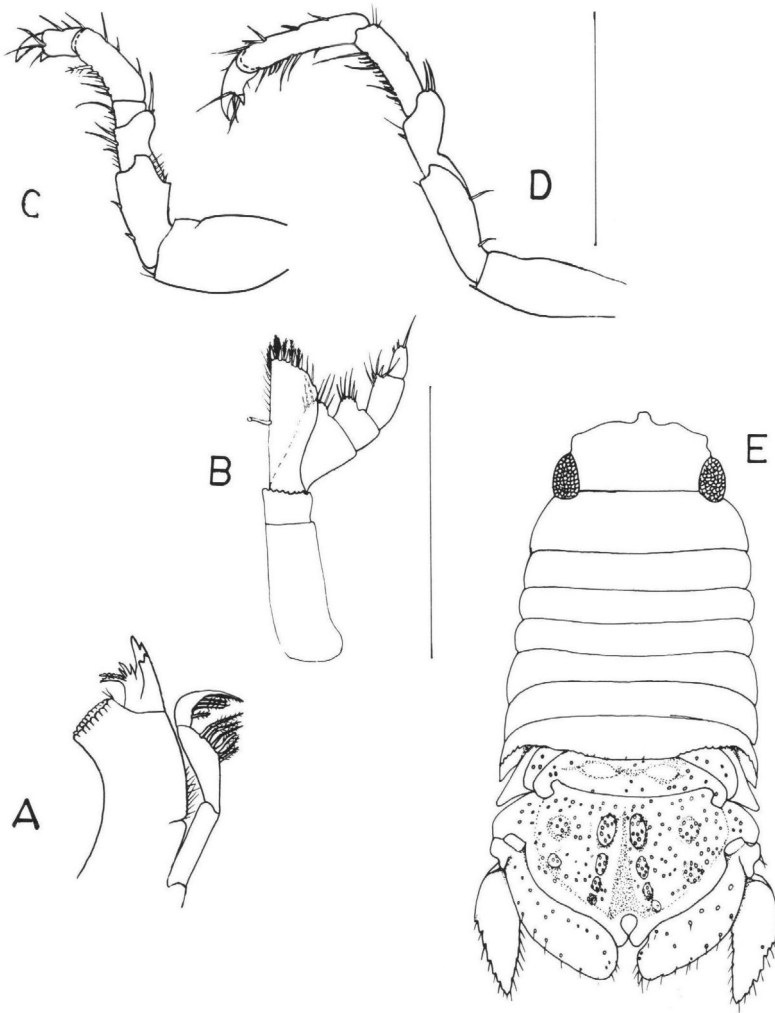


Fig. 2. *Dynamenella granulata* sp. nov. A-D, adult male, 4.2 mm. A, mandible; B, maxilliped; C, pereopod 1; D, pereopod 2. E, dorsal view of female. Scale A-E = 1 mm.

Etymology. — The species is named after the type locality: Bulleji.

Description of holotype. — *Dynamenella* (fig. 4A) bearing pubescence on lateral sides of pereon and on entire surface of pleon and pleotelson, pereonite 5-7 with granulated transverse lines, pleon with a pair of submedian tubercles, pleotelson (fig. 4A) with a median pair of longitudinal rows, each row consisting of 4 tubercles, and with 2 obliquely placed tubercles at both sides; subapical foramen circular and opened posteriorly. Ventral margins of pleotelson (fig. 4G) lacking out-curved ridges, surface finely pubescent.

Clypeus and labrum as illustrated in fig. 4B.

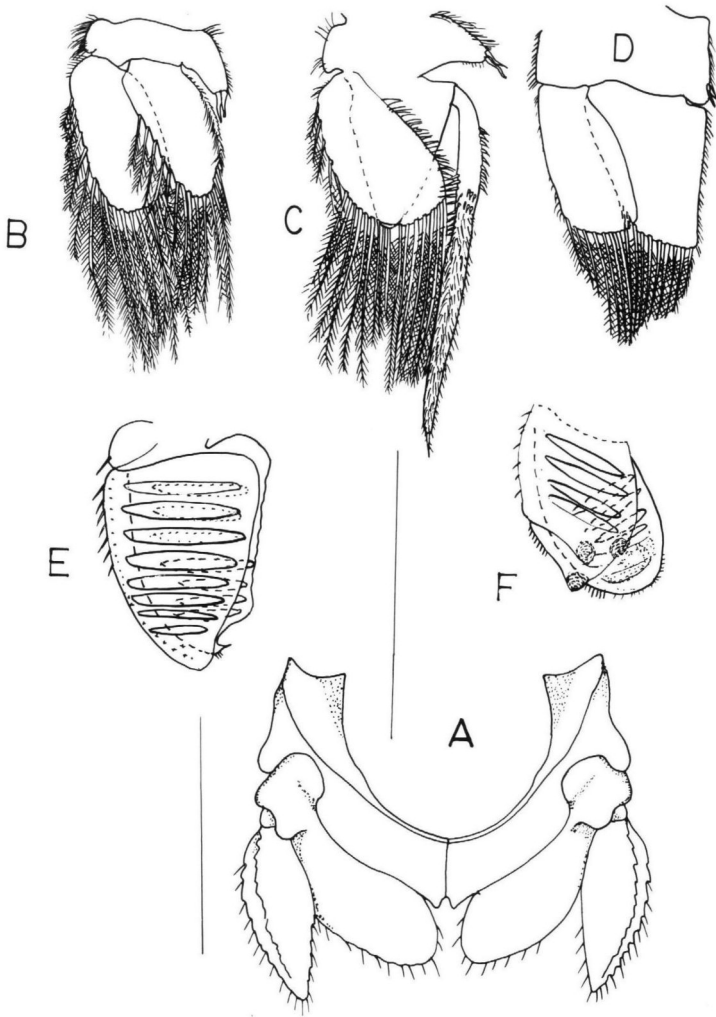


Fig. 3. *Dynamenella granulata* sp. nov., adult male, 4.2 mm. A, ventral view of pleotelson; B, pleopod 1; C, pleopod 2; D, pleopod 3; E, pleopod 4; F, pleopod 5. Scale A-F = 1 mm.

Antennae stout. Flagellum of antenna 1 with 10 articles. Peduncular segments of antenna 2 (fig. 4C) with marginal spinous setae, article 1-3 subequal in size, article 4 smaller than article 5, flagellum with 13 articles. Mouthparts similar to those of *D. granulata*. Pereopod 1 (fig. 4D) stout with rough surface, merus and carpus with setae and spines on posterior margin, carpus reduced and triangular, accessory unguis simple. Pereopod 7 long, merus, carpus and propodus with thick posterior marginal setae. Pleopod 1 as in *D. granulata* except for the two coupling spines which have tufts of setae. Pleopod 2 (fig. 4E) with stout appendix masculina extending beyond the

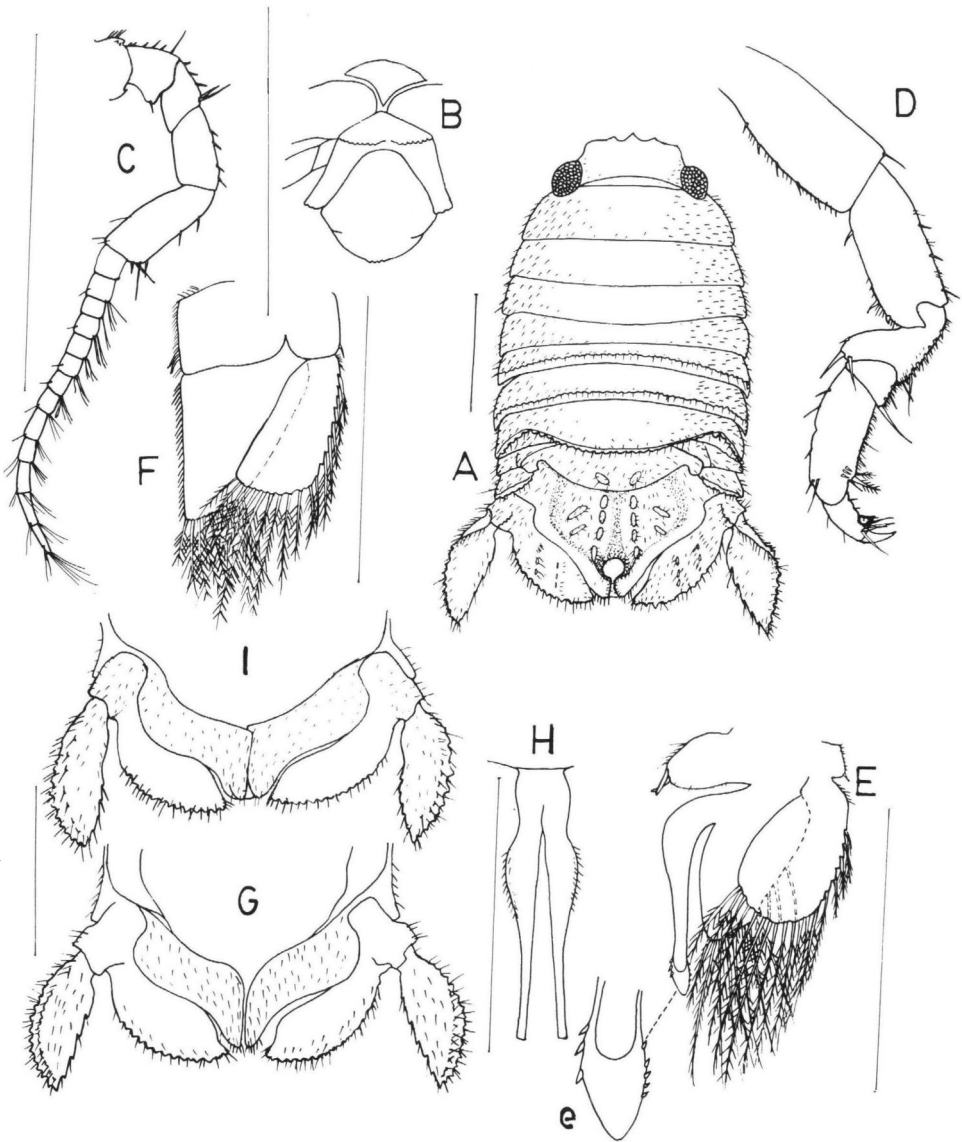


Fig. 4. *Dynamenella bullejiensis* sp. nov. A-H, adult male, 3.9 mm. A, dorsal view; B, clypeal region; C, antenna 2; D, pereopod 1; E, pleopod 2; F, pleopod 3; G, ventral view of pleotelson; H, penes. I, subadult male, 3.7 mm, ventral view of pleotelson. Scale: A-C, E-I = 1 mm; D = 0.5 mm.

endopod, broad, proximally tapering, apex slightly wider and pointed (fig. 4e), with five lateral and three inner spinules. Exopod of pleopod 3 (fig. 4F) without articulation. Rami of uropods subequal (fig. 4A) not extending beyond the apex of the pleotelson, lateral margins of rami distinctly serrated and setose surface pubescent.

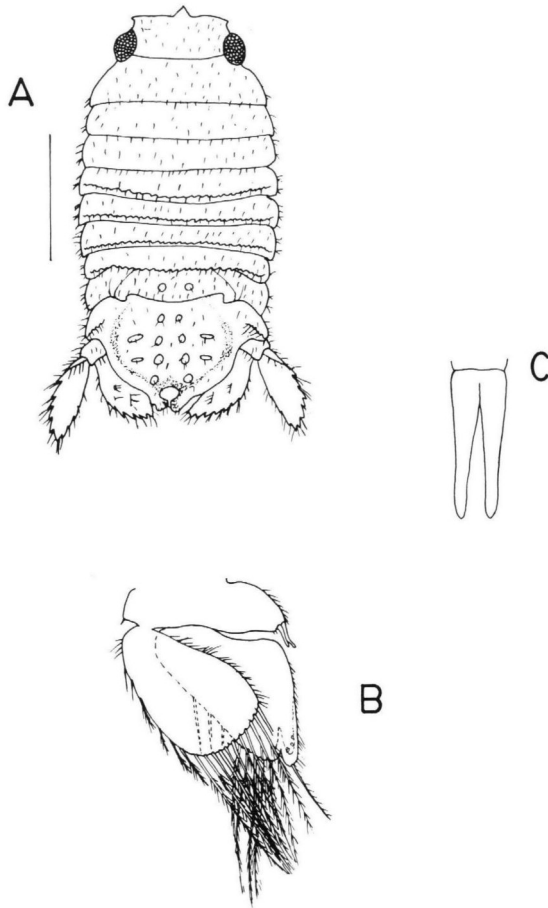


Fig. 5. *Dynamenella bullejiensis* sp. nov. A, non-ovigerous female, 3 mm, dorsal view. B, C, subadult male, 3.7 mm. B, plcopod 2; C, penes. Scale A-C = 1 mm.

Penes (fig. 4H) fused at the base, tapering distally to truncate tips with setose thickened regions midway along lateral margins.

Ovigerous female. — Not present in the collection.

Non-ovigerous female (3 mm). — *Dynamenella* (fig. 5A) with pubescent body surface. Pereonites 5-7 with weakly granulated transverse lines, pleon bearing a submedian pair of low tubercles, pleotelson tubercle rows not so pronounced as in adult male. Each endopod of uropod (fig. 5A) with 2 oblique rows of tubercles, apex almost rounded, ventral margin of pleotelson without out-curved ridges like those of the adult male (fig. 4G) and subadult male (fig. 4I). Ventral surface pubescent, apical portion with slightly longer setae.

Subadult male (3.7 mm). — Resembling non-ovigerous female except for

the endopod of pleopod 2 (fig. 5B) which has the appendix masculina visible through the cuticle, along inner margin. The appendix masculina slightly extends beyond the endopod and has a long plumose seta at the tip. Penes (fig. 5C) short and without thickened region.

Colour in alcohol. — Body colour brownish yellow with scattered dark brown chromatophores on dorsal as well as ventral sides. Adult males with only reddish-orange longitudinal bands on pereon and pleon.

Remarks. — *Dynamenella bullejiensis* new species, differs from the other known species of the genus by its typical pleotelson and appendix masculina armature, the shape of the penes and the body surface pubescence.

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