and fifth pairs of abdominal limbs are respiratory; in the fifth pair both the inner and outer ramus are thin-walled, delicate, much folded lamellæ, in the fourth pair it is only the endopodite of the limb which has this peculiar structure, the exopodite being a flat hard plate which covers over the subjacent lamellæ and serves as a protective operculum. In *Cymodocea abyssorum*, however, the fourth pair of appendages exactly resembles the fifth pair; there is no operculum, both exopodite and endopodite are folded gill-plates. This feature, although it may be correlated with the habitat of the Crustacean, is not so noteworthy, since it occurs in the shallow-water genus *Amphoroidea* according to Milne-Edwards;[1] and I have been able myself to verify his statements by an examination of *Amphoroidea falcifer*, a New Zealand form, which I have had the opportunity of studying through the kindness of Mr. G. M. Thomson.

Possibly the delicate integument of certain deep-sea Munnopsids is a modification brought about by a similar need for increased respiration. In other Isopoda I can detect no obvious evidence which would point to a need for increased respiratory power. This is one of the most puzzling facts about the deep-sea Isopodan fauna, that whereas some forms, such as *Anuropus* and *Bathynomus*, show an evident modification in relation to their habitat, others show no traces of any such modification and are indistinguishable in these respects from shallow-water forms. As in the case of the presence or absence of eyes in the deep-sea Isopoda discussed below (p. 163) it may be that these special modifications indicate a remote period of immigration into deep water.

Anuropus branchiatus, F. E. Beddard (Pl. VII. figs. 1–5).

Anuropus branchiatus, F. E. Beddard, Proc. Zool. Soc. Lond., 1886, pt. i, p. 113.

The single specimen of this species measures 70 mm. in length.

The body is extremely convex, more particularly in the thoracic region.

The head is small and rounded, with a short median rostrum; there is no trace of any eyes; the anterior region of the head is deeply grooved for the insertion of the antennary organs, the ventral margin of the head is ridged below, and in the middle line it is prolonged into an upwardly directed process which exactly corresponds in direction to the rostrum; the two do not, however, meet, but are separated by a space about equal to the basal joint of the antennules.

The thoracic segments increase progressively in length from before backwards up to the sixth; the seventh is a little shorter than the sixth.

All the segments with the exception of the first are furnished with separate epimera.

The abdomen is distinctly narrower than the thorax, the first five segments are subequal; their lateral margins are rounded and overlap, the antero-lateral region of the

[1] Hist. Nat. Crust., t. iii. p. 222, pl. xxxii. fig. 9.