

always much wider than long. Syzygies in the third, eighth, and twelfth brachials, and then at intervals of two or three joints.

The first pair of pinnules (on second and third brachials) flagellate, about 12 mm. long, and consisting of forty-five short joints, the basal ones of which are broad, flattened, and somewhat carinate. The next pair sometimes nearly equal to and sometimes shorter than the first. The third pair also shorter, with stouter joints, most of which are distinctly longer than wide, and they generally bear fusiform genital glands. The following pinnules more massive, with squarer joints, which become elongated further out, while the two basal ones become flattened and trapezoidal, with their apposed edges incurved.

Disk and ambulacra naked. Sacculi abundant in some pinnules, but less so in others. Colour in spirit,—white, with purplish or brownish patches.

Disk 10 mm.; spread about 12 cm.

Locality.—Station 150, February 2, 1874; lat. $52^{\circ} 4' S.$, long, $71^{\circ} 22' E.$; 150 fathoms; coarse gravel; bottom temperature, $35^{\circ} 2 F.$ Seven mutilated specimens and one very young.

Remarks.—This is a smaller and more delicate species than *Antedon antarctica*, which it resembles in the shortness of the arm-joints; but the arms generally are much smoother, and there are fewer cirrus-joints, while the third pinnule is much less like the second than is the case in that species (Pl. XXV. figs. 2, 3; Pl. XXVII. figs. 15, 16). The three lowest joints are by no means so wide as in *Antedon antarctica*, but more nearly square, while the following joints till quite near the end are very distinctly longer than broad, which is not the case in *Antedon antarctica*. Even the first two pinnules of *Antedon australis* have a tendency in this direction, as compared with the much longer ones of *Antedon eschrichti* and *Antedon antarctica* (Pl. XXIV. figs. 7, 8; Pl. XXV. figs. 1, 2).

Like both these last mentioned types and the other Arctic species as well (*Antedon quadrata*, *Antedon hystrix*, and *Antedon proluxa*), *Antedon australis* affords an excellent illustration of the dimorphic mode of development of the cirri. Its full-grown cirri consist of some twenty-five to thirty-five joints, the first half of which, except those just at the base, are considerably longer than wide. As they get shorter their dorsal edges come to project more and more definitely beyond the bases of the succeeding joints, so that the compressed terminal segments are distinctly spinous (Pl. XXVII. fig. 20). There are numerous young cirri of this type round the dorsal pole. They consist of twenty joints, all of which, except the two or three short ones at the base, have a forward projecting dorsal edge (Pl. XXVII. fig. 18). But on the other hand, the margin of the centro-dorsal bears several young cirri of an altogether different type in various stages of development (Pl. XXVII. figs. 17, 19). One of them has thirty elongated