

The structure of the peduncle is the character by which this genus is distinguished from *Pedicellina*. The pedicel is rigid and chitinous throughout, and depends for its motion on the muscular fibres which line the barrel-shaped expansion at the base; the central cavity of this expansion as well as of the rest of the stem being filled with an extremely delicate parenchymatous tissue.

The anatomy of the polypides appears to agree almost entirely, as far as I have been able to observe it in the spirit specimens, with the very careful descriptions given by Dr. Nitsche in his paper on *Pedicellina echinata*.¹ The whole polypide or calyx is enveloped in a delicate transparent membrane or ectocyst, lined with a more or less distinct tessellated epithelium. The alimentary canal consists of an oesophagus, stomach, intestine and rectum (Pl. IX. fig. 6); the liver cells extending along the upper side of the stomach present the usual deep yellow colour. In all the specimens that I have examined the rectum lies in a horizontal position forming an angle with the rest of the intestine; whether this is its normal position, as it appears to be in the closely allied genus *Urnatella*² or whether it merely is the case during a young stage of growth, as mentioned by Dr. Nitsche, I am unable to decide. I have not been able to observe with any certainty the reproductive organs; but in nearly all the polypides of one species, *Ascopodaria fruticosa*, between the stomach and the base of the vestibular cavity, there are two large, round, ovarian masses (Pl. IX. figs. 6, 8, 9), which are separated from one another by a thin lamina (Pl. IX. fig. 9). In the other species these masses are not apparently always present.

Mr. Hincks has suggested³ that his genus *Pedicellinopsis* would properly include the *Pedicellina gracilis* of Sars; in this I am disposed fully to agree with him and should therefore propose to include it in my genus *Ascopodaria*. Professor Leidy⁴ refers to a species of *Pedicellina* found by him in 1859, which, from the short description given, if not identical with *Pedicellina gracilis*, ought also to be placed in this genus. The known species therefore would be four or five, as follows:—

- (1) *Ascopodaria gracilis*, Sars.
- (2) *Ascopodaria bulbosa*, Hincks.
- (3) *Ascopodaria fruticosa*, Hincks = *socialis*, Bk., MS.
- (4) *Ascopodaria discreta*, Bk.
- (5) *Ascopodaria* (?), Leidy.

(1) *Ascopodaria fruticosa*, Hincks, sp. (Pls. IX., X. figs. 1–5).

Pedicellinopsis fruticosa, Hincks, Ann. and Mag. Nat. Hist, ser. 5, vol. xiii. p. 364, pl. xiv. fig. 3.

Character.—Zoarium arborescent, constituted of thick, erect, chitinous, jointed, branching stems, arising from tubular stoloniform fibres. The deciduous polypides (or

¹ *Zeitschr. f. wiss. Zool.*, Bd. xx. p. 13.

³ *Loc. cit.*, vol. xiii. p. 364.

² Leidy, *Journ. Acad. Nat. Sci. Philad.*, 1884, vol. ix. p. 12.

⁴ *Loc. cit.*, p. 14.