

plates, with numerous holes and a central crown built up of three rods. Colour in alcohol, whitish. Length of the largest specimen about 90 mm.

Habitat.—Station 45, May 3, 1873; lat. 38° 34' N., long. 72° 10' W.; depth, 1240 fathoms; bottom temperature, 37·2; blue mud; four specimens.

The posterior very narrow part of the caudal portion of the body is always broken off in all the individuals I have had at my disposal, but in the same bottle where they are kept, some caudal portions are left, probably belonging to the animals in question. They are about 30 mm. long, so that the largest specimen must be considerably longer than above noted, if one of these parts really belong to it. The anal aperture is surrounded by five calcareous teeth and a number of minute papillæ, the latter being disposed in a ring exteriorly and around the former. As in *Haplodactyla*, *Ankyroderma*, &c., no retractor muscles are present. The longitudinal muscular bands are divided throughout their whole length. The calcareous ring consists of ten pieces which are so united as to constitute a continuous whole; each radial piece is marked anteriorly by two shorter processes and posteriorly by a large bifid projection; the interradiial pieces only possess a single shorter process in their anterior margin. Polian vesicle as well as the madreporic canal single. The respiratory-trees are two in number, with short branches; in one of the individuals the left tree is divided near its base into two parts. The genital tubes numerous, slender, and very narrow.

The calcareous deposits of the integuments are numerous, and especially in the caudal portion closely crowded. In most cases they present a somewhat triangular form, with three, seldom four, central holes larger than the remaining ones. The largest plates measure as much as 0·2 mm. in diameter. From the centre a crown rises, composed of three, seldom four, rods which become connected with one another by several cross-rails and terminate in several processes. The basal parts of these rods constitute the three or four central holes just mentioned, wherefore the plates, when the crown is broken off at the base, present a single large hole in their centre. The five teeth round the anus are formed by a firm calcareous network, and they seem to be provided with two rather long roots, by means of which they are firmly attached to the body-wall. According to Brandt,¹ the genus *Liosoma* as well as its species *Liosoma sitchaense* is characterised by having twelve peltate tentacles, and in 1857 Stimpson² describes another form, *Liosoma arenicola*, with fifteen tentacles composed of a short peduncle with four or five digitations at the disk-like summit; these branches being also minutely pinnate towards their extremities. No deposits are known from the integument of the two forms just mentioned. Thus the form of the tentacles should be the only characteristic of importance distinguishing *Liosoma* from, for instance, *Haplodactyla*, *Trochostoma*, and

¹ Prodrömus, &c., 1835, p. 58.

² On the Crustacea and Echinodermata of the Pacific Shores of North America, *Journ. Boston Soc. Nat. Hist.*, vol. vi. 1857, pp. 85, 86 (extract).