

considerably longer than the horny joints. Their length reaches 5 to 6 mm., while the bright brown horny discs have only a thickness of 0.5 mm. The calcareous joints are thicker than the horny joints, so that the stem appears to be constricted at each horny joint. The branches arise frequently with a horny joint, but there are also cases in which a calcareous process grows out from the stem, upon which process the branch with its first horny joint is placed.

Usually the branches and twigs consist only of a few long, calcareous internodes, with thin horny nodes.

The scales of the cœnenchyma are either rod-like, often bent, or broad, longish, oval or four-cornered scales with sharp teeth and toothed lobes on the edge and pointed spiny warts on the surface. Their teeth interlock on opposite sides. The length to breadth in mm. reaches 0.27–0.03; 0.18–0.03; 0.3–0.1; 0.13–0.05; 0.28–0.1.

Around the base of the polyp these scales form a ring, becoming bent, and finally pass over into the scales of the calyx, which, at first small, resemble the spicules of the cœnenchyma, but then become broader and higher. These scales of the calyx exhibit on their upper surface only small, pointed warts, an upper toothed edge, which is almost straight or slightly indented, and a lower edge, which is divided into two lobes by a more or less deep incision. The size of these scales reaches in mm.—height to breadth; at the base 0.02–0.2; in the middle 0.12–0.25; 0.13–0.26; 0.14–0.3; 0.15–0.25; 0.14 0.24.

The tentacles have strong scales, especially in their basal portion, where they are placed obliquely to one another in two rows. Their size reaches 0.1–0.2; 0.1–0.18.

The species was first founded for an axis which was obtained, during the voyage of the "Gazelle," at a depth of 60 fathoms, north of Kerguelen Island. The species had to be provisionally referred to *Isis*, since the nature of the cœnenchyma and polyps was then unknown.

The Challenger specimens were obtained in a fairly perfect state, but without their bases, and agree completely in mode of branching and in the nature of the axis with the Kerguelen form, so that there can be no doubt as to the identity of the species.

Habitat.—Station 145A, Prince Edward Island; depth, 310 fathoms; bottom, volcanic sand.

2. *Primnoisis sparsa*, n. sp. (Pl. VIII. fig. 4; Pl. IX. fig. 7).

The stem, which exhibits frequent bendings in its course, arises from a disc-like, lamellar, calcareous base, which covers over a colony of Polyzoa. It gives off branches from its calcareous joints on four sides; these mostly arise at different heights, and are seldom placed opposite to one another in pairs. The branches are thin, coming off from the stem at angles of 25° to 30°, directed towards its apex. The branches are mostly