are a glossy black, but in all other parts the sclerenchyma has a uniform reddish brown colour. The spines are moderately long, round, and taper slowly to a sharp point. Each spine is covered with numerous small sharp-pointed processes to near its base. The spines are rather crowded and extend subhorizontally, or some may be tilted up at an acute angle with the axis. No well-marked spiral arrangement is observable, but six longitudinal rows may be counted from one aspect of a pinnule (Pl. III. figs. 8 and 8*a*). The members of a row are a little over one length apart.

The polyps (Pl. III. fig. 9) vary considerably in size, those on the branchlets being usually larger and more distant than those on the pinnules. The whole of the peristome within the tentacles forms a large mammiform process, on the centre of which the mouth opens. The mouth is usually, but not invariably, elongated in the sagittal axis; sometimes the aperture is dumb-bell shaped. The tentacles form six small tubercles arranged radiately around the mouth, or in elongate polyps they form three pairs, viz., two lateral pairs, which are close together, and a sagittal pair; the two members of a pair are separated in each case by the diameter of the peristome. In spirit preparations the spines project freely through the cœnenchyma, and in many cases also through the zooidal tissues. A comparison of the shape of the polyps situated on the pinnules with those on the branchlets would lead one to suppose that during the growth of the colony the polyps when at first formed have an elongate outline, but that afterwards, with an increase in the thickness of the axis, a more radiate outline is assumed. Apparently the polyps, which are about twice as broad as long on the pinnules, attain their full diameter in the transverse axis in such situations. Later, with an increase in the thickness of the sclerenchyma, the diameter in the sagittal axis gradually increases until the outline is practically round. The polyps on a pinnule may be crowded or relatively far apart; those on the branchlets are usually about one diameter apart.

Habitat.—Station 192; September 26, 1874; lat. 5° 49′ 15″ S., long. 132° 14′ 15″ E., off Ki Islands; depth, 140 fathoms; bottom, blue mud. Two specimens.

Genus *Tylopathes*, n. gen.

? *Antipathes* (*pars*), Pallas, &c.
? *Rhipidipathes* (*pars*), M.-Edw.

Polyps small and isolated, appearing as oval or oblong cushion-like elevations on the cœnenchyma. The mouth is situated on a small median prominence and is usually slit-like. The tentacles are moderately long, or may be reduced to very short knobbed elevations of the margin of the peristome. The polyps are somewhat of the *Aphanipathes* type, but, though flattened, their contour is never obscured by projecting spines. The reproductive elements are contained in specialised bands of cells attached to the stomodæum and body-wall as in the genus *Antipathes*.