

shape, with a rounded angle inward, joined their whole length, except their inner ends, which are separated by a wedge scale; interbrachial spaces below with a marginal constriction, and usually covered by four large rounded scales; there are a few short smooth disk spines. Seven slender, translucent, sharp, not thorny arm spines; lengths to that of an arm joint, 1·3, 1·3, 1, 1, ·6, ·4, ·4 : ·5. Beyond the basal joints there are but six spines, whereof the upper are shorter than those described above. One very small, narrow, pointed tentacle scale. Colour in alcohol, nearly white.

Ophiothamnus vicarius bears a general resemblance to this species, but is distinguished by narrower side mouth shields and by long and numerous disk spines.

Station 142, Agulhas Bank.—December 18, 1873; lat. 35° 4' S., long. 18° 37' E.; 150 fathoms; sand.

Species of *Ophiothamnus* not herein described.

Ophiothamnus affinis, Ljn., Dr. Goës, Oph. Öf. Kong. Akad., p. 622, 1871.
Portugal; 790 fathoms.

Ophiothrix.

Ophiothrix, Müll. & Tr., Weig. Archiv, vol. vi, 1840.

Disk set with thorny grains, very short, spines crowned with thorns, or spines with thorns at the sides and top. Radial shields like large, triangular swellings, each bounded on its two inner sides by ridges in the skin of the back. Numerous crowded tooth papillæ forming a vertical oval. Teeth. No mouth papillæ. Spines numerous (five to ten) (often three times as long as the joints), flattened, more or less glassy, thorny, having a central shaft with slender side-spurs from it. A small, spine-like tentacle scale. The base of the jaw pierced with a hole, from a want of perfect union between the two pieces of the mouth frames. Interbrachial spaces swelled out like lobes. Two genital openings beginning outside the mouth shields. Outer arm joints with hooks.

We have here a type separated by a gap from genera previously described. Contrasted with the rather loose and feeble scaling are the very large, three-sided radial shields with projecting knobs at their outer ends, where they are articulated with the clubbed, knobby heads of the long, stout, rounded, and slightly curved genital plates (Pl. XLII. fig. 5, *o*). To this last is attached a great, almost semicircular genital scale (*n*), which is continued to the mouth shield (*a*) by an additional scale. The heads of the genital plates nearly meet over the top of the arm, which is composed of peculiar arm bones. Beginning at the third free bone, each has an upper forward projection or apophysis fitting into a slot in the upper hinder end of the next bone. Thus the joints are interlocked in a way that may give a fulcrum for the powerful muscular action called for in the rapid whip-like motion of the arm of *Ophiothrix*. By this peculiar locking contrivance, the