

much more developed condition than the right (figs. 2 and 3). In the latter specimen the left *vas deferens* (*vd*) is much wider than the right (*vd'*), and provided in its interior with low, circular, closely-set septa (fig. 4), of which only faint traces can be seen in the right duct. They are, however, limited to the lower 3 or 4 inches of the duct. The left *vas deferens* opens into the urinary bladder (fig. 3, *u*), if a bottle-shaped dilatation which terminates externally in a single small conical papilla (*ug'*) may be so called. The right *vas deferens* opens by a slit at the side of the papilla directly into the cloaca (figs. 2 and 3, *ug*). There is also in this specimen only one *porus abdominalis* in the median line (or very slightly to the left of it) immediately behind the cloaca (figs. 2 and 3, *po*).

The *conus arteriosus* (figs. 7 and 8) is of considerable length, slightly bent towards the right, and of nearly the same diameter throughout. No special valve separates it from the ventricle. I find the valves much more regularly arranged than would appear from the figure given by Garman. They form three longitudinal and six transverse rows (fig. 8). The largest are those of the distal transverse row, placed close to the end of the conus, and somewhat more distant from the next row than the five other rows are from each other. The next largest valves are those of the proximal row, those of the second and third being smaller, and those of the fourth still smaller, with only partially free anterior margins; the valves of the fifth row are quite rudimentary, and two of them merely indicated as raised papillæ, which are confluent with those of the fourth row. Finally, a fourth intermediate longitudinal series is indicated by two minute valves, belonging to the first and second transverse rows. The larger valves are provided with tendinous chordæ.

#### Family SPINACIDÆ.

##### *Spinax*, M. and H.

##### *Spinax spinax*, L.

The common European species is reported by Strom<sup>1</sup> to be common in Thronbjhem Fjord, at a depth of from 70 to 300 fathoms.

##### *Spinax granulatus*.

*Spinax granulatus*, Günth., Report on the Shore Fishes, Zool. Chall. Exp., part vi. p. 19. pl. ii. 2, fig. C.

*Habitat*.—South-western coast of South America, Station 305A; depth, 125 fathoms. One specimen, 10½ inches long.

##### *Centrophorus*, M. and H.

The two Japanese species here described live at about the same depth as the Atlantic species, all of which have been hitherto found in the Mediterranean, off Madeira, and on

<sup>1</sup> *Norsk. Vid. Selsk. Skrift.*, 1884, p. 44.