

The thin, whitish duct of the hermaphrodite gland issues on the upper side of the cardia, and runs obliquely downwards to the *anterior genital mass*. The latter is large, 14·5 mm. long by 7·5 mm. broad, and 9 mm. high, yellowish-white, thicker before, tapering behind, the right side arched, the left side convex before and slightly hollowed out behind; the principal efferent ducts projecting 3 mm. The *ampulla* of the hermaphrodite duct is yellow, lying on the middle of the left side; it forms a few curves, and when extended is nearly 1 cm. long, and measures almost 1 mm. in diameter. The male branch of the ampulla is attached for a length of nearly 1·5 mm., and then passes into the *spermatic duct*, which forms several long loops, measuring when extended nearly 3·3 cm. by ·5 mm., in diameter, and winding on the front and on the inner side of the genital mass. Below the spermatic duct (fig. 12, *a*) becomes somewhat dilated, and forms the *penis* (præputium) (fig. 12, *b*), nearly 2 mm. long, the upper half of which is filled with the conical unarmed glands. Upon the anterior end of the genital mass lies the spherical, yellowish *spermatheca* (fig. 11, *a*), nearly 3·5 mm. in diameter, filled with sperma and detritus. The *vaginal duct* (fig. 11, *b*) is rather strong, running almost straight, nearly 7 mm. long by nearly ·75 mm. in diameter; the inner side with strong, mostly pinnate folds. The *uterine duct* rises nearer the vaginal (fig. 11, *d*), but is rather longer, about as thick as the last, but narrowed below, and opening near the root of the duct of the mucous gland. The spermatocyst is attached to the base of the uterine duct (fig. 11, *c*); it is also yellowish-white, sac-shaped, somewhat bent, measuring when extended 4·3 mm. in length, and swollen with spermatozoa. The *mucous gland* is very large, forming by far the largest part of the genital mass; its cavity was wide but empty; the *albuminiparous gland*, which projected in front on the left side, was yellower; the duct of the *mucous gland* had the usual fold. A vulvo-vaginal gland was not found.

2. *Archidoris australis*, n. sp. (Pl. I. figs. 13–18; Pl. II. fig. 13).

*Habitat*.—Indo-Australian Ocean, Kerguelen Islands.

There was only a single individual of this species, taken off Howe's Foreland, Kerguelen Island, January 27, 1874, at a depth of 95 fathoms.

This specimen, which was well-preserved in spirit, was 15·5 mm. long by 8·5 mm. broad and 6 mm. high; the breadth of the mantle-border came to 3 mm., the breadth of the foot to 4·5 mm., the length of the tail to 2·6 mm., the height of the (retracted) rhinophores to 2 mm., of the extended gill nearly to 2 mm. The *colour* of the back was yellowish with touches of faint green; that of the lower side of the mantle-border whitish, of the foot yellowish-white; the rhinophores and the gill of the same colour as the back.

The *form* is oval, the consistence as above. The *back* is entirely and pretty thickly