comprises those small forms of the family, the vertical sail of which contains no chitinous crest. The pneumatocyst, therefore, is the horizontal elliptical chitinous disc alone; no vertical skeleton crest is developed upon its surface, as in *Velella* and *Armenista*. The soft vertical sail is placed in the major axis of the ellipse, not obliquely in a diagonal. The species of *Rataria* upon which Eschscholtz founded the genus were probably young larval *Velellæ*, perhaps the same as those of which Bedot has during the last few years given an anatomical description (**58–62**). Pagenstecher gave in 1863 a very accurate description of *Rataria*, with historical remarks on the Velellidæ in general, and discussed the question whether these forms of Disconectæ were only a larval stage of *Velella* (or perhaps of *Porpita*) or an independent peculiar genus of this group. As a fact both alternatives are true. *Rataria cristata*, from the Tropical Atlantic, described in the following pages, and found in the Challenger collection (Station 348), is a Velellid which produces gonophores in the form of *Rataria*, and therefore is the representative of an independent genus. The larvæ of *Velella* and *Armenista*, on the other hand, all pass through a larval stage similar to the former. But no Porpitidæ have a similar larval form, since the vertical sail is completely wanting in this family, and is only to be found in the family Velellidæ. Regarded from a phylogenetic point of view, *Rataria* is a necessary intermediate link between the older *Porpita* and the more modern *Velella*.

Rataria cristata, n. sp. (Pl. XLIV.).

Habitat.—Station 348, Tropical Atlantic; April 9, 1876; lat. 3° 10′ N., long. 14° 51′ W. Surface.

Umbrella (fig. 1, from above; fig. 2, from below; fig. 3, half lateral, half apical view; fig. 4, lateral view; fig. 5, frontal section).—The horizontal disc of the umbrella is elliptical, 4 mm. long and 3 mm. broad in the expanded state. The vertical sail which arises in its sagittal or longitudinal axis, is very contractile, and therefore exhibits very different forms (figs. 3, 4). The vertical transverse section of the umbrella (fig. 5) demonstrates that the greatest part of its volume is occupied by the pneumatocyst (*pf*), and the centradenia (*uc*) which lies between this and the central siphon (*sa*).

Exumbrella (figs. 1, 3, 4).—The superior or apical face of the umbrella is divided into three parts—the vertical sail (velarium), the campanulate part, which includes the pneumatocyst (pneumatophore), and the broad horizontal free border (limbus).

Limbus Umbrellæ (*uu*).—The peripheral border of the horizontal disc, which surrounds the campanulate pneumatosaccus, is an elliptical ring of 0·5 mm. in breadth; its outer edge is densely beset with a series of marginal muciparous glands (*us*), and on the inside of this glandular corona runs the elliptical marginal canal (fig. 10, *cc*), into which open the numerous radial canals of the umbrella (*ce*).