

conectæ, or all the "Medusæ chondrophoræ" of Chamisso and Eysenhardt. Afterwards (in 1835) Brandt separated the true Velellidæ (with elliptical disc and vertical crest) from the Porpitidæ (with circular disc, without crest). The Velellidæ, thus restricted, agree with the Porpitidæ in the polygastric structure, not only the large sterile central siphon possessing an open mouth at its distal end, but also each of the surrounding gonostyles. These peripheral polypites, which bear the gonophores budding from their proximal part, are therefore not mouthless palpons (as in the Discalidæ), but mouth-bearing, feeding, and digesting secondary siphons. On the other hand, the Velellidæ differ from the Porpitidæ (as well as from the Discalidæ) in the peculiar amphitect or bilaterally-radial ground-form of the body, produced by the prolongation of the sagittal axis, and shortening of the frontal axis; and, further, in the development of a peculiar vertical crest or sail, which arises from the exumbrella either in the sagittal or in a diagonal axis.

Eschscholtz, in his fundamental work,¹ divided his Velellidæ into three genera:—*Rataria*, *Velella*, and *Porpita*. The genus *Rataria*, however, was considered by the majority of subsequent observers to consist only of young forms of *Velella*. A new species of *Rataria*, found in the Challenger collection, proved to be an autonomous genus, provided with gonophores. Although the different *Rataria*æ, described by some authors, may be merely young *Velella*æ, there nevertheless exist also Velellidæ which become mature in the permanent *Rataria*-form. The numerous species of the true *Velella* were disposed in my System (p. 31) in two genera:—*Velella* (*sensu restricto*), with an elliptical umbrella and simple corona of tentacles; and *Velaria*, with quadrangular umbrella and double or multiple corona of tentacles. For this latter the old name *Armenista* (or *Armenistarium* of Carburius, 1757) may be better retained.

Umbrella.—The common trunk of the cormus, which corresponds to the umbrella of a hydromedusoid person, is in all Velellidæ a flat, horizontally expanded, and floating disc, distinguished from the circular disc of the Porpitidæ and Discalidæ, firstly, by its bilateral form, and secondly, by the vertical crest or sail. The latter is originally nothing more than a simple longitudinal fold of the exumbrella, and may be regarded as the primary cause of the peculiar fundamental form. The three genera which we have distinguished represent three different degrees or historical steps in its peculiar development:—*Rataria*, next to the ancestral group Porpitidæ, has an elliptical disc, and the sail placed in its sagittal plane, in the longer axis; in *Velella* the sail turns a little around the vertical main axis, and comes to be situated in a diagonal axis of the disc; finally, in *Armenista* the disc becomes quadrangular or parallelogram-shaped. Besides, a vertical crest of the pneumatocyst, as a support of the soft sail, is developed in the two latter genera, but is wanting in *Rataria*.

Amphitect Fundamental Form.—The peculiar fundamental form presented by the

¹ 1, 1829, p. 166.