The genera enumerated by Blainville as appertaining to the family are,

1. Physalus,

2. Physsophora,

3. Diphysa,

4. Rhizophysa,

5. Apolemia,

6. Stephanomia,

7. Protomedea,

8. Rhodophysa,

9. Cucubalus,

10. Cucullus,

11. Cymba,

12. Cuboides,

13. Enneagona,

14. Amphiroa,

15. Calpe,

16. Abyla,

17. Diphyes,

18. Pyramis,

19. Praia,

20. Tetragona,

21. Subculeolaria,

22. Galeolaria,

23. Rosacea,

24. Noctiluca,

25. Doliolum.

Of these the Physalus is the most celebrated. It is known to sailors as the *Portuguese man-of-war,* and almost every book of voyages into distant lands contains some ac­count of its habits, mixed, as we may notice in the above extract from Sir Hans Sloane, with a little fable. One of the earliest descriptions of it is given by Clayton in his account of a voyage to Virginia, which we extract, because it is sufficiently descriptive, and gives the notions of the period regarding its nature. “ In the sea I saw many little things which the seamen call *Carvels.* They are like a jelly, or starch that is made with a cast of blue in it. They swim like a small sheep’s bladder above the water. Downwards there are long fibrous strings, some whereof I have found near half a yard long. This I take to be a sort of sea-plant, and the strings its roots growing in the sea, as duck-weed does in ponds. It may be rec­koned among the potential cauteries ; for when we were one day becalmed, getting some to make observations there­of, the sportful people rubb’d it on one another’s hands and faces, and where it touch’d, it would make it look very red, and make it smart worse than a nettle.”@@1 Of the tentacula which hang from the lower edge there are two kinds ; the longest being used by the Physalus for the capture of its prey, and capable of being coiled up within half an inch of the air-bladder, and then darted out with astonish­ing rapidity to the distance of twelve or eighteen feet, twining round and paralyzing, by means of an acrid secre­tion, any small fish within that distance. The food thus seized is rapidly conveyed to the *short* appendages or tubes, which are furnished with mouths for its reception.@@2 The creature is not only vesicatory, but luminous in a high de­gree ; and we may here remark, that these properties are probably common to every species of the family.

Of the other genera all are remarkable for singularity of form. We might single out as among the most curious, the *Rhizophysa,* from its likeness to a bulbous root, with long radicular fibres, and the *Physsophora,* which imitates a root partly bulbous and partly tuberous ; the bulbs re­presented by the air-vesicles which are clustered above on a common stalk, and support the animal@@3 in an upright position, while under them the stalk parts into many un­equal tubers, whence depend the fibrilose radicles, which are the organs of respiration. The *Apolemia* and *Slepha- nomia,* if possible, surpass this eccentricity of form ; they are living clusters of sea-grapes or currants, with tentacula of curious structure pullulating from amidst the berries.@@4 The *Diphyes,* although less attractive, yet deserve notice

from the view Cuvier takes of their organization. He be­lieves that each animal, as it is usually taken, consiste of two different individuals, one being emboxed in a cavity of the other ; an arrangement which permits them to separate without destruction to individual life. The *Noc­tiluca* is pre-eminent for its luminosity. It is a minute gelatinous spherical body, with a depression on one side, whence protrudes a sort of contractile stalk or proboscis ; and we strongly suspect it is the same with the Medusa scin- tillans of our shores, better or more amply described and de­lineated. Mons. Surivay, to whom we owe our fullest knowledge of the Noctiluca, mentions that it seemed to have disappeared entirely from its ordinary habitats in the Channel during the period of the prevalence of the cholera at Havre, which was in the months of May, June, and July 1834.@@5 The fact is too remarkable not to be recorded, and seems to point to an atmospherical poison as the cause of that plague.

De Blainville gives to the second family the name of *Ciliogrades,@@6* because they move about in the ocean by means of certain rows of vibratile cilia which garnish the body. They are gelatinous, translucid, fragile, very irrit­able and contractile animals, of multiform aspects, but al­ways evidently binary or bilateral, although there are not unfrequently some signs of a tendency to radiation in their structure. Thus the genuine Beroës are egg-shaped or globular, girded longitudinally with eight ciliated bands, equidistant or in pairs, so as to force a comparison between them and the Echinus with its ambulacral grooves.@@7 The alimentary canal is usually described as traversing the body from pole to pole, with an orifice to each, the inferior and larger being the mouth, while the vent opens opposite in the centre of the apex. Near the middle of the body the canal is dilated into a stomachal cavity, at the sides of which the ovaries are usually to be distinguished by their vivid coloration ;@@8 and from the same cavity there run two or more canals, which tend towards the tentacula, on the lower surface, and carry water to them ; for their elongation and various movements are dependent on the propulsion of wa­ter into them from behind, or its reflux back within the stomach.@@9 The bands on which the cilia are placed run from the inferior or oral extremity, to the opposite one, al­ways in straight lines ; they are of firmer consistency than the rest of the body, and are apparently formed by a dupli- cature of the thin skin, so inserted as to leave a fine canal between their base and the surface. Through these canals there is probably a constant flow of water, and it has been suggested by Professor Grant that the play of the cilia may be maintained by this current, for muscular action for such a purpose seems to be inadequate.@@10 Our knowledge of their generation is very imperfect. Eschscholtz has seen minute Beroës, which even then had a close resemblance to their adult parents, but they were destitute of the eight rows of natatory lamellæ. He could perceive in them only four opaque longitudinal bands, which were probably the rudi­ments of as many rows of lamellæ. These lamellæ then are developed not until after the body has assumed the figure

*@@@, Phil. Trans,* an. 1688, v. xvii. p. 783.

@@@2 G. Bennett *ut sup. cit.* p. 43.

@@@3 “ Mr Milne-Edwards believes that these (Physsopbores) are not single animals, but the aggregation of a great number of individuals grow­ing by buds, and living united together like the compound polypes.” *Ann. and Mag. of Nat. Bist.* i. p. 156.

@@@4 The Stephanomiæ are, according to Lamarck, *compound* animals, consisting of a cluster of individuals which enjoy a common life and mutual communications through the medium of the central tube to which they hang. *Anim. sans Vert.* ii. p. 462.

*@@@6 Mag. of Zool. and Botany,* i. p. 492.

@@@6 The *Vibrastes* of Chamisso ; *Beroides* of Lesson.

@@@7 The boatmen of Sheerness are familiar with the *Beroë pileus “* under the name of the spawn of the sea-egg (Echinus), which it somewhat resembles in its globular and ribbed form.” Grant in *Trans. Zool. Soc.* i. p. 9.

@@@β “ I have generally observed that the lively hues presented by the Acalepba depend on the bright opaque colours of their reproductive gemmules, which are often red, sometimes yellow, or brown, or purple.” Grant in *loc. cit.*

@@@9 This description has been lately pronounced by Mr Forbes and Mr Goodsir to be inaccurate. They believe the supposed anus to be im­perforate, and a great portion of the supposed intestinal canal to belong to the circulating system.

@@@10 Grant *ut sup. cit.* p. 12. Dr Fleming observed in Beroë ovatus water moving in vessels along the middle of the bands to which the cilia are attached. The animals can change the direction of the currents in the vessels, and also the direction of the motions of the cilia.