Section II Cryptocarpæ.

*The ovaries are concealed.*

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| --- | --- | --- | --- |
| **Family 3d.**  **Geryonidæ**  **Family 4th.**  **Oceanidæ** | **Geryonia.**  **Dianæa. Linuche. Saphenia. Eirene.**  **Lymnorea. Oceania.**  **Callirhoe. Thaumantias. Tima.**  **Cytacis. Melicerta.**  **Phorcynia.** | **Family 5th.**  **Æquoridæ....**  **Family 6th. Berenicidæ...** | **Æquorea. Mesonema. Ægina. Cunina. Eurybia. Polixena.**  **Eudora. Berenice.** |

Blainville divides the class into two very unequal sections, from the presence or absence of a solid plate of support to the soft ge­latinous umbrella or body of the animal,—the *Cirrhogrades* having such a support, and the *Pulmogrades* being destitute of it ; and they are further distinguished by considerable differences in the nature of the appendages which garnish the oral surface. The Pul- mogrades, by far the most numerous in its constituency, and em­bracing the proper Medusides, might be divided into perhaps na­tural subsections by the character of their digestive organs ; some having no mouth or stomach, as has been alleged, and others having a distinct stomachical cavity, with one or more oral aper­tures. But Blainville prefers drawing the distinctive peculiarities of the families from the form and appendages of the mouth, or central part of the disc ; for he thinks it very doubtful whether any among them are really unfurnished with a stomach, a fact which is anomalous in the animal kingdom, and which every sub­sequent observation tends to disprove. He gives the following synopsis of his system, which embraces all the genera of Peron and Le Sueur, and of Eschscholtz ; but he tells us at the same time that he doubts the existence of several of them, for they seem to be founded on imperfect figures, perhaps representing parts only of some mutilated species.

Sub-order I—Pulmogrades.

Section i. *Simple.—*Eudore : Ephyre : Phorsynie : Eulymene : Carybdee : Euryale.

Section ii. *Tentaculated—*Berenice: Equoree: Mesoneme: Polixene : Ægine : Cunine : Foveolie : Eurybie : Pegasie : Obelie.

Section iii. *Subprobosridiform—*Oceanie : Aglaure : Melicerte : Cytacis: Thaumantias : Tima: Campanella.

Section iv. *Proboscided.—*Orythie: Geyronie: Saphenie: Dianee: Linuche: Favonie: Lymnoree: Sthenonie.

Section v. *Brachiated and pedunculated—*Ocyræ : Cassiopee : Au­relie : Melitee : Evagore : Cephee : Rhizostome : Chrysaore: Pelagie.

Sub-order II Cirrhogrades.

The genera are, Velelle : Rataire : Porpite.@@1

Of these genera our limits do not permit us to give the charac­ters at length. Of their British representatives the number is most imperfectly ascertained, and no department of our native zoology has been so greatly neglected. We need not painfully search tne “ dark unfathomed caves” for novelties, so long as the surface of our heaving ocean teems with varieties undescribed and unknown. Of such as are known, the student will find the fullest account in Dr Fleming’s *History of British Animals* ; and of several species not specified in that excellent work there are notices and figures in Loudon's *Magazine of Natural History,* more particularly in the ninth volume, where Mr Templeton describes the Irish species.

ORDER II—ACALEPHES.@@3

After the example of Macleay, we restrict the applica­tion of this term to some families of Arachnodermata, which, by their fantastic forms, are estranged from the typical tribes, and exhibit in their organization such a variableness among themselves, and such a mixture of the elements of more than one class, that their true position among animals is

rendered doubtful ; and we are fain, in order to preserve distinctness and precision to our definitions of the various classes, to set them aside as anomalous, or annectant, or osculant groups, which, like corner-stones in a building, are adapted, by their very irregularity, to cement and gird the whole together. Most naturalists have believed them to bear the closest alliances with the Medusides, more par­ticularly with the Cirrhogrades ; but Blainville deems them to have superior claims to a connection with the Mollusca.@@’ A common character can scarcely be assigned to the or­der. They are gelatinous, nomade, sometimes globular and radiated, more usually without any radiation, and de­viating widely from familiar objects, so that we might compare them to the beautiful but misshapen orchideous and cryptogamous plants which blossom in the shades of the tropics, rather than to any animals which even the fancy of the herald-at-arms has yet pictured. Hence we shall distribute the little we have here to say of them under the two families which the order embraces.

The first family is named by Blainville Physogrades, an air-bladder being their principal organ of locomotion. Its general character is defined to be a regular symmetri­cal, bilateral, fleshy, contractile body, often greatly elon­gated, constructed with an air-bladder of greater or less size, which Blainville supposes, in the spirit of a transcen­dental anatomist, to be formed by a partial inflation of the intestinal canal, that has always a mouth and anus dis­tinct from each other, and placed at the opposite extremi­ties. The respiratory organs, according to the same-author, reside in the lengthened irritable cirri attached to the body, and with which the ovaries are intermixed. The animals appear to have the power of secreting air, by which means the bladder can be filled more or less completely, and their buoyancy and position regulated according to their instincts. Whether the air is again absorbed when the floating Acalephes wish to descend, or whether it is ejected by compres­sion from certain appropriate orifices, has been disputed. The latter is the common, and, as we believe, the correct opinion. A different opinion is however entertained by Dr Grant ; for after a storm of three days endurance, he found many Velellæ cast on the shores of Cornwall, which should, on our hypothesis, have sunk to the bottom, and thus, in its stillness, have avoided the wreck which they suffered.@@4 But a fact which concerns the Velellæ alone, cannot be legitimately applied to the Physales, since the discrepancy in their structures manifestly prohibits such an application. With relation to the Physales, Mr Peacock says, “ on com­pression, air escapes from the sac by small orifices at each extremity.”@@’ Mr Baird, who had many opportunities of making examinations of them, says of the same animals, “ They have the power of contracting and dilating their membranous (air) bag at pleasure, and no doubt, by trim­ming it to the wind, make it act the part of a sail to propel themselves through the water. ‘ They are very often to be met with at sea,’ says Sir Hans Sloane ; ‘ and seamen do affirm that they have very great skill in sailing, and ma­naging their bladder or sail with judgment for this purpose, according to the different winds and courses.’ Upon at­tentively examining the narrow or free extremity of the bladder, a small round aperture is perceptible, surrounded by a circular zone of fibres, of a beautiful red colour, like the muscular fibres of the iris of the eye. Out of this small hole, which is not larger than would be sufficient to admit the passage of a very fine bristle, *I squeezed the air out of the bladder.”@@6*

*@@@\* Manuel d'Actinologie,* p. 270.

@@@2 Synonymes : Les Acalèpbes hydrostatiques : Radiares anomales ; Acalepha Pæcilomorpha.

*@@@3 Man. d Actinologie,* p. 112. This view has been adopted by Quoy and Gaymard, and by Lesson. *Ann. des Sc. Nat. n.* s v. p. 235-6.

@@@4 *Proc. Zool. Soc. Lond.* iii. pt. i. p. 14.

*@@@6 Mag. of Nat. Hist.* n. s. i. p. 598.

*@@@6 Mag. of Nat. Hist.* iv. p. 476. Knowing Mr Baird's accuracy, we are disposed to receive his statement as correct ; but it is opposed by Mr George Bennett, who states that he could never discover the orifice in question, nor expel air from the bladder without a puncture being previously made ; and, moreover, that the partial escape of air from the bladder has no influence on the creature’s buoyancy. See *Proc. Zool. Soc. Lond,* for April 1837, p. 43. j