•• Body straight and of equal thickness ; four pairs of cutaneous prominences toward the anterior part, which is prolonged into the form of a neck.

† Without arms; nor is the tail penniform. Pennicula, *Nordm.*

†† With arms, and a penniform tail. Penella, *Oken.*

II. Family Lernæoda.

BODY WITH TWO PINCERS, OB PREHENSILE APPENDAGES, SITUATED BEHIND TΠE PROBOSCIS, AND WITHOUT SWIMMING PEET, WHICH AHE SOMETIMES REPRESENTED BY SIMPLE CUTANEOUS PROLONGATIONS.

• Prehensile apparatus simple, situated at the point of union between the trunk and the neck. Anchorella. *Nordm.*

\*\* Prehensile apparatus elongated, composed of appendages which have the shape of arms, and which are united together near their extremity.

† Cephalothorax prolonged into a neck.

§ Pincers with hooklets placed on the lower part of the neck, between the arms. Tracheliaste, *Nordm.* Lehnantoma, *Blainv.*

§§ Pincers with hooklets placed at the upper part of the neck, almost behind the head. Branchiella, *Nordm.*

†† Cephalothorax short, rounded or heart-shaped ; pincers, with hooklets, placed immediately in front of the arms.

§ Arms very long and thin : the abdomen elongated, and not jointed. Lerneopoda, *Blainv.*

§§ Arms very long and thin: the abdomen circular and jointed. Achthere, *Nordm.*

§§§ Arms short and thick : abdomen not jointed, and verrucose. Basaniste, *Nordm.*

\*\*\* No prehensile organs in the shape of arms.

† Tentacula of two or three joints not formed of articu­lated feet, armed with hooklets; a pair of jaws and two palpi. Chondrocahthus, *Cuv.*

†† Tentacula with six joints ; an eye on the top of the head ; three pairs of jointed pincers behind the mouth, which is conical. Lerenanthrope, *Blainv.*

After this family there follow, in the system of Cuvier, some genera of marine worms, which are not parasitical, and are un­doubtedly members of the family Planariæ. The Nemertes had been previously characterized by Sowerby, and by him named Lineus. It is remarkable for the extraordinary length to which it grows. We have been informed that specimens of thirty feet long have been seen, and have had some in our possession which, when extended, could not be less than fifteen or twenty. It is to be found under stones, coiled up in an intricate mass of a purplish- brown or claret colour, smooth and glossy, of nearly uniform cali­bre throughout, and free of wrinkles or joints. The head is dis­tinct enough ; and underneath it there is a long slit, which is the mouth. The intestine runs the entire length of the body ; and, what is very curious, we have a specimen which has swallowed a periwinkle, the shell forming a knob near the middle of the body, reminding us of the appearance of a gorged snake. After the Nemertes, says Cuvier, we ought probably to place the Tubula- hiæ of Renieri, which are equally large and very much elongated, but which have a small mouth pierced under the anterior extre­mity ; and the Ophiocepπales of Quoy and Gaimard, distinguish­ed by having the apex of the snout cleft ; and the Cerebratules of Renieri, which differ from these merely in the comparative shortness of the body.

ORDER II.—THE PARENCHYMATEUX, *Cuv.*

This order is divided into four families. The first is co-equal with the *Acamnoceρhala* of Rudolphi ; the second embraces the *Trematoda* of the same author, with some additions. One of the most extraordinary is the Hectocotyles of Cuvier, a long worm, compressed and enlarged at the anterior extremity, upon which is the mouth, whose inferior surface is garnished with numerous suckers, arranged in pairs ; and at the posterior extremity there is a sac, filled with folds of the oviduct. One species, which hides

itself in the flesh of the sea-polypus *(Octopus),* is four or five inch- es long, and has 104 suckers ; another of smaller size, and with seventy suckers, is the parasite of the *Argonauta.* The Aspido- gaster of Baer is a minute parasite of the mussel, distinguished by having under the belly a lamina, hollowed with four rows of lit­tlepits. In this family also Cuvier arranged a multitude of animals which were formerly comprised in the genus Planaria of Mül­ler.@@1 They are little worm or leech-like animals, with a soft, com­pressed, or foliaceous body, found both in the sea and in fresh waters. There is no abdominal cavity. The mouth, placed in the belly near its middle, is furnished, in many, with a protrusile proboscis, which leads into an intestine of a dendritic character, and whose ramifications permeate the whole body. A vascular net­work occupies the sides ; and there is, posterior to the oral aper­ture, a double system of generative organs. The species are an­drogynous like the snails, and oviparous. The head is ornamented in most with black specks, which are probably eyes. They are voracious creatures, feeding on animal matter; but, above all, they are remarkable for the facility with which they reproduce any part of the body that may have been lost by accident, or cut away by the curious experimenter. In this wonderful power they equal the Hydra. The species and races are extremely numerous, and admit of much complicated classification.@@’ Dugés distin­guishes them into the typical *Planarioe,* with a ventral aperture : the *Prostomae,* which have one orifice at the anterior, and another at the posterior extremity ; and the *Derostomes,* in which the oral aperture is beneath, but placed considerably forwards.@@3

The third family of the intestinal Parenchymateux is named the Tænioides It conjoins the orders Cestoidea and Cystica of Rudolphi. The fourth family is the Cestoides, and embraces only the genus *Ligula* of Bloch, parasitical worms found in the in­testines of some birds, and of various fresh-water fish. They appear the simplest of all the Entozoa. The body is like a long ribbon, obtuse in front, marked with a longitudinal stria, and finely scored crosswise. There is apparently no external organ ; and in the interior we see nothing but the ova scattered in the parenchyma. The species which infests the bream grows to five feet in length ; and Cuvier says that the worms are considered in some parts of Italy an agreeable food.

In the bowels of some seals, and birds which live upon fish, there are found certain worms very like the Ligulae, but in which genital organs have been developed, and even a head similar to that of the Bothryocephalus or tape-worm. Rudolphi hazards the conjecture that these worms of birds are identical with the Ligulæ of the fish, which have acquired their fuller organization by passing from the intestines of the cold-blooded animal into those of a warm-blooded one. There are some facts in the history of other tape-worms which give a colour to this conjecture : and »e may just call attention to its bearing upon the question of their equivocal generation.@@4

II.—ECHINODERMATA.@@5

The Echinodermata have been defined to be radiated animals, with a coriaceous or crustaceous skin, commonly tuberculated, or even spiny, and perforated with holes ar­ranged in regular series, whence issue contractile tentacular suckers. The mouth is either inferior or lateral, and mostly armed with certain osseous pieces that form a circle of teeth within the lip ; the stomach is a loose bag, with distinct parietes, and with an intestine or cæcal appendages ; the respiratory apparatus is vascular; and the species are ovi­parous. This definition however must not be too nicely examined, otherwise several animals, which offer but a feeble and partial adumbration of its characters, might be excluded from a class to which they properly belong. The stellated disposition of the organs is generally so remark­able, that fancy will dream the Echinodermata to be the children of night, which have drawn their figures from the stars that presided over their birth ; but there are among

@@@, The best history of the Planariæ is entitled *Observations on some interesting Phenomena in Animal Physiology, exhibited by several species of Planaria:.* By John Graham Dalyell, Esq. Edinb. 1814, 8vo. Judging from the infrequency with which thia interesting volume is quoted, we presume it to be much less known than it deserves to be.

@@@2 They constitute the class Turbellaria of Ehrenberg, and a synopsis of bis arrangement is given in Lam. *Anita, sans Vert.* 2de edit vol. iii. p. 609.

@@@8 See a description of some British species by Dr Johnston in the *Magazine of Zoology and Botany*, vol. i. p. 529.

*@@@4 Entoz. Syn,* p. 596.

@@@s From *ιχινος, a hedgehog,* and *έϑμα*, *the skin.* Synonymes : Echinoderma ; Les Echinodermes ; Cirrhodermaires ; Crustacea of Blumenbach.