attempts have anew been made to subdivide the family in­to groups and genera; for many new and extraordinary forms have been discovered since the publication of Ru­dolphi’s work. Our space forbids us to characterize these novelties, but we may mention the *Gregarina* of Dufour, liv­ing in groups in the alimentary canal of tardigrade insects ; the *Diplostomum,* which peoples the humours of the eyes of fish ; the *Cercaria* of fluviatile mollusca, so remarkable for its anomalous mode of propagation ; and the *Diplozoon,* the only animal known which is truly double, having two heads and two bodies united at their middle, and in organic connection, and, unlike the Siamese twin, no monstrous production, but a normal species after its kind.@@1

Some of the species in the family are without sex, and seem to be composed of granules lying in a fluid gelatinous matrix, held together by a thin skin, which gives the ani­mal form and consistency. On the contrary, in the greater number of the species there is a digestive apparatus, con­sisting of a mouth, an œsophagus or pharynx, and an in­testine forked or sometimes ramified ; but there is no anus, for the ascription of this name to the posterior sucker is founded in error. In several genera we find subservient to the digestive organs a double system of vessels, one closed, the other (furnished with a reservoir, named by some helminthologists the *cisterna chyli)* has a communica­tion with the exterior by means of a caudal aperture, the vent of some secretion. These more complex species are all hermaphrodites, some fecundating themselves, while others copulate after the fashion of the snail. The sexual organs are often very complicated and much interwoven, but they have distinct orifices. The eggs are diversiform, and usually laid anterior to the formation of the embryo. There are some exceptions, however, and at least one species of Monostoma is viviparous. When the embryo is matured, the upper part of the shell of the egg bursts and opens like an operculum, allowing the embryo to pass out ; and then it swims about vivaciously in the circumfluent medium by means of cilia that cover the body. We know not what may be the number and the nature of the meta­morphoses through which the young passes before assuming the shape of the parent. The young of the *Monostoma nιutabile,* observed by Siebold, contained all of them a worm of a peculiar figure, having no correspondency with the figure of the mother, but resembling the cyst of some Cercariæ. Analogy induces Nordmann to believe that this worm within the young is in fact changed into a cyst, from which, under favouring circumstances, the Monostoma is ultimately developed.@@2

Genus Tristoma.—*Captain* of *Bose—*Body flattened; two simple suckers in front and a radiated one behind ; the mouth emitting a proboscis ? between the former. The species infests the gills of various fish. It is occasionally found at freedom in the sea, and has occurred on the British coast.

Genus Pentastoma—Body roundish or flattened ; mouth pro­truding a little hook, placed between the anterior suckers, of which there are two on each side, arranged in a lunated manner. Para­sites of the viscera of the quadrupeds. The best-known species is found in the frontal sinus of the dog and of the horse, growing to the length of six inches. The sexes are distinct. The name *Linguatula* has been preferred for the genus, of which Diesing has published a monograph, with descriptions of eleven species. Be­cause the sexes are separate, Cuvier gives it a place among the Nematoidea, while Diesing thinks its peculiar structure entitles it to be reckoned the type of a separate order, which he names *Acanthotheca ;* and Miram expresses an opinion the same as Die­sing’s. *Recherches sur l'Anatome du Pentastoma Toenioides, in Ann. det Sc. Nat.* n. s. tom. vi. p. 135. (Plate DII. fig. 5.)

Genus Polystoma.—Plate DII. fig. 10, 11—Body roundish or flattened ; six suckers in front, a ventral and posterior one soli­tary. This genus is the type of a family named *Polycotyla* by Blainville. It contains many genera, and among them the Tris­toma, and others which have often been classified with the Leeches. The bulk of the species prefer the exterior of animals, especially the gills of fish, to which they adhere by means of the prehensile organs or suckers on the hinder part of the body. All of them are hermaphrodites. The orifices of the genital organs are in front, not far from the mouth. On each side of this there is an oblong or round sucker ; in the œsophagus a body resembling a tongue has been distinguished ; the alimentary canal is dendritic, without an anus, and all the body is permeated with a double vascular thread, in which there is obviously a circulation of blood, attended with a vibratile motion. Some species are furnished with eyes, or eye-like specks ; and the surface of the body is variegated with spots, or tinctured of a deep colour.

ORDER IV.—ACANTHOCEPHALA.

*Character—*Body roundish, utricular, elastic ; proboscis retrac­tile, armed with spinules arranged in rows; sexes separate.

Genus Echinobhynchus.—The only genus of its order, but a

very numerous one, for not less than 100 species have been discri­minated. They are found in the intestines and other viscera of vertebrated animals, retaining themselves in their position by means of the prickly proboscis,@@3 which is not the organ for taking their food, for its extremity is not perforated. The sexual organs are very complex. The ovaries are not attached, but float free in the cavity of the sac-like body. The ova resemble spicula, and appear to be discharged posteriorly through a minute pore.@@\* It seems that the species undergo a considerable change in figure in their progress from the embryo to the adult state ; and some lose the prickles of their proboscis.

ORDER V.—NEMATOIDEA.

*Character.—*Body cylindrical, elastic, the intestinal tube termi­nated at one end by the mouth, at the other by an anus ; sexes separate.

Genus Liorhyxchus.—Body elastic, round ; head evalvular;

mouth with a smooth protrusile tube. Of the three species men­tioned in Rudolphi, one infests the badger, one the seal, and one the conger eel. Diesing has lately characterised several allied genera.

Genus Ophiostoma.—Body round, elastic, attenuated towards each extremity ; head with an inferior and superior lip. The *Fistula* of Lamarck. The species are intestinal, and occur in quad­rupeds and fishes, occupying the swimming bladder of the latter.

It is probably in the neighbourhood of Ophiostoma that we should place the genus Tetrastoma of E. Forbes, a strange parasite, “ fixing itself by means of four suckers or mouths to the walls of the stomach, and of the vessels of the Cydippe, after interrupting the circulation of the fluids.” Mr Forbes first described it as a tongue-shaped organ existing in the stomach of the crystalline me. dusans, but its parasitical nature was discovered by Major Playfair of St Andrews. See *Athentrum,* Sept. 26, 1840, p. 740.

Genus Ascaris.—Body round, elastic, attenuated at both ex­tremities; head trivalvular; spiculum of the male double. The species are numerous, and difficult of discrimination. The most common example of the genus is *A. lumbricoides,* found in the small intestines of man, of the swine, of the ox, horse, and ass. See Plate DII. fig. 3.

Genus Strongylus.—Body round, elastic, attenuated at both ends ; mouth circular or angulated ; apex of the tail in the male terminated with a purse-like sheath, whence the penis is protruded.

The *S.gigas* (Plate DII. fig. 4) may be considered the type of the genus. It attains the length sometimes of two or three feet, and is as thick then as a man’s little finger; and it makes one shud­der to think that this monstrous worm is occasionally the canker­ous inhabitant of the kidneys of man, where it lies rolled up, battening on their flesh, and producing unspeakable torture. It afflicts other animals, as the dog and wolf, and is not confined to the kidneys. It is often found of a deep red colour, dependent undoubtedly on the blood it has sucked from its victims. Of worms excreted with the urine, see cases very interesting to the “ greedy hunters after monsters,” in Le Clerc’s *History,* p. 264 et seq. Also the *Cyclopaedia of Practical Medicine,* vol. iv. p. 516.

@@@, The *Syngamus trachealis* has been adduced as another example, in which the male is organically blended by its caudal extremity with the female ; but Siebold afterwards discovered that he bad been deceived in this description. Lam. *Anim. sans Vert.* 2de edit. iii. p. 652.

@@@2 Lamarck, *Anim. satis Vert.* vol. iii. n. 617, 2de edit.

@@@3 Of this organ Dr Drummond has given a good description in *Mag. Nat. Hist.* n. s. ii. p. 520 ; and some most interesting observations on

their economy in vol. iii. p. 63-71.

@@@4 See Drummond in *loc. cit.* p. 523.