towards the surface of organs, and sometimes a cure is effected spontaneously by its rupturing into the alimentary canal or into some other passage leading to the exterior. Cases in which the cyst opens into the blood-vessels are almost always suddenly fatal. When the *Echinococcus* occurs near the surface of the body, it may be evacuated by puncture and a cure effected with but little risk.

*Systematic Arrangement of the Cestoda.*

The following classification of the Cestodes, based mainly on that of Van Beneden, exhibits the present state of our knowledge of the group :—

Class *Cestoda.*

Family I. *Amphilinidæ.—*Body oval, flattened, with a sucker at the anterior extremity; testes vesicular, vas deferens opening posteriorly; ovary (germarium) single, yolk glands double, vagina opening near the vas deferens, uterus opening anteriorly; embryo ciliated in front and with ten hooks. Examples: *Amphilina,* Wagener (see below), *Amphiptyches,* Wagener.

Family II. *Caryophyllæidæ.—*Body unsegmented, flat, extended ; head expanded, bilobed, and without hooks ; a single set of sexual organs in the hinder portion ; development probably a simplified metamorphosis. Example : *Caryophyllæus mutabilis,* from the intestine of Cyprinoid fishes (fig. 3, D).

Family III. *Pseudophyllidæ.—*Head provided with two sucking grooves ; proglottides not always well defined ; a uterine aperture always present in addition to the openings of the vas deferens and vagina ; embryo always (?) with a ciliated coat, and egg-shell with an operculum. Examples : *Bothrio- cephalus* (see below), *Triænophorus ( = Tricuspidaria), Soleno- phorus, Schistocephalus, Ligula, Archigetes,* and perhaps *Duthiersia* (see below).

Family IV. *Diphyllidæ.—*Neck and two suckers armed with hooks. Example : *Echinobothrium,* two species known from Selachians, one immature from a mollusc (fig. 3, C).

Family V. *Tetrarhynchidæ.—*Head provided with four suckers and four protractile proboscides armed with hooks ; sexual openings marginal. Example : *Tetrarhynchus* (see below), about forty species known, many only described from im­mature forms.

Family VI. *Tetraphyllidæ.—*Head with four very mobile aud distinct suckers, which are often armed with hooks or chitinous rods ; body segmented, proglottides cast off when mature ; sexual openings marginal.

Subfamily i. *Phyllobothrinæ. —*Suckers without hooks or spines. Examples : *Echeneibothrium, Phyllobothrium, Anthoboth- rium,* a few species of each, all from Elasmobranch fishes.

Subfamily ii. *Phyllacanthinæ.—*Suckers each with two to four hooks. Examples : *Calliobothrium, Onchobothrium, Acan- thobothrium,* two or three species of each genus known from Selachians.

Family VII. *Tæniadæ.—*Head furnished with four suckers and often with a single or double circlet of hooks ; proglottides well-defined and cast off when mature ; no uterine aperture. Example : *Tænia* (see below).

It seems advisable to add a few details regarding some of the forms alluded to in the above synopsis.

*Amphilina foliacea,* described as a Trematode by Rudolphi, is found in the body-cavity of the sturgeon. A number of unicellular glands open iuto the sucker, and are surrounded by the muscles of that organ ; the nervous system consists of two ganglia, with a commissure, and two lateral nerves ; the male organs resemble those of *Bothriocephalus,* the female those of the Trematodes ; the family is generally regarded as furnishing a connecting link be­tween the *Cestoda* and *Trematoda* ; see Salensky (18) and Lang (7).

*Bothriocephalus lotus* (32) is the most conspicuous example of the family *Pseudophyllidæ,* and is, moreover, noteworthy as being the largest tape-worm found in man ; its length often reaches 8 to 9 metres, aud its extreme breadth 10 to 12 mm. The head bears two grooves, which correspond in position with the flat sides of the body. There are two (more correctly three) genital openings, which are situated, not on the margin but on the flat side of the body, on that surface which is usually called the ventral. The most anterior of these is the male aperture (fig. 4, A, c.), and im­mediately behind it is that of the vagina (*v.o*.), so close that on superficial examination the two often seem to coincide. This vaginal opening, like that of the *Tæniadæ,* serves for the intromission of the penis and for the fertilization of the ova, but not for the exit of the ripe eggs ; this being provided for by a special aperture at the other end of the uterus from that at which the eggs enter it. This uterine opening (*u.o.*) is situated at a short distance behind the other two. The result of this arrangement is that the eggs can be evacuated without any injury to the proglottis, and consequently their discharge commences before its separation from the parent worm and may continue for a long period. The uterus (*ut.*) itself, owing to its disposition in folded coils, when full of eggs, presents an irregular, round, lobular appearance, which has been compared to a flower or heraldic lily. The yolk-gland (*y.g.*) is widely dis­seminated in the lateral areas of the segments, and its ducts (*y.d.*)form a series of branching tubules, first described by Eschricht (27) under the name “yellow ducts.” The excretory organs (*ex*.) differ from those of the *Tæniadæ* in that the canals exhibit a reticu­late arrangement. The embryo (fig. 4, D) as it leaves the egg is covered with a ciliated mantle, which corresponds to the firm egg­shell and associated membrane of the cystic tape-worms, and per­haps also to the ciliated envelope of certain Trematode larvæ (see Trematoda). This ciliated organism swims freely about in the water, but after a time the six-hooked proscolex escapes from it. The next stage in its life-history is not yet known, but it has been recently shown by Braun of Dorpat (33) that at a subsequent stage it inhabits the pike and burbot, and develops into the sexual adult when transferred to the intestine of the human subject. The geographical distribution of *Bothriocephalus* is limited; it has been recorded with certainty in but few places outside Europe; while within that continent the coasts of the Baltic and Switzerland are