4th Sub-order. SERTULARIÆ.[1] Alternate generations or direct development.[2] Hydra always pedunculated and attached, protected by a horny sheath, forming a distinct cup around the head. Medusa either free or sessile, mostly flat, sometimes, however, deep bell-shaped, with numerous tentacles, not more prominent in the prolongation of the radiating chymiferous tubes, than in the intervals between them, along the circular tube;[3] with or without independent eyes and marginal cirrhi. Reproductive organs always along the radiating chymiferous tubes, and never upon the proboscis.

1st Family. AGLAURIDÆ *Ag.* See note 2, p. 352.

Aglaura *Pér.* and *LeS.*, *Esch.*, *DeBl.*, *Less.*, *Gegenb.* (non *Oken*).

A. hemistoma *Pér.* and *LeS.*—Aglaura Peronii *Leuck.*, Arch. Nat., 1856, Pl. 1, fig. 5; *Gegenb.*, Pl. 8, fig. 3.—*Nice* (Péron and LeSueur); *Messina* (Gegenbaur).[4]

Lessonia *Eyd. et Soul.*

L. radiata *Eyd. et Soul.*, Bonite, Zooph., Pl. 2, fig. 16.—*South Sea* (Eydoux et Souleyet).

2d Family. CIRCEIDÆ *Forbes.* See note 2, p. 352.

Circe *Mert.*, in Brandt's paper, Mém. Ac. St. Petersb., 1838.

C. camtschatica *Br.*, Pl. 1.—*Coast of Kamtschatka* (Mertens).

level of the circular tube. About eighty rudimentary tentacles between the two large ones. Spherosome of a light blue color; folds of actinostome, dirty yellow; tentacles, light brown. Height, three quarters of an inch.—*Gulf of Georgia, Washington Territory* (A. Agassiz).

[1] This sub-order corresponds to the groups of Hydroids generally designated under the names of Sertularians and Campanularians, but, since many of them are now known to produce free Medusæ, it is evident that all the naked-eyed Medusæ which have the same structure as these, must be associated with them, even though the origin of a majority of them remains at present unknown.

[2] It remains doubtful whether some naked-eyed Medusæ, such as the Trachynemidæ *Gegenb.*, which are known to undergo a direct development from eggs, should remain in this sub-order. But when I consider the difference in the development of Pelagia and Cyanea, notwithstanding their close affinity, I am inclined to believe that a regular succession of generations, without the interposition of an hydroid form, is no objection to the association of these naked-eyed Medusæ with those, the eggs of which produce Hydræ from which free Medusæ arise.

[3] When young, some of these Medusæ have four tentacles, and for some time, while still growing, the tentacles in the prolongation of the chymiferous tubes are larger than those placed in the intervals; but in course of time this difference gradually vanishes.

[4] The Aglaura penicillata *DeBl.*, Pl. 33, fig. 4, belongs to the genus Polyorchis; it is figured twice, and appears under two different names in the Manuel d'Actinologie. It is the Melicertum penicillatum *Esch.*, and is also figured under that name by DeBlainville on Pl. 38. See Polyorchis, p. 349.