

tentacle. Nectosome biserial, with two opposite rows of nectophores. Pneumatophore with radial pouches (compare Pls. XIV.—XVII.).

The family Agalmidæ, the largest of all Physonectæ, comprises those polygastric "Physophoridæ" which possess a biserial nectosome, and at its apex a pneumatophore with radial pouches; the long tubular stem of the siphosome bears numerous siphons, bracts, and palpons; the tentacles are always branched, with a single series of tentilla.

The genera and species of Agalmidæ are rather numerous, and widely distributed over all seas; they occur in the Arctic as well as in the temperate zones, but mostly in the Tropics. The majority, however, occur only at certain seasons and not in great numbers; nearly all are extremely delicate and sensitive, and the component parts easily detached from the stem. Most of the older observers, therefore, have only described fragments or single isolated pieces. A further great obstacle to accurate examination is the extraordinary mobility and contractility of most Agalmidæ.

The first figures and descriptions of Agalmidæ were given by Péron and Lesueur (14, *Stephanomia*, 1807), and by Eschscholtz (21, *Agalma*, 1825). Lesson (3, 22) and Quoy and Gaimard (2, 19, 20) published figures and descriptions of numerous scattered pieces, but without great value. Brandt in 1835 described *Agalma mertensii* from an excellent (though alas unpublished) figure by Mertens (made in 1827), and founded upon it the family Agalmidæ (25). Sars in 1846 published accurate figures of the northern *Agalmopsis elegans*. The excellent observers in the sixth decade of our century (1853–1859), Kölliker (4), Vogt (6), Leuckart (5, 8), Gegenbaur (7, 10), and Huxley (9), greatly advanced our knowledge of the Agalmidæ, which were also called Stephanomidæ (including *Forskalia*). Some new interesting species have been described recently by Claus (74, 75), Fewkes (42–45), &c. In general, however, there yet remains much to be done towards a more accurate knowledge of this important and interesting family.

My own observations on numerous different Agalmidæ were commenced in 1859 in Messina, and continued in the winter of 1866–67 in the Canary Islands; but the richest harvest was found during my residence in Ceylon, where I had the opportunity of observing several new and interesting forms. The Challenger collection contained many isolated and scattered portions of detached parts of Agalmidæ, but no complete specimens of any value.

*Nectosome*.—The swimming apparatus of the Agalmidæ is composed of a small apical pneumatophore and of two opposite rows of large alternating nectophores. These are so arranged around the axial trunk, that the apical part of each nectophore fits into the interval between two neighbouring nectophores of the opposite row, a superior and an inferior. The trunk itself, therefore, is spirally twisted, since the insertions of all the nectophores originally form a single straight series in the ventral median line of the trunk. The spiral line usually is læotropic (or a lambdoid spiral), therefore opposed to the spiral of the siphosome, which is (perhaps always) dexiotropic (or a deltoid spiral). The number of nectophores is in most species ten to twenty, but in some smaller forms only four