

unpublished plate of Lesueur, founded upon it a new genus, *Apolemia uvaria* (1829, 1, p. 143). Blainville copied in 1834 a part of Lesueur's splendid figures in his *Actinologie* (24, pl. iii. fig. 1), and Lesson copied the description of it and named it "*Apolemia Lesueuria*" (3, p. 518). I myself obtained in 1878 at Paris, owing to the kindness of Professor Perrier, a copy of Lesueur's beautiful plate, and on comparing it with the Mediterranean *Apolemia uvaria*, was convinced that these two forms are not identical, as preceding observers had supposed, but belong to different species or even genera.

The Mediterranean *Apolemia uvaria*, the largest Physonect of this sea, was described in the years 1853 to 1863 by Kölliker (4), Vogt (6), Gegenbaur (7), Leuckart (8), and Claus (35). The descriptions of these authors together give a satisfactory idea of this interesting type of the family. It differs from the *Apolemia lesueuria* in the dioecious corm and the naked internodes of the siphosome, which in the latter are densely covered with innumerable bracts. Since the corms, too, in this latter are monoecious, I separate it as *Apolemopsis lesueuria*.

Closely related to this latter seems to be an Apolemid from the Tropical Pacific, which Mertens observed near the Caroline Islands, and Brandt described in 1835 under the name *Apolemopsis dubia* (25, p. 36). Comparing the accurate figure of it, which Mertens had drawn from life, with the plate of Lesueur, I think these two forms belong to the same genus, but are distinct species.

During my voyage through the Indian Ocean, from Aden to Bombay, in 1881, I captured a single but complete specimen of the interesting new Physonect, which is figured in Pl. XVIII. figs. 1-7, of this Report, under the name *Dicymba diphyopsis*. The composition of the corm and the form of the single organs are almost as in the well-known Mediterranean *Apolemia uvaria*; but there are two important differences; the nectosome is composed of two opposite nectophores only (as in *Praya* and *Diphyes*), and the cormidia are monogastric, with a single siphon and tentacle (as in the *Diphyidæ* and *Agalmidæ*). This Indian Physonect may therefore be regarded as the type of a new subfamily, or even family—*Dicymbidæ*.

*Nectosome*.—The swimming apparatus of the Apolemidæ is similar to that of the Agalmidæ, but differs from it in two characteristic peculiarities. The pneumatophore is a simple invagination of the exoderm, without radial pouches; and the nectophores beyond it are provided with tentacles wanting in the Agalmidæ. The number of nectophores is different in the two subfamilies; *Dicymba*, the single known type of the subfamily *Dicymbidæ*, possesses only two large opposite nectophores, similar to *Praya* and *Diphyes*, and approaches in this as well as in other respects to the *Diphyidæ*. The subfamily *Apolemopsidæ*, represented by *Apolemia* and *Apolemopsis*, on the other hand, has two obliquely opposite series of alternating nectophores (four to six pairs or more), similar to the *Polyphyidæ* and *Agalmidæ*. The long and thin contractile filaments which arise from the trunk of the nectosome between the single nectophores are