between the two species *Myliusia* (*Iphiteon*, Bowerbank) *callocyathus*, Gray, and *Myliusia grayi*, Bowerbank, but without further inquiry have assigned both to the same genus *Myliusia*—a generic name which, after what has been said, ought to be applied to *Myliusia callocyathus*, and not to *Myliusia grayi*, Bowerbank, in case the latter of the two species does not belong to the same genus.

In 1873 Carter[1] established a characteristic difference between *Myliusia callocyathus*, Gray, and *Myliusia grayi*, with respect to the rosettes. In *Myliusia callocyathus*, the "rosettes are many rayed; rays of equal length, capitate, flexed, and grouped *en fleur-de-lis*, or occasionally with straight and capitate rays;" in *Myliusia grayi* "the rosettes are many rayed, rays of equal length, straight, capitate."

In the memoir which Marshall published in 1876 on the affinities of the Hexactinellida[2] he seemed inclined to identify *Myliusia callocyathus*, Gray, with *Dactylocalyx crispus*, O. Schmidt.

In the description of *Myliusia grayi*, Bowerbank, which Carter gave[3] in 1877, he notes that[4] "although *Myliusia grayi* presents the convoluted cerebriform appearance of *Myliusia callocyathus*, yet its minute structure is totally different, inasmuch as the knots or junctions of the fibre in the latter are solid and round, not hollow and lantern-shaped as in *Myliusia grayi*."

In his studies on fossil sponges Zittel[5] places *Myliusia grayi*—probably with exclusion of *Myliusia callocyathus*, Gray—along with *Dactylocalyx*, Stutchbury, and *Periphragella*, Marshall, in his family of the Mæandrospongidæ, "in which the sponge body consists of meandering, intertwining, and anastomosing thin-walled tubes or laminæ, the canal system absent or scarcely developed, the intercanal system, on the other hand, present. A covering layer is wanting, or forms a coherent siliceous skin on the surface."

In a report from the Dresden Zoological Museum (1878), Marshall and Meyer accurately described a new sponge from the Philippines as *Myliusia zittelli*, Marshall and Meyer. But since this form is doubtless closely related not to *Myliusia callocyathus*, but to *Myliusia grayi*, Bowerbank, we shall not at this stage take it into consideration (see *Aulocystis*). The species in question was found by O. Schmidt among the West Indian sponges of the American Expeditions.

1. *Myliusia callocyathus*, Gray (Pl. CIII.).

Specimens of this elegant species were procured from three stations by the Challenger Expedition, but of these none attains the size of the example described by J. E. Gray, and figured in the Proceedings of the Zoological Society of London, 1859, pt. xvi.

[1] *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xii. p. 358.
[2] *Zeitschr. f. wiss. Zool.*, Bd. xxvii. pp. 113–136.
[3] *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xix. pp. 126–131.
[4] *Loc cit.*, p. 128.
[5] *Abhandl. d. k. Baier. Acad.*, p. 38, 1877.