

Genus *Calyptrophora*, Gray (*emend.*).

*Calyptrophora*, Gray, Proc. Zool. Soc. Lond., p. 25, 1866.

” Gray, Cat. Lithophytes Brit. Mus., p. 41, 1870.

” Studer, Monatsber. d. k. preuss. Akad. d. Wiss. Berlin, p. 642, 1878.

This genus was established in 1866 by Dr. Gray on “a small fragment” from Japan of a Primnoid Alcyonarian. The polyps had been almost all rubbed off from the axis, and the few that remained had been dislocated. As might have been anticipated under these circumstances, the diagnosis of the genus was very incomplete, and although the description of the genus in 1870 was altered from that originally given, and the species described by Pourtalès as *Primnoa trilepis* was included therein, yet the diagnosis was in no way emended, and the description of the axis of the polyps and the spicules is incorrect and misleading. The species from Japan, of which there is no doubt Dr. Gray had an “eroded” specimen before him while writing his description of *Calyptrophora japonica* (this is still in the British Museum), is now, however, to be found in most large collections of Alcyonaria under Dr. Gray’s name, and it would, therefore, serve no useful purpose to alter the generic or specific name.

Axis branched, sometimes branches are unilateral, other times irregularly dichotomous. The cœnenchyma of the axis is thin, the spicules are large, irregular in form, tightly fitting over the surface or overlapping. The axis is hard, horny, consisting of bundles of fibrillæ penetrated with amorphous calcareous particles, and the surface when bare of cœnenchyma has a wavy iridescent appearance. The basal portion is densely calcareous, with a central fibrous core, and the outer ring is striated:

The polyps are arranged on the axis in whorls of four, five or more. The body of the polyp is protected by three series of scale-like spicules of great size, of which the second and third series consists each of a single broad and hollowed ring-like scale (annular spicules). Opercular scales, eight in number, closing over the retractile tentacles.

The spicules of the body of the polyps will be found extremely characteristic of this genus as emended.

1. *Calyptrophora japonica*, Gray (Pls. XII., XX. fig. 4).

*Calyptrophora japonica*, Gray, *loc. cit.*, p. 25, et *loc. cit.*, p. 41.

” ” Studer, *loc. cit.*, p. 642.

The specimen in the collection, which appears to correspond to Dr. Gray’s type, was taken off the Fiji Islands. The basal portion of the axis is present as a dense calcareous knob, about 6 mm. in diameter; at 70 mm. in height the axis divides into two main branches; each of these gives origin to a number (sixteen or more) of slender twigs, which are all unilateral, apparently the result of a unilateral dichotomy. The first twig, after