On a Northern Alcyonarian, *Alcyonium pacificum* Yamada

By

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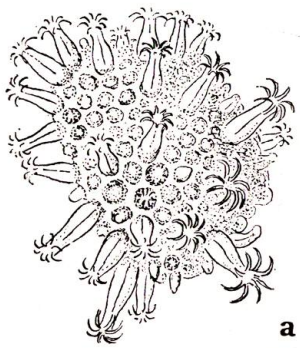
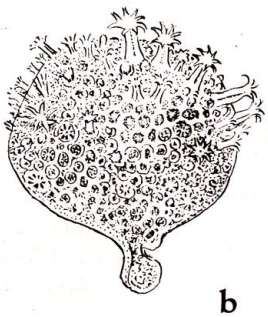
About forty years ago, just after the Akkeshi Marine Biological Station was established in 1930, I visited the Daikoku isle situated in the vicinity of the station. I was amazed at that time at remarkable red-orange alcyonarians which were attached in considerable numbers to blackish rocky cliff in the tidal zone on the south-eastern coasts of the isle. The alcyonarians are colonial and are of a form of mushroom with a short stem, and resemble somewhat seemingly the genus *Anthomastus*. The species is quite different from the common European species, *Alcyonium digitatum* and Canadian species, *A. sideratum* distinctly in form. The species is closely allied to the genus *Anthomastus* in its mushroom shape but is quite different from the latter in the absence of siphonozoids. In 1950 Yamada described the species as a new species with a short diagnosis. Utinomi (1958) suggested that the Japanese alcyonid is possibly eligible for the genus *Bellonella* which are clavate, capitate or mushroom shaped, but the species here considered is in general dome-like in shape and has a short stalk with a small pedal disc and is far from clavate form. Therefore, I use for this species the genus *Alcyonium* in wide sense.

The body is mushroom in shape and is divided into two parts; the upper capitulum and the lower stalk. The capitulum is convex and dome-like, bearing about 70–80 polyps in colonies, 30–40 mm in diameter and 15–20 mm in height. They are located on the whole apical surface of the capitulum and especially well-developed on the margin (Figs. 1–2). They are large and exsert, attaining 10 mm in length, with 8 feathered tentacles. They are entirely retractile into calicles which are slightly elevated and eight-lobed. There is no siphonozoid. The lower side of the capitulum is longitudinally wrinkled and is deficient in polyps. The stalk is considerably narrowed and irregular in shape (Fig. 3) and ends in a sucker, with which the animal attaches to rock. The coenenchyme is abundant and contains canals connecting the polyps. The coelenteron of large polyps extends deep in it. Yamada (1950) giving a figure of spicules states that "the spicules scattered in the coenenchyme of the capitulum and the stalk, especially abundant on the

Fig. 1. *Alcyonium pacificum* Yamada in living color. Kuriyama *del.* ×1.



a



b

Fig. 2

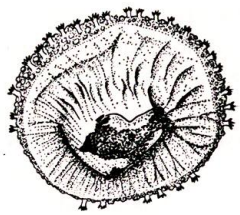


Fig. 3

Fig. 2. a. A colony of *Alcyonium pacificum* showing their extended polyps ×1.
b. The same with their polyps mostly retracted. This colony bears a small bud.
Fig. 3. Underside of capitulum of *Alcyonium pacificum*, showing the narrowed stem.

surface of the former and the basal and the peripheral part of the latter. They are of one type and double-star in form". The color of capitulum is bright orange. The colony often shows budding as seen in Fig. 2, b. According to Yamada the alcyonarian spawns in July-August.

The species is very commonly found attached to rocks at the Daikoku isle near Akkeshi and also at Muroran.

Literature

(Most literature has been omitted, others having been given in Utinomi's (1958) and Yamada's (1950) papers.)

Utinomi, H. 1958. A revision of the genus *Nidalia* and *Bellonella*. Bull. Brit. Mus. (Natur. Hist.) Zoology, Vol. 5, pp. 102–121.

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Yamada, M. 1950. Descriptions of two *Alcyonium* from Northern Japan. Ann. Zool. Jap., Vol. 23, pp. 114–116.