TWO NEW SPECIES OF *XENIA* FROM KUSIMOTO (COELENTERATA, ALCYONARIA)[1)]

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With 2 Text-figures

In 1929, His Majesty the Emperor made collections of marine animals on the southern coast of Kii Peninsula during His journey to Kansai District. Among the collections were found some specimens of *Xenia*, the occurrence of which had not been anticipated at that time. All these materials are now kept in the Biological Laboratory of the Imperial Household, and have not been examined as yet.

Recently I had the opportunity to examine them through the courtesy of Dr. H. HATTORI of the same Laboratory. All are preserved in the most excellent condition. On careful examination, these proved to be unable to refer to any described species of the genus, such as *Xenia hicksoni* ASHWORTH from Sibusi, Kagosima Prefecture and *Xenia kükenthali* ROXAS from Tomioka, Kumamoto Prefecture (UTINOMI, 1950). I therefore describe them as two new species, *Xenia kusimotoensis* and *X. fimbriata.*

The locality where the two new *Xenias* were obtained is shallow water near Tuya-sima, an islet between Kusimoto and Kii-ôsima, southernmost end of Kii Peninsula, which is known as one of the best collecting places along the peninsula.

Here, I wish to express my appreciation for the privilege of examining these precious materials of so much interest.

Xenia kusimotoensis sp. nov.

(Fig. 1)

Occurrence: Kusimoto near Tuya-sima, Wakayama Prefecture. Three specimens. Sp. No. Coel. 135 (Holotype and paratypes). June 3, 1929.

A single branched colony of holotype arises from a broadly expanded base of attachment, about 15 mm in maximum spread. The main stalk is columnar, about 10 mm in diameter at base and at a height of 5 mm it divides into two branches of 3 to 5 mm length. The total height is thus only 10 mm. The branches are short

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and thick, and end in dome-shaped plate from which all polyps arise.

Polyps are rather short, thick-walled and opaque; largest one measures only up to 5 mm in length, excluding the tentacles and 1–1.3 mm in diameter. The spicules are uniformly scattered all over the surface of polyps. They are mostly oblong, oval or finger-biscuit-shaped discs, measuring from 0.018×0.008 mm to 0.023×0.014 mm in size. Round discs are rare. The syndete, however, is devoid of spicules.

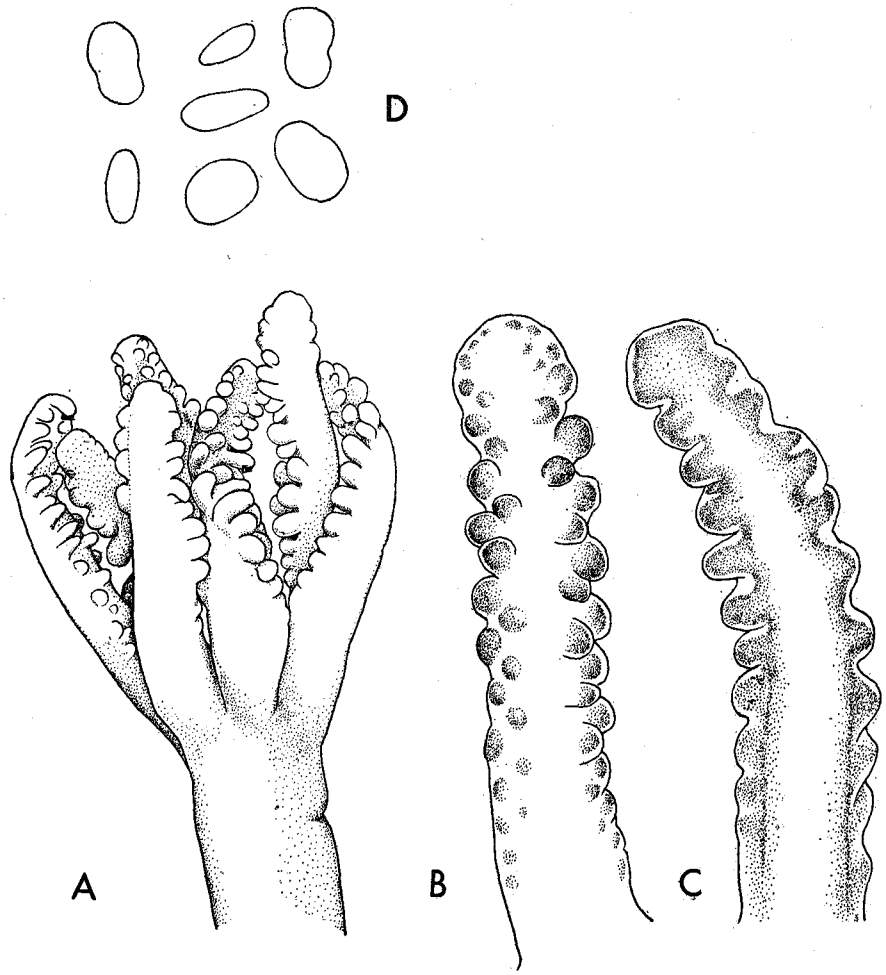

Fig. 1. *Xenia kusimotoensis* sp. nov.
A, polyp, ×18; B, tentacle, oral side, ×27; C, tentacle, aboral side, ×27; D, spicules, ×510.

The tentacles are short, compressed dorsoventrally and rounded at end. They measure about 3–4 mm long and 0.5 mm wide at base, but their length is rather irregular even in one polyp. The aboral side of the rachis is strongly convex in cross section, while the oral side is flattened and provided with two regular rows of

low conical pinnules, leaving a wide bare median region from base to end. There are about 10–12 pinnules in a row. Pinnules situated both basally and terminally are, however, merely wart-like and not paired on each side. Those in outer row are always larger than those in inner row, and largest one in the middle measures about 0.3 mm long and 0.18 mm wide. The mouth is circular, about 0.16 mm in diameter when wide open, and not raised from the oral disc. Stomodaeum about 1.5 mm long and about half as long as the tentacle.

The colour in spirit is different between the stalk and polyps. The former, together with the membranous basal expansion, is deep brown, while the latter tinged with a faint bluish colour, due to the abundance of spicules covering the surface.

Remarks: Of this genus the following species have been described to possess only two longitudinal rows of pinnules: *Xenia ternatana* SCHENK, *X. kükenthali* ROXAS, *X. lillieae* ROXAS and *X. puerto-galerae* ROXAS. According to KÜKENTHAL's key plan (1902), *X. florida* DANA and *X. danae* VERRILL also should have two rows of pinnules. HICKSON (1931) considers them only as invalid species, while ROXAS (1933) synonymizes as a valid species with three rows. In the shape and arrangement of pinnules, the present specimen most closely resembles *X. kükenthali*, but differs from the latter in the larger number of pinnules in the inner row. Furthermore this is easily distinguishable from others by the presence of spicules in the anthocodiae alone and also by the form of the colony with a lesser degree of branching.

Xenia fimbriata sp. nov.

(Fig. 2)

Occurrence: Kusimoto near Tuya-sima, Wakayama Prefecture. Two specimens. Sp. No. Coel. 136 (Holotype and paratype). June 3, 1929.

Three branched colonies of holotype arising from a common basal membrane which is irregular in outline, 10–15 mm wide and 55 mm long. They measure 8 mm, 10 mm and 12 mm respectively in the diameter of main stalk. In either one, the main stalk divides into 2 or 3 primary branches at a height of about 10 mm from the base. At their top several short and small secondary branches arise. A branch may attain a height of 25 mm from base to top. In colour the syndete and tentacles of polyps are ochraceous, but the stalk of polyps somewhat paler and transparent.

Polyps are thickly set on the top of branches and irregular in length. Most of them are tall, slender, up to 20 mm long and 1.5 mm in diameter. Tentacles also long and slender, up to 6.5 mm long and 0.6 mm wide at base. The rachis of tentacles is almost cylindrical and of almost the same diameter from base to top. The pinnules are in three very regular rows on either side of a bare median region which is wide at base and gradually narrower upwards. There are about 15 pinnules in a row. In the terminal part, however, pinnules (about 8 to 10 in number on each side) come

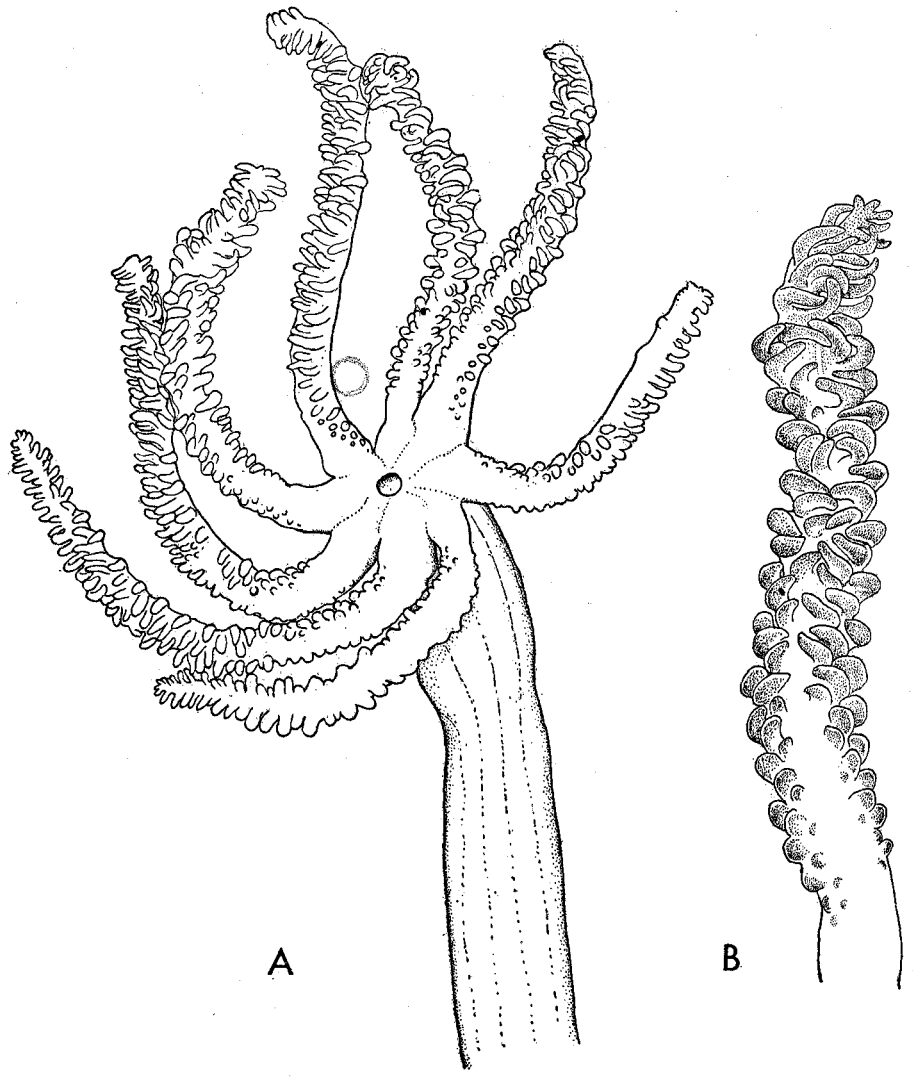

Fig. 2. *Xenia fimbriata* sp. nov.
A, polyp, ×10; B, tentacle, oral side, ×20.

together so as to form a single row on each side. These pinnules are elongate cones, more or less pointed, about 0.2–0.3 mm long and 0.08–0.09 mm wide, except for those at base which are merely wart-like. The mouth is round when wide open, depressed and about 0.3 mm in diameter. The stomodaeum is about 2.5–3.0 mm long in a full-sized polyp, that is about 1/7 to 1/8 as long as the polyp stalk.

Spicules quite absent.

Remarks: Among the species of *Xenia* lacking spicules wholly or partially,

Xenia tumbatuana MAY, *X. elongata* DANA and *X. hicksoni* ASHWORTH have been described to possess three rows of pinnules. In the general form of the colony, the present specimen resembles *X. hicksoni*, but differs from the latter by the more elongate and slender tentacles with filiform pinnules, which are arranged in three rows in the middle and in a row at end. This peculiarity does not seem to be shared with *X. elongata* and *X. tumbatuana*, the validity of which is so far inconclusive.

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