130 On Two Species of Simple Corals from Kagosima-ken, Kyūsyū*

By

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Recently S. Endō of the Institute of Geology and Palaeontology, Tōhoku Imperial University, during his collection of fossil plants from several localities near the city of Kagosima, Kagosima-gun, Kyūsyū, fortunately obtained some marine fossils, among which were discovered two species of simple corals.

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Among the two corals, Deltocyathus orientalis DUNCAN, is known to be living in the waters around Japan, ranging from Aomori-ken at the north to the East Indies, Indian Ocean and Mediterranean Sea at the south and at the west. As fossil it is known from the Pliocene and Pleistocene of the Kwantō region of Central Japan, the Pliocene of Taiwan, Plio-Pleistocene of the Ryūkyū Islands, and from the Upper Pliocene of Ceram. The present record of this coral from Unoki, Yosida-mura, Kagosima-gun, Kagosima-ken (Reg. No. 65019), is a new locality.

Although Deltocyathus orientalis is represented by only two specimens in the material from Unoki, it is remarkably abundant in the Ryūkyū limestone formation of Kikai-zima, in the Ryūkyū Islands, it is expected to occur in larger numbers in the fossil layer at Unoki by future collection.

The other coral, Heteropsammia cf. ovalis SEMPER, which is from Kuwanomaru, Yosida-mura, Kagosima-gun (Reg. No. 65018), is not very well preserved, and although its generic position can be settled easily, its specific position is rather difficult owing to its being somewhat water-worn. Heteropsammia ovalis is known to occur from the Younger Cenozoic rocks of Mindanao in the Philippine Islands, Plio-Pleistocene of Ceram, Miocene of Java, Pliocene of Taiwan, Pliocene of Sikoku, Pliocene of the Kwantō region of Central Japan, and from the Plio-Pleistocene of the Ryūkyū Islands. As known at present, there are no living records of this interesting species.

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However, *Heteropsammia cochlea* (SPENGER), a recent coral from the Philippine Islands in 25 fathoms, the East Indies in 15-83 meters, and also from off Seto-Kanayama, Wakayama-ken in 46 meters and from off Karatu, Saga-ken in 106 meters, is more or less similar to *Heteropsammia ovalis*. Also very closely related to the doubtful fossil from Kuwanomaru are *Heteropsammia ovalis formosensis* YABE and EGUCHI and *H. ovalis japonica* YABE and EGUCHI, the former from the Ryūkyū limestone formation of Kikai-zima in the Ryūkyū Islands, and the latter from the Byōritu beds of Taiwan. If the present fossil were perfect, it appears that it might belong to *H. ovalis japonica*. *Heteropsammia* was also recorded by J. MAKIYAMA from the Pliocene Sasage beds of Tiba-ken.

*Heteropsammia ovalis* and *Deltocyathus orientalis* occur together in the Ryūkyū limestone formation of Kikai-zima in the Ryūkyū Islands and in the Byōritu beds of Taiwan, elsewhere they are not known to occur in association. The geological age of the former mentioned formation is Plio-Pleistocene while that of the latter is Pliocene, thus the geological range of *Heteropsammia ovalis* is from the Miocene (of Java) to the Lower Pleistocene, while that of *Deltocyathus orientalis* is from the Pliocene to recent.

Both of the mentioned simple corals are not sedentary forms but belong to the free type, and therefore are generally restricted to sandy bottoms or to those consisting of fine material. Among the deep-sea corals the ones just mentioned belong to the shallow water forms and inhabit a sea-bottom generally within the depth of fifty meters, although there are still deeper records. Therefore, if a bold conclusion can be brought about, the writer believes that the shell-beds in which the present corals were found may not have been laid down at a depth not exceeding some fifty meters, seeing that the corals thrive in such a depth.

The geographical and geological distributions of the two corals mentioned above is as follows.

*Deltocyathus orientalis* DUNCAN. Type locality:—Off Minosa-mati, Kitamuro-gun, Mie-ken. 52 fathoms.

Geographical distribution:—Aomori-ken, 152-168 m., Miyagi-ken, 40-344 m., Hukusima-ken, 170 m., Tiba-ken, 59-269 m., Sagami Bay, 106-446 m., Off Izu, 145 m., Suruga Bay, 188 mm., Kōti-ken, 106-344 m., Nagasaki-ken, 90 m., Simane-ken, 75-183 m., Hukui-ken, 113 m., Akita-ken, 93 m., Aomori-ken (Kyūroku-sima), 210 m., Philippine Islands, 522 m., East Indies, 590-397 m., Indian Ocean 4,914 m., Atlantic Ocean, 599-914 m.


Heteropsammia cf. ovalis SEMPER1). Type locality of H. ovalis, Maasin on the coast of Agusan, Mindanao, Philippine Islands (Younger Cenozoic). Besides Kuwano-maru, Yosida-mura, Kagosima-gun, Kagosima-ken.

鹿児島県産化石孤生珊瑚2種（摘要）

江口元起

鹿児島市外吉田村附近の含植物化石凝灰岩層の調査中、遠藤誠道博士は多数の海縫生物化石を採集された。其中に Deltocyathus orientalis DUNCAN 及び Heteropsammia cf. ovalis SEMPER の2種の遊離孤生珊瑚がある。前者は吉田村の住より、後者は吉田村の住よりの材料で、何れも小形で砂浜又は玄武質海底に遊離して生活する種である。H. cf. ovalis は増減して正確な鑑定は困難であるが D. orientalis は青森県沖より蘭印地方、印度洋、大西洋に至る分布する興味ある種で化石としても鮮新統以後の各地に知られる。附近では大島郡薄島の礁礁石灰岩の異相とされる石灰質砂岩層中に最も多産する。新産地として、分布が興味を惹くので現在の各地の水深を特に記した。

孤生珊瑚の様に密集して石灰岩を形成する代りに分布が広いから今後各地の成産層中に知られるものと信ずる。未知層の対比には注意値値あるものがある。