

Culture of Precious Coral,  
*Corallium japonicum* Kishinouye in Aquaria  
(Frontispiece 1)

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Precious coral, consisting of four species belonging to the genus *Corallium*, is regarded as an important resources by both fisheries and coral processing manufacturers. Of these four, AKASANGO, *C. japonicum* Kishinouye, 1903 is the most valuable, especially in Japan.

Recently, the worldwide yield of the precious corals have been gradually decreasing. Furthermore, some people contend that the coral fisheries cause ecological problem to the deepsea environment by dragging coral nets along the seabed. Consequently, people have come to recognize the necessity of researching the biology and stock management of precious coral. However, such research is limited, because the deepsea habitat makes research difficult.

In 1991, we planned and began to cultivate specimens of AKASANGO, collected by a submarine at a depth of 230 m near the Amami Islands, using deep seawater in aquaria. We consequently succeeded in keeping all of the specimens in good condition from July 15, 1991 to the present, a period of over 19 months.

The deep seawater used in this study was taken from a depth of 320 m at a point 2,200 m from the Laboratory near Cape Muroto, Kochi Prefecture. The following characteristics were noted.

- 1) Water quality, i.e. water temperature, salinity and PH, is constant throughout the year.
- 2) Compared with surface seawater, deep seawater is rich in inorganic nutrients, i. e. nitrates, phosphates and silicates, and poor in dissolved organic carbon.
- 3) The bacterial flora in deep seawater is different from that of surface seawater. The number of bacteria in deep seawater is  $10^{-1}$  to  $10^{-2}$  of surface seawater.

We think that the reason why deep seawater is useful for the cultivation of precious coral is related to both the constant water quality and the cleanliness of the seawater. We also found that there are small organic particles called "marine snow" in the deep seawater used, due to reduction by filter feeding creatures living near the seawater intake.

The observation and experience of cultivating AKASANGO during the past fifteen months are summarized as follows:

1. Live AKASANGO is transportable within forty hours, if kept cool.

2. The suitable temperature is between 13 to 18 degrees Celsius.
3. Light and pressure are not always necessary for the survival of AKASANGO.
4. Light effects the anthopolyp activity according to strength and/or quality of it.
5. The dead part of the coenenchyme was peeled off within a few days.
6. Water currents are essential to anthopolyp activity.
7. Sudden changes of environment and/or the shock of handling causes anthopolyps to become inactive for a period of over a month.
8. Anthopolyps are actively responsive to diets.
9. We found new anthopolyps growing on the sections of branches which were broken during transportation.

At the present we are also cultivating and observing MOMOIROSANGO, *C. elatum* Ridley, 1882 and SHIROSANGO, *C. konojoi* Kishinouye, 1903 in addition to AKASANGO.

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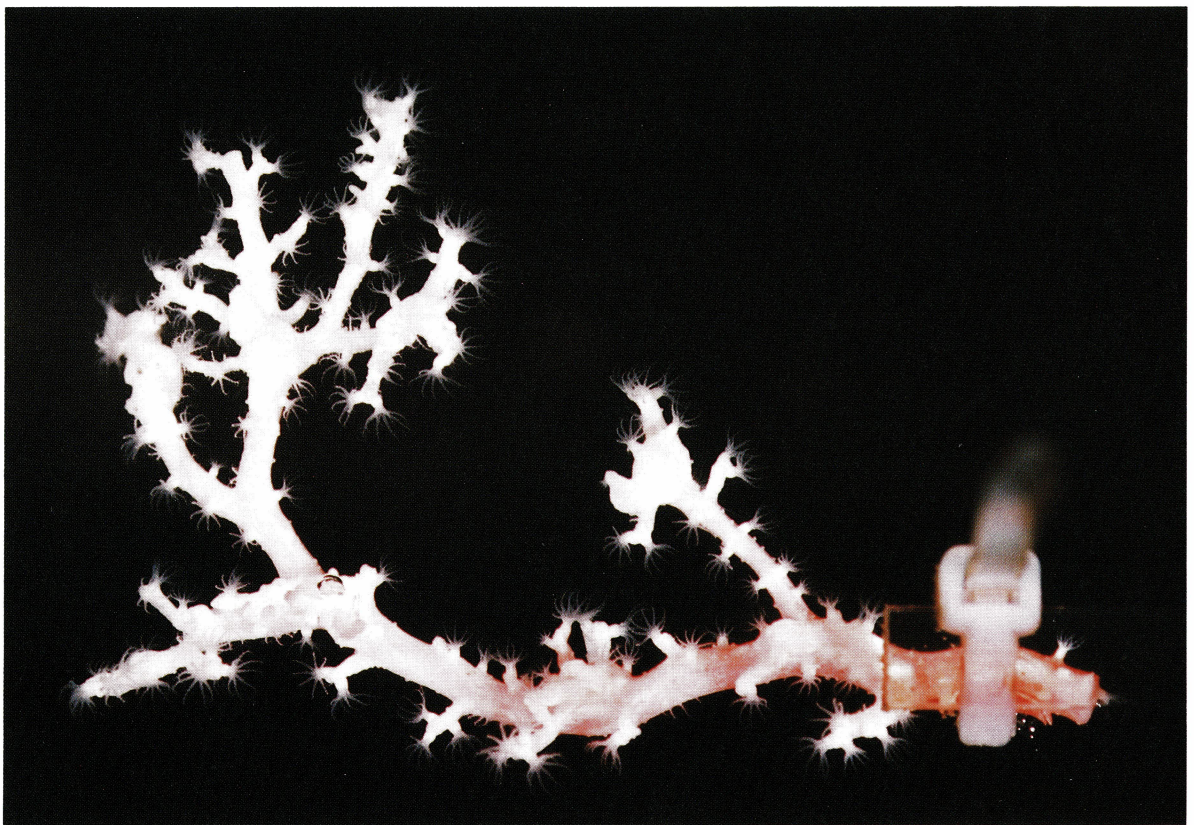
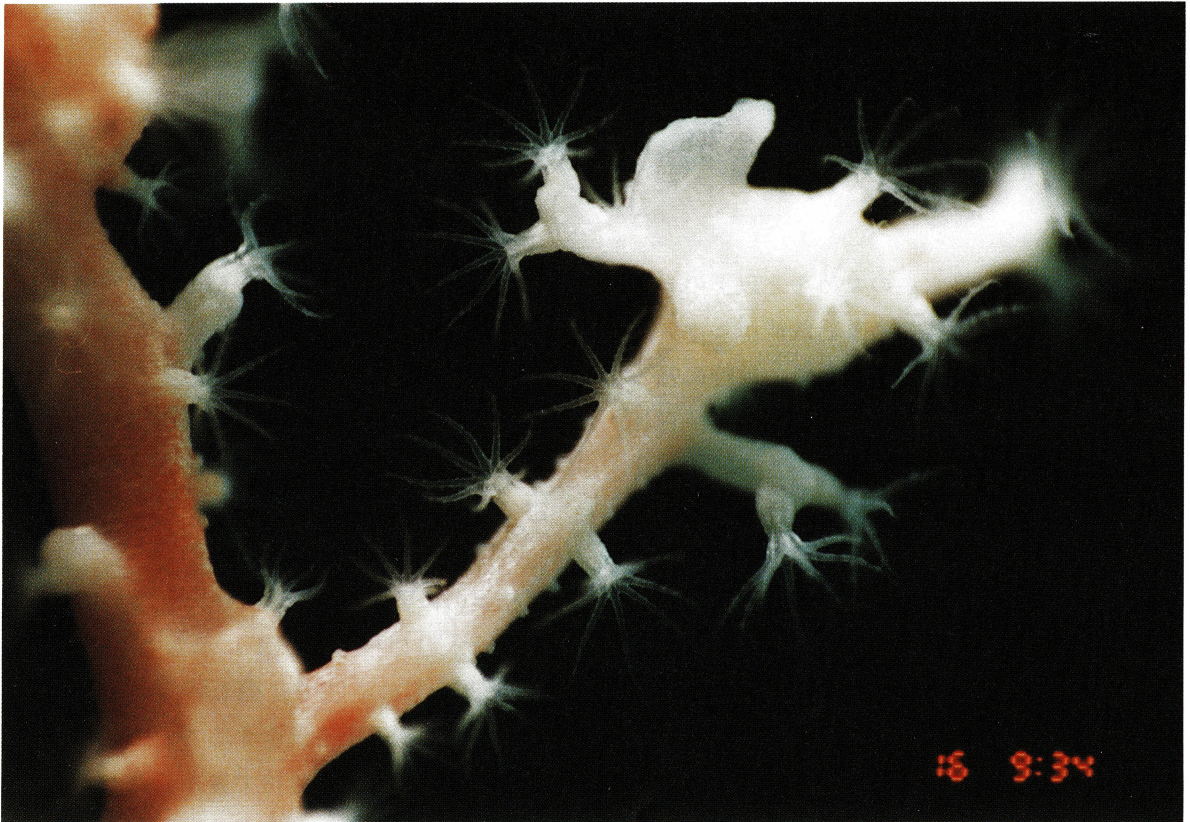


Photo by K-TASHIMA