

Capture of the giant Antarctic toothfish *Dissostichus mawsoni* (Nototheniidae) in Lütow-Holm Bay (East Antarctica) with notes on the effects of exhibition in aquarium.

Satoru MATSUMURA¹, Naoko OHYA², Tetsuo IWAMI³ and Sakae KUDOH⁴

¹*Tokyo Sea Life Park*

²*Hadano City Kanagawa Pref.*

³*Tokyo Kasei Gakuin University*

⁴*National Institute of Polar Research*

During JARE57, a large specimen of the Antarctic toothfish *Dissostichus mawsoni* with a length of 154cm was caught at Ongul Strait, Lütow-Holm Bay, from the depth of ca. 650m on November 15, 2016. Several large (>100cm) specimens of *D. mawsoni* had been recorded from almost the same locality at Ongul Strait from 1992 to 2008. This time, the specimen was frozen at Syowa Station and transported to Tokyo Sea Life Park for the purpose of scientific communication use regarding the fishes which inhabits under the fast ice in Antarctic Ocean. After thawing under running water, stomach, otolith and gonad were removed and analyzed. A total of 9 specimens of fish and one squid were found in the stomach. Based on osteological features of fish remains, 2 specimens could be referred to the Bathydraconidae and the rest to the Nototheniidae. The squid could be identified to *Psychroteuthis* based on the morphology of the beaks. In the previous study, two fish species, *Macrourus whitsoni* and *Chionobathyscus dewitti* were reported as the most important prey items, however, no trace of these species was found. Only the right otolith was collected and is used for age determination. Based on the growth curve for *D. mawsoni* sampled at McMurdo Sound, Ross Sea, the present specimen was estimated at least 25 years old. The histology indicated that the gonad was testis of developing stage containing spermatids. An age and rate of growth study of *D. mawsoni* from Ross Sea indicated that this specimen was a size sufficient for sexual maturity. The present specimen is currently exhibited in the Arctic and Antarctic oceans area of Tokyo Sea Life Park. As several living notothenoid fishes are also exhibited in the same area, visitors can understand biological peculiarities of *D. mawsoni* and the diversity of fishes in the Southern Ocean by comparing with those fishes. It is also highly expected that this exhibition makes the activities of Japanese Antarctic Research Expedition known to the public more widely.