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NOTES ON FISHES FROM THE STOMACHS OF WHALES TAKEN IN THE ANTARCTIC

II. ON *DISSOSTICHUS* AND *CERATIAS*, WITH AN APPENDIX (JAPANESE NAMES OF IMPORTANT ANTARCTIC FISHES)

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Abstract: A few large specimens of *Dissostichus mawsoni* NORMAN and *Ceratias tentaculatus* (NORMAN) obtained from stomachs of sperm whales harpooned in the Southern Ocean are recorded. Japanese names of Antarctic fishes considered to be of interest to fisheries are listed as an appendix.

1. Introduction

About forty years have elapsed since a few mammalogists and planktologists began to send for identification some fishes from the stomachs of whales harpooned in the Southern Ocean to the senior author of the present report, and it was just thirty years ago that the first paper of the present series was published (ABE, 1957). At that time whales seemed to be sometimes better collectors than *Homo sapiens*, and the fishes chosen by the biologists just mentioned were examined preferentially, but extreme shortage of publications on Antarctic fishes in Japanese libraries coupled with pressing official duties gradually engrossed attention of the senior author. On the other hand, remarkable progress in the study of Antarctic fishes was made during the last several decades (ANDRIASHEV, 1986), and more especially since the International Geophysical Year 1957–58, and publishing of results of mere identification of the fishes which unfortunately lacked exact data of collecting seemed not to be urgently needed. Now, in October 1987, the Whale Research Institute, Tokyo, the main source of the study material prior to the International Geophysical Year, was closed to be succeeded by another organization. Since the foundation of the former institute in September 1947, a few papers dealing with stomach contents of Antarctic whales appeared in its Scientific Report of the Whale Research Institute, nos. 1–38. The authors of the present report think the present is opportune to publish what is ready, and to take the opportunity to comply with a request of a Japanese fishery biologist who attended as a Japanese member of the Scientific Committee of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) its 4th Annual Meeting held in Australia, in September 1986, to give as early as possible Japanese names to commercially important fishes of the Southern Ocean.

It is with pleasure that the senior author expresses here his sincere thanks to Prof. A. P. ANDRIASHEV for his kindness in correcting the misidentification by ABE and HOSHIAI (1972) of a small specimen of *Dissostichus mawsoni* NORMAN and in sending, at times together with his colleagues at the Zoological Institute, USSR Academy of Sciences, Leningrad, so many valuable publications and information; to Dr. G. KREFFT, Hamburg, for his help in identifying *Ceratias tentaculatus* (NORMAN) based on the photograph reproduced in this paper; and to the biologists at the Japan Marine Fishery Resource Research Center (JAMARC) for the gift specimens of fishes obtained during its experimental fishing of the Antarctic krill and bottom trawl. These specimens have been of great help in understanding the variability of meristic characters and changes with advancing age in external characters of Antarctic fishes.

2. *Dissostichus*

Several large specimens of *Dissostichus mawsoni* NORMAN and probably of *Dissostichus eleginoides* SMITT were received, unfortunately without exact data of collecting. With the exception of two specimens of *D. mawsoni* and a photograph of the same species (Fig. 1), the specimens and photographs have been damaged or misplaced.

The fish shown in Fig. 1 had been cut into two parts when it was photographed. Total length *ca.* 127 cm; number of dorsal fin rays, 26 (1st ray divided but not branched, 2nd ray damaged); number of anal fin rays (A.), 27 (27th ray very short). From the stomach of a sperm whale caught at 60°35′S, 143°40′–41′ probably E.

Of the two specimens now available, one is exhibited at the town museum of Taiji-chō, Wakayama-ken, well-known fishing port for whaling, and the other (Cat. No. 10873) measuring 115 cm in total length and *ca.* 100 cm in standard length is now in the private collection of the senior author. Due to partial digestion in the stomach of the sperm whale, measurement and counting have been made on a few items of the latter

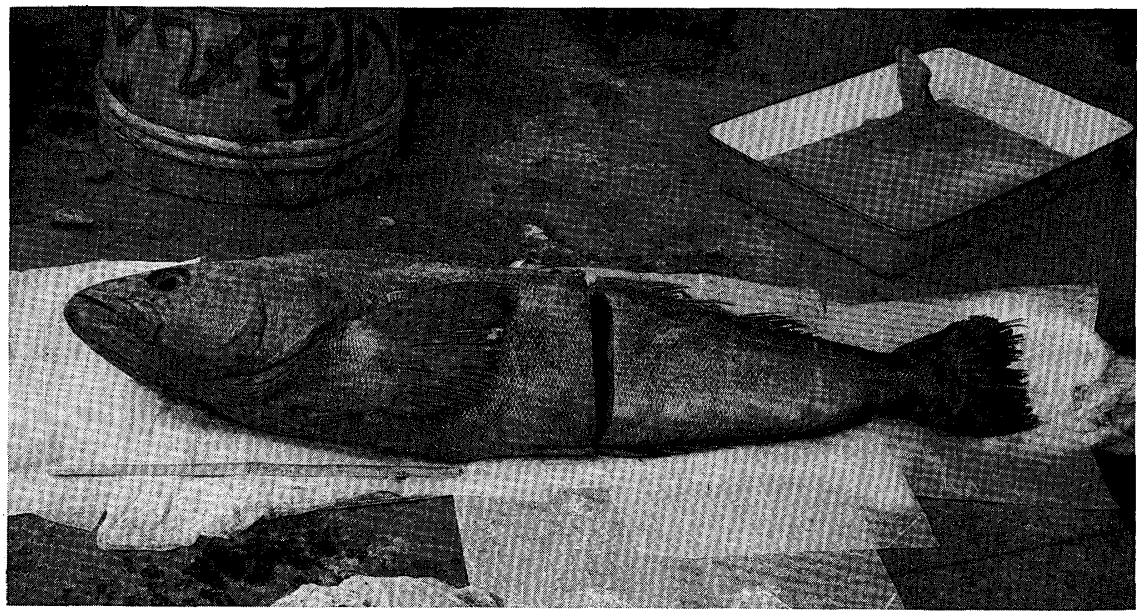

Fig. 1. Dissostichus mawsoni *NORMAN from the stomach of a sperm whale. Total length ca. 127 cm.*

specimen: length of head *ca.* 290mm; snout length 85mm; interorbital width 68mm; eye-diameter 51mm; A. *ca.* 26; number of pectoral fin rays (left side), 28 (=ii+24+ii); number of gill rakers, 4+13 (left), 5+14 (right). The other specimen now in Taiji-chō is nearly as large as the one just mentioned above.

In view of the fairly stable numbers of vertebrae and fin-rays of dorsal and anal given by YUKHOV (1982, pp. 16–17), the result of the present study, though not of the stomach contents, may be added here. Sixteen specimens of *D. mawsoni* measuring *ca.* 98–130mm in total length, taken along with the Antarctic krill, were radiographed:

vertebrae	
51=20+31	7 specimens
51=21+30	2 specimens
52=20+32	2 specimens
52=21+31	5 specimens
first dorsal fin-rays plus second ones	
7+26=33	1 specimen
7+27=34	2 specimens
7+28=35	2 specimens
7+29=36	1 specimen
8+26=34	2 specimens
8+27=35	3 specimens
8+29=37	1 specimen
9+27=36	4 specimens
anal fin-rays	
27	2 specimens
28	12 specimens
29	2 specimens

3. *Ceratias*

A fine specimen of *Ceratias tentaculatus* (NORMAN) found in the stomach of a sperm whale was received by the senior author in 1957. The whale was caught at 66°56′S, 170°13′E, on December 26, 1956. The specimen has been misplaced, but one of the photographs taken by Kyōdōtsūshin Co. in June 1958, has been kept among the manuscripts. As seen in the photograph reproduced here (Fig. 2) the specimen is fairly large in size; the length of the label is usually 4 or 5cm long. The fish has been introduced to the public by the name of *Ceratias kolboelli* KRØYER by several Japanese local newspapers as was the case in U.S.S.R. where KORABELINIKOV (1959) reported that four specimens of *Ceratias kolbeolli* were found in stomachs of sperm whales caught south of the Falkland Is. (55°40′S, 58°10′W).

In 1984 the name *Ceratias tentaculatus* (NORMAN) was resurrected (BERTELSEN and PIETSCH, 1984), and the distribution range of *C. kolbeolli* is now known not to extend southward beyond 40°S (PIETSCH, 1986). Judging from the presence of a pair of esca, the specimen shown in Fig. 2 represents *C. tentaculatus*. Thus the sperm whale caught in 1956 adds information on the distribution of the adult of *C. tentaculatus* to the South

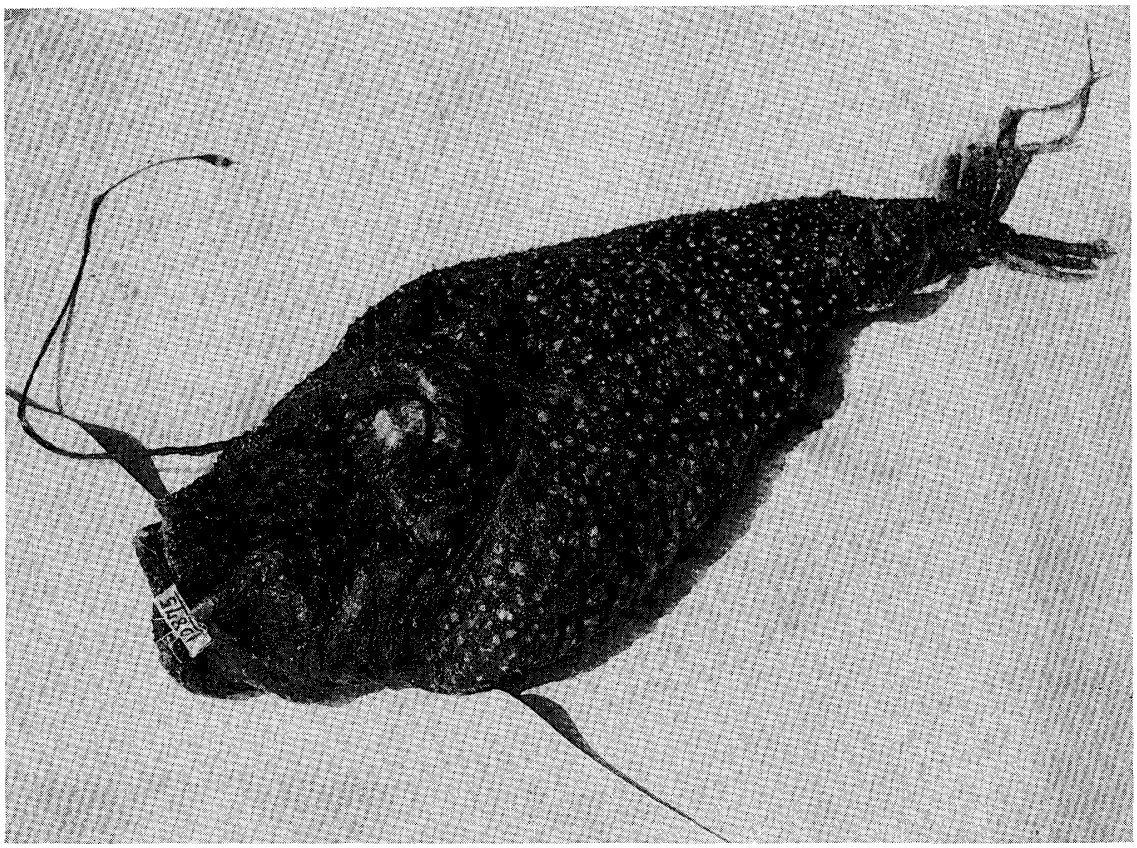

Fig. 2. Ceratias tentaculatus (NORMAN) *from the stomach of a sperm whale harpooned at 66°56′S, 170°13′E, on December 26, 1956.*

Pacific. Recently TARAKANOV and BALUSHKIN (1987) reported on the specimens of this species collected in the Pacific (48°53′S, 179°39′E, southeast of New Zealand) and in the Kerguelen area.

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Appendix

Japanese names of fishes considered to be of interest to fisheries in the Southern Ocean.

At the suggestion of Dr. Yasuhiko SHIMAZU, formerly of Far Sea Fisheries Research Laboratory, Ministry of Agriculture, Forestry and Fisheries, who attended the 4th Annual Meeting of the Scientific Committee, CCAMLR, new Japanese names for some Antarctic fishes which are thought to be of commercial importance are given here. They are each marked with an asterisk in the list which follows:

Notothenia (*Gobionotothen*) *gibberifrons* LÖNNBERG	Nankyoku-kajika*
Notothenia (*Lepidonotothen*) *kempi* NORMAN	Megane-noto*
Notothenia (*Lepidonotothen*) *squamifrons* GÜNTHER	Uroko-noto
Notothenia (*Notothenia*) *rossii* RICHARDSON	Umitaka-suzuki
Dissostichus eleginoides SMITT	Majeran-ainame
Champsocephalus gunnari LÖNNBERG	Kori-kamasu