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PAGOTHENIA, A NEW ANTARCTIC FISH

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A small collection of fishes brought back by the Second Byrd Antarctic Expedition has been deposited in The American Museum of Natural History. This comprises three species of flying fishes collected at sea; heads of large sea basses and mackerel from the Galapagos Islands; several reef fishes from Easter Island; a single specimen each of *Congiopodus* and *Neptomenus* from New Zealand, peculiar Southern Hemisphere genera rare in collections of the North; and a series of *Pleuragramma antarcticum* Boulenger from the far south, as well as a new genus of nototheniids herein described from the single small specimen obtained. It is planned to report more fully on this material in later Expedition publications.

We are much indebted to Paul Siple of the Expedition staff for his interest in making this material available for study at the American Museum, and his help in securing for us exact data as to the circumstances of its capture.

Specimens were obtained of the two large sea basses of the genus *Mycteroperca* which are common in the Galapagos Islands and usually seen or collected by ichthyologists who visit these waters. They are very closely related, and though they do not look exactly the same, we are unable to point out any significant structural difference between them. In color they are entirely unlike. The color of one is normal—brown with a few markings. As Jenyns not only describes the color of the dried skin on which he based his description but quotes Darwin that the color was "mottled brown," there can be no question that his *Serranus olfax* was the dark form.

The other is almost uniform strong yellow in life and fades to uniform cream-white in preservative. There can be little doubt that it is on this form that Jordan and Eigenmann based their *Mycteroperca olfax ruberrima*, of which they say:

"A large specimen taken by the Albatross at Abingdon Island, in the Galapagos, seems to have been bright red in life. It probably represents a deep-water variety analogous to the red varieties of West Indian species. It may be distinguished as var. *ruberrima*. The anal is a little

lower than in an equally large specimen of the typical *olfax* taken in the same locality. No other difference is apparent."

The fish is not bright red in life, but as bright red fishes commonly fade to a similar whitish color in preservative, the mistake is obvious. It is not a deep-water variety, but this hypothesis was merely a deduction based on the original error. Just what the relationship between the two forms may be is not known, and it seems least confusing to recognize them as distinct species. We have not seen or heard of an individual alive or dead not readily assignable offhand to the one or to the other.

The two may stand as follows.

Mycteroperca olfax (Jenyns)

Serranus olfax JENYNS, 1840, 'Zool. "Beagle," ' Fishes, p. 9, Pl. IV. Galapagos Islands (Coll. Darwin).

Mycteroperca ruberrima Jordan and Eigenmann

Mycteroperca olfax ruberrima JORDAN AND EIGENMANN, 1890, Bull. U. S. Fish. Comm., VIII (for 1888), p. 367. Abingdon Isl.

According to Siple, where this and the preceding were caught and seen in great abundance, the two swam intermingled; this one averaged smaller and did not reach so large a size, and was outnumbered by the other ten, or more than ten, to one.

The specimens of *Pleuragramma antarcticum* measuring from 160 to 190 mm. in standard length were mostly from the stomachs of Weddell seals. Siple says:

"The *Pleuragramma* [from seal stomachs] were probably taken at about latitude 78° 34′. However, I have witnessed myself specimens of apparently the same fish having been taken in the stomachs of seals five or more miles south of 78° 35′, and in fact, seals occur ten or more miles south of Little America and although we never killed seals this far from camp I am certain that the fish would have been found. There is no reason why the fish do not occur to the southern limits of the Bay of Whales, for they are the major food of the Weddell seal, and wherever cracks appear the seals fill them. There were probably more than 2000 seals in the Bay of Whales and it was common to find their stomach distended with fish apparently of this kind. A seal killed Aug. 19, 1929, had approximately 400 fish in its stomach."

PAGOTHENIA, NEW GENUS

Closely related to *Notothenia* Richardson and *Trematomus* Boulenger, but with a single, imperfect, poorly developed lateral line in the center of the peduncular region.

Lower jaw projecting, head compressed, eye large, strictly lateral. Ventrals long and narrow.

TYPE.—*Pagothenia antarctica*, new species.

Pagothenia antarctica, new species

DESCRIPTION OF TYPE.—Number 12973, American Museum of Natural History, from Echo Canyon,[1] approximately lat. 78° 45′ S., long. 165° 00′ W., November, 1934, by James M. Sterrett. This is presumably the most southerly specimen of a fish ever collected.

Length to base of caudal, 68 mm.; depth in this length, 5; head, 3.4. Eye in head, 3; snout, 3.5; interorbital, 4.5; maxillary, 3; greatest width (back of head), 3; length of peduncle, 3.8; its depth, 3.5; pectoral, 1.2; ventral, 1.1; longest dorsal ray, 2; anal ray, 2.5; caudal, 1.5.

Dorsal V–31; anal, 30; scales about 61.

Mouth oblique, lower jaw distinctly projecting, maxillary to under front margin of eye which impinges on the profile. Nape with a shallow pit, steep in front. Pectorals and ventrals (slenderly pointed with their inner rays the longest) reaching well

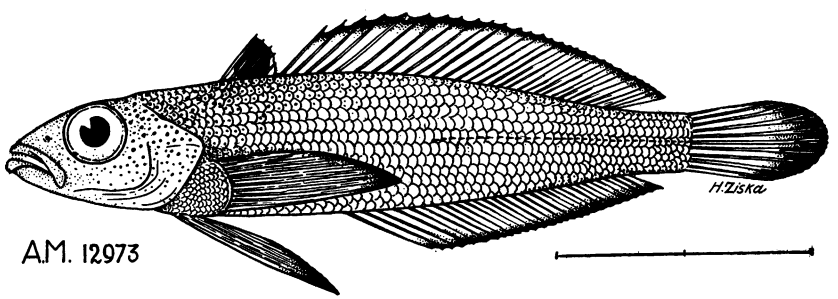

Fig. 1. *Pagothenia antarctica*, type.

past front of anal, the pectorals the farther back. Caudal rounded. Head without scales. No trace of an upper lateral line, the lower (median) lateral line faintly traceable forward to under about the middle of the soft dorsal.

Color in alcohol pale with scattered dark punctulations, largest and most closely spaced about the nape, but nowhere causing definite markings. All fins with dusky tips or edges, the first dorsal black practically to the base between second and fourth rays.

Several of these fishes were observed in life and their color noted as "an iridescent blue like the general color of the crevasse [where they were swimming], some having patches of coral pink near the head."

We have the following field data with this specimen:

"Several of these fish and perhaps others were first seen by Dr.

[1] Echo Canyon is located sixteen miles directly southwest of Little America by dead reckoning. The canyon was formed by a piece of great barrier (250 ft. above the sea) breaking off and drifting out into what was once bay. It froze in this position forming a large ice island. The floor of the canyon is truly bay ice. Through the center of the canyon runs a large tide crack.—Sterrett.

Earle B. Perkins on November 14, 1934, in a seal hole at the above locality. The hole was an opening in a water-filled crevasse about twenty feet deep, six to eight feet wide, and of undetermined length. It was the obvious resting place of seals. The fish retreated to narrow crevices or pockets in the wall of the crevasse when disturbed. They were observed for over an hour and during that time did not swim more than a few feet from their retreats."

The stomach contents of the single individual taken consisted of "about fifty copepods and at least three spindle-shaped diatoms."

There were "two trematodes in the stomach; none on the gills."

We were at first inclined to refer this species to the poorly described *Notothenia phocae* of Richardson, which was taken from the stomachs of seals captured among the ice in Victoria Land at 65° south latitude. But aside from its blue color and being taken among the ice, it shows little agreement with that form.