

Order, HYPEROTRETI.

Family, MYXINIDÆ.

Myxine glutinosa, Linn.

4584. Kattogat. Danish Academy.

17499. Bergen, Norway. Bergen Museum. (141.)

Class, LEPTOCARDII.

Order, CIRROSTOMI.

Family, BRANCHIOSTOMIDÆ.

Branchiostoma lanceolatum, (Pallas) Gray.

22083. Stavanger, Norway. Robert Collett.

DESCRIPTION OF A SPECIES OF LYCODES (*L. PAXILLUS*) OBTAINED BY THE UNITED STATES FISH COMMISSION.

By G. BROWN GOODE and TABLETON H. BEAN.

A single specimen of an apparently undescribed species of *Lycodes* was obtained by Capt. Joseph W. Collins and the crew of the schooner Marion of Gloucester, from the gully between Le Have and Sable Island Banks, in latitude 42° 48' N., longitude 63° 07' W., and presented to the United States Fish Commission for the National Museum. The specimen, which is 14 $\frac{3}{8}$ inches in length, is in a dilapidated condition, and was apparently taken from the stomach of a fish, probably a halibut. Fishing in this locality is carried on exclusively with trawls or long-lines at a depth of 1,200 to 2,400 feet.

The form of *Lycodes paxillus* is rounder and more terete than that of any other described species. It is also easily distinguished by its very short head, by the peculiar curvature of the strong jaw, and by the enormous development of the muscles of the cheek. In the small number of pectoral rays it resembles *L. polaris* Sabine; *L. muræna* Collett, and *L. Verrillii* Goode & Bean.

DESCRIPTION.—Body elongate, rounded throughout its entire length; its greatest height (.06) equaling its greatest width (.06); the height behind the pectorals (.05 $\frac{1}{2}$) very slightly greater than the width behind the pectorals (.05 $\frac{1}{3}$); the width at the anus (.04 $\frac{2}{3}$) exceeding two-thirds of the height (.05 $\frac{2}{3}$) at the same place; midway from the anus to the tail the width (.03) equals three-fourths of the height (.04 $\frac{1}{3}$). The greatest height is contained over sixteen times in the total length, and equals slightly more than one-fifth of the distance from the snout to the origin of the anal fin. The width of the body at the anus is about one-third of the length of the head.

The head much resembles in general form that of the common rattle-

snake (*Crotalus horridus*), having a broad flat top and an abrupt, almost overhanging, profile at the snout; the upper jaw extending far beyond the lower ($1\frac{1}{2}$ hundredths of length), the intermaxillary teeth being visible from below when the jaws are closed. This character, common to all species of *Lycodes*, is extraordinarily prominent in *L. parillus*. The end of the maxilla extends behind the perpendicular from the posterior margin of the orbit, and the tip of the upper jaw curves strongly downward. The length of the upper jaw (.083) is contained twelve times in the length of the body, and is greater than the postorbital length of the head. The tip of the under jaw curves strongly upward, and is received entirely within the upper jaw. The distance from the tip of the snout to the articulation of the mandible (.10) equals one-third of the distance from the snout to the anal, and one-tenth of total length. The muscles of the cheeks are enormously developed and protuberant, the width of the head in this region (.08) equaling the length of its postorbital portion. The width of the interorbital area (.015) is less than half the diameter of the orbit (.035), which is equal to half the length of the pectoral fin (.07). The eyes are placed high, their upper margins approaching closely to the line of its upper profile, their diameter included about four times in the length of the head. The nostrils are situated nearly midway between the orbit and the tip of the snout.

Intermaxillary teeth in a single series; a few teeth in a second line behind the others, near the symphysis. Mandibular teeth in a single series, except at the symphysis, where there are a few (about 9) teeth in front of the main series. A few teeth clustered at the head of the vomer. On the palatines a single series, about six on each side. The teeth throughout are stouter than is usual in this genus, recurved and sharply pointed.

Dorsal fin inserted at a point less than one-fourth of the distance from the snout to the end of the tail, and very slightly behind the perpendicular from the tip of the extended pectoral.

Anal fin inserted in the perpendicular from the twelfth dorsal ray, at a point three-tenths of the distance from the snout to the end of the tail. The vent is in the vertical from the tenth dorsal ray, its distance from the snout equaling about four times the length of the pectoral.

The pectoral is inserted at a distance from the snout about equal to twice its own length.

The ventral is inserted at a distance from the snout equal to six times its own length, its tip extending back to the line of insertion of the pectoral.

Scales covering the whole body and extending far out on the bases of the dorsal and anal fins; head and pectoral fins scaleless.

The color was probably light brown in life.

Radial formula:—D. (including half of caudal), 116–117. A. (including half of caudal), 100. P., 16. V., 3.

Table of Measurements.

Current number of specimen	22, 177.	
Locality	} Lat. 42° 48' N. Lon. 63° 07' W.	
	Millime- tres.	100ths of length.
Extreme length	363
Length to end of middle caudal rays	363
Body:		
Greatest height		52
Greatest width		5½
Greatest circumference		17½
Height at ventrals		5½
Head:		
Greatest length		14½
Greatest width		8½
Width of interorbital area		1½
Length of snout		3½
Length of postorbital portion of head		8
Length of upper jaw		8½
Length of mandible		9
Diameter of orbit		3½
Extent of gill-opening		4½
Dorsal:		
Distance from snout		22
Anus from snout		26½
Anal:		
Distance from snout		30
Pectoral:		
Distance from snout		14½
Length		7
Ventral:		
Distance from snout		12
Length		2
Dorsal	116-117
Anal	100
Pectoral	16
Ventral	3

WASHINGTON, March 21, 1879.

DESCRIPTION OF A NEW SPECIES OF LIPARIS (L. RANULA) OBTAINED BY THE UNITED STATES FISH COMMISSION OFF HALIFAX, NOVA SCOTIA.

By G. BROWN GOODE and TARLETON H. BEAN.

An apparently undescribed species of *Liparis* was taken in the large trawl-net by the collecting party on the United States steamer Speedwell, September 24, 1877, off the mouth of Halifax Harbor (Station 117, 8½ miles southeast from Chebucto Head). The depth at which it was found was 52 fathoms, the temperature at the bottom 35° F. The bottom was of fine sand and mud, and in the same haul of the net were taken the following species: *Glyptocephalus cynoglossus*, *Hippoglossoides platessoides*, *Sebastes marinus* (young), *Phycis chuss*, *Aspidophoroides monopterygius*, *Triglops Pingelii*, *Centridermichthys ucinatus*, and *Raia radiata*.

The species resembles, in the shape of its head, the *Liparis Fabricii* of Kröyer, but is easily distinguished by its less elongate body and the greater number of rays in the dorsal and anal fins. When first taken