For comparison, I give below measurements of all the specimens of *H. aliciæ* Baird examined in connection with the present subject:

MALES.

Catalogue number.	Locality.	Age.	Wing from carpal joint.	Tail to basal end of feathers.	Tarsal joint.	Middle toe.	Bill above.	Date.
18072 Nat. M.	Groswater Bay, Labrador	Ad.	4.30	3.00	1.20	.68	.58	July 24
323 H. W. H.	Cambridge, Mass	Ad.	4.20	3.20	1.20	.70	.55	Sept. 28
339 H. W. H.	do	Ad.	3.85	3.05	1.20	.70	.52	Sept. 30
340 H. W. H.	do	Ad.	4.20	3.15	1.25	.72	.55	Sept. 30
82512 Nat. M.	do	Ad.	4.10	3.05	1.20	.65	.57	Oct. 5
63064 Nat. M.	do	Ad.	4.00	3.00	1.18	.72	.52	
77170 Nat. M.	Cook County, Illinois	Ad.	4.30	3.10	1.20	.70	.55	May 8
82519 Nat. M.	Mount Carmel, Ill	Ad.	4.10	3.00	1.15	.70	.50	Oct. 15
82516 Nat. M.	Fairfax County, Virginia	Ad.	4.40	3.25	1.20	.70	.58	May 10
25213 Nat. M.	Washington, D. C	Ad.	4.25	3.20	1.25	.68	.....	Sept.—
70160 Nat. M.	Saint Michaels, Alaska	Ad.	4.20	2.90	1.18	.70	.57	
81304 Nat. M.	do	Ad.	4.20	3.00	1.20	.67	.55	June 5
81334 Nat. M.	Kodiak, Alaska	Ad	4.30	3.00	1.15	.67	.....	July 13
4708 Nat. M.	Vermilion River	Ad.	4.25	3.05	1.18	.70	.52	
54368 Nat. M.	Yakuts, Alaska	Ad.	4.10	2.85	1.15	.70	.52	June 12
340 E. P. B.	Riverdale, N. Y	Ad.	4.20	3.40	1.30	.72	.55	May 21
541 E. P. B.	do	Ad.	4.25	3.15	1.30	.75	.52	Sept. 25
339 E. P. B.	do	Ad.	4.35	3.20	1.20	.70	.55	May 21
691 E. P. B.	do	Ad.	4.20	3.25	1.15	.70	.58	Sept. 29
—— E. P. B.	do	Ad.	3.85	3.10	1.12	.67	.52	Sept. 30
18 E. P. B.	do	Ad.	4.15	3.20	1.25	.70	.55	Oct. 11
697 E. P. B.	do	Ad.	4.00	3.00	1.19	.71	.52	Oct. 4
25 E. P. B.	do	Ad.	4.15	3.10	1.22	.71	.55	Oct. 14
707 E. P. B.	do	Ad.	3.95	3.00	1.20	.72	.58	Oct. 8
	Average	.....	4.16	3.17	1.20	.70	.55	

FEMALES.

—— H. W. H.	Grantville, Mass	Ad.	3.90	2.85	1.15	.75	.57	May 23
—— H. W. H.	do	Ad.	3.75	2.85	1.18	.65	.58	May 4
63066 Nat. M.	do	Ad.	4.10	3.10	1.15	.68	.57	
—— H. W. H.	Washington, D. C	Ad.	3.90	2.95	1.20	.68	.58	Oct. 12
—— H. W. H.	do	Ad.	4.05	3.00	1.25	.70	.55	Oct. 12
82515 Nat. M.	do	Ad.	3.90	2.90	1.18	.65	.45!	Sept. 26
59301 Nat. M.	do	Ad.	3.90	3.00	1.15	.70	.57	Sept. 29
71159 Nat. M.	Fort Sisseton, Dak	Ad.	4.10	2.90	1.12	.60	.55	May 23
55502 Nat. M.	Fort Macon, N. C	Ad.	4.20	3.20	1.15	.70	.58	May 4
22607 Nat. M.	Fort Simpson, British America	Ad.	4.05	2.90	1.20	.68	.57	Sept. 10
43194 Nat. M.	Fort Anderson, British America	Ad.	3.95	2.90	1.12	.65	.52	June 11
43205 Nat. M.	do	Ad.	4.05	2.90	1.12	.....	.55	June—
19 E. P. B.	Riverdale, N. Y	Ad.	4.00	3.05	1.15	.68	.57	Oct. 18
623 E. P. B.	do	Ad.	3.95	2.85	1.15	.65	.50	Oct. 2
	Average of females	.....	3.99	3.02	1.16	.67	.55	
	Average of males	.....	4.16	3.17	1.20	.70	.55	
			8.15	6.19	2.36	1.37	1.10	
	Average of both sexes	.....	4.07	3.09	1.18	.68	.55	

BENTHODESMUS, A NEW GENUS OF DEEP-SEA FISHES, ALLIED TO LEPIDOPUS.

By G. BROWN GOODE and TARLETON H. BEAN.

The United States Fish Commission has recently received from Capt. Roderick Morrison, of the Gloucester fishing schooner Laura Nelson, a remarkable fish, taken from the stomach of a halibut caught on the western edge of the Grand Bank of Newfoundland in eighty fathoms

of water. The specimen represents a species first made known by F. E. Clarke in Transactions and Proceedings of the New Zealand Institute, (xi, 1878, p. 294, pl. xiv) under the name *Lepidopus elongatus*. Clarke had seen eight or ten examples, all taken at Hokitika, on the South Island of the New Zealand group. Hokitika is in about south latitude 43° and east longitude 171°. A remarkable range is thus discovered for this singular *Trichiurid*. The species differs in so many important characters from *Lepidopus* and other allied genera that we are forced to establish for it a new genus more nearly related to *Evoxymetopon* Poey and *Lepidopus* Gouan than to any other forms at present known to ichthyologists. Its distinctive characters may be formulated as follows:

BENTHODESMUS new genus, TRICHIURIDÆ.

Body naked, much compressed, attenuate, tapering gradually from vent to base of caudal. Caudal peduncle very slender, supporting a small but well-developed caudal fin. Vent considerably nearer to head than to tail.

Lateral line simple, in a deep, wide furrow, nearly straight, in front of the vent gradually ascending to the scapular region.

Head compressed, its upper profile nearly horizontal; snout gibbous near its end, as in *Lepidopus*.

Top of head very flat, concave between the eyes, with no occipital crest. Interorbital ridges not elevated.

Eyes large, slightly postmedian. Operculum oblong, reaching a little beyond the base of the pectoral fin. Nostrils horizontal, in front of the eyes.

Supramaxillary not extending to vertical from front of eyes. Lower jaw with stout cutaneous appendage.

Three very long, simple, compressed teeth on each intermaxillary in front; outside of these a few minute teeth, and behind them a row of large acicular teeth. In lower jaw a single row of moderately large acicular teeth, more numerous than in the upper jaw, largest in the middle of the jaw. Palatine teeth minute.

Dorsal fin, beginning above the operculum, nearly uniform in height throughout its entire length, and continuous almost to the caudal. Rays very numerous (over 150 in *B. elongatus*). Anal beginning near the vent, preceded by a single scale-like appendage; spines very numerous (numbering with the rays about 100 in *B. elongatus*, all except 28 or 30 being spines), minute and almost hidden; a short fin posteriorly.

Caudal small, normal, forked.

Pectoral fins inserted almost horizontally, with lower rays longest, and its upper outline rounded.

Ventral fins represented each by a minute scale-like spine, inserted below the origin of the pectorals.

Pseudobranchiæ present; gills 4, a slit behind the fourth.

Gill-rakers short and spiny, in a single series on the first and second

arches, almost obsolete on the the third and fourth. (In *Lepidopus caudatus* all the arches are supplied with several series of rakers.)

Type, *Lepidopus elongatus* Clarke.

Benthodesmus may be distinguished from *Lepidopus*, the most closely related genus, by the following salient characters:

1. The slenderer, lower form of the body, the height of which in *B. elongatus* at the vent is one-fourth the length of the head, in *Lepidopus caudatus*, nearly half the length of the head.

2. In the location of the vent, which is considerably nearer to the head.

3. In the straighter course of the lateral line, and the greater size of the furrow in which it is situated.

4. In the depressed form of the head, its flat profile, the insignificance of the frontal ridges, and the absence of the occipital crest.

5. In the horizontal instead of oblique position of the nostrils.

6. In the extension of the opercula beyond the origin of the pectorals, and in the rounded upper outline of the pectorals.

7. In the much greater number of dorsal rays.

8. In the more advanced position of the rudimentary ventrals, which are situated in *Benthodesmus* under the base of the pectorals, in *Lepidopus* under their tips.

9. In the presence of a single small postanal scute, in place of the two larger ones in *Lepidopus*.

10. In the characteristic arrangement of the gill-rakers.

BENTHODESMUS ELONGATUS (Clarke) Goode and Bean.

Extreme length of type (No. 29116), 896 millimeters (35½ inches).

Body attenuate, its height at the vent contained four times in length of head, its width being about one-third of its height at the point mentioned. Length of caudal peduncle half of greatest height of body. Least height of tail one-third width of interorbital area.

Length of head contained 7½ times in length of body, its greatest width one-sixth of its length; its greatest height nearly one-fourth of its length; width of interorbital area (on the bone) one-fourth of the height of the head. Length of snout contained 2½ times in length of head. Upper jaw not reaching to vertical from anterior margin of eye, and equal in length to the postorbital portion of head. Lower jaw in length equal to about twice the greatest height of body. Mandibular tip nearly one-third as long as the diameter of the eye. Eye slightly postmedian in location, the orbital diameter equal to half the length of the snout.

Besides the three long teeth, there are on each intermaxillary 8 or 9 of moderate size; on one side many small intermediate teeth are present. The number of teeth in the lower jaw varies from 13 on the one side to 21 on the other.

The first branchial arch has 13 gill-rakers, the longest of which meas-

ures about 2 millimeters. The second arch has about the same number, while on the third there are but 6 or 7, very small, and present only in the angles, while in the fourth there are about the same number, very inconspicuous.

The dorsal fin originates above the middle of the operculum, and at a distance from the snout equal to twice the length of the snout.

The anal fin is composed of about 100 spines and rays. Owing to the mutilation of the specimen it is impossible to determine how many there are of each, but there are supposed to be about 28 rays normally united by a membrane into a fin.

The caudal is also imperfect, but the middle rays are seen to be about half as long as the remnants of the external rays. The fin is supposed to resemble in shape that of *Lepidopus caudatus*.

The pectoral originates under the tip of the opercular flap. Its outline is rounded above instead of emarginate, as in *Lepidopus caudatus*. Its longest ray equals in length the postorbital part of the head.

The ventrals originate at a distance from the snout equal to that of the base of the pectorals from the same point. They are rudimentary and represented by minute scutes, the length of which is $3\frac{1}{2}$ millimeters in the specimen before us, and about equal to half the interorbital width.

Branchiostegals 7; D. 154; A. 100; P. 12; V. I.

Cæcal appendages 8 in the specimen examined. Some, however, may have been lost, the abdominal viscera having been partly digested by the halibut, in the stomach of which it was found.

Color: Uniform silvery, with traces of dark color upon head and tail.

Measurements.

Taken by Capt. Roderick Morrison (schooner Laura Nelson), from the stomach of a halibut.

Current number of specimen, 29116.

Locality, western edge of Grand Bank, 80 fathoms.

	Millimeters.
Extreme length	896 = (35½ inches.)
Length to origin of middle caudal rays	878
Body:	
Greatest height	33
Greatest width	13
Height at ventrals	33
Height at anus	30
Least height of tail	2
Length of caudal peduncle	16
Head:	
Greatest length	116
Greatest width	20
Width of interorbital area (on the bone)	6
Length of snout	47
Length of upper jaw	42
Length of mandible	69
Length of mandibulary tip	6
Distance from snout to orbit	47
Diameter of eye	22

Dorsal (*spinous*):	
Distance from snout	94
Length of longest ray	20
Length of last ray	7
Anal:	
Distance from snout	350
Length of longest ray	9
Caudal:	
Length of middle rays	8
Length of external rays	17+
Pectoral:	
Distance from snout	110
Length	42
Ventral:	
Distance from snout	111
Length	3½
Branchiostegals	VII
Dorsal	154
Anal, about	100
Pectoral	12
Ventral	I, I
Number of cæcal appendages	8 (?)

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DESCRIPTION OF A NEW SPECIES OF POMADASYS FROM MAZATLAN, WITH A KEY TO THE SPECIES KNOWN TO INHABIT THE PACIFIC COASTS OF TROPICAL AMERICA.

By DAVID S. JORDAN and CHARLES H. GILBERT.

Pomadasys cæsius sp. nov.

Allied to *P. pacifici* (Gthr.).

Head, $3\frac{1}{5}$ in length ($3\frac{4}{5}$ with caudal); depth, $2\frac{1}{3}$ ($2\frac{6}{7}$ with caudal).

Length (28158), $9\frac{4}{5}$ inches; D. XII, 16; A. III, 9; scales, 6–52–13.

Body ovate, compressed, the back rather strongly arched; anterior profile rather steep and straightish, gibbous between eyes and also behind them, slightly depressed above eyes and at the nape. Ventral outline considerably arched. Caudal peduncle moderate, about half as long as head, and somewhat longer than deep.

Head short and deep; deeper than long. Snout very short, blunt and thick, about one-third length of head. Mouth very small, the maxillary not quite reaching to the front of the eye, its length (from tip of snout) $3\frac{1}{4}$ in head. Teeth cardiform, in broad bands, the outer series enlarged, but smaller than in *P. pacifici*. Eye large, $3\frac{1}{2}$ in head, shorter than snout, about one-fourth wider than the broad preorbital. Lips thick. Chin with a median furrow and two pores; lower jaw included. Anterior nostril much larger than posterior. Preopercle rather weakly serrate, its upright limb somewhat concave. Gill-rakers short and weak, about 10 on lower limb of arch.

Scales rather large, arranged as in related species, those above the