

form; anterior margin descending rather abruptly, obtusely rounded; basal margin somewhat sinuous posteriorly. Surface deeply sulcated for the greater portion, the sulci mainly disappearing on the umbonial slope, where they give place to finely crowded striae; apex acute; muscular impressions impressed; margin minutely crenulated.

Length,  $1\frac{3}{4}$  inches. (No. 2490.)

Aquia Creek, Virginia.

APRIL 25, 1880.

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**DESCRIPTION OF A NEW AGONOID FISH (BRACHYOPSIS XYOSTERNUS), FROM MONTEREY BAY, CALIFORNIA.**

**By DAVID S. JORDAN and CHARLES H. GILBERT.**

*Brachyopsis xyosternus* sp. nov.

Form of head and body as in *Brachyopsis verrucosus* Lockington. Body elongate, depressed, broadest at the shoulders, thence tapering rapidly to the snout, and gradually and evenly to the tail. Snout broad, obtuse, depressed, its sides parallel. Mouth terminal, very oblique, the lower jaw much the longer, its tip projecting upward above the upper profile of the snout. Mandible very broad, its greatest depth one-third its length, maxillary reaching to half way between front of orbit and pupil. A long barbel three-fourths the diameter of the orbit at its end. Premaxillaries anteriorly above the level of the pupil. Jaws with bands of villiform teeth. Vomer and palatines with slight asperities. Nasal spines present. No spines on top of cranium. Interorbital space broad, concave, from the elevation of the supraocular ridges. Preorbital with two spines. A sharp spine on the suborbital at lower posterior margin of eye. Preopercle with four processes, the upper one a sharp spine. Opercle striate, without spine. Top of head and the upper parts of the body without the small prickles which are found in *B. verrucosus*. Occipital pit obsolete.

No isthmus, the gill membrane united across the breast. No slit behind the last gill.

Body with the usual eight series of long keeled plates. Each keel terminating in a strong spine hooked backward, striae radiating in every direction from the spine.

Dorsal series of plates 32, 6 before the spinous dorsal, 6 along its base, 4 between the two dorsals, 5 along the base of the soft dorsal, and 11 behind it. The two dorsal series uniting immediately behind the soft dorsal, the resultant single series round, with radiating striae, the keel and spine obsolete. The two abdominal series similarly unite close behind the anal fin.

The plates in the upper lateral series diminish in size forward, becoming very small anteriorly. The lower lateral series becomes broader forwards as the other series decreases. It terminates abruptly opposite



the origin of the second dorsal. In the lower lateral series are 29 plates, in the abdominal series 30, 10 before the anal, 8 along its base, and 11 behind it.

*Breast without distinct plates, but entirely covered with minute tubercles) each of which has a central spine.* A series of five plates in front of the base of the pectorals, four of them armed with hooked spines.

Fin rays: D. VI-6; A. 8; V. I, 2.

Lowest rays of pectorals not so short as in *B. verrucosus*, the lowermost two-thirds the length of the longest (in *B. verrucosus* two-sevenths). Pectorals barely reaching front of anal.

Ventrals much shorter than in *B. verrucosus*, the tips reaching slightly more than half the distance to the anal fin (beyond front of anal in *B. verrucosus*). Inner ray of ventrals very little longer than the outer, the connecting membrane narrow (very broad in *verrucosus*). Vent but little behind ventrals.

*Coloration.*—Upper parts dusky; mandible, cheek, and subopercle silvery. Belly pale, with reddish tint. Lower half of pectoral reddish at base, the rest of the fin thickly dusted with black points. Ventrals reddish. Dorsal membrane immaculate, the rays punctulate with black. Caudal blackish. Anal reddish anteriorly, dusky behind.

This species is related to *Brachyopsis verrucosus*, lately described by Mr. Lockington, differing, however, in several important respects, especially (a) in the presence of small prickles on the breast instead of the large wart-like plates characteristic of *verrucosus*, (b) in the short ventral fins, (c) the absence of small prickles on the plates of the body, (d, the smaller number of plates, (e) the shorter vertical fins, (f) the long maxillary barbel, and (g) the deep mandible.

*Brachyopsis verrucosus* is comparatively common in the open water between Point Reyes and the Farallones, and is frequently brought in in the trawl-nets. *Brachyopsis xyosternus* is thus far known only from a specimen found on the beach at Santa Cruz by Dr. C. L. Anderson, and presented by him to the United States National Museum.

The genus to which these two species belong is well separated from *Agonus* by the absence of an isthmus, as well as by the entirely different form of the mouth and anterior portion of the head. Whether they are congeneric with the type of *Brachyopsis* Gill (*Agonus rostratus* Tilesius, from Kamtschatka) is yet to be proven.

Table of measurements.

	<i>Xyosternus</i> , Santa Cruz.	<i>Verrucosus</i> , Punta Reyes.
Extreme length, in inches.....	5.20	6.45
Length to base of caudal = 100 .....	4.40	5.55
Body, greatest depth .....	11 (ca)	12
Head:		
Length.....	22	24
Distance from snout to nape .....	17.5	19.5
Greatest width.....	15	16.5
Interorbital width.....	4	5
Length of snout.....	4.2	6



Table of measurements—Continued.

	<i>Xyosternus</i> , Santa Cruz.	<i>Verrucosus</i> , Punta Reyes.
Head:		
Length of maxillary .....	6.5	7.5
Length of mandible .....	11	12
Depth of mandible .....	3.6	2.5
Diameter of orbit .....	5	6
Length of maxillary barbel .....	3.5	1
Dorsal ( <i>spinous</i> ):		
Distance from snout .....	31	25.5
Greatest height .....		
Length of base { to end of membrane .....	17	11
{ to last spine .....	11	19
Dorsal ( <i>soft</i> ):		
Length of base { to end of membrane .....	16	
{ to last ray .....	10	13.5
Height of longest ray .....	13	12
Anal:		
Distance from snout .....	47.5	52
Length of base { to end of membrane .....	22	
{ to last ray .....	16.5	24
Height of longest ray .....	13	10
Caudal, length .....	19.5	16.5
Pectoral, length .....	24	24.5
Ventral:		
Distance from snout .....	24	28
Length .....	14.5	29.5
Dorsal rays .....	VI-6	IX-7
Anal rays .....	8	11
Pectoral rays .....	17	14
Ventral rays .....	I, 2	I, 2
Number of tubes in lateral line .....	34	37
Number of plates in dorsal series .....	32	35
Number of plates in lower lateral series .....	29	35

SANTA CRUZ, CAL., April 20, 1880.

DESCRIPTION OF A NEW FLOUNDER (*HIPPOGLOSSOIDES EXILIS*),  
FROM THE COAST OF CALIFORNIA.

By DAVID S. JORDAN and CHARLES H. GILBERT.

*Hippoglossoides exilis* sp. nov.

Eyes and color on the right side. Body elongate, comparatively slender, rather closely compressed; the dorsal outline more curved than the ventral, and neither strongly arched; the body tapering backwards into a slender caudal peduncle, which is considerably longer than deep. Greatest depth about one-third the length to base of caudle.

Head moderate, not obtuse, the outline of the snout continuous with the descending profile of the back. Mouth not large, very oblique, the upper jaw with its margin on each side concave, the lower jaw correspondingly convex. Lower jaw slightly protruding, with a distinct symphyseal knob. Maxillary rather narrow, its posterior end obliquely truncate, not extending quite to opposite the middle of the pupil. Pre-maxillary anteriorly on the level of the interorbital space.

Teeth all conical, the upper jaw with two distinct series; outer series of teeth smaller than in the other species of *Hippoglossoides*, not large anteriorly, and becoming quite small posteriorly. Teeth of the inner series quite small, closely and evenly set. Lower jaw with a single



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