

Table of measurements—Continued.

|  | <i>Xyosternus</i> ,<br>Santa Cruz. | <i>Verrucosus</i> ,<br>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

series of close-set teeth, much smaller than in the outer series of the upper jaw.

Eyes large, the lower somewhat in advance of the upper, their diameter two-sevenths of the length of the head. The upper eye with some vertical range, but not encroaching on the dorsal line.

Interorbital space a very narrow sharp ridge, with three rows of small scales, a slight ridge connecting it with the lateral line. A series of mucous pores around lower eye behind. About 8 scales in a series obliquely across the cheeks.

Gill-rakers rather slender, shorter than in the other species of this genus, but similar in form, compressed, toothed on the inner edge, somewhat curved forwards. About 10 of them below the angle of the arch, the longest not one-third the diameter of the eye.

Scales comparatively large, very much larger than in the other species of *Hippoglossoides*, thin, almost membranaceous, and somewhat readily deciduous, their edges conspicuously ctenoid, but much less rough than in *H. jordani*. In the latter species the scales are of much firmer texture, and their cilia are spine-like and stiff. The character of the scales is similar to that of *Atheresthes stomias*, which this species also simulates in form and color. Scales on the head entirely similar to those on the body, but somewhat smaller. Those on left side also similar, but less strongly ctenoid. They are, however, considerably rougher than on the blind side in related species.

Lateral line very prominent, its tubes coarse. It is straight behind, slightly and regularly rising anteriorly, without trace of arch or convexity.

Rays of both dorsal and anal fins extensively scaly on both sides. Scales extending high up on all the fins. Scales 16-71-18 (42-125-43 in *Hippoglossoides jordani*).

Fins low, rather fragile, the rays set well apart.

Dorsal fin beginning immediately in front of the pupil, its anterior rays very low, the highest rays much behind the middle of the fin, their height much less than the length of the caudal peduncle, and but little more than the diameter of the eye.

Anal fin similar to the dorsal, but rather higher, preceded by a spine which is shorter than in *H. jordani*.

Caudal fin long, somewhat pointed, the middle rays unusually produced.

Pectoral fins small, little more than half the length of the head, that of the left side less than a third. Ventral fins both lateral, small, not reaching to the anal spine.

Fin rays: D. 78; A. 62; V. 6.

Color pale olivaceous brown, rendered darker by black punctulations, which form an edging around each scale, sometimes with a few very faint bronze spots. Fins somewhat dusky, especially the caudal and

pectoral; dorsal and anal edged with yellowish anteriorly; ventrals with considerable light yellow.

This species is known to us from upwards of a hundred specimens taken in sweep-nets between the Golden Gate and Point Reyes.

All the specimens are small, ranging from 8 to 12 inches in length. Its abundance, in the San Francisco market at least, seems to be confined to the month of April.

Its relations are not intimate with the two species of this genus previously known—*H. platessoides* of the North Atlantic and *H. jordani* of the North Pacific. From both it differs in the elongate form, much larger scales, fewer fin rays, smaller teeth, &c. With *H. jordani*, which inhabits the same waters, it agrees in scarcely any respect, excepting in the characters of the genus *Hippoglossoides*, *i. e.*, the large mouth, conical teeth, ctenoid scales, simple, straight, lateral line, convex caudal, dextral eyes, &c.

Table of measurements.

|  | <i>Exilis.</i> | <i>Jordani.</i> |
|--|----------------|-----------------|
| Extreme length, in inches.....                   | 10.25          | 9.03            |
| Length to base of caudal, in inches=100.....     | 8.40           | 7.70            |
| Body:  |                |                 |
| Greatest height.....                             | 33             | 41              |
| Least height.....                                | 8.2            | 9.8             |
| Length of caudal peduncle.....                   | 12.5           | 8               |
| Head:  |                |                 |
| Greatest length.....                             | 25.5           | 28.5            |
| Width of interorbital area.....                  | 5.50           | 1.50            |
| Length of snout.....                             | 3.7            | 3.8             |
| Length of orbit.....                             | 9.3            | 9               |
| Length of maxillary.....                         | 9              | 11              |
| Length of mandible.....                          | 11.5           | 14              |
| Length of longest gill-raker.....                | 2              | 3               |
| Dorsal:  |                |                 |
| Distance from snout.....                         | 9.3            | 9               |
| Greatest height.....                             | 8              | 11.5            |
| Anal:  |                |                 |
| Distance from snout.....                         | 35             | 33              |
| Height at longest ray.....                       | 9.5            | 10.5            |
| Caudal:  |                |                 |
| Length of middle rays.....                       | 20.5           | 17.5            |
| Length of outer rays.....                        | 17             | 17              |
| Pectoral:  |                |                 |
| Right side, length.....                          | 14             | 15.5            |
| Left side, length.....                           | 8              | 11              |
| Ventral, right side, length.....                 | 7.5            | 8               |
| Dorsal rays.....                                 | 78             | 94              |
| Anal rays.....                                   | 62             | 73              |
| Scales in lateral line.....                      | 71             | 125             |
| Scales in transverse row above lateral line..... | 16             | 42              |
| Scales in transverse row below lateral line..... | 18             | 43              |

SAN FRANCISCO, CAL., April 21, 1880.