

**DESCRIPTION OF A NEW SPECIES OF SQUALIUS (SQUALIUS ALICIAE), FROM UTAH LAKE.****By PIERRE LOUIS JOUY.***Squalius aliciae*, sp. nov.Allied to *Tigoma intermedia* Girard.

Body elongate, compressed posteriorly, the back gradually elevated from the snout to the dorsal. Dorsal and ventral outline similar. Greatest depth of body (at ventrals) equal to length of head. Lateral line complete, slightly decurved.

Head short, rather stout, its breadth equalling three-fifths its length, which is  $4\frac{1}{3}$  in the total without caudal. Snout rounded, jaws equal, maxillaries reaching to the vertical from the anterior margin of the orbit.

Eye moderate, its diameter contained four times in the length of the head. Scales minute, 18-80-15, of about equal size. The pectoral fin does not reach to the ventral, and equals the length of the head.

*Measurements.*—Length to base of caudal, .067<sup>mm</sup>; head, .016<sup>mm</sup>; depth at ventrals, .016<sup>mm</sup>; diameter of orbit, .004<sup>mm</sup>; mandible, .005<sup>mm</sup>; inter-orbital space, .0055<sup>mm</sup>; breadth of head, .009<sup>mm</sup>; pectoral, .016<sup>mm</sup>; longest dorsal ray, .014<sup>mm</sup>; longest ventral ray, .010<sup>mm</sup>; longest anal ray, .011<sup>mm</sup>. Caudal broken.

Radial formula: D. I, 8; A. I, 8; V. I, 7; P. 15.

Teeth, 2, 4-5, 1; strongly hooked, apparently without masticatory surface.

Color dark plumbeous above, with a median band of steel-blue extending along the sides of the body from the head to the caudal fin. Below the lateral line pinkish; cheeks silvery.

Five specimens, collected in Utah Lake by Prof. D. S. Jordan, are numbered in the United States National Museum 27412.

UNITED STATES NATIONAL MUSEUM, *January 14, 1881.***DESCRIPTION OF A NEW GOBIOID FISH (OTHONOPS EOS), FROM SAN DIEGO, CALIFORNIA.****By ROSA SMITH.***Othonops eos*, gen. et sp. nov.

One specimen of this interesting fish was collected for me by Mr. G. W. Dunn at Point Loma, San Diego County, California. It is found under large stones, and is of a bright pink color in life, fading to a dull yellowish white in spirits. This species is most closely related to *Crystallogobius nilssoni* (Düb. & Kor.) Gill (*Gobiosoma nilssoni* Günther, Cat. Fishes Brit. Mus. iii, 86), a species found on the coast of Norway,

from which it is distinguished generically by the obsolete eyes, and specifically by the characters given in the following description :

Body elongate, posteriorly much compressed, not much depressed anteriorly. Head depressed, with the cleft of the mouth nearly horizontal and one-half the length of the head, the maxillary reaching a vertical line drawn across the probable position of the eye. Eyes invisible, covered by the skin; snout rounded; the jaws equal, or very nearly so, the lower jaw in a preserved specimen seeming to be very slightly produced. Both nostrils are provided with a flap.

A narrow band of villiform teeth in each jaw. The gill-membrane is united to the isthmus, and the branchial cleft is equal in length to the distance between the first and second dorsal fins, or one-tenth of the length (from snout to base of caudal).

A groove has its origin immediately in advance of first dorsal and extends medially nearly to tip of snout.

The first dorsal fin is composed of two flexible spines, and is equidistant between the snout and the base of the caudal fin; the insertion of the second dorsal is not much in advance of vent, while the insertion of the anal is opposite the fifth ray of the soft dorsal; the last rays of the posterior dorsal are slightly longer than its anterior one, and the fin terminates opposite the anal, which is similar to the soft dorsal. A very small anal papilla may be seen.

Vertical fins low; caudal small, pointed; ventrals forming a disk, which is not adherent to the belly; pectorals like the caudal in form, their free tips extending beyond the ventrals, though not approximating the first dorsal, and very remote from the vent.

Body entirely smooth, wholly free from scales, tubercles, or asperities of any kind.

The type specimen has been presented to the National Museum, where it is numbered 27466.

This species is doubtless the type of a distinct genus, which may be called *Othonops* (ὄθονος, veil; ὄψ, eye). This genus is distinguished from *Crystallogobius* by the concealed eyes, these organs being large and conspicuous in *C. nilsoni*, and possibly also by the absence of the sexual differences in dentition, so marked in *Crystallogobius*, the male of *C. nilsoni* being provided with strong canines. The remaining genera of *Gobiinae* have five or more dorsal spines, except *Benthophilus*, which, with three dorsal spines, has the skin verrucose.

Since the above was in type three more specimens have been obtained at the same locality, the measurements of the largest of which are included in the table below.

On examination of this specimen,  $2\frac{3}{4}$  inches in length, I find further characteristics.

In this example, the fins are better preserved and show their normal form, the caudal and pectoral being rounded, the pointed appearance of those fins on the type specimen probably having been caused by

their becoming shrivelled and dry before immersion in alcohol, the present individual having been placed in spirits when alive.

On the under side of the head the skin (in a preserved specimen) lies in irregular folds, which conform generally to the outline of the lower jaw, the outer folds reaching the gill-opening. Between the lower lip and these folds there is a series of papillæ, which has its origin a short distance behind the corner of the mouth, the series being slightly separated close behind the symphysis of lower jaw by two small, rounded flaps. The papillæ number about fourteen on either side of the flaps. On the superior surface of the snout, extending posteriorly half as far as the termination of the maxillary, the skin is finely wrinkled, and there is on either side a conspicuous flap, which seems to conceal a nostril.

The skin on the top of the head posterior to the wrinkled snout is smooth and adherent to the muscles. Cheeks tumid.

This species has the habit of burrowing into the sand on the removal of the stone covering it, and in one instance a lively individual buried itself in the sand a second time. It is of a clear pink color, shading into yellow on the tail, and has a semi-transparent appearance in life.

*Measurements.*

Locality.....	Point Loma, San Diego, Cal.		Point Loma, San Diego, Cal.	
	Inches and 100ths.	100ths of length.	Inches and 100ths.	100ths of length.
Extreme length .....	2.25	.....	2.75	.....
Length to base of caudal fin .....	2.00	100	2.38	.....
Body:				
Greatest height .....		19		22
Greatest width .....		13		15
Greatest circumference .....		48		60
Height at base of ventrals .....		14		17
Least height of caudal peduncle .....		10		9½
Length of caudal peduncle .....		10		6
Head:				
Greatest length .....		28		27
Greatest width .....		17		18
Width of interorbital area (ca.) .....		13.5		.....
Branchial cleft .....		10 #		.....
Distance from snout to probable location of eyes .....		12		.....
Dorsal:				
Distance from snout .....		50		50
Height at last spine .....		10		.....
Length of base .....		23.5		23
Anal:				
Distance from snout .....		70		74
Length of base .....		16		.....
Caudal:				
Length of middle rays .....		17		15
Pectoral:				
Distance from snout .....		32		30
Length .....		14		15½
Ventral:				
Distance from snout .....		29		26
Length .....		14		13
Dorsal .....		II, 11		.....
Anal .....		6 or 7		.....