

**DESCRIPTION OF TWO NEW SPECIES OF SCOPELOID FISHES,
SUDIS RINGENS AND MYCTOPHUM CRENULARE, FROM SANTA
BARBARA CHANNEL, CALIFORNIA.**

By DAVID S. JORDAN and CHARLES H. GILBERT.

Sudis ringens, sp. nov.

The type of this species is in very poor condition, having been taken from the stomach of a *Merlucius*, itself found in the stomach of an Albicore (*Orcynus alalonga* = *Orcynus pacificus* Cooper). The process of digestion has destroyed the adipose fin, the ventral fins, and the skin of one side, and the back part of the head is considerably mutilated. Fortunately, the anterior part of the head, with the jaws and teeth, is not at all injured, and the dorsal and anal fins are well preserved. There is, therefore, no doubt concerning the classification of the fish, and as it is the only one of its type yet found in the Pacific, and evidently different from *S. hyalina*, a description of it seems desirable, even though our material is not complete.

Body very slender and elongate, compressed, the depth forming about one-sixteenth of the length. Head rather slender, anteriorly pointed and moderately depressed, so much injured behind the eyes that its exact form posteriorly cannot be ascertained. Mouth large, horizontal, the gape extending more than half the length of the head. Margin of the upper jaw formed entirely by the very slender, nearly straight premaxillaries, which are closely appressed to the long and slender maxillaries. Maxillaries extending to below the eye, nearly as far as the mandibular joint. Tip of upper jaw emarginate. Tip of lower jaw rather broad, turned up, and fitting in the notch of the upper jaw. Premaxillaries armed with a series of small, sharp, subequal, close-set teeth, which are hooked backward. A long slender canine in front on each side.

Lower jaw with about ten sharp, slender teeth on each side, these teeth very unequal, some of them short, three or four very long and canine-like. Near the front is one fang-like tooth on each side, then a considerable interspace, behind which the others are arranged partly in two rows. Most of these teeth, especially the inner and larger ones, and the anterior canines, are freely depressible. A long series of teeth on the palatines, one or two of the anterior teeth on each side and one or two others long, slender, and fang-like. Tongue free anteriorly, roughish, but apparently without teeth.

Opercular bones very thin and membranaceous. Branchiostegals about seven. Gill-membranes not connected. Gill-rakers short, sharp, spine-like.

Scales nearly all lost. The few preserved are very large, cycloid, their diameter nearly a fourth of the depth of the body.

Dorsal fin inserted somewhat behind the middle of the body, at a distance of nearly 4 times its base in front of the anal, its height a little greater than the length of its base. It is composed of 11 (I, 10) rays. Adipose dorsal not preserved.

Anal fin anteriorly nearly as high as the dorsal, its posterior rays low. The number of rays apparently I, 25, possibly I, 24 or I, 26. Ventral fins totally obliterated. Pectoral fins placed low, rather short, about as long as the maxillary. Caudal fin short, narrow, apparently forked.

The coloration is apparently light olive, the sides silvery, with dark punctulations. Fins plain. Peritoneum silvery, underlaid by black pigment.

Table of measurements.

Total length.....	(ca) 6.60 inches
Length to base of caudal	6.25 inches = 100
Body:	
Greatest depth	6
Least depth.....	2
Length of caudal peduncle	6
Head:	
Length	(ca) 16½
Length of maxillary	9
Length of mandible	11½
Length of snout	8
Dorsal:	
Distance from snout.....	57
Length of base.....	5½
Greatest height.....	(ca) 7
Anal:	
Distance from snout.....	80
Length of base.....	(ca) 14
Greatest height	(ca) 5
Pectoral length	8
Dorsal rays	I, 10
Anal rays	I, 25

This species differs from *Sudis hyalina* as described by Dr. Günther (Cat. Fishes Brit. Mus., v, 420) chiefly in the dentition, canine teeth being present on the premaxillaries and palatines, as well as on the mandible. The head is also shorter and the mouth apparently larger in proportion.

Myctophum crenulare, sp. nov.

Form much compressed, deepest in front of the base of the pectorals, bluntly convex anteriorly, tapering behind. Ventral region much more arched than dorsal. Caudal peduncle long and very slender. Head short and high, abruptly rounded in profile, the snout very blunt. Jaws equal, the snout not projecting beyond the mouth. Maxillary very slender, scarcely widened to its tip, and not dilated, its extremity reaching beyond the eye to the margin of the preopercle.

Premaxillaries anteriorly on a level of the pupil. Teeth very small, present on all the dentigerous bones. Rami of the mandible nearly parallel, coming together in a sharp keel below.

Orbital margin above and in front with a thin membranaceous rim, that in front distinct and formed by the upturned edge of the preorbital. Nasal bones membranaceous, their edges upturned, forming a horizontal

groove. A groove between the frontal bones. Orbital margins separated by a groove from the preopercle. Margin of preopercle very oblique. All the membrane bones extremely thin, membranaceous. Eye large, $3\frac{1}{3}$ in head. Gill-rakers long and slender. Head $3\frac{3}{4}$ in length to base of caudal; depth $4\frac{1}{2}$.

Head and body completely covered with thin membranaceous scales, those on the middle of the sides not elevated and not noticeably larger than the others. Free edges of all the scales crenulate, some of them, especially on the back, with the crenations acute, but without spines, the scales not being really ctenoid or spinous. About 45 scales in a longitudinal series.

A phosphorescent spot on each mandible near the symphysis, 33 pairs of spots along the belly, 6 in front of ventrals, 6 between ventrals and origin of anal, and 21 between front of anal and base of caudal.

Caudal peduncle above and below with two or three backward-directed spines, which are apparently the exerted tips of vertebral processes.

Fin rays (not quite certain, the tips being frayed out): Dorsal about 12, anal about 16, the fins rather low.

Origin of dorsal nearer the snout than the base of caudal, much behind the base of the ventrals. Ventrals short, not reaching half way to vent. Pectorals reaching base of ventrals.

Color very dark steel-blue above, silvery on sides and below, with dark metallic luster. The usual phosphorescent spots present, as above described. No evident cream-colored blotch on the back of tail.

Myctophum crenulare is known to us at present from a single specimen, about $1\frac{1}{2}$ inches long, taken from the stomach of an Albicore (*Orcynus alalonga*) in Santa Barbara Channel, July 11, 1880. It had evidently just been swallowed, and is in fairly good condition.

It belongs to that division of the genus "*Scopelus*" called by Dr. Günther "*Myctophum*" (Cat Fishes Brit. Mus., v, 405). As the latter name has priority over *Scopelus*, it must be retained as a generic name for some or all of these fishes.

Table of measurements.

Extreme length.....	2.20 inches
Length to base of caudal.....	1.80 inches = 100
Body:	
Greatest depth.....	23
Least depth of tail.....	4
Length of caudal peduncle.....	22
Head:	
Greatest length.....	27
Width of interorbital.....	6
Length of maxillary.....	19
Length of snout.....	3
Diameter of eye.....	8
Dorsal, distance from snout.....	51
Anal, distance from snout.....	54
Pectoral, length.....	$9\frac{1}{2}$

Ventral :

Length.....	12
Distance from snout.....	39
Dorsal rays.....	(ca) 12
Anal rays.....	(ca) 16
Number of scales in longitudinal series.....	45
Number of phosphorescent spots.....	33

SANTA BARBARA, CAL., July 15, 1880.

DESCRIPTION OF TWO NEW SPECIES OF FLOUNDERS (PAROPHRYS ISCHYRUS AND HIPPOGLOSSOIDES ELASSODON), FROM PUGET'S SOUND.

By DAVID S. JORDAN and CHARLES H. GILBERT.

Parophrys ischyrus, sp. nov.

Body rhombic-oblong, less deep than in *Platichthys stellatus* or *Lepidopsetta bilineata*, and with the head more pointed and protruding, but less so than in *Parophrys vetulus*. Body tapering from the middle to the head and tail, the four bounding lines but little curved and quite regular. Caudal peduncle strong, compressed, and rather long. Head comparatively long, a slight angle over the eye, and the snout protruding and not obtuse. Lips full, simple. Mouth moderate, oblique, the lower jaw slightly projecting and somewhat more developed on the blind side,

Teeth about $\frac{5+25}{10+22}$ in number.

Teeth in one series, rather close set, some on both sides of the jaw. but more numerous on the blind side, somewhat irregular in length, some of them movable. In form the teeth are somewhat compressed and incisor-like and bluntish, but not as notably so as in some related species. No teeth on vomer and palatines.

Maxillary reaching past the front of the orbit, nearly to the pupil. Anterior nostril with a flap. Posterior nostril almost simple. Tongue free. Eyes rather large, the upper directed upward, the lower slightly in advance of the other. An area covered with smooth skin in and behind orbit of upper eye.

Interorbital space rather broad, somewhat elevated mesially, continuous, with a slightly marked ridge above the opercle and forking forwards, the lower branch ending in a blunt prominence.

Snout behind nostrils, interocular ridge, and posterior part of head covered with scales like those on the body, but smaller and rougher. Preorbital very narrow, naked. Skin of head continuous over the edge of the preopercle. Gill-openings above not continued forward. Gill-rakers short, slender, and weak, about 12 below the angle of the arch. Branchiostegals seven. Lower pharyngeal bones separate, each with two rows of coarse, blunt teeth.

Scales moderate in size, thick and firm, adherent, not closely imbricated, anteriorly separated. Those on the tail oblong and a little im-



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