

DESCRIPTION OF A NEW NOTIDANOID SHARK FROM
THE PHILIPPINE ISLANDS REPRESENTING A NEW
FAMILY.

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Among the sharks collected in the Philippine Archipelago by the *Albatross* expedition is a remarkable deep-water form from the Mindanao Sea which has not hitherto been met with and becomes the type of a new family of Notidani or Diplospondyli.

PENTANCHIDÆ, new family (Notidani).

Notidanoid sharks characterized by five branchial apertures, the last three of which are above the base of the pectoral fin; elongate body, nearly straight tail; long, flat snout; inferior mouth; pluriserial, pluricuspid, erect teeth, similar in both jaws; minute spiracles; imbricate denticles; a single small dorsal fin without spine; long caudal fin, with large lower lobe; long anal fin; ventral fins inserted in advance of the center of the body; and large, broad, pectoral fins.

This family is intermediate between the other two known families composing the Notidani—the Hexanchidæ, with moderately elongate body, upbent tail, short dorsal and anal fins, inferior mouth, dissimilar teeth in the two jaws, and gill openings of normal shape; and the Chlamydoselachidæ, with greatly elongate body, straight tail, long dorsal and anal fins, terminal mouth, similar teeth in the two jaws, and frilled gill openings.

The presence of only five branchial openings, while not surprising in such an archaic type of shark as the one under consideration, is nevertheless not found in any other known shark referable to this order.

¹ In the study of this shark the writer has been associated with Mr. Lewis Radcliffe, who assumes joint authority for the new genus and species described.

PENTANCHUS Smith and Radcliffe, new genus.

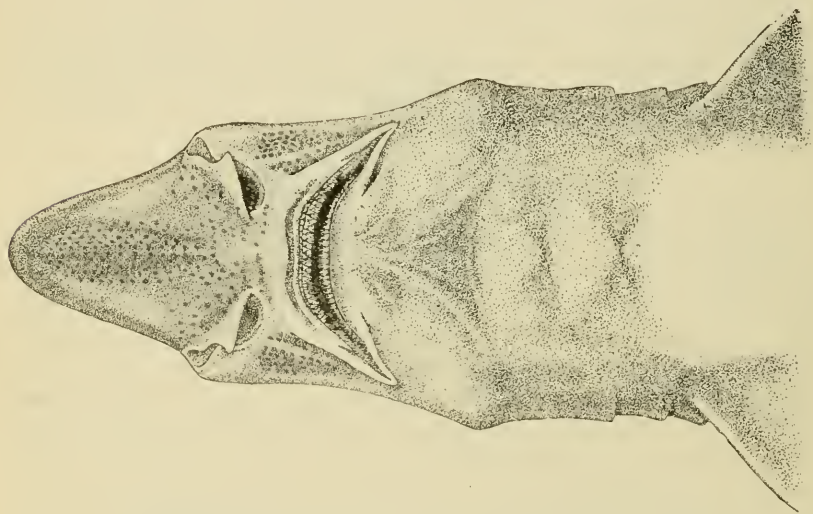
The characters of the genus are sufficiently indicated in the family description.

Genotype.—*Pentanchus profundicolus*.

PENTANCHUS PROFUNDICOLUS Smith and Radcliffe, new species.

Plate 42.

Form very elongate and slender, back not elevated, body tapering gradually into the long, slightly decurved tail; body and caudal peduncle much compressed; head long, broad, moderately depressed, length of head (to posterior gill-opening) .25 total length, width of head at angle of jaws equal to snout, depth .3 length; depth of caudal peduncle three times its thickness and .6 length of base of dorsal fin; eye superior, rather small, the length of orbital opening equal to dis-



PENTANCHUS PROFUNDICOLUS. UNDER SIDE OF HEAD. NATURAL SIZE.

tance between inner angles of nostrils, vertical diameter of eye less than width of cheek; snout very long, broad, and flat, slightly dilated at nostrils and tapering acutely from nostrils to the rounded tip, length of snout equal to distance from anterior margin of eye to second gill-opening, its width at nostrils .75 length, length of tapering side equal to distance to posterior corner of eye, under surface of snout flat, the upper and lower sides of snout forming a sharp edge, the preoral space more than .8 length of snout; mouth wide, crescentic, the jaws somewhat protruding, anterior margin of mouth entirely anterior to eye, the angle of mouth under pupil, a well-marked groove at angle extending more than .7 distance to nostril

and continued on lower jaw for about .5 distance to symphysis; nostrils very large, oblique, inferior, each .5 width of snout at their anterior margin; interorbital space flattish, twice diameter of eye; teeth in both jaws similar, erect, grooved, with a median lanceolate cusp and two smaller cusps on each side; body and fins completely covered with minute, closely imbricated, leaf-shaped denticles, with a strong median keel and one lateral keel on each side, the scales on the upper edge of peduncle enlarged; numerous pores on head, including a sharply defined elongate oval patch of large pores on upper and lower surfaces of snout, the pores arranged in regular lines, a patch of similar pores on cheek immediately in front of eye and another on corresponding portion of underside of snout posterior to nostril; branchial apertures small, the length of the series .33 anterior margin of pectoral; spiracle round, minute, close to posterior angle of orbital opening.

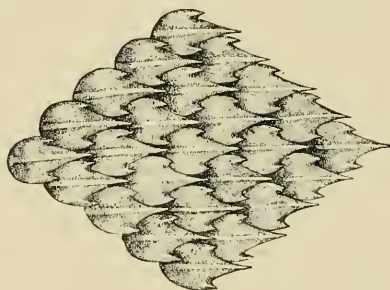
Dorsal fin over posterior end of anal, its origin midway between first gill-opening and end of tail, height of fin equal to snout, length of base .66 height; caudal fin very long, the upper lobe narrow and extending toward the dorsal as a low ridge, the lower lobe long, notched posteriorly, deep anteriorly, and contiguous with anal; origin of anal nearly midway from end of snout to tip of tail, its base as long as head (to first gill-opening), its greatest length about equal to that of lower caudal lobe; ventral fins small, their origin midway from eye to dorsal fin, the modified rays (claspers) round, thick, expanded at end, and reaching to anal; pectorals large, broad, with rounded corners and straight posterior margin, extending to ventrals when closely applied to body.

Color: Uniform dark brown.

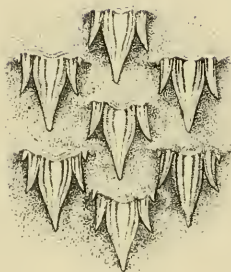
Type.—Cat. No. 70260, U.S.N.M., a male specimen 50.8 cm. long, taken with a beam trawl on July 31, 1909, at station 5486 (lat. $10^{\circ} 02' N.$; long. $125^{\circ} 19' 20'' E.$), in the Sea of Mindanao, between the islands of Mindanao and Leyte, at a depth of 585 fathoms.



From the type. One-fourth natural size.



Dermal denticles of flank, enlarged.



Upper jaw.



Lower jaw.

Teeth in typical sections of jaws, enlarged.

PENTANCHUS PROFUNDICOLUS.