

POSTLARVAL FORMS OF MARINE FISHES OF SIOKUN BAY, ZAMBOANGA DEL SUR PROVINCE

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NINETEEN TEXT FIGURES

Upon the termination of the United States Fish and Wildlife Service, Philippine Fishery Program in 1950, the bulk of the fishery collections was turned over to the Philippine Bureau of Fisheries. Some of the juvenile and postlarval marine fishes included in the plankton tows and night-light fishing collections were not worked out, except the young of tunas, which had been extensively studied.

This paper presents a systematic study of young fishes which were collected by the biological staff of the research vessel *Spencer F. Baird* at Siokun Bay, Zamboanga del Sur, on November 19, 1948.

The families of fishes represented in the Siokun Bay collection are Elopidae, Ophichthyidae, Synodontidae, Syngnathidae, Atherinidae, Mugilidae, Theraponidae, Ambassidae, Serranidae, Lutjanidae, Mullidae, Sillaginidae, Platycephalidae, Pomacentridae, and Monacanthidae.

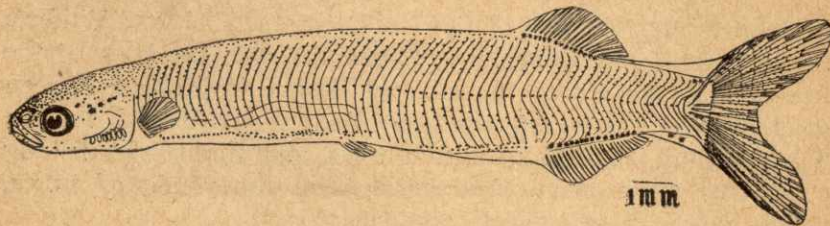
The species of marine postlarval fishes described under the above families are as follows: *Megalops cyprinoides*, *Ophichthys* sp., *Saurida tumbil*, *Ichthyocampus* sp., *Atherina* sp., *Mugil* sp., *Ambassis* sp., *Therapon theraps*, *Epinephelus morrhua*, *Lutianus monostigma*, *Sillago sihama*, *Pseudupeneus* sp., *Platycephalus* sp., *Pomacentrus philippinus*, *Monacanthus* sp., and *Cantherines* sp.

ELOPIDÆ

MEGALOPS CYPRINOIDES (Broussonet). Tarpon (buan-buan). Text fig. 1.

Description.—The larval tarpon passes through a "leptocephalus" stage similar to those of the ten pounder. A larva 13.5 millimeters long, elongate, transparent, narrow and compressed in body with about 68 myotomes. Depth of body, 5.5 in standard length; head small and undeveloped, 5.5 in length; snout dull pointed, equal to eye ball diameter in length,

4.20 in length of head; eyes midlateral, 3.33 in head; mouth oblique; angle of maxillary beneath anterior edge of diameter of eye. Branchiostegals three. Dorsal fin with traces of 18 soft rays, at posterior third of body, near caudal fin. Anal fin of 24 rays near caudal fin. Anterior portion of anal fin lobe starts ventrally below opposite two-thirds of base length of dorsal fin, and very much nearer to caudal fin than dorsal fin. Pelvic fin small and ventrally located at midportion of body.



TEXT FIG. 1.—*Megalope cyprinoides*. From a specimen 13.5 mm. long.

Homocercal caudal fin large with a deep notch with 22 caudal rays, attached to upturned urostyle, epurals and hypurals. Caudal peduncle with remnants of dorsal and ventral finfold as long as broad. There are a few stellate pigments on upper part of opercle, at bases of soft fin rays of dorsal and anal fin and at posterior portion of caudal peduncle. On head, maxillaries, all over sides of body and on caudal rays are numerous small dark pigments. At midlateral section of body is a single longitudinal row of rounded dots of pigments. Ventral side of the body between lower portion of pectoral and pelvic fins and anterior ventral fin are located rounded pigments.

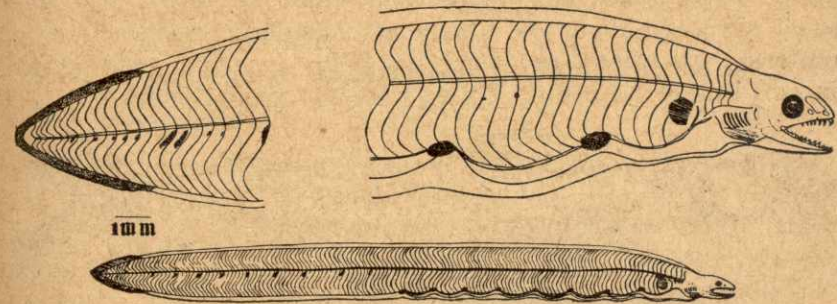
A single specimen 13.5 millimeters long is described from the Siokun Bay, Zamboanga del Sur, larval fish collection, November 19, 1948.

OPHICHTHYIDÆ

OPHICHTHYS sp. Eel (palos, pindanga, igat). Text fig. 2

Description.—A leptocephalus stage, 150 millimeters long, ribbonlike, elongate, transparent and thinly compressed in body. There are about 146 or more myotomes, 70 of which are located to last pigment oblong spot of ventral eighth constriction of gut. Head very primitive, mouth horizontal; angle of maxillary

on level of perpendicular edge of eye; opercle and preopercle not very distinct except for traces of six gills slits above traces of branchiostegals. Entire finfold distinct which loops around arrow-pointed leptocercal caudal fin which is a characteristic of adult species.



TEXT FIG. 2.—*Ophichthys* sp. From a specimen 150 mm. long.

There is a trace of a long lateral line originating above the gill slits bisecting the curve contours of the myomeres to the tip of the leptocercal caudal fin. Below the posterior portion of the lateral line are eight dark pigment spots.

Under this genus are found thirteen species of marine eels.

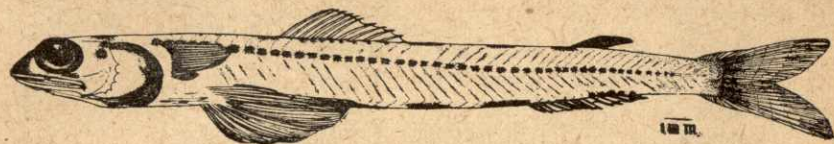
Specimens of leptocephalus stages of eels were few in the Siokun Bay, Zamboanga del Sur collection of November 19, 1948.

SYNODONTIDÆ

SAURIDA TUMBIL (Bloch). Lizard fish (kalaso). Text fig. 3.

Description.—The postlarval lizard fish, 25 millimeters long, has a very elongate, narrow and cylindrical body. Forty-nine myotomes and forty-six rectangular chromatophores located on midlateral sides of body, behind curves of each myomere. Fish easily recognized by its short blunt head, large inferior snout, large eyes, and serrated preopercle. There are three chromatophores on lateral side of head above opercle, a black area below pectoral fin, a chromatophore located before first dorsal spine, small chromatophores after base from third to eighth sharp dorsal spines and three elongate chromatophores between sharp dorsal and adipose fin. Three equidistant longitudinal narrow chromatophores ventrally located between posterior portion of long fan-like pelvic fin and narrow and

short ventral fin, besides five chromatophores at posterior bases of tenth to fourteenth spinous ventral fin. Dots of black chromatophores or areas spread on posterior portion of caudal peduncle extending into anterior portion of caudal fin. Head $4\frac{1}{2}$ in standard length of body. Snout pointed, 7.5 in length of head. Eyes large; eye diameter 3 times in length of head; snout slightly oblique or horizontal; maxillary reaches beyond posterior eye diameter; vomerine teeth in upper and lower jaws. Dorsal X; ventral fin 6; anal 14; caudal rays 20.



TEXT FIG. 3.—*Saurida tumbil*. From a specimen 25 mm. long.

Last spine of first dorsal fin halfway between dorsal tip of snout and posterior portion of caudal peduncle. Adipose fin small and opposite anal fin. Caudal peduncle twice as long as narrow; caudal fin homocercal.

Color in alcohol creamy yellow with black spots of chromatophores on head, dorsal, lateral and ventral sides of the body.

The lizard fishes are a group of common shore fishes staying close to the sandy or muddy bottom or else found in deeper waters. Seven species have been recorded in the Philippines. The most abundant are the common lizard and the blunt nosed which are caught with the beam trawl in Manila Bay and elsewhere in the Philippines.

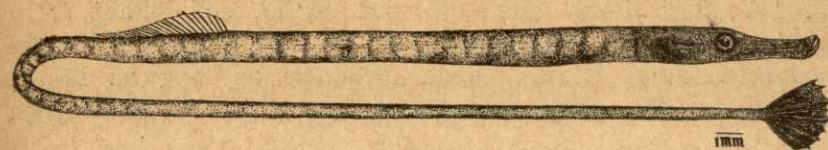
Several specimens, 25 millimeters and over, were collected at Siokun Bay in November 19, 1948.

SYNGNATHIDÆ

ICHTHYOCAMPUS sp. Pipe fish (quioet). Text fig. 4.

Description.—One young pipe fish 59.5 millimeters long, cylindrical and slender in body form with crossbars of black bands of dots and a long whiplike tail. Head long, and slender; snout tubular, terminating into a small mouth with toothless jaws. Dorsal fin with traces of soft rays, located about midway between tip of mouth and posterior edge of caudal peduncle. Pectoral not conspicuous. Caudal fin fanlike with 9 spinous unequal rays.

This specimen, 59.5 millimeters long, was included in the collection of Siokun Bay, Zamboanga, on November 19, 1948.



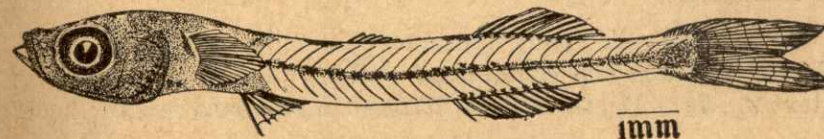
TEXT FIG. 4.—*Ichthyocampus* sp. From a specimen 59.5 mm. long.

ATHERINIDÆ

ATHERINA sp. Silverside (ti-i). Text fig. 5.

Description.—A larval silverside, 7 millimeters long, elongate, compressed and transparent in body. Head with an oblique mouth, is short; head 4 times in length of body. Body myotomes are distinct and scales wanting. Midlateral portion of body with series of black pigments or chromatophores starting from underneath of base of pectoral fin to base of caudal. First dorsal fin with five weak spines located at mid-portion of dorsal portion of body. Anterior base of dorsal fin equidistant from tip of snout with reference to dorsal base of caudal fin. First anterior spine of anal fin nonopposite base of anterior spine of dorsal fin. Narrow caudal peduncle as long as upper lobe of deeply forked caudal fin.

Several specimens were collected at Siokun Bay, Zamboanga del Sur Province, on November 19, 1948.



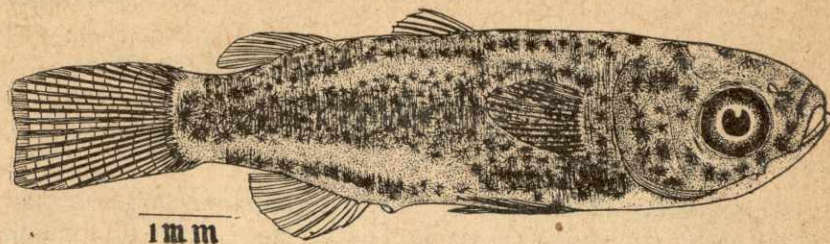
TEXT FIG. 5.—*Atherina* sp. From a specimen 7 mm. long.

MUGILIDÆ

MUGIL sp. Mullet (banak, liza, tallong, lapez, risee). Text fig. 6.

Description.—The postlarval mullet, 7.8 millimeters long, has an elongate, cylindrical, and slightly compressed body. Depth of body 3.5 in standard length. Head convex, slightly flattened dorsally; eye diameter 3 times in head length. Mouth oblique; length of snout, less than diameter of eye; angle of maxillary, not reaching edge of anterior level of eye. Dorsals

V, 1-7; first dorsal spine of first dorsal, equidistant from level of edge of snout spiracle to posterior edge of caudal peduncle. Anal II, 8. Caudal peduncle as long as broad. Caudal rays 20. Anus protrudes before first short anal spine.



TEXT FIG. 6.—*Mugil* sp. From a specimen 7.8 mm. long.

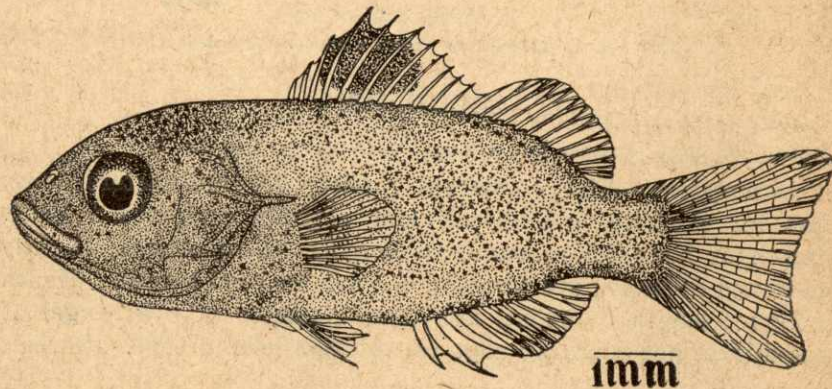
This specimen is naked and with stellate chromatophores on the snout, head, preopercle, dorsolateral, lateral and ventral sides of the body. The chromatophores are grouped at the abdominal and lateral region of the body. The background of these stellate chromatophores on the head and all over the sides of the body are minute dark pigments.

Specimens of larval mullets were not abundant from the collection from Siokun Bay, Zamboanga, November 19, 1948.

THERAPONIDÆ

THERAPON THERAPS Cuvier and Valenciennes. Theraponid (bagaong, baraongan). Text figs. 7-8.

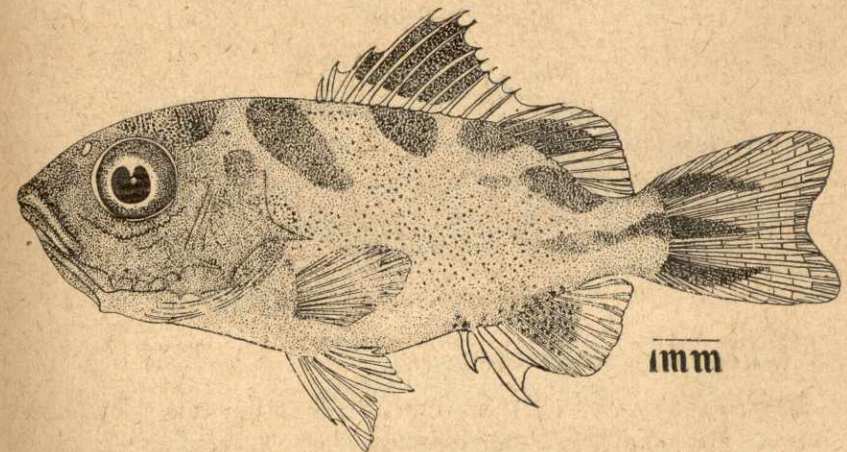
Description.—A young theraponid, 8 millimeters long, semi-oblong in shape and compressed in body; lateral line wanting (text fig. 7). Depth of body 3 times in standard length; head,



TEXT FIG. 7.—*Therapon theraps*. From a specimen 8 mm. long.

2.66 in standard length; eye diameter 3.33 in head length; snout 3.25 in head length or shorter in eye diameter; mouth small, oblique; posterior edge of maxillary reaching anterior level of eye. The upper edge of opercle with pointed spine above the gill opening; preopercle with serrations. Caudal peduncle as long as broad. Dorsals continuous and notched; XI-1, 11, anal III, 8; pectoral with 12 rays, rounded in outline. Caudal fin of 20 rays, shallow notched. Stellate and minute pigments of black chromatophores on the head, bases of the dorsal anal fins, all over the sides of the body, and membranes of the spinous dorsal.

A 12.5 millimeters postlarval, three line, theraponid oblong and compressed in body (text fig. 8). Depth of body 2.5 in



TEXT FIG. 8.—*Therapon theraps*. From a specimen 12.5 mm. long.

standard length. Head large, 2.5 in standard length; eye diameter 3 times in head; length of snout, shorter than eye diameter. Mouth oblique; posterior angle of maxillary on level with anterior level of edge of eye socket. Pointed gill opening spine still retained at this stage. Minute serrations present below the eye. Preopercle spines unequal, small and distinct. Branchiostegals 5. Dorsals continuous, notched XI-1, 10; and III, 10. Caudal peduncle, as long as broad. Caudal fin with 20 rays. Black stellate, chromatophores on the membranes of spinous dorsals, soft rays of dorsal and anal fins. Three narrow elongate black pigments on the anterior half of caudal rays. Eight groups of black spots on the upper sides of the

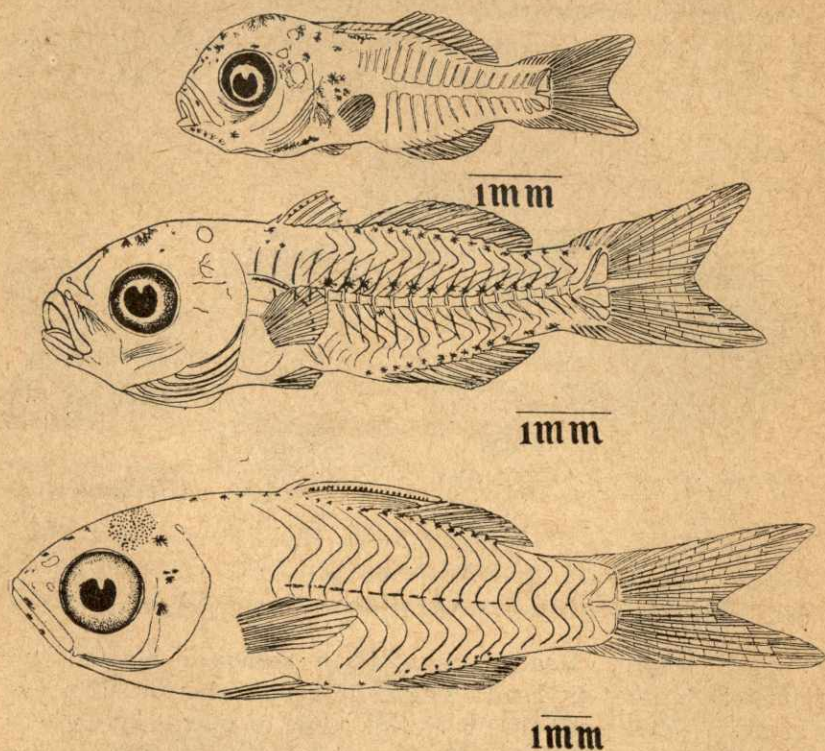
head and body. Small and stellate pigments of chromatophores all over the sides of the body.

Numerous specimens of theraponids were in the Siokun Bay collection, Zamboanga del Sur, on November 19, 1948.

AMBASSIDÆ

AMBASSIS sp. Glassperch (langaray, bagsang). Text figs. 9-11.

Description.—A larva, 4 millimeters long, stocky, compressed and transparent in body (fig. 9). Body depth 3 times in length. Traces of the vertebral column spines apparent. Head large,



TEXT FIGS. 9-11.—*Ambassis* sp. From a specimen 4-12 mm. long.

2.66 standard length; eye diameter 2.5 in head. Mouth small and oblique; length of snout equal in diameter of eye ball. Opercle with 4 branchiostegals. Dorsals and ventrals not well developed. Pectoral small. Caudal peduncle, 11.5 times as long as broad. Homocercal caudal fin deeply notched. Large and small stellate chromatophores pigments on the head, chin,

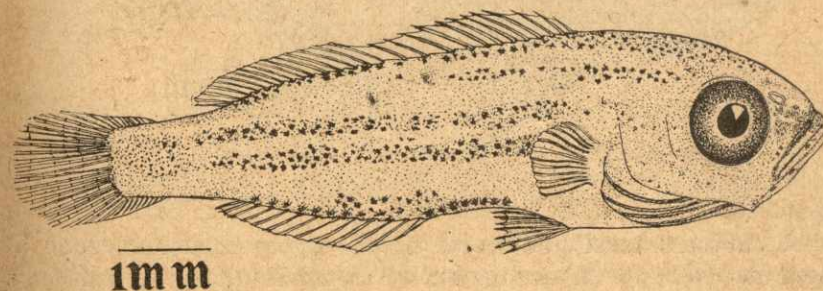
between the opercle and pectoral fin and below the opercle. The fish larva, 5.66 millimeters long, elongate, compressed, transparent in body with traces of myotomes, 20 vertebrae, vertebral spines, urostyle and epurals and hypurals (fig. 10). Depth of body 3.5 in standard length. Head, 3.8 in length; eye diameter, 2.75 in head. Mouth oblique and maxillary not reaching below level edge of eye diameter. Snout as long as diameter of eye ball. Opercle with 5 branchiostegals at lower edge corner. Dorsals VI, I, 9; anal II, 10. Caudal peduncle 1.25 as broad. Caudal rays 18 on epural and hypural. Scanty chromatophores on top of head but with stellate pigment spots at the bases of the dorsal and anal fin rays on the midlateral sides of the body and on the second spinous rays of first dorsals.

A 12-millimeter larva with an elongate and compressed body with distinct myotomes; depth 3 in standard length (fig. 11). Head large, 3 times in length; mouth oblique; snout 2 times in diameter of eye which is 2 times in head length; angle of maxillary beyond anterior, perpendicular level of edge of eye. Opercular edge rounded with traces of 4 branchiostegals on lower edge. Dorsals VI, I, 9; anal II, 10. Caudal peduncle $1\frac{1}{3}$ times as long as broad. Homocercal tail with 18 rays. Scanty chromatophores on the head, chin, opercle on the bases of the dorsal and anal fins. Rounded small dot pigments on the inner border of the second dull-pointed spine of first dorsal. Narrow pigments on the midlateral sides of the body.

Several specimens 4-12 millimeters long were collected at Siokun Bay, Zamboanga, on November 19, 1948.

SERRANIDÆ

EPINEPHELUS MORRHUA (Cuvier and Valenciennes). Sea bass (garopa). Text fig. 12.



TEXT FIG. 12.—*Epinephelus morrhua*. From a specimen 8 mm. long.

Description.—A postlarval garopa 9.35 millimeters long, elongate and compressed in body; depth 3.5 in standard length.

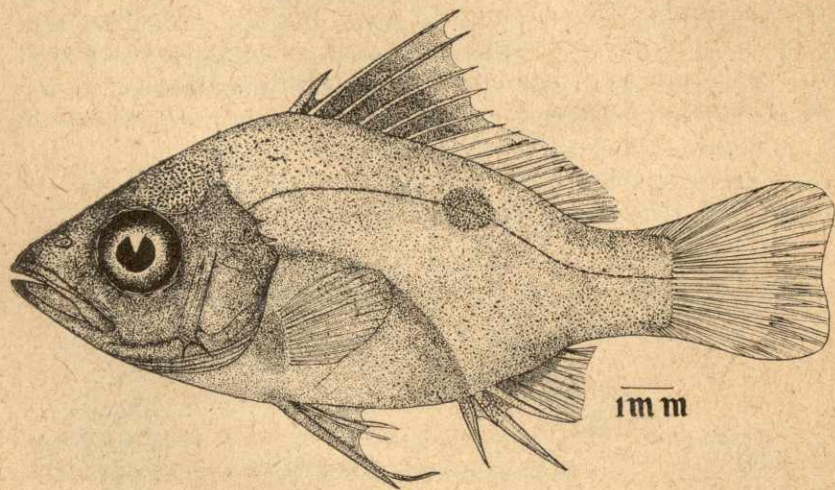
Head short and convex, 3 in length; mouth small, oblique and the angle of maxillary not reaching parallel edge of anterior eye socket. Snout small, convex, 1.75 in eye diameter. Dorsals continuous XI, 15; anal II, 10; caudal (with broken tips) truncate, of 24 rays. Traces of fine unequal lengths and breadth of parallel bands of brown to olive chromatophores present on sides of the body.

Postlarval sea bass were found numerous in the Siokun Bay, Zamboanga del Sur collection of November 19, 1948.

LUTIANIDÆ

LUTIANUS MONOSTIGMA (Cuvier). Snapper (maya-maya). Text fig. 13.

Description.—Young maya-maya, 14.5 millimeters long with a leaflike and slightly compressed body, and with a triangular head with reference to the posterior edge of the opercle as a base; 2.5 in standard length; mouth oblique; maxillary reaching beyond anterior level of eye margin. Eye diameter as long as snout; 3 times in head length. Preopercle with minute serrations diagonally with larger spines located ventrally. Branchiostegals 5.



TEXT FIG. 13.—*Lutianus monostigma*. From a specimen 14.5 mm. long.

A curved lateral line starts at the upper corner of edge of opercle bisecting the ocellus on the upper midpoint of the body. Caudal peduncle as long as wide. Dorsals continuous X-10, first predorsal spine sharp, and short followed by nine longer

pointed spines and ten soft rays the last of which is branched; central portion membranes of first dorsal with dark chromatophore spots. Anal III, 8; first stocky sharp spines unequal, the middle being the longest. Pelvic fins with two long sharp spines. Pectorals leaf-like and rounded at the edge. Caudal slightly notched and with 20 rays.

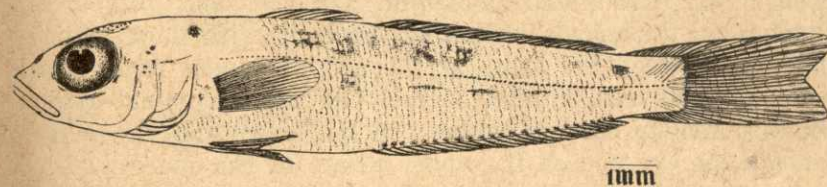
This postlarval maya-maya is devoid of scales. Dark pigment spots are on the snout, head, body and ventral portions of the dorsal and anal fins. The most prominent group of chromatophores is the ocellus which identifies this species as the one-spotted gray snapper in the adult.

Pelagic specimens of juvenile snappers measuring from 11 to 27 millimeters were collected on November 19, 1948, at Siokun Bay, Zamboanga Province.

SILLAGINIDÆ

SILLAGO SIHAMA (Forsk.) Sandborer (Asohos, asoos). Text fig. 14.

Description.—A postlarval asohos, 14.5 millimeters long with elongate and rounded body. Depth of body 5.2 times in standard length. Head, 3.25 in length. Snout shorter than eye diameter; mouth oblique; anterior angle of maxillary extends beyond anterior level of eye socket. Branchiostegals 5. Dorsal fins separate. Dorsals XI-1, 18; anal II, 18. Dermotrichia



TEXT FIG. 14.—*Sillago sihama*. From a specimen 14.5 mm. long.

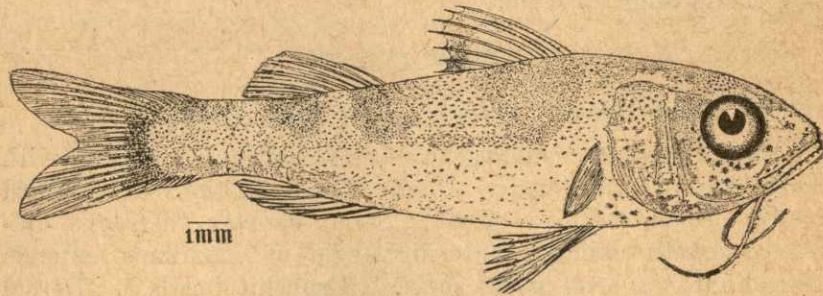
attached by hypurals and epural, 18. Caudal peduncle 1.33 as long as broad. Caudal fin shallow forked. Lateral line present. Scales present; four groups of narrow blotches on the mid-posterior half of the body. Black stellate pigments at bases of fin rays, a few of these chromatophores on the head. The tip of pectoral rounded, reaching half way of the level of base length of first dorsal fin.

A few of the asohos postlarval fishes are in the collection of Siokun Bay, Zamboanga del Sur, on November 19, 1948.

MULLIDÆ

PSEUDUPENEUS sp. Goatfish (saramullele). Text fig. 15.

Description.—A specimen 16.75 millimeters long, with an elongate and slightly compressed body with traces of a few ctenoid scales at the anterior portion of the caudal peduncle and on the pre-dorsal spines at the second dorsals. Head slightly convex, $4\frac{4}{5}$ in standard length. Snout triangular, 3.5 in head length. Mouth oblique; maxillary of upper jaw on level with edge of anterior of eye diameter. Preopercle with a few distinct spines at the lower and upper extremities. Opercle with two distinct spines at the upper edge. Branchiostegals 6. Two protruding barbels beneath the chin below the maxillary. Body depth $4\frac{4}{5}$ in standard length. Dorsals VI—1, 7.



TEXT FIG. 15.—*Pseudupeneus* sp. From a specimen 16.75 mm. long.

Anal I, 6. Homocercal caudal fin with 16 rays. Five black blotches on the upper portion of the body with dark pigment spots in between the spots at the end of caudal rays. Dark pigment spots also spread sparsely at the abdominal region. Distinct stellate chromatophores on the lower and upper jaws beneath the eye and on the upper corner of the opercle. Dark pigments also on the upper membrane of the dorsal fin.

About twenty-five species of goatfishes have been recorded in the Philippines.

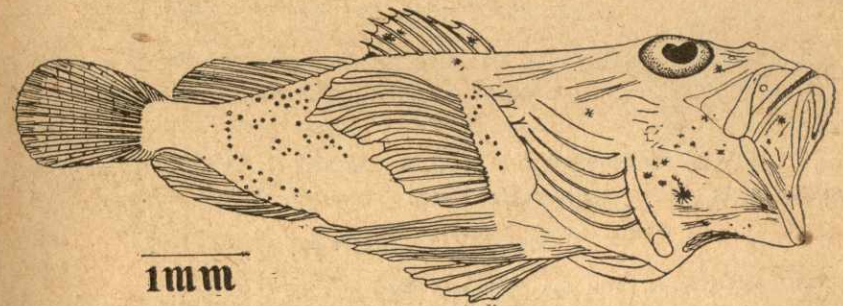
There are twenty specimens measuring from 10.5 to 27 millimeters long, collected at Siokun Bay, Zamboanga del Sur, on November 19, 1948.

PLATYCEPHALIDÆ

PLATYCEPHALUS sp. Flathead (sunog). Text fig. 16.

Description.—A flathead, 6.5 millimeters long with a cylindrical body which tapers posteriorly. Body depth 3.33 times

in standard length. Head large, flattened and triangular, 2 times in length. Snout 3 times in head. Mouth slightly oblique in position; angle of maxillary reaching below level midportion of eye. Opercle armed with three sharp spines at the upper corner. Branchiostegals 5. Dorsals VIII—9; anal III, 7. Pectoral with 16 rays large, and located midway between tip of snout and posterior edge of caudal peduncle. Pelvic fins long tips reaching first anal spine origin and parallel with origin of pectoral. Caudal peduncle three times as long as broad. Caudal fin with 16 rays slightly truncate or rounded. The larval fish is brownish to black in color, with rounded black spots on sides of body.



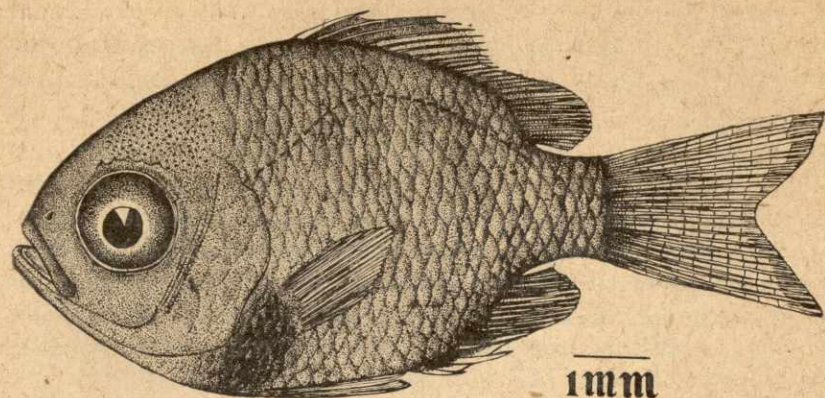
TEXT FIG. 16.—*Platycephalus* sp. From a specimen 6.5 mm. long.

The only specimen 6.5 millimeters long was collected at Siokun Bay, Zamboanga on November 19, 1948.

POMACENTRIDÆ

POMACENTRUS PHILIPPINUS Everman and Seal. Damsel fish (araro baybay, puyong dagat, tibuk). Text fig. 17.

Description.—A postlarval damsel fish, 7.75 millimeters long with an ovate body with dorsal and ventral outline similar and evenly arched; body depth 1.75 in length. Head triangular in outline, 2.23 times in length. Caudal peduncle short, twice as long. Snout short, 1.5 in eye diameter, 2.5 in length of head; mouth oblique; maxillary 2.5 ending posteriorly below anterior margin of eye; each jaw with a series of small teeth. Sub-orbital coarsely serrated. Opercle scaled; preopercle with minute serrations. Dorsals XIII, 13, continuous and notched. Spinous dorsal increasing in height. Anals II, 13. Outline of posterior and dorsal fins rounded.



TEXT FIG. 17.—*Pomacentrus philippinus*. From a specimen 7.75 mm. long.

Scales on lateral series 26; lateral line ending before posterior end of soft dorsal. Caudal fin deeply forked, with 24 caudal rays.

Postlarval damsel fishes are abundant in the Siokun Bay, collections of November 19, 1948.

MONACANTHIDÆ

MONOCANTHUS sp. File fish (papakol). Text fig. 18.

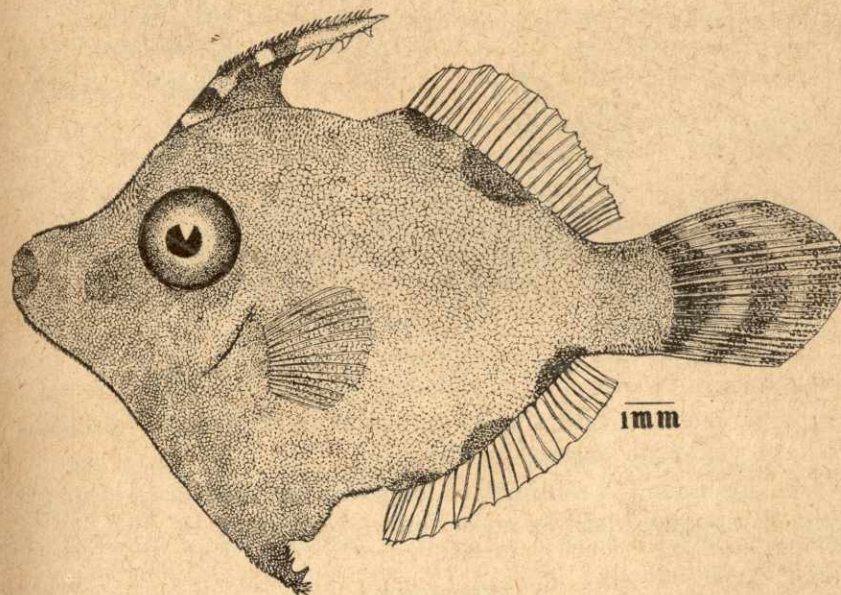
Description.—A young file fish, 13 millimeters long with oblong, compressed body; greatest depth, 1.5 in standard length. Head short, concave dorsally; small and terminal lip thick with blunt minute teeth. Eyes, dorsolateral, diameter shorter than snout. One gill slit anterior of small pectoral fin. Opercles wanting. Dorsals I, I, 25. First dorsal curved posteriorly, stocky with numerous small spines on posterior $\frac{2}{3}$ of its length and also four larger curved down spines above thin basal triangular membrane. Second dorsal with one fine spine followed by 25 fin rays. Anal I, 24, similar in contour to that of dorsal fins. The pelvic spine has inner spines, two of which are very prominent, followed by a series of finger-like spines.

Pectoral fin rays 15. Edge of outer arch not reaching perpendicular level of anal spine. Caudal peduncle shorter than broad. Caudal fin fanlike, with a rounded edge. Caudal rays 16.

Head and body are covered with minute velvety shagreen scale with interlacing bases. There are four prominent dark areas of black spots on the stocky, cylindrical sharp spine of first dorsal the basal membrane of which is dark pigmented. On

the dorsal side of the body below the base of the second dorsal are also two groups of dark pigments. On the ventral side of the body are also three dark pigment areas above the base of the anal fin. The caudal fin has three arch contours of pigment spots.

One specimen, 13 millimeters long, was collected at Siokun Bay, Zamboanga del Sur, on November 19, 1948.

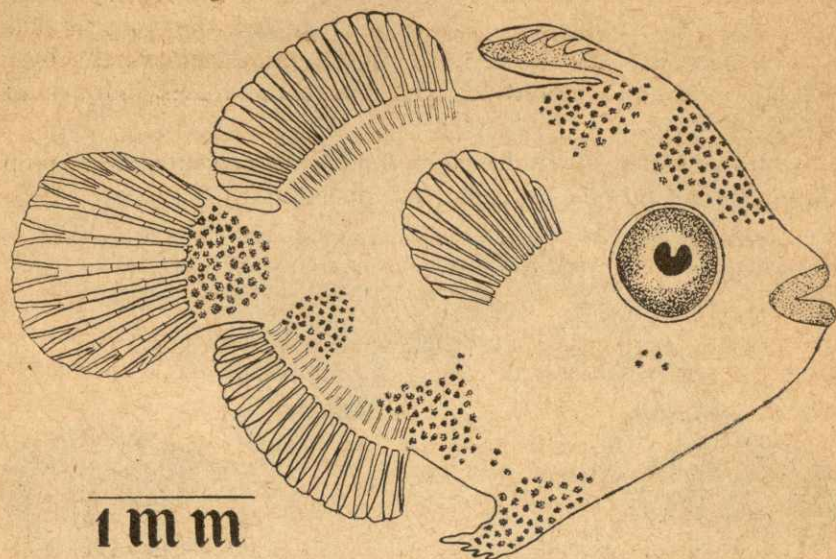


TEXT FIG. 18.—*Monacanthus* sp. From a specimen 13 mm. long

CANTHERINES sp. File fish (papakol). Text fig. 19.

Description.—The larval file fish 3.5 millimeters long with oblong, transparent and compressed body. Body depth 1.5 in standard length; head large, triangular in shape; mouth small with thick lips, length of snout equal eye diameter, eyes big dorsal-lateral. Dorsals I, 22. Anal I, 19. Origin of first dorsal opposite that of big branched or fingerlike anal spine. Contour outline of dorsal and anal fins similar. Pectoral with 15 rays located at midlateral side of body. Caudal peduncle shorter than broad and caudal fin lobe, fanlike with 12 caudal rays.

There are two groups of black irregular spots on the head above the eye and below the first dorsal. Ventrally there are also three dark areas of irregular spots located on the anal spine and at the extreme bases of the anal fin. Caudal peduncle



TEXT FIG. 19.—*Cantherines* sp. From a specimen 3.5 mm. long.

is pigmented also with similar irregular dark spots. The larva is light yellow to orange in color.

One specimen 3.5 millimeters long was included in the Siokun Bay, Zamboanga del Sur collection of November 19, 1948.

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ILLUSTRATIONS

[Drawn by G. J. Blanco]

TEXT FIGURES

- FIG. 1. *Megalops cyprinoides*. From a specimen 13.5 mm. long.
 2. *Ophichthys* sp. From a specimen 150 mm. long.
 3. *Saurida tumbil*. From a specimen 25 mm. long.
 4. *Ichthyocampus* sp. From a specimen 59.5 mm. long.
 5. *Atherina* sp. From a specimen 7 mm. long.
 6. *Mugil*. sp. From a specimen 7.8 mm. long.
 FIGS. 7-8. *Therapon theraps*. From specimens 8-12.5 mm. long.
 9-11. *Ambassis* sp. From specimens 4-12 mm. long.
 FIG. 12. *Epinephelus morrhua*. From a specimen 8 mm. long.
 13. *Lutjanus monostigma*. From a specimen 14.5 mm. long.
 14. *Sillago sihama*. From a specimen 14.5 mm. long.
 15. *Pseudupeneus* sp. From a specimen 16.75 mm. long.
 16. *Platycephalus* sp. From a specimen 6.5 mm. long.
 17. *Pomacentrus philippinus*. From a specimen 7.75 mm. long.
 18. *Monacanthus* sp. From a specimen 13 mm. long.
 19. *Cantherines* sp. From a specimen 3.5 mm. long.