

XVIII. NOTES ON A COLLECTION OF FISHES FROM
PORT SAID, EGYPT.

BY DAVID STARR JORDAN AND CARL L. HUBBS.

(PLATES XLVI AND XLVII.)

In February, 1914, Dr. Jordan spent a day at Port Said at the northern end of the Suez Canal, making a collection of fishes. The sea is very shallow at this point, with sandy bottom, and the species taken were those characteristic of such places in the eastern Mediterranean. Series of the specimens obtained are in the Carnegie Museum in Pittsburgh and in Stanford University. The numbers given under the species refer to the specimens in the Carnegie Museum.

Family CLUPEIDÆ.

Genus HARENGULA Cuvier & Valenciennes.

1. *Harengula maderensis* (Lowe).

No. 8001a-c, C. M.

D. 18 or 19; A. 20; scales 43. Head three and nine-tenths times in length; depth three and a third times in length. Scales striate, finely laciniate. A diffuse blackish spot at base of dorsal in front; a dusky shade on shoulder. This species has not before been received from the Mediterranean. *Harengula latula* from France is very close, but seems to have entire scales.

Family ENGRAULIDÆ.

Genus ENGRAULIS Cuvier.

2. *Engraulis encrasicolus* (Linnæus).

No. 8002a-h, C. M.

Appears to be very abundant at Port Said.

Family CYPRINODONTIDÆ.

Genus APHANIUS Nardo.

3. *Aphanius calaritanus* (Bonelli).

No. 8003a-c, C. M.

Ventral rays six or seven.

Family HEMIRHAMPHIDÆ.

Genus HYPORHAMPHUS Gill.

4. *Hyporhamphus picarti* (Cuvier & Valenciennes).

No. 8004a-b, C. M.

D. 14; A. 15; scales 50. Depth seven and one-half to eight times in length from tip of upper jaw. Head with mandible two and three-fifths times in length from snout to base of caudal. Head without mandible four and one-third times in length. Eye four and one-third to four and one-half times in head. Ventrals midway between base of pectoral and base of caudal; dorsal and anal scaleless or nearly so. Silvery band distinct, much broadened behind. Jaws black; the tip of lower jaw red; upper jaw pale, bordered with black; caudal and dorsal dusky.

This species has been recorded from Cadiz and Algiers, but never fully described. It is allied to the American *H. roberti*, but distinct. Several specimens taken.

Family SYNGNATHIDÆ.

Genus SYNGNATHUS Linnæus.

5. *Syngnathus agassizi* Michahelles.

No. 8005a, C. M.

Rings 17-35; D. 26. Brown, marbled with blackish; pale spots between rings below. A rare species, the range of which is little known.

Genus HIPPOCAMPUS Rafinesque.

6. *Hippocampus hippocampus* (Linnæus).

No. 8006a-b, C. M.

Family MUGILLIDÆ.

Genus MUGIL Linnæus.

7. *Mugil cephalus* Linnæus.

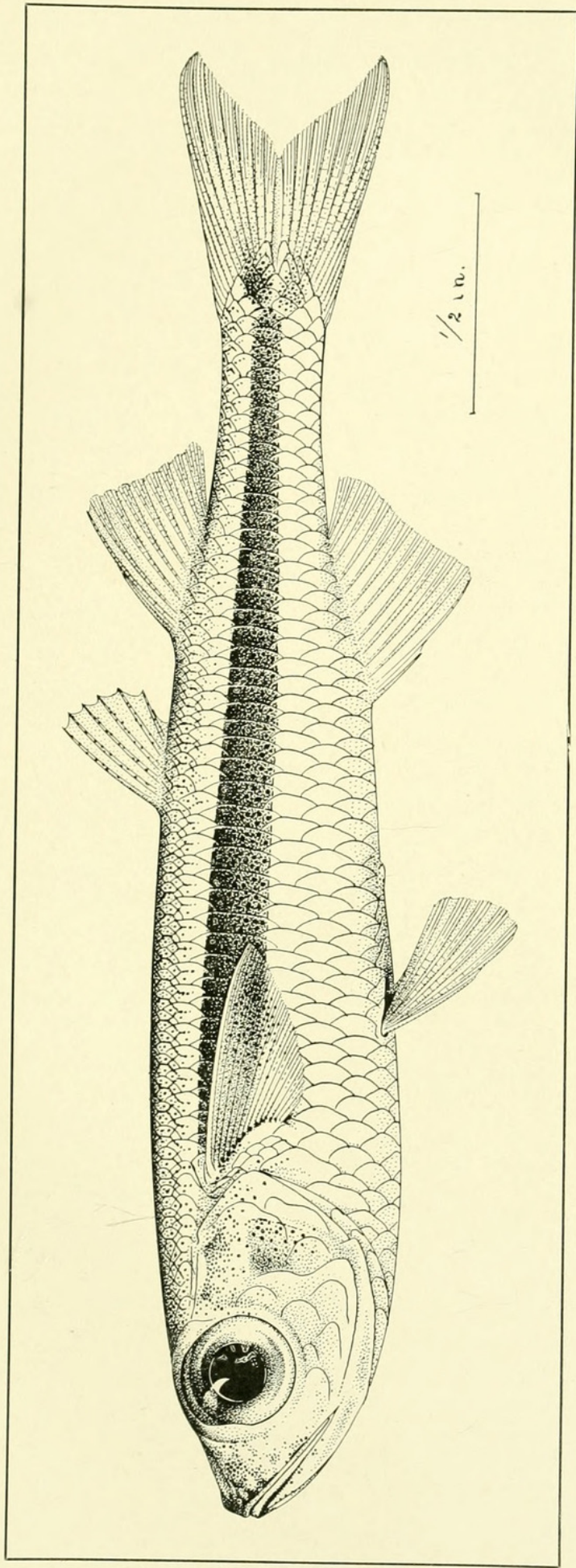
No. 8008a, C. M. Apparently common.

Family ATHERINIDÆ.

Genus ATHERINA Linnæus.

8. *Atherina forskali* Rüppell. (Plate XLVI.)

No. 8209a-c, C. M.



Atherina forskali Rüppell. C. M. Catalog Fishes 8209a.

This species appears to be common at Port Said. We present a figure of one of the several specimens obtained. The presence in the Mediterranean of this Red Sea species is probably due to its passage through the Suez Canal, an explanation strongly supported by the strictly littoral habits of *Atherina*.

Family TRICHIURIDÆ.

Genus TRICHIURUS Linnæus.

9. *Trichiurus lepturus* Linnæus.

No. 8009a-c, C. M. A common species.

Family CARANGIDÆ.

Genus GLAUCUS Klein. (In "Neuer Schauplatz" circa 1776.)

10. *Glaucus glaucus* (Linnæus).

No. 8010a-c, C. M.

This species may be taken as the type of the genus *Glaucus* Klein (1775) which demands restoration. It prevents the necessity of adopting the name *Hypodis* Rafinesque, 1810, also based on *Scomber glaucus* Linnæus. Mr. Regan has shown that *glaucus* cannot remain in the genus *Lichia* and has transferred it to the genus *Trachinotus*. It is in fact midway between *Lichia* and *Trachinotus* and cannot be placed in either. It is generically identical with the group called *Cæsiomorus* by Lacépède. The genus *Glaucus*, older than either *Lichia*, *Trachinotus*, or *Cæsiomorus*, may be regarded as well established, the name replacing *Cæsiomorus*.

Family POMATOMIDÆ.

Genus POMATOMUS Lacépède.

11. *Pomatomus lophar* (Forskål).

(*Gonenion serra* Rafinesque).

No. 8011a, C. M.

Abundant. This species, the representative of the common Bluefish of the Atlantic coast of America, is characteristic of the eastern Mediterranean, the Adriatic, and the Ægean Sea, but has not been recorded from the coast of France. Forskål records it as *Perca lophar* from Constantinople, and Eichwald as *Sypterus* from the Caucasus. Guichenot records it from Algiers. Rafinesque describes it as *Gone-*

nion serra from Palermo; Jordan & Hoffman from Athens (*Proc. Ac. Nat. Sci. Philadelphia*, 1892, p. 258); and Faber from the coast of Dalmatia. It has not been taken in France nor in the eastern Atlantic, except in the Canaries and in Senegambia. This, or some closely related form, is found in Australia. Our single specimen from Port Said has but twenty-three soft rays in the dorsal and twenty-five in the anal. American specimens of *Pomatomus saltatrix* Linnæus have twenty-five or twenty-six in the dorsal and twenty-six to twenty-eight in the anal. If this difference persists, the Mediterranean form may stand as *Pomatomus lophar* (Forskål). Seven specimens from Australia, which have been examined, agree with the specimens from Port Said in the scarcity of their fin-rays.

Family STROMATEIDÆ.

Genus STROMATEUS Linnæus.

12. *Stromateus fiatola* Linnæus.

No. 8012a, C. M. One specimen taken.

Family SERRANIDÆ.

Genus LABRAX Klein (1775).

13. *Labrax labrax* Linnæus.

Seen, but not taken.

Genus PAREPINEPHELUS Bleeker.

14. *Parepinephelus ruber* (Bloch).

Seen, but not taken. This genus is distinguished from *Mycteroperca* by the slender and numerous gill-rakers.

Family SPARIDÆ.

Genus PAGRUS Cuvier.

15. *Pagrus pagrus* (Linnæus).

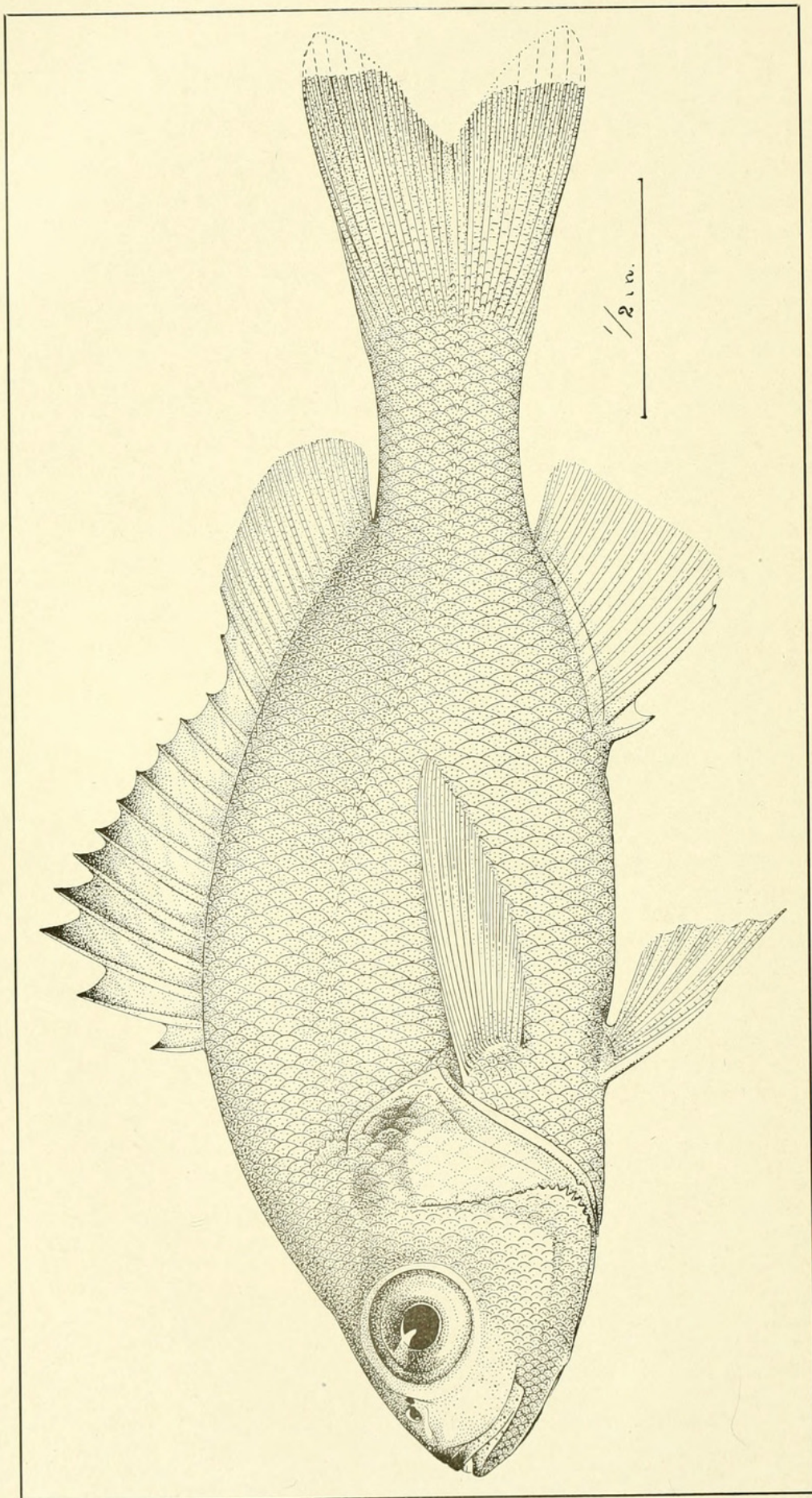
No. 8013a, C. M. One specimen collected.

Family HÆMULIDÆ.

Genus DACYMBA¹ Jordan & Hubbs, gen. nov.

Allied to *Orthopristis*, but with the mucous structure of the lower part of the head highly developed, much as in *Stellifer* and *Ericymba*.

¹ *θά*, an intensive particle; *κύμβη*, *ή* = a cavity, equivalent to *Ericymba*.



Pre-opercle strongly serrate; anal fin long, its spines rather weak; dorsal fin deeply notched, its spines weak; pre-orbital narrow; scales moderate, without smaller ones at base; the series above parallel with the lateral line; dorsal and anal scaleless; back moderately elevated; gill-rakers moderate; lower jaw with a large pore at tip. Type *Pristipoma bennetti* Lowe.

16. **Dacymba bennetti** (Lowe). (Plate XLVII.)

No. 8014a, C. M.

Head two and four-fifths times in length; depth three times in length; eye three and two-fifths times in head; fourth dorsal spine two and one-half times in length of head; gill-rakers $6 + 15$, the longest three times in eye. D. XI, I, 16; A. III, 11. Scales with pores fifty-two; pre-orbital narrow, six and one-half times in head. Lower side of head with highly developed muciferous channels, especially on lower jaw, where they are separated by cross-ridges. Maxillary extending to just beyond front of eye. Anterior teeth in upper jaw

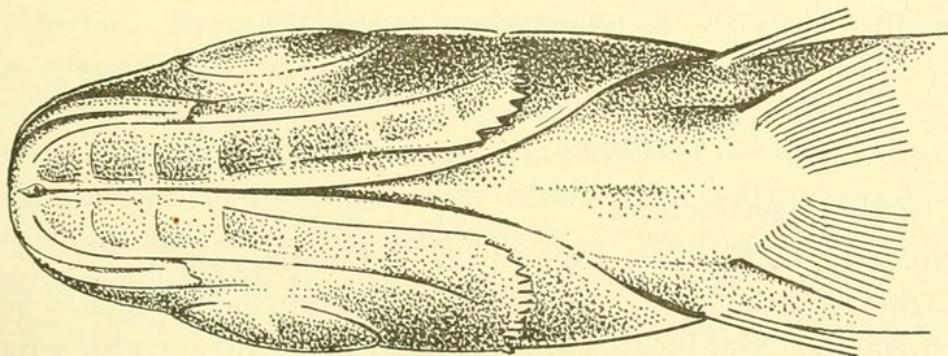


FIG. 1. *Dacymba bennetti* (Lowe). Lower side of head. Nat. size. C. M.
Catalog Fishes, No. 8014a.

moderately enlarged. Pre-opercle strongly serrate. Pectoral long, one and one-third times in head. Scales above lateral line in series parallel with the lateral line. Tip of lower jaw with three pores, the middle one largest. Dorsal and anal fins low, long, scaleless, running in a scaly groove. Dorsal fin deeply divided, the spines slender; second anal spine two and two-third times in head, the third spine absent in our specimen, probably due to abnormal variation, as all the rest of this family have three anal spines. Color brownish, speckled; a large black spot at angle of opercle, probably disappearing with age. One young specimen, about 60 mm. long to caudal base,

from Port Said. Originally described from Madeira, it has been rarely recorded; and only once before from the Mediterranean by Guichenot at Algiers.

Family MULLIDÆ.

Genus MULLUS Linnæus.

17. *Mullus barbatus* Linnæus.

Seen, but no specimens were taken.

Family SCIÆNIDÆ.

Genus ARGYROSOMUS De la Pylaie (*Pseudosciæna* Bleeker).

18. *Argyrosomus aquila* (Cuvier).

No. 8015a-d, C. M. Common.

Genus UMBRINA Cuvier.

19. *Umbrina cirrhosa* (Linnæus).

No. 8016a, C. M. Only one specimen taken.

Family GOBIIDÆ.

Genus GOBIUS Linnæus.

20. *Gobius niger* Linnæus.

No. 8017, C. M. Not received (*C. H. Eigenmann*).

Light to dark brown, marbled with darker; lighter than a series from Naples. Our identification is made in accordance with a recent study of European gobies by Louis Fage.²

21. *Gobius paganellus* Gmelin.

No. 8018a, C. M.

D. VI + I, 12; A. I, 10; scales 54. Male nearly black; the low first dorsal tipped with orange-white, the spines even. Our single specimen agrees with descriptions of this species, and with our specimens from Italy. All of these differ from the figure given by Holt and Byrne³ in the extension of the pectoral beyond the ventrals. Louis Fage (*l. c.*) also describes the pectorals as longer than the ventrals in *G. paganellus*.

² Arch. Zoöl. Exp., I, 55, No. 2, Oct., 1915.

³ *The British and Irish Gobies*, App. III to Pt. II of *Report on the Sea and Island Fisheries of Ireland for 1901*, Pl. I, figs. 1, 2.

Family PLEURONECTIDÆ.

Genus ARNOGLOSSUS Bleeker.

This genus, although including species of widely different types, does not appear to be divisible into smaller groups, owing to the existence of species with characters intermediate between the extremes. The scales vary from large to fine, and the interior dorsal rays may or may not be prolonged. *A. japonicus*⁴ stands intermediate in both these characters. The interorbital varies from a sharp naked ridge in *A. japonicus* and *A. laterna* through a narrow concave space, as in *A. grohmanni*, to a rather wide region, as in *A. malhensis*.⁵ These same characters are valuable in defining related genera.

22. *Arnoglossus laterna* Walbaum.

No. 8019a-c, C. M.

Six specimens, of which the largest is 77 mm. long without the caudal, were secured at Port Said. Dorsal rays 84 to 90; anal rays 63 to 68; agreeing exactly in fin formula with specimens from Venice and Palermo. From the Italian material and from the descriptions of the species, the Port Said specimens differ in having a shorter, blunter head, the length of which is contained from 3.9 to 4.2 times in the length without the caudal, equal to the depth of the head at vertical through rear border of eyes, and equal to the depth of the body below the lateral line. The least depth of the caudal peduncle is contained from 2.0 to 2.2 times in the length of the head; 2.4 in 3 specimens from Venice; 2.7 or 2.8 in 2 specimens from Palermo. It may well be that two species or subspecies of this type inhabit the Mediterranean, but we refrain from separating them on our insufficient material, as further differences are not apparent.

Family SOLEIDÆ.

Genus SOLEA Klein.

23. *Solea solea* (L.).

Seen, not taken.

NOTE ON GENERA RELATED TO ARNOGLOSSUS.

Arnoglossus is typical of a group of flounders which are distinguished from others by the following set of characters: ventral fins unsymmetri-

⁴ Hubbs, *Proc. U. S. N. M.*, Vol. XLVIII, 1915, p. 454, Pl. 25, fig. 2.

⁵ Regan, *Trans. Linn. Soc. London*, Ser. 2, Vol. XII, Pt. 3, 1908, p. 235, Pl. 26, fig. 2.

cal, free from the anal; both pectorals present; vomer toothless; lateral line with an anterior arch. These genera may be classified as follows:

- a*¹. Interorbital alike in the two sexes, usually a narrow ridge, but in some species of moderate width and concave; spines of head present in both sexes, or absent.
 - b*¹. Right ventral not elongate.
 - c*¹. Teeth developed on both sides of jaws; gill-rakers developed.
 - d*¹. Rostral spines absent.
 - e*¹. Scales cycloid, or nearly so, very thin and deciduous; mouth large *Arnoglossus*.
 - e*². Scales ctenoid, firmer; mouth very small; no anterior dorsal crest *Psettina*.
 - d*². Rostral spines present; anterior dorsal rays produced into a high crest; scales fine, ctenoid *Lophonectes*.
 - c*². Teeth on blind side of jaws only; gill-rakers obsolete, interorbital with a retrorse spine *Engyophrys*.
 - b*². Right ventral elongate; no spines on head *Trichopsetta*.
- a*². Secondary sexual differences great; the interorbital region greatly widened in the males; rostral and ocular spines developed only in the males; pectoral fin of eyed side elongate in males; scales ctenoid.
 - f*¹. Dorsal fin not produced anteriorly.
 - g*¹. Scales fine *Platophrys*.
 - f*². Dorsal fin produced anteriorly; scales moderate *Perissias*.
 - g*². Scales coarse *Engyprosopon*.

The species of the preceding genera are distributed as follows: *Arnoglossus*, of eastern Atlantic, Indo-Asiatic and Australian faunas; *Psettina*, which originally based on one Japanese species,⁶ probably includes also a Black Sea species, recently described by Schmidt⁷ as *Arnoglossus kessleri*, as that species also has ctenoid scales and a very small mouth; *Lophonectes*, with one Australian species; *Engyophrys*, with one species belonging to the fauna of Panama; *Trichopsetta*, with one species of the western Atlantic; *Platophrys*, containing many species found in all the tropical seas; *Engyprosopon*, of the Indo-Asiatic faunæ; and *Perissias*, with a single species from the coasts of Lower California.

⁶ Hubbs, l. c., p. 456.

⁷ Schmidt, *Ann. Mag. Nat. Hist.*, Vol. 16, 1915, p. 108.



Jordan, David Starr and Hubbs, Carl L. 1917. "Notes on a collection of fishes from Port Said, Egypt." *Annals of the Carnegie Museum* 11(3-4), 461-468.
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