

2299

Family Omosudidae

4479

Body oblong to elongate or very slender. Head large to moderate. Eye in posterior half of head. Mouth cleft very large. Lower jaw large. Jaws with enlarged teeth, not barbed.

Premaxillary and maxillary slender. Gill opening large. Gills 4. Pseudobranchiae well developed. No air vessel. Stomach very distensible. Supraclavicle and postclavicle form long rod from occiput each side downward to abdomen, partly free, not covered by skin. Body and head naked. Dorsal short, advanced to premedian with age. Adipose

fin present. Anal postmedian.  
Caudal forked. Pectoral long with  
age. Ventral premedian.

Genus Amosudis Günther

Amosudis Günther, Rep. Voy. Challenger, vol. 22, 1887, p. 201. Type Amosudis Lowii Günther, monotypic.

Benthabella Zugmayer, Bull. Inst. Océanogr. Monaco, no. 193, 1911, p. 14.

Type Benthabella infans Zugmayer, monotypic.

Body compressed, very slender, with long tapering tail with age. Head pointed. Snout rather long, conic. Eye large, in posterior half of head. Mouth with mandible protruding. Row of single teeth in upper jaw - and somewhat larger row in mandible. Palate

toothless. Tongue with 8 strong teeth.  
Gill rakers very strong. Branchiostegals  
6? to 8. Body scaleless. Dorsal  
premedian, small. Long low adipose fin  
median with age. Anal long, low.  
Pectoral long, inserted in lower half of  
body depth. Ventral rather long,  
inserted before dorsal.

~~Genus~~ Benthalbella Zugmayer

Benthalbella Zugmayer, Bull. Inst.  
Océanogr. Monaco, no. 193, 1911, p. 14.

Type Benthalbella infans Zugmayer.

Amosudis lowii Günther

4483

Amosudis lowii Günther, Rep. Voy. Challenger,  
vol. 22, 1887, p. 201, pl. 51, figs. c-c'.

Philippine Islands, n. Lat.  $4^{\circ}33'$  E. Long.

$127^{\circ}6'$ , in 500 fathoms. — Goode and

Bean, Oceanic Ichth., 1895, p. 122, pl. 40, fig.

150 (compiled). — Fowler, Proc. Acad. Nat.

Sci. Philadelphia, 1901, p. 212 (compiled).

Amosudis lowii Brauer, Deutsch. Tiefsee

Exped. Valdivia, vol. 5, Tiefsee-Fische, 1906,

p. 140 (diagnosis in key). — Parr, Bull.

Bingham Oceanogr. Collection, vol. 3, art. 3,

Dec. 1928, p. 171 (Atlantic materials).

Amosudis lowii indicus Brauer, Deutsch.

Tiefsee Exped. Valdivia, vol. 5, Tiefsee-

4484

Fische, 1906, p. 142, text fig. 69, Gulf of  
Guinea, N. Lat.  $0^{\circ}45'8''$  E. Long.  $7^{\circ}0'3''$ , in  
2000 meters; north of Cocos Islands, S. Lat.  
 $10^{\circ}8'2''$  E. Long.  $97^{\circ}14'$ , in 2400 meters; Chagos  
Archipelago, S. Lat.  $6^{\circ}19'3''$  E. Long.  $73^{\circ}18'9''$ ,  
in 1900 meters; between Seychelles and  
Zanzibar, S. Lat.  $4^{\circ}38'6''$  E. Long.  $51^{\circ}16'6''$ , in  
2000 meters.

Amosudis elongatus Brauer, Deutsch.

Tiefsee Exped. Valdivia, vol. 15, Tiefsee-Fische,  
1906, p. 140, fig. 68. Gulf of Guinea (N. Lat.  
 $2^{\circ}$  to S. Lat.  $3^{\circ}$  E. Long.  $3^{\circ}$  to  $7^{\circ}$ ), in 1200  
to 3500 meters; north of Cocos Island  
(S. Lat.  $10^{\circ}8'2''$  E. Long.  $97^{\circ}14'9''$ ), in 2400 meters;



Paralepis speciosus Bellotti

Paralepis speciosus Bellotti, Atti Soc.

Ital. Sci. Nat., Milano, vol. 20, 1877, <sup>part. 1,</sup> p. 2,

— Goode and Bean,

Oceanic Ichth., 1895, p. 118. (reference).

Lestidium (Bathysudis) speciosus Parr,

Bull. Bingham Oceanogr. Collection, vol. 3,

art. 3, Dec. 1928, p. 42 (<sup>part</sup> Atlantic materials;

discussion).

Bay of Bengal (N. Lat.  $7^{\circ}1'2''$  E. Long.  $85^{\circ}56'5''$ ), in 2500 meters; South of Ceylon (N. Lat.  $4^{\circ}56'$  E. Long.  $78^{\circ}15'3''$ ), in 2000 meters; Chagos Archipelago (N. Lat.  $6^{\circ}19'3''$  E. Long.  $73^{\circ}18'9''$ ), in 3396 meters; Seychelles (N. Lat.  $3^{\circ}24'6''$  E. Long.  $58^{\circ}38'1''$ ), in 2000 meters.

— Gilchrist and Von Bonde, Fisher. Marine Biolog. Surv. South Africa, Rep. No. 3, 1922 (1924), no. 7, p. 7 (off Natal, 600 fathoms).

— Barnard, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 249 (off Natal).

Benthabella infans Jugmayer, Bull.  
Inst. Océanogr. Monaco, no. 193, 1911, p. 14.

; Rév. Camp.

Sci. Monaco, vol. 35, 1911, p. 140, pl. 2, fig.  
8 (type from N.  $36^{\circ}00'40''$  W.  $10^{\circ}18'$ , 4740 meters).

— Schmidt, Rep. Danish Océanogr. Rep.  
Medit., vol. 2, C. 5, 1918, p. —

Parr, Bull. Bingham Oceanogr.

Collection, vol. 3, art. 3, Dec. 1928, p.  
157 (compiled).

Depth  $4\frac{2}{5}$ ; head 3, width  
 $3\frac{1}{4}$ . Snout 3 in head from upper  
jaw tip; eye  $3\frac{2}{5}$ ,  $1\frac{1}{8}$  in snout,  
greater than interorbital; maxillary  
extends half eye diameter behind  
eye, length equals head from snout

4489

tip; upper teeth with 2 short curved  
ones in front each side then much  
smaller close set uniserial jaw  
teeth; 2 pairs of long depressible  
upper canines, front pair longer;  
lower jaw teeth larger, especially  
posteriorly, than maxillary, and  
canine still larger and depressible  
anterior each side; interorbital  
 $4\frac{1}{2}$ , low, concave. Gill rakers as  
few wide set feeble points; gill  
filaments  $1\frac{1}{2}$  in eye.

no scales.

D. I, 7, rays feeble, broken,  
fin base about long as snout;

4490

A. r, 10, ?, rays very feeble, short,  
broken, fin base slightly longer  
than snout; caudal damaged,  
small; least depth of caudal  
peduncle  $5\frac{4}{5}$  in total head length;  
pectoral  $2\frac{3}{4}$  ?; ventral  $2\frac{3}{4}$  in eye.

Brown, paler below. Iris  
neutral gray. Fins all whitish.

43856 U.S.N.M. N.  $28^{\circ}47'30''$  W.  
 $87^{\circ}27'$ .  
Albatross Station 2394. 1885.

Length 61 mm.

Caulopus Gill, Proc. Acad. Nat. Sci.  
Philadelphia, 1862, p. 128. Type  
Ulepisaurus attivelis Poe, designated  
by Jordan and Gilbert, Bull. U. S. Nat.  
Mus., no. 17, 1882, p. 276.

Body compressed. Head attenuate,  
compressed. Snout conic. Eye moderate  
or large. Maxillary without supplemental  
bone. Series of small teeth entire length  
of premaxillary, anterior sometimes larger  
or curved. Palatine teeth compressed,  
triangular, pointed, several anterior  
very long fangs, others moderate.  
Mandibular teeth like palatine, 1  
anterior and 2 or 3 median pairs

Family Alepisauridae

4492

2304

Body greatly elongated, tapering back. Head rather large. Snout produced, long. Mouth cleft wide. Premaxillaries very long, slender, not protractile, form entire upper jaw edge. Maxillary thin, long, immovable. Teeth variable, erect. Opercles thin, membranaceous. No barbel. Gill openings very wide. Pseudobranchiae large. Branchiostegals 5 to 7. No air vessel. Vertebrae 51. Abdominal ribs extend symmetrically whole length of abdomen before anal fin. Body scaleless. No photophores. Dorsal very long, extends nearly whole



length of back. Adipose fin present.  
Anal moderate. Caudal widely forked.

Ventral abdominal.

Widely distributed in temperate  
and tropical seas. Fishes of large  
size and formidable dentition. The  
Cretaceous Apateodus, known from  
remains of the skull, appears  
related.

Analysis of genera

a.<sup>1</sup> Skull moderately long; palatine teeth 3 or 4 large canines erect or directed back; jaws rather deep.  
Alepisaurus.

a.<sup>2</sup> Skull greatly elongate; palatine teeth 5 or 6 large canines directed forward; jaws very slender.  
Eugnathosaurus.

Genus Allepisaurus Lowe

Allepisaurus Lowe, Proc. Zool. Soc. London,  
vol. 1, 1833, p. 104. Type Allepisaurus  
ferox Lowe, monotypic.

Allepidosaurus Günther, Cat. Fishes Brit.

Mus., vol. 5, 1864, p. 420. Type Allepisaurus  
ferox Lowe. Emendation.

Plagyodontis (Steller) Pallas, Zool. Ross.

Asiat., vol. 3, 1811, p. 383. Atypic. Type

Allepisaurus aesculapius Bean, designated  
by Jordan and Evermann, Genera of Fishes,  
pt. 1, 1917, p. 84. Inadmissible.

Plagyodum Pallas, Zool. Ross. Asiat.,

vol. 3, 1811, p. 383. Atypic. Type Allepisaurus

aesculapius Bean.

much enlarged. Tongue toothless.  
 Gill rakers short, spine like. Gill  
 membranes not united, free from  
 isthmus. Dorsal rays more than 40,  
 slender, simple, all depressible in  
 deep groove, fin invisible when depressed.  
 Adipose fin moderate. Ventral nearly  
 median, rays 9 to 13, first simple and  
 spine like.

Analysis of species.

a. Alepisaurus. Ventral small, rays  
 8 to 10. ferox.

b. Caulopus. Ventral rather long,  
 rays 13. attivelis.

Alepisaurus ferox Lowe

Alepisaurus ferox Lowe, Proc. Zool. Soc. London, vol. 1, 1833, p. 104. Madeira; Trans. Zool. Soc. London, vol. 1, 1835, p. 128, pl. 19, p. 395, pl. 95; vol. 2, 1837, pt. 3, p. 181 (Madeira). — Valenciennes, Hist. Nat. Poiss., vol. 22, 1849, p. 529 (copied). — Johnson, Ann. Mag. Nat. Hist., vol. 10, 1862, p. 317 (Madeira). — Carus, Prodr. Faun. Medit., vol. 2, 1893, p. 568 (compiled). — Goode and Bean, Oceanic Ichth., 1895, p. 117, pl. 38, fig. 142 (New York markets; N. 44° 30' W. 57° 13'; N. 42° 45' W. 63°, 195 fathoms; Le Have Bank, 120 to 275 fathoms; N.

42° 37' N. 62° 55'; N. 43° 46' W. 61° 18', 200

fathoms). — Jordan and Evermann,  
 Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896,  
 p. 595 (compiled). — Fowler, Proc.  
 Acad. Nat. Sci. Philadelphia, 1911,  
 p. 571 (N. 5° W. 164°). — Barnard,  
 Ann. South African Mus., vol. 21, pt. 1,  
 June 1925, p. 250, pl. 10, fig. 2 (near  
 East London). — McCulloch, Fishes New South  
 Wales, ed. 2, 1927, p. 20, pl. 6, figs. 68a. —  
Fowler, Mem. Bishop Mus., vol. 10, 1928,  
 p. 71, fig. 15 (larva, on above record).

4499

Alepidosaurus ferox Günther, Archiv  
Naturg., 1860, p. 121 ( );  
Cat. Fishes Brit. Mus., vol. 5, 1864,  
p. 421 (type; Madeira; Tasmania). —  
Canestrini, Fauna Italia, Pesi,  
1874, p. 128 (Sicily). — Macleay, Proc.  
Linn. Soc. New South Wales, vol. 6, 1881,  
— Bean, Proc. U. S. Nat. Mus., vol. 4, 1881 (1882), p. 259 (Alaska).  
p. 226 (copied) — Jordan and Gilbert,  
Bull. U. S. Nat. Mus., no. 16, 1882, p.  
276 (compiled). — Collett, Bull. Soc.  
Zool. France, vol. 15, 1890, p. 223 (Funchal,  
Madeira). — Vinciguerra, Atti Soc. Ital.  
Sci. Nat., vol. 34, 1892, p. 330 (Canaries).

— Vaillant, Rés. Sci. Camp. Monaco,  
vol. 52, 1919, p. 130 (no locality,  
2480 meters).

Plagiodus ferox Günther, Rep. Voy.  
Challenger, vol. 22, 1887, p. 203

(Tasmania). — Collett, Rés. Camp. Sci.  
Monaco, vol. 10, 1896, p. 119, pl. 4, fig. 16

(N. 44° 1' 26" W. 15° 31', surface). — Franz,  
Abhandl. Kais. Bayer. Akad. Wiss.,

vol. 4, Suppl. Band 1, 1910, p. 18

(Yokohama and Aburatsubo).

Plagiodus ferox Izuba and Inatsumura,  
Catt. Zool. Spec. Tokyo Mus., Vertebr.,  
1920, p. 180 (Boohin).



Alepisaurus azureus Valenciennes,

Hist. Nat. Poiss., vol. 23, 1849, p. 530.

Grand Canary (drawing by Webb).

Alepidosaurus aesculapius Bean,  
Proc. U. S. Nat. Mus., vol. 5, 1882  
(1883), p. 661. Unalaska. — Hartley,  
Proc. California Acad. Sci., vol. ,  
1895, p.

Alepisaurus aesculapius Goode and  
Bean, Oceanic Ichth., 1895, p. 117  
(reference). — Jordan and Evermann,  
Bull. U. S. Nat. Mus., no. 47, pt. 1, 1896,  
p. 595 (compiled).

Alepidosaurus ferox Günther, Cat. Fishes  
Brit. Mus., vol. 5, 1864, p. 421 (type;  
Madeira; Tasmania). — Macleay, Proc.  
Linn. Soc. New South Wales, vol. 6, 1881, p.  
226 (copied).

Plagiodus ferox Günther, Rep. Voy. Challenger,  
— Collett, Res. Sci. Camp. Japan, 1896, pp. 45-16  
vol. 22, 1887, p. 203 (Tasmania), — Franz,  
(N. 44° 26' W. 15° 31' surface)  
Abhandl. Kais. Bayer. Acad. Wiss., vol. 4,  
Suppl. Band 1, 1910, p. 18 (Yokohama and  
Aburatsubo).

Plagiodus ferox <sup>zuka</sup> Ichikawa and Matsuura,  
Cat. Zool. Spec. Tokyo Mus., Vertebr., 1920,  
p. 180 (Boshu).

Alepisaurus azureus Vatouliennes, Hist. Nat.  
Poiss., vol. 23, 1849, p. 530. Grand Canary.  
(Drawing by Webb).

4503

Depth  $9\frac{1}{5}$  to  $10\frac{1}{2}$ ; head  $5\frac{2}{5}$  to  $5\frac{3}{5}$ , width  $3\frac{1}{5}$  to  $4\frac{1}{8}$ . Snout  $2\frac{1}{4}$  to  $3\frac{1}{8}$  in head from snout tip; eye 4 to  $6\frac{1}{4}$ ,  $1\frac{1}{5}$  to  $2\frac{7}{8}$  in snout, greater than interorbital in young to equal to front of interorbital with age, adipose lids only narrow border or marginal; maxillary extends  $\frac{1}{2}$  to  $\frac{4}{5}$  eye diameters behind eye, length  $1\frac{2}{5}$  to  $1\frac{1}{2}$  in head from snout tip; upper jaw teeth very small, uniserial<sup>er</sup> in outer row and inner row of large strongly compressed teeth, first 4

anterior largest and others gradually smaller; lower teeth much larger and broader posteriorly in jaws, 2 canines each side in front and 3 larger ones just before middle; interorbital  $5\frac{4}{5}$  to  $6\frac{1}{2}$ , nearly level; opercle, subopercle and side of mandible basally with strong radiating striae. Gill rakers 5 or 6 + 13 to 20, short points,  $1\frac{2}{3}$  in gill filaments which  $1\frac{3}{4}$  in eye.

Lateral line median or axial along side.

4505

D. 39; A. 15 to 17; <sup>adipose fin  $3\frac{1}{4}$  to 4;</sup> caudal long  
as head in young to much greater  
with age, deeply forked, with  
broad lobes; least depth of caudal  
peduncle 7 to 8; pectoral equals head  
or longer; ventral  $1\frac{3}{4}$  to  $3\frac{1}{8}$ , front  
edge of spine finely granular.

Dark brown, burnished with silvery  
white on sides of head. Dorsal with  
blackish membrane. <sup>Adipose fin dark brown.</sup> Anal and  
caudal brown. Pectoral blackish.  
Ventral dark gray, silvery white  
basally.

~~2310~~ 860 U.S.N.M. Unalaska. Dr. 4586

J. H. Bean. Length 1260 mm.

Pectoral long as head. V. I, 7.

As Caulopus borealis.

20593 U.S.N.M. New York market.

Eugene Blackford. Length 1465 mm.,  
of body without missing head. D. 44.

V. I, 80, front edge of spine finely  
serrated. A. 16.

22293 U.S.N.M.

Length 1607 mm. D. 36. Adipose fin 3  
in total head length; caudal 1; ventral  
2. Pectoral  $4\frac{2}{3}$  in body to caudal base,  
fin long as first dorsal ray. V. I, 9.  
Gill rakers 5 + 19.

22292 U.S.N.M.

Length 1365 mm. D. 34. A. 17. V. I, 8.

Caudal  $5\frac{1}{2}$  in rest of body; pectoral  
 $4\frac{2}{5}$ .

25262 U.S.N.M. N.44°

4567  
W.57°

B. Gilpatrick. Length 440 mm.

Upper <sup>inner</sup> canines 2 pairs, first pair before nostrils and followed closely on left side with third longer and depressible canine; lower canines 2 pairs, first anterior and second pair follow close behind upper front pair as jaw closes. V. I, 8.

Back brown. Sides and lower surfaces all silvery gray with fine brown dots or minute spots. Iris silvery neutral gray. Dorsal blackish brown. Adipose fin blackish brown. Caudal dark brown. Pectoral brown, blackish terminally. Ventral brown, dusky to blackish terminally and inner margins whitish.

44055 U.S.N.M.

Length 1438 mm.

50355 U.S.N.M. Misaki, Japan.

Bureau of Fisheries. Length 1070 mm.

Upper canines as front upper inner pair



and second inner pair before front of eye above; lower canines as pair at front of mandible and 3 close set pairs before middle of mandible. D. 35. A. 14. V. I, 8, front edge of spine roughly granular.

57805 U.S.N.M. Monterey, California. Wm. Jones. Length 1050 mm. Above 4 large front inner canines (as 2 pairs) and third pair below front of eye; lower canines as small pair at front of jaws, then 2 larger pairs before middle of jaws. V. I, 7, front edge of spine granular.

61263 U.S.N.M. Alaska. W. V. Jordan. Large example, bisected, 1290 mm total length. V. I, 7.

1 example U.S.N.M. No data. Length 1050 mm. V. I, 8. In poor condition.

Alepisaurus altivelis Poey

Alepisaurus altivelis Poey, Mem. Hist.  
Nat. Cuba, vol. 2, 1861, p. 302. Cuba.

— Jordan and Evermann, Bull. U. S.

Nat. Mus., no. 47, pt. 1, 1896, p. 596

(compiled).

Alepidosaurus altivelis Günther, Cat.

Fishes Brit. Mus., vol. 5, 1864, p. 423

(compiled).

Alepisaurus (Caulopus) altivelis Goode and

Bean, Oceanic Ichth., 1895, p. 118

(reference).

Caulopus altivelis Jordan, Evermann, Clark,

Rep. U. S. Fisher. Commissioner 1928, pt. 2

(1930), p. 171 (reference).

Alepisaurus ferox Lowe

Alepisaurus ferox Lowe, Proc. Zool. Soc.  
London, vol. 1, 1833, p. 104. Madeira;

Trans. Zool. Soc. London, vol. 1, 1835, p. 128,

pl. 19, p. 395, pl. 95. — Goode and Bean,

Oceanic Ichth., 1895, p. 117, pl. 38, fig. 142  
(New York markets; N.  $44^{\circ}30'$  W.  $57^{\circ}13'$ ; N.  $42^{\circ}45'$  W.  $63^{\circ}$ , 195 fathoms;  
~~Western Atlantic~~). — Fowler, Proc. Acad.  
Lettsave Banks, 120 to 275 fathoms; N.  $42^{\circ}37'$  W.  $62^{\circ}55'$ ; N.  $43^{\circ}46'$  W.  $61^{\circ}18'$ , 200 fathoms).  
Nat. Sci. Philadelphia, 1911, p. 571 (N. Lat.

$5^{\circ}$  W. Long.  $164^{\circ}$ ). — Barnard, Ann. South

African Mus., vol. 21, pt. 1, June 1925, p.

250, pl. 10, fig. 2 (near East London). —

McCulloch, Fishes New South Wales, ed.

2, 1927, p. 20, pl. 6, fig. 68a. — Fowler, Mem.

Bishop Mus., vol. 10, 1928, p. 71, fig. 15

(larva; on above record).

Alepidosaurus (Caulopus) borealis <sup>4510</sup>

Gill, Proc. Acad. Nat. Sci. Philadelphia,  
1862, p. 128. Puget's Sound.

Alepidosaurus borealis Günther, Cat.

Fishes Brit. Mus., vol. 5, 1864, p. 423

(compiled). — Jordan and Gilbert,

Bull. U. S. Nat. Mus., no. 16, 1882, p.

276 (compiled).

Alepisaurus borealis Jordan and Evermann,  
Bull. U. S. Nat. Mus., no. 47, pt. 1, 1896,  
p. 596 (type; Captain's Harbor,  
Unalaska; Puget Sound; Aleutian Islands).

Caulopus borealis Jordan, Evermann, Clark,  
Rep. U. S. Commissioner Fisher., 1928, pt. 2  
(1930), p. 171 (reference).

Alepidosaurus (Caulopus) serra Gill,  
Proc. Acad. Nat. Sci. Philadelphia,  
1862, p. 129. "Monterey, lower California."

Alepisaurus serra Jordan and Evermann,  
Bull. U. S. Nat. Mus., no. 47, pt. 1, 1896,  
p. 597 (compiled).

Alepidosaurus (Caulopus) poeyi Gill,  
Proc. Acad. Nat. Sci. Philadelphia,  
1862, p. 131. Cuba.

Caulopus poeyi Goode and Bean,  
Oceanic Ichth., 1895, p. 118 (reference).

Genus Euagnathosaurus Regan

Euagnathosaurus Regan, Rep. Sci. Res.

Voy. Scotia, vol. 4, Zool., pt. 15, May 23, 1913, p. 216. Type Euagnathosaurus

vorax Regan, monotypic.

A skull very elongate, strongly compressed, upper surface somewhat convex, with fairly prominent median ridge. Snout and lower jaw much extended, each ending in fleshy appendage. Lower jaw projects beyond upper, suspensorium directed obliquely forward. Teeth pointed, uniserial; premaxillary teeth minute;

mandibular teeth sub-conical, erect or somewhat retrorse, strongest in middle of length of jaw, more spaced posteriorly; palatine teeth strong, compressed, curved somewhat forward.

Eugnathosaurus vorax Regan

Eugnathosaurus vorax Regan, Rep.

Sci. Res. Voy. Scotia, vol. 4, Zool., pt. 15,

May 23, 1913, p. 316. S. 71° 22' W. 16° 34,

1410 fathoms, off Coats Land.

Snout  $1\frac{2}{3}$  in head from snout  
tip; orbit 9,  $5\frac{1}{3}$  in snout;  
mouth cleft reaching orbit.  
(Regan.)

Antarctic Ocean. Only known from  
a skull 150 mm. long and dentaries  
of a second specimen from same  
locality. The antorse palatine  
teeth especially peculiar.



2315

Family Evermannellidae

4515

Body oblong to elongate, compressed. Head large. Snout short. Eye large. orbital cavity expanded downward. Mouth large, widely cleft. Teeth unequal. Large canines slender, barbed, form regular series in lower jaw. Gill opening very wide. Pseudobranchiae well developed. No air vessel. Body naked. Skull considerably expanded behind narrow interorbital. Vertebrae 52, ribs on short processes. Scales absent. No luminous organs. Dorsal premedian, advanced near or before ventral. Adipose fin present. Caudal forked. Paired fins moderate.

Genus Evermannella Fowler

4576

Evermannella Fowler, Proc. Acad. Nat. Sci.  
Philadelphia, 1901, p. 211. Type Scopelus  
balbo Risso = Odontostomus hyalinus Cocco.

Evermannella Fowler proposed to replace  
Odontostomus Cocco. (Precludes Evermannella  
Eigenmann 1903.)

Odontostomus (not Beck 1837) Cocco, nuovi  
Ann. Sci. Nat. Bologna, vol. 2, 1838, p. 192.

Type Odontostomus hyalinus Cocco,  
monotypic.

Poccorella Roule,

1929

Body compressed, moderately long.  
Eye greatly advanced, large, deep  
orbital cavity with wide transparent  
membranous lateral fold on wall.  
Mouth very large, mandible protruding.  
Premaxillary and maxillary slender. Teeth  
on premaxillaries with series of small subequal  
teeth. Lower jaw, vomer and palatines  
with few depressible very large fangs.  
No gill rakers. Branchiostegals 8.  
Dorsal short, rays 7 to 14. Adipose fin  
far back. Anal long, rays 25 to 35.  
Caudal small. Pectoral low, near

p. 4518 ?

Evermannella atrata (Alcock)

Odontostomus atratus Alcock, Journ.

Asiatic Soc. Bengal, vol. 62, pt. 2, 1893, p.  
182, pl. 9, fig. 4. Bay of Bengal, in 573  
fathoms; vol. 62, pt. 2, 1896, p. 333 (reference);  
Cat. Deep Sea Fishes Indian Mus., 1899,  
p. 167, ~~pl. 10, fig. 2~~ (type; Andaman Sea,  
in 370 to 419 fathoms); Illustrat. Zool.  
Investigator, Fishes, pt. 7, 1900, pl. 33, fig.  
3.

Evermannella atrata Fowler, Proc. Acad.

Nat. Sci. Philadelphia, 1901, p. 211 (compiled).  
— Brauer, Deutsch. Tiefsee Exped. Valdivia,  
vol. 15, Tiefsee Fische, 1906, p. 136, pl. 10,  
figs. 3-4 (Chagos Archipelago, in 2000

to 2926 meters). — Parr, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. (163) 166, text fig. 60 (dorsal views of heads).

↑ Coccorella atrata Roule and Angel, Rés. Camp. Sci. Monaco, vol. 79, 1930, p. 60, pl. 3, figs. 77-79 (between Canaries and Azores, 2000 meters; south west of Azores, 3200 meters). <sup>see</sup> 908,

....., in 2000 meters, Seychelles, S. Lat. 3°24'6" E. Long. 58°38'1", in 2000 meters;

Zanzibar, S. Lat. 5°42'3" E. Long. 43°36'5", in 1500 meters. — Weber, Siboga Exped., vol. 57,

Fische, 1913, p. 83 (Banda Sea, S. Lat. 6°47.5' E. Long. 128°40'.5, in 750 meters). — Weber

and Beaufort, Fishes Indo Austral. Archipelago, vol. 2, 1913, p. 182, fig. 72

to 2926 meters). — Parr, Bull. Bingham Oceanogr. Collection, vol. 3, art. 3, Dec. 1928, p. (163) 166, text fig. 60 (dorsal views of heads).

Evermannella indica Brauer, Deutsch. Tiefsee

Exped. Valdivia, vol. 5, Tiefsee Fische, 1906,

p. 135. north of Coor Islands, S. Lat. 10° 8' 2"

E. Long. 97° 14' 9", in 2400 meters; Seychelles,

S. Lat. 3° 24' 6" E. Long. 58° 38' 1", in 2000 meters;

Zanzibar, S. Lat. 5° 42' 3" E. Long. 43° 36' 5", in

1500 meters. — Weber, Siboga Exped., vol. 57,

Fische, 1913, p. 83 (Banda Sea, S. Lat. 6° 47.5'

E. Long. 128° 40'.5, in 750 meters). — Weber

and Beaufort, Fishes Indo Austral.

Archipelago, vol. 2, 1913, p. 182, fig. 72

eye  
line  
latte

denticles; gill filaments equal in

Scales 54 or 55 in lateral line  
to caudal base and 3 more on lat

heads).

Wermannella

typred. Veldie

p. 135. North

E. Long.  $97^{\circ} 14'$



4521

(Weber's example). — Parr, Bull. Bingham  
Oceanogr. Collection, vol. 3, art. 3, 1928, p.  
(164) 170 (compiled).

Evermannella atrata atlantica Parr,  
Bull. Bingham Oceanogr. Collection, vol.  
3, art. 3, Dec. 1928, p. (163) 166, text fig. c  
(head above). h. Lat.  $23^{\circ}$  —  $24^{\circ}$  W. Long.  $74^{\circ}$  —  
 $76^{\circ}$ , in 4000 to 8000 feet wire.

Evermannella atrata melanoderma Parr,  
Bull. Bingham Oceanogr. Collection, vol.  
3, art. 3, Dec. 1928, p. (164) 170. h. Lat.  $32^{\circ} 24'$   
W. Long.  $64^{\circ} 29'$ , in 10000 wire feet.

Depth  $3\frac{2}{3}$ ; head  $3\frac{1}{3}$ , deep. Snout  
 5 in head from snout tip; eye 5, equals  
 snout; maxillary greatly inclined,  
 extends  $\frac{2}{3}$  eye diameter behind eye,  
 expansion 2 in eye, length  $1\frac{1}{3}$  in  
 head from snout tip; interorbital low.  
 Gill rakers inconspicuous or absent.

Skin glandular, scaleless. Lateral  
 line axial as white streak on trunk.  
 D. II, 10, second branched ray  $1\frac{4}{5}$  in  
 total head; adipose fin 3; A. I, 27, first  
 branched ray  $3\frac{1}{4}$ ; caudal  $1\frac{4}{5}$ , forked;  
 least depth of caudal peduncle 3;  
 pectoral  $1\frac{1}{8}$ ; ventral  $2\frac{1}{10}$ . Length  
 89 mm.

Atlantic, Indian Oceans, Banda Sea.

27/10 Evermannella balbo (Risso)

Scopelus balbo Risso, Mem. Reale Accad. Sci. Torino, vol. 25, 1820-22, p. 268, pl. 10, fig. 3. Nice; Hist. Nat. Eur. Mèrid., vol. 3, 1826, p. 466 (Nice).

Odontostomus balbo Sassi, Nov. Ann. Sci. Nat. Bologna, ser. 2, vol. 6, 1846, p. 388 (Genoa). — Bonaparte, Cat. Method. Pisci Europ., 1846, p. 37 (reference). — Moreau, Hist. Nat. Poiss. France, vol. 3, 1881, p. 495, fig. 201; Manuel Ichth. France, 1892, p. 540 (Nice). — Schmidt, Rep. Danish Oceanogr. Exped. Medit., vol. 2, p. 5, 1918, p.

Evermannella bulbo Fowler, Proc. Acad.

Nat. Sci. Philadelphia, 1901, p. 211

(compiled). — Parr, Bull. Bingham

Oceanogr. Collection, vol. 3, art. 3, Dec.

1928, p. 164 (compiled).

Odontostomus hyalinus Cocco, Mon. Ann.

Sci. Nat. Bologna, ~~XXXXXX~~ vol. 2, 1838, p. 192,

pl. 8, fig. 11. Sicily. — Bonaparte, Fauna

Italia, vol. 3, Pesci, pt. 1, fasc. 27, 1840,

no pagination, pl., fig. 6; Cat. Method. Pesc.

Europ., 1846, p. 37 (Mediterranean). —

Valenciennes; Hist. Nat. Poiss., vol. 22,

1849, p. 424 (Nice). — Günther, Cat.

Fishes Brit. Mus., vol. 5, 1864, p. 417

(compiled). — Canestrini, Fauna Italia,

Pesci, 1874, p. 126 (Sicily, Nice, Genoa).

— Günther, Rep. Voy. Challenger, vol. 22, 1887, p. 200, pl. 52, fig. A (Nice). —

Carus, Prodr. Medit., vol. 2, 1893, p. 566

(compiled). — Goode and Bean, Oceanic

Ichth., 1896, p. 121, pl. 38, fig. 145

(Nice). — Garman, Mem. Mus. Comp.

Zool., vol. 24, 1899, p. 402 (reference).

↑ — Roule and Angel, Rés. Camp. Sci. Monaco, vol. 79, 1930, p. 39 (note). 7.

nat. Hist., ser. 8, vol. 1, 1911, p. 130

(skeleton).

Perci, 1874, p. 126 (Sicily, Nice, Genoa).

— Günther, Rep. Voy. Challenger, vol. 22, 1887, p. 200, pl. 52, fig. A (Nice). —

Carus, Prodr. Medit., vol. 2, 1893, p. 566

(compiled). — Goode and Bean, Oceanic

Ichth., 1896, p. 121, pl. 38, fig. 145

(Nice). — Garman, Mem. Mus. Comp.

Zool., vol. 24, 1899, p. 402 (reference).

rsal Evermannella hyalina Regan, Ann. Mag.

Zool. Nat. Hist., ser. 8, vol. 7, 1911, p. 130

(skeleton).

5 above, 7 below, 22 to 24 predorsu

particular rows to 1 each side

→ 7

Walt. Hest,

4526

Depth  $4\frac{3}{4}$ ; head  $4\frac{1}{8}$ , width  
 $3\frac{1}{3}$ . Snout 4 in head from upper  
jaw tip; eye  $4\frac{1}{3}$ ,  $1\frac{1}{6}$  in snout,  
greatly exceeds narrow bony  
interorbital; maxillary narrow,  
extends  $\frac{4}{5}$  eye diameter behind eye  
but not to preopercle ridge, expansion  
 $2\frac{1}{5}$  in eye, length  $1\frac{1}{4}$  in head  
from upper jaw tip; maxillary  
and premaxillary teeth all uniformly  
small; 2 long depressible fangs on  
vomer long as eye and half of  
snout and 4 much shorter depressible  
teeth on each palatine; each  
mandibular ramus with 6 depressible



fangs, second longest and graduated down to last, first shortest; interorbital low, bony, width  $\frac{1}{3}$  of eye. Gill rakers as row of very short, minute denticles; gill filaments  $1\frac{1}{3}$  in eye.

Scales all fallen. Lateral line of 16 pores anteriorly or before ventrals.

D. I, 11, I, first branched ray  $1\frac{3}{5}?$  in total head length; adipose fin  $3\frac{2}{5}$ ; A. II, 32, I, first branched ray  $2\frac{1}{4}?$ ; caudal 2, small, lobes well pointed; least depth of caudal peduncle 4; pectoral  $1\frac{7}{8}?$ .

ventral 2 1/6?

Pale or light brown. Iris  
gray white. Fins whitish.

40054 U.S.N.M. Rice

Florence Museum. Length 120 mm.

Evermanella normalops Parr

Evermanella normalops Parr, Bull.  
Bingham Oceanogr. Collection, vol. 3,  
art. 3, Dec. 1928, p. (163) 164, fig. 39a  
(head). N.  $24^{\circ}29'$  W.  $77^{\circ}29'$ , 8000 feet.

Depth?; head  $4\frac{3}{5}$ , width  $2\frac{1}{4}$ . Snout  
4 in head from snout tip; eye 7,  $1\frac{2}{3}$  in  
snout,  $1\frac{4}{5}$  in interorbital; maxillary  
extends  $1\frac{1}{2}$  eye diameters behind eye,  
expansion  $1\frac{1}{3}$  in eye, length  $1\frac{2}{5}$  in head;  
premaxillary with series of small recurved  
oblique teeth; dentaries with 5 fangs  
each, second longest and 2 to 4 minute  
teeth around base of each fang of  
dentaries; 1 enormous fang on each

palatine, followed by widely interspaced series of 4 smaller fangs; interorbital  $3 \frac{7}{8}$ , moderately low.

Lateral line extends till above middle of anal fin.

D. 13; A. 31; pectoral 12; ventral 9.

Dark brown, with purplish metallic luster. Length 55 mm. without caudal.

(Parr.)

Western North Atlantic.

Family Scopelarchidae

4532

Body elongate, compressed. Snout conic. Eyes telescopic, lateral, directed upward. Mouth cleft wide.

Premaxillary large. Maxillary, if present, small. Teeth on premaxillaries, dentaries, vomer, palatines and tongue, depressible and unequal. Gill openings wide, membranes separate. Gill rakers small. Pseudobranchiae present. Gills 4. Scales very deciduous or absent? Dorsal short, before ventral. Adipose fin high, over hind half of anal. Anal long, postmedian. Caudal forked. Ventral premedian.

Analysis of genera

a.<sup>1</sup> Eyes telescopic; pectoral longer than ventral; depth  $5\frac{1}{4}$ .

Scopelarchus.

a.<sup>2</sup> Eyes partly telescopic; ventral longer than pectoral.

Scopelarchoides.

a.<sup>3</sup> Eyes normal; paired fins small; depth  $3\frac{1}{8}$ .

Promachon.

4534

Genus Scopelarchus Alcock  
Scopelarchus Alcock, Journ. Asiatic  
Soc. Bengal, vol. 65, pt. 2, 1896, p. 307.

Type Scopelarchus guentheri Alcock,  
monotypic.

Dissoma Brauer, Zool. Anzeiger, vol. 25,  
1902, p. 278. Type Dissoma anale Brauer,  
monotypic.

Body oblong, slightly compressed,  
subcylindrical. Eyes telescopic. Premaxillaries  
long, slender, with only small cardiform  
teeth. Lower jaw with outer series of  
small cardiform teeth and inner series  
of larger fangs. Vomer and palatines  
with fangs. Series of smaller, compressed

decurved, barbed teeth along entire upper surface of tongue. Scales thin, cycloid, somewhat irregularly arranged. Dorsal short, median. Adipose fin present, above hind part of anal. Anal very long, postmedian. Rudimentary caudal rays rather long series. Pectoral large, rays strong, inserted high, upper rays near lateral line than ventral profile of body.



Analysis of genera

a. Eyes telescopic; pectoral longer than ventral.

b. Single or incompletely double palato-  
vomerine series of subequal fangs,  
none especially modified; premaxillary  
with only dense cardiform series of  
minute, subequal, decurved teeth.

Scopelarchus.

b.<sup>2</sup> Vomer and palate toothless; premaxillary  
with only small decurved subequal  
teeth.

Benthabella.

a.<sup>2</sup> Eyes partly telescopic; ventral longer than pectoral. Scopelarchoides.

a.<sup>3</sup> Eyes normal, widely separated, lateral;  
dentition? on vomer and palatines;  
premaxillary with distinctly enlarged,  
triangular hook like tooth in front,  
followed by wided set series of decurved  
teeth with some smaller teeth between.

Promacheon.

2526

4536

Scopelarchus analis (Brauer)

Alisoma anale Brauer, Zool. Anzeiger,  
vol. 25, 1902, p. 278, fig. (eye). South  
Atlantic, Antarctic and Indian  
Oceans, in 600 to 4000 meters; Deutsch.  
Tiefsee Exped. Valdivia, vol. 15, Tiefsee-  
Fische, 1906, p. 138, text figs. 1-2, pl. 10  
(Canaries; Gulf of Guinea; west of Cape  
of Good Hope; east of Bouvet; Antarctic  
Ocean; Port Elizabeth; South Africa;  
north of Coors Islands; in 600 to 4000  
meters). — Weber, Siboga Exped., vol. 57,  
Fische, 1913, p. 84 (Banda Sea, in S.  
Lat.  $3^{\circ} 32'.5$  E. Long.  $124^{\circ} 15'.5$ , in 1500  
meters). — Weber and Beaufort, Fishes

4537

Indo Austral. Archipelago, vol. 2,  
1913, p. 181, fig. 71 (Weber's materials).  
— Regan, Fishes Brit. Antarctic Terra Nova  
Exped., Nat. Hist. Rep. Zool., vol. 1, <sup>No. 1,</sup> 1914-16,  
p. 39 (reference).

— Barnard, Ann. South African Mus., vol.  
21, pt. 1, June 1925, p. 248, pl. 10, fig. 1  
(compiled).

Scopelarchus anale Parr, Bull. Bingham  
Oceanogr. Collection, vol. 3, art. 3, Dec. 1928,  
p. 160, fig. 38 (Atlantic materials).  
N. 21° to 32° W. 61° to 77°, 7000 to 8000 feet.

Scopelarchus guentheri Alcock, Journ.  
Asiatic Soc. Bengal, vol. 65, pt. 2, 1896, p.  
307. Off Indus Delta, in 947 fathoms (♀);  
p. 332 (reference); Illustrat. Zool.

4538

Investigator, Fishes, pt. 4, 1896, pl. 17,  
fig. 7.

Scopelarchus güntheri Alcock, Cat. Deep  
Sea Fishes Indian Mus., 1899, p. 153

— Parr, Bull. Bingham Oceanogr. Collection,  
vol. 3, art. 3, Dec. 1928, p. 159 (compiled).

Odontostomus perarmatus Roule, Bull.  
Inst. Oceanogr. Monaco, no. 320, May 20,  
1916, p. 25. West of the Azores, in 2100  
to 2600 meters.

Odontostomus (Dissoma) perarmatus  
Roule, Res. Camp. Sci. Monaco, fasc. 52,  
1919, p. 32, pl. 5, figs. 2-a (types).

4539

Depth  $5\frac{1}{4}$ ; head  $4\frac{1}{2}$ , width  $1\frac{7}{8}$ . Snout  $3\frac{1}{6}$  in head from snout tip; eye  $2\frac{2}{5}$ , directed superiorly, greatly exceeds snout and narrow bony interorbital; maxillary extends back opposite hind ~~maxillary~~ eye edge, length  $1\frac{1}{8}$  in head from snout tip; upper jaw teeth all uniformly small, with 3 canines anteriorly larger and depressible; mandible with outer row of small teeth and inner row of depressible fangs, second and third longest; narrow bony interorbital width  $3\frac{1}{2}$  in eye. Gill rakers as row

of minute points or asperities; gill filaments long as eye.

Scales 47 in median lateral series to caudal base, greatly larger than others or depth at anal origin  $2\frac{4}{5}$  in body depth at same point; 3 scales above lateral line scales, 4 below, 13 predorsal to occipital ridge. Scales very caducous, most all having fallen except some in lateral line. In structure scales simple, thin, entire.

D. I, 6, second branched ray  $2\frac{1}{3}$  in total head length; adipose

4541

fin  $2\frac{1}{4}$ ; A. II, 25, I, first branched  
ray  $2\frac{7}{10}$ ; caudal  $1\frac{7}{10}$ , well  
forked, lobes rather rounded;  
least depth of caudal peduncle  
 $2\frac{3}{4}$ ; pectoral  $1\frac{1}{8}$ ; ventral  $2\frac{1}{10}$ .

Light brownish, scale pockets  
on back darker. Iris slate gray.  
Fins all pale to whitish.

3870. D. 5618. March Island,  
S.  $69^{\circ}$ E., 7.8 miles (N.  $0^{\circ}37'E. 127^{\circ}15'$ ),  
Molucca Passage. In 417 fathoms.  
November 27, 1909. Length 110 mm.

4542

Genus Scopelarchoides Parr

Scopelarchoides Parr, Oceas. Pap. Bringham  
Oceanogr. Collection, No. 2, 1929, p. 16.

Type Scopelarchoides nicholsi Parr,  
monotypic.

Body elongate, with long tapering tail.  
Head large. Snout moderate. Orbit large.

Mouth large, mandible protruding.  
Premaxillary teeth small, subequal, decurved,  
depressible anteriorly, minute erect, fixed,  
uniserial posteriorly. Lower teeth with dozen  
compressed, depressible each side. Each  
palatine with 2 compressed fangs anteriorly,  
followed by double series of long slender  
teeth. Scales cycloid, thin, small. Lateral  
line with greatly enlarged scales. Dorsal  
fin advanced, over ventral. Adipose fin  
large. Anal long, caudal large. Paired  
fins well developed, ventrals larger.  
Pectoral rays 20 to 22. Ventral rays 9.



Scopelarchoides nicholsi Parr

4543

Scopelarchoides nicholsi Parr, Oceas.

Pap. Bingham Oceanogr. Collection, no. 2,  
1929, p. 16. N.  $16^{\circ}14'$  W.  $99^{\circ}36'30''$ , 1800 fathoms;

Bull. Bingham Oceanogr. Collection, vol.  
2, art. 4, Oct. 1931, p. 35, fig. 15 (types;

N.  $24^{\circ}7'$  W.  $108^{\circ}40'$ , 286 fathoms; N.  $11^{\circ}5'$

W.  $89^{\circ}20'45''$ , 2000 fathoms, Pacific).

Depth  $5\frac{3}{4}$ ; head  $3\frac{3}{5}$ . Snout to orbit  
 $4\frac{1}{4}$  in head from snout tip; orbit  $3\frac{1}{8}$ ,  
greater than snout; maxillary reaches opposite  
hind eye edge, 2 in head from snout tip.

D. 6 or 7, fin height  $1\frac{1}{5}$  in total head  
length; adipose fin  $2\frac{1}{8}$ ; A. 21 to 23, fin  
height  $1\frac{4}{5}$ ; caudal 1; least depth of  
caudal peduncle  $3\frac{1}{8}$ ; pectoral  $2\frac{1}{5}$ ; ventral

$1\frac{1}{2}$ . Length 115 mm. without caudal. (Parr.)

Pacific, off Mexico.

4544

Genus Promacheon Weber

Promacheon Weber, Siboga Exped., vol. 57,  
Fische, 1913, p. 84. Type, Promacheon  
sibogae Weber, monotypic.

Body rather deep. Head large, conic.  
Eye small, premedian. Mouth wide,  
nearly horizontal. Premaxillary, with  
slender maxillary above, forms upper jaw.  
Point of each premaxillary with  
prominent triangular tooth, directed  
forward and slightly downward.  
No teeth on palate. Gill membranes  
free from isthmus, connected behind  
symphysis. Branchiostegals 6, short.  
Stomach and abdomen not distensible.

Scales present in lateral line.  
Dorsal long, postmedian. Adipose  
fin present. Anal long, like dorsal,  
slightly more posterior. Caudal emarginate.  
Pectoral low. Ventral inserted slightly  
before dorsal.

Promacheon sibogae Weber

4546

Promacheon sibogae Weber, Siboga Exped.,  
vol. 57, Fische, 1913, p. 85, fig. 20. Banda  
Sea, S. Lat.  $3^{\circ}58'$  E. Long.  $128^{\circ}20'$ , in 2000  
meters; S. Lat.  $4^{\circ}30'.2$  E. Long.  $129^{\circ}25'$ , in  
1000 meters. — Weber and Beaufort, Fishes  
Indo Austral. Archipelago, vol. 2, 1913, p.  
183, fig. 73 (Weber's materials). — Parr,  
Bull. Bingham Oceanogr. Collection, vol. 3,  
art. 3, Dec. 1928, p. 158 (compiled).

Depth  $3\frac{1}{8}$ ; head  $2\frac{4}{5}$ . Snout  $2\frac{1}{3}$  in  
head; eye 6,  $2\frac{1}{4}$  in snout; premaxillary  
extends  $\frac{3}{4}$  eye diameter behind eye,  
length  $1\frac{1}{4}$  in head, with prominent anterior  
tooth and series of partly curved larger

teeth directed backward, smaller ones  
between and both kinds of teeth, smaller,  
in mandible; interorbital high.

Scales in lateral line  $3\frac{1}{2}$ ; continuous  
to hypural.

D. 14, fin base  $2\frac{1}{10}$  in head; adipose  
fin 5; A. 17 or 18, fin base  $1\frac{3}{4}$ ; caudal  
short; least depth of caudal peduncle  $3\frac{1}{2}$ ;  
pectoral rays 15, short?; ventral rays 10,  
length  $4\frac{1}{5}$  in head. Length 20 mm.

(Weber.)

Banda Sea.