

Family Triglidae

The Gurnards

Body elongate, usually more or less fusiform. Head externally bony, entirely cuirassed with rough bony plates, some of which armed with spines. Eyes high. Mouth terminal or subinferior. Premaxillaries protractile. Maxillary without supplemental bone, slips under preorbital. Teeth very small, in bands on jaws, usually on vomer and palatines. Gill membranes free from isthmus. Gills 4, large slit behind fourth. Gill rakers various. Pseudobranchiae present. Air bladder present. Pyloric

Pseudobranchiae large. Air bladder simple. Vertebral 26 or 27, of which 15 or 16 caudal. Scales small or moderate, 50 to 125 in lateral series, ctenoid. Soft vertical fins scaly basally. Ventral base with scaly flap. Lateral line continuous. One dorsal, depressible in groove, with 9 to 14 stout spines, rays 15 to 23. Anal spines 3, rays 6 to 9. Pectoral pointed. Ventral inserted little behind pectoral base.

A large genus of striking Indo Pacific forms, many especially so as they are marked with black horizontal bands. The West African Diagramella Pellegrin is here excluded from this genus as its contour of the head is not elevated.

appendages usually present, few. Body covered with scales or bony plates. Spinous dorsal present, short. Soft dorsal like anal, latter without spines. Caudal narrow, few rayed. Pectoral large, with broad base, 3 lower rays detached, forming feelers, used chiefly in search of food, as when turning over stones, exploring shells, etc. Ventrals thoracic, wide apart, separated by flat area, with spine and 5 rays.

Singular fishes in all warm seas, some living about rocks, others in deep water, when red in color.

220. Type Pristipoma leucurum
Valenciennes, monotypic.

Erelatichtys Fowler, Journ. Acad.
Nat. Sci. Phila., series 2, vol. 12, 1904,

p. 527. Type Diagramma affine Günther,
orthotypic.

Spilotichthys Fowler, op. cit., series 2,
vol. 12, 1904, p. 528. Type Holocentrum
radjabau Lacépède, orthotypic.

Body compressed, oblong. Head strongly
obtuse, upper profile well convex. Eye
moderate. Mouth small, horizontal,
upper jaw protractile. Maxillary slips
below preorbital. Lips fleshy. Jaws
with bands of villiform teeth, pointed,
in about 4 to 6 rows. Chin with pores,
without central groove or barbels.
Preopercle serrate. Suborbitals
without spines or serrae. No opercular
spine. Branchiostegals 6 or 7.

Genus Paratrigla Ogilby

2297

Paratrigla Ogilby, Ann. Queensland
Mus., no. 10, p. 56, Nov. 1, 1911. (Type
Trigla pleuracantha Richardson,
orthotypic.)

2298

Body elongate, rather slender, subcylindrical. Head rather small. Snout rather long, nearly straight profile oblique. Eye large, elevated, little premedian in head. Mouth moderate, nearly horizontal. Maxillary reaches below eye. Preorbitals not protruded beyond snout. Armature of head moderate. Pyloric coeca 7. Scales regular, moderate, along lateral line form spiny belt. Row of spiny scales along bases of both dorsals. Dorsal spines rather strong, little higher, though base little shorter than soft dorsal. Anal like soft dorsal. Caudal truncate. Pectoral moderate, with 3 rather short detached rays below. Ventral moderate.

Known by its spiny lateral line.

2299

Paratrigla papilio (Cuvier)

Trigla papilio Cuvier, Hist. Nat.
Poiss., vol. 4, p. 80, pl. 73, Nov.
1929 (type locality, "mers des
Indes" Péron). — Swainson,
Nat. Hist. Animals, vol. 2, p. 262,
1839 (reference).

Lepidotrigla papilio Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 197,
1860 (copied). — Macleay, Proc. Linn.
Soc. New South Wales, vol. 5, pt. 4,
p. 588, 1881 (Port Jackson).

Trigla pleuracantha Richardson,
Zool. Voy. Erebus and Terror,
Fish., p. 23, pl. 16, figs. 1-4,
March 1, 1845 (type locality,
Sydney, New South Wales). —
Günther, Cat. Fish. Brit. Mus.,
vol. 2, p. 202, 1860 (types). —
Macleay, Proc. Linn. Soc. New South
Wales, vol. 5, pt. 4, p. 590, 1881 (copied).

2301

Paratrigla umbrosa (Ogilby)

Lepidotrigla umbrosa Ogilby,
New Fish. Queensland Coast, p.
120, Dec. 20, 1910 (type locality,
South Queensland, in 12 to 25
fathoms).

Paratrigla umbrosa McCulloch and
Whitley, Mem. Queensland Mus., vol.
8, pt. 2, p. 165, July 7, 1925 (reference).
— McCulloch, Austral. Mus.
Mem., no. 5, pt. 3, p. 396, Nov. 28, 1929
(reference).

2302

Genus Lepidotrigla Günther

Lepidotrigla Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 196,
1860. (Type Trigla aspera
Swainson, monotypic.)

Palaeichthys Kaup, Archiv
Naturg., p. 90, 1873. (Type
Trigla aspera Swainson.)
Designated by Jordan,
Genera of Fishes, part 3, p.
370, 1919.)

2303

Teeth in jaws and usually on vomer. Palatines edentate. Body covered with scales of moderate size, ctenoid or ctenoid above lower third of side, cycloid ventrally. Body naked, or partly scaly. Lateral line bifurcates at caudal base, the branches extending on to caudal lobes. Lateral line tubes with one long oblique dorsal and a similar ventral branch, and 1 to 6 intermediate smaller branches, each ending in a pore. No spines on lateral line scales, which are somewhat larger than the body scales, being vertically elongate. Row of spinose plates along each side of base of dorsal fin. Pectoral with 3 free rays.

2310

Lepidotrigla güntneri Hilgendorf

Lepidotrigla güntneri Hilgendorf,
Sitzs. Ber. Naturf. Freund.
Berlin, p. 106, 1879 (type locality,
Tokyo). — Jordan and Starks,
Proc. U. S. Nat. Mus., vol. 32, p.
133, 1913 (reference). — Jordan,
Tanaka, Snyder, Journ. College
Sci., Tokyo, vol. 33, p. 291, 1913
(reference). — Izuka and Matsura,
Cat. Zool. Spec. Tokyo Mus., Vertebr.,
p. 122, 1920 (Ajio, Izu). —
Jordan and Hubbs, Mem. Carnegie Mus.,
vol. 10, no. 2, p. 289, June 27, 1925 (Misaki;
Tokyo; Toyama; Fukui).
— Matsubara and Hayama, Journ.
Imp. Fisher. Inst. Tokyo, vol.
28, no. 1, p. 25, fig. 9, Dec. 1932
(Misaki; Suruga Bay; Kagasaki;
Huzan, Korea).

Lepidotrigla guntheri Jordan
and Snyder, Ann. Zool. Japon.,
vol. 3, p. 107, 1901 (reference).

Lepidotrigla guntheri Franz,
Abhandl. Bayer. Akad. Wiss.,
vol. 14, Suppl. Band 1, p. 79, 1910
(Misaki).

Lepidotrigla longispinis Steindach-
ner and Döderlein, Denks. Akad.
Wiss. Wien, math.-naturw. Kl.,
vol. 51, pt. 1, p. 262, pl. 4, fig. 1-a, 1887
(type locality, Tokyo).

Lepidotrigla longispinis Jordan
and Snyder, op. cit., p. 107, 1901
(on Steindachner and Döderlein).

Depth $4\frac{1}{3}$ to $4\frac{2}{5}$; head $2\frac{7}{8}$ to 3,
width $1\frac{4}{5}$ to 2. Snout $1\frac{4}{5}$ to 2
in head; eye 4 to $4\frac{1}{8}$, $1\frac{1}{2}$ to 2 in
snout, little greater than
interorbital; maxillary reaches
 $\frac{1}{3}$ to $\frac{1}{2}$ in eye, length 2 to $2\frac{1}{5}$
in head; mouth width 3 to $3\frac{1}{8}$;
teeth in villiform bands on
jaws; interorbital $5\frac{1}{4}$, broadly
and deeply concave. Gill
rakers 0 + 10, low, asperous
tubercles, of which 4 or 5 below
rudiments; gill rakers $\frac{1}{2}$ of
gill filaments, which $2\frac{1}{4}$ in
eye.

Rostral spines short, very
broad, edges well denticulated,
especially inner ones; 2 very
short, small, antero-supra-
orbital spines and posterior

small knob denticulate behind,
 followed by small notch; 2
 short serrate occipital ridges,
 each ending in denticle;
 suprascapular spine small,
 with broad base; postocular
 ridge ends in small spine
 above and behind posterior
 preopercle edge; long slender
 humeral spine long as orbit,
 with keel, base broad.

Scales 54 + in lateral line;
 5 above to soft dorsal origin,
 18 below; 10 predorsal. Chest,
 breast, prepectoral region
 and area narrowly behind
 paired fins naked. Caudal
 largely covered with small
 scales, more numerous basally.
 Scales of lateral line but

little larger than others;
 anterior with 4 or 5 branches,
 become trifid posteriorly.
 Scales with 2 short marginal
 striae; 9 to 25 short, broad,
 apical denticles; circuli fine,
 obsolete apically. Row of
 26 bony plates along back,
 each with strong spine and
 10 along base of first dorsal.

D. VIII - 17, I, edge of first
 spine serrate, second spine
 $1\frac{2}{3}$ in head, third ray $3\frac{1}{2}$;
 A. 17, I, seventh ray 4; caudal
 $1\frac{3}{5}$, little emarginate behind;
 least depth of caudal peduncle
 2 in eye; pectoral reaches 2
 to caudal base, $1\frac{1}{10}$ in head;
 rays I, 7, III - III, uppermost
 of detached rays $1\frac{1}{8}$ in upper

section of pectoral; ventral rays I, 5, reaches base of second anal ray, length $1\frac{1}{3}$ in head.

Brown, upper half of body contrasted with low white half. Iris white. Greater part of upper section of pectoral medially blackish, uniform, margined pale all around. Fins otherwise pale or whitish.

Korea, Japan.

4257. D. 5517. Port Tagolo
Light, S. 83° W., 10.5 miles
(N. lat. $8^{\circ}45'30''$, E. long. 123°
 $33'45''$), northern Mindanao
vicinity. In 169 fathoms.

August 9, 1909. Length 182 mm.

U. S. N. M., No. 59662. Off
Erado, in 350 fathoms. May 11.
Dr. H. M. Smith. Length 129 to
144 mm. Three examples. Two
have the keel of the suborbital
stay low but distinct, absent
in the third specimen. This last
specimen also differs a little
in that it does not show the
2 occipital ridges ending in
a spine so distinct.

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Lepidotrigla spiloptera Günther

Lepidotrigla spiloptera Günther,
Rep. Voy. Challenger, vol. 1, pt. 6,
p. 42, pl. 18, fig. C, 1880 (type
locality, Ki Islands, in 129
fathoms); vol. 22, p. 64, 1887
(type). — Aloock, Cat. Deep Sea
Fish. Indian Mus., p. 67, 1899
(Gulf of Martaban, 67 fathoms).

Lepidotrigla spiloptera matubara
and Hiyama, Journ. Imp. Fisher.
Inst., Tokyo, vol. 28, no. 1, p. 38,
fig. 14, Dec. 1932 (Suruga Bay)
(error).

Lepidotrigla argyrozona n. sp.

2335

24332 to 24335, 24341, 24342,

24345 to 24347, 24354, 24355.

~~24363~~, Albatross Collection

D. 5442. Same data as type.

Length 67 to 97 mm.

Lepidotrigla alcocki Regan

Lepidotrigla alcocki Regan,
Trans. Linn. Soc. London, vol. 12,
pt. 3, Zool., p. 240, pl. 28, fig. A,
May, 1908 (type locality, Darya
de Malha Banks, over 123
fathoms).

Lepidotrigla strauschi Steindachner

Trigla

(Lepidotrigla) strauschi Steindachner,
Sitzb. Ber. Akad. Wiss. Wien, math.-naturw.
Kl., vol. 74, p. 214, 1876 (type locality,
Hakodate).

Lepidotrigla strauschi

Jordan, Tanaka, Snyder, Journ.
College Sci., Tokyo, vol. 33, p.
291, 1913 (reference). — Izuba
and Matsunura, Cat. Zool. Spec. Tokyo
Mus., Vertebr., p. 122, 1920 (Kobeji). —
Jordan and Hubbs, Mem. Carnegie Mus., vol.
10, no. 2, p. 289, June 27, 1925 (Tokyo; Osaka;
Yoba; Toyama; Misaki; Miyazu).
— Matsubara and Hiyama, Journ.
Imp. Fisher. Inst., Tokyo, vol.
28, no. 1, p. 50, fig. 18, Dec. 1932
(Genzan, Tajōken).

U. S. N. M., No. 72133. Habodate,
Japan. Albatross Collection 1906.
Length 115 to 201 mm. Nine
examples.

2340

Lepidotrigla microptera Günther

Lepidotrigla microptera Günther,
Ann. Mag. Nat. Hist., London,
ser. 4, vol. 12, p. 241, 1873
(type locality, Shanghai,
China); Rep. Voy. Challenger,
vol. 1, pt. 6, p. 66, 1880 (Inland
Sea of Japan). — Steindachner
and Döderlein, Denks. Akad.
Wiss. Wien, vol. 53, pt. 1, p. 263,
pl. 4, fig. 2-a, 1887 (Tokio;
Hakodate; Shanghai), p. 264
(Tango on Japan Sea). —
Jordan and Starks, Bull.
U. S. Fish Comm., vol. 22, p. 595,
1902 (Ose Point, Suruga Bay;
Matsushima Bay).

— Jordan and Richardson, Proc.
 U. S. Nat. Mus., vol. , p. 65, 1908
 (Tokyo; Hakodate; Kobe; Wa-
 kanoura; Nagasaki; Amori;
 Hiroshima; Suruga; Matsu-
 shima Bay; Suruga Bay). —
Frang, Abhandl. Bayer. Akad.
 Wiss., vol. 4, Suppl. Band 1,
 p. 79, 1910 (Sagami Bay; Aburatsubo).

— Matsubara and Hiyama, Journ.
 Fisher. Inst. Tokyo, vol. 28, no. 1, p.
 33, figs. 20-21, Dec. 1932 (Tokyo
 Bay, Misaki, Odawara, Simonsaki,
 Nagasaki, China Sea, Korea).

Lepidotrigla serridens Hilgendorf,
 Sitzb. Gesell. Naturf. Freund.
 Berlin, p. 107, 1879 (type
 locality, Japan). — Nyström,
 Bih. Kon. Sv. Vet. Akad.
 Handl. Stockholm, vol. 13,
 afd. 4, no. 4, p. 21, 1887 (Nagasaki).
 — Jordan and Snyder, Annot. Zool.
 Japon., vol. 3, p. 107, 1901 (reference)

Lepidotrigla strauchii (Steindachner)
Steindachner and Döderlein,
 Denks. Akad. Wiss. Wien, math.-
 naturw. Kl., vol. 53, pt. 1, p. 263,
 1887 (name in synonymy).

Lepidotrigla maculosa (Hilgendorf)
Steindachner and Döderlein, op.
 cit., p. 264 (name in synonymy).

U. S. N. M., No. 22575, Japan.
Japanese Government. Length
211 mm. Set Trigla bürgeri.

U. S. N. M., No. 44910, Japan.
Japanese Government. Length
220 to 244 mm. Set Lepidotrigla
bürgeri. Three examples.

U. S. N. M., No. 64652, Kobe.
D. S. Jordan and J. O. Snyder.
Length 88 to 116 mm. Four
examples.

2344

Lepidotrigla alata (Houttuyn)

Trigla alata Houttuyn, Verh.
Holland. Maatsch. Wet. Haarlem,
vol. 20, pt. 2, p. 320, 1782 (type
locality, Japan). — Gmelin,
Syst. Nat. Linn., pt. 1, p. 1346,
1788 (Japan). — Walbaum,
Artedi Pisc., vol. 3, p. 374, 1792
(copied). — Forster, Fauna
Indica, p. 16, 1795 (reference).
— Schneider, Syst. Ichth.
Bloch, p. 12, 1801 (Japan).

Lepidotrigla alata Jordan and Starks, Proc. U. S. Nat. Mus., vol. 32, p. 133, 1907 (reference) . —

Jordan, Tanaka, Snyder, Journ. College Sci., Tokyo, vol. 33, p. 290, fig. 240, 1913 (reference) . —

Schmidt, Trans. Pac. Comm. Acad. Sci. U. S. S. R. R., p. 120, 1931.

Jordan and Thompson, Mem. Carnegie Mus., vol. 6, no. 4, p. 283, fig. 1914 (Misaki).

McCulloch, Austral. Mus. Mem., no. 5, pt. 3, p. 325, Nov. 28, 1929 (reference) .

Fowler, Hong Kong Natural., vol. 2, p. 305, fig. 11, 1931 (Hong Kong) .

Matsubara and Hiyama, Journ. Imp. Fisher. Inst. Tokyo, vol. 28, no. 1, p. 17, fig. 7, Dec. 1932 (Sagami Bay; China Sea) .

Jordan and Richardson, Proc. U. S. Nat. Mus., vol. 33, p. 650, fig. 7, 1908 (Nagasaki, Wakanoura, Misaki, Kobe, Kushima, Tsuruga, Onomichi) .

— Izuka and Matsura, Cat. Zool.
Spec. Tokyo Mus., Vertebr., p. 121,
1920 (Nagasaki).

— Jordan and Hubbs, Mem. Carnegie
Mus., vol. 10, no. 2, p. 288, June
27, 1925 (Tokyo; Shizuoka;
Osaka).

Dactyloptera japonica Lacépède,
Hist. nat. Poiss., vol. 3, p. 325,
1802 (on Trigla alata Houttuyn).

Trigla bürgeri Schlegel, Fauna
Japonica, Poiss., p. 35, pl. 14, figs.
1-2, 1843 (type locality, Bay
of Nagasaki).

Trigla burgeri Richardson, Ichth.
China and Japan, p. 218, 1846
(Hong Kong, China) - Bleeker, Verh. Batavia
Genoot. (hal. Ichth. Japan), vol. 25, p. 11, 1853 (reference);
(hal. Ichth. Japan), vol. 26, pp. 4, 73, 1857 (Nagasaki); Nat. Tijds. Ned. Indië,
vol. 20, p. 235, 1859-60 (Nagasaki).

Trigla bürgeri Günther, Cat. Fish.
Brit. Mus., vol. 2, p. 198, 1860
(China). - Steindachner and
Döderlein, Denks. Akad. Wiss. Wien,
math.-naturw. Kl., vol. 53, pt. 1, p. 261,
1887 (Tokyo; Nagasaki). - Gyström,
Bih. Kon. Sv. Vet. Akad. Handl.,
Stockholm, vol. 13, afd. 4, no. 4, p. 21, 1887
(Nagasaki).

— Steindachner, Ann. Naturh.
 Hofmus. Wien, vol. 11, p. 205, 1896
 (Japan). — Ishikawa and
Matsumura, Cat. Fish. Mus.
 Tokyo, p. 47, 1897.

Lepidotrigla bürgeri Jordan
 and Snyder, Annot. Zool. Jap.,
 vol. 3, p. 107, 1901 (reference) (error).

Lepidotrigla vergeri Saville-Kent,
 Great Barrier Reef, pp. 292, 370,
 1893 (Queensland) (error).

U. S. N. M., no. 72140. Nagasaki,
Japan. Albatross Collection
1906. Length 125 to 158 mm.
Two examples. Humeral spine
 $1\frac{1}{8}$ in snout.

U. S. N. M., no. 86457. China.
A. de C. Sowerby. Length 282 mm.
Humeral spine long as snout.

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Lepidotrigla japonica (Bleeker)

Priacotus japonicus Bleeker,

Verh. Batavia. Genoot. (Nal.

Ichth. Japan), vol. 26, p. 5,

75, pl. 5, figs. 1a-b, 1857

(Nagasaki); Act. Soc. Ind.

Ned., vol. 5, no. 9, p. 2, 1858-59

(Nagasaki).

Nat. Tijds. Ned. Indie, vol. 6, p. 398,
1854 (type locality, Nagasaki).

- Lepidotrigla japonica Steindachner
and Döderlein, Denks. Akad. Wiss.
Wien, vol. 53, pt. 1, p. 264, 1887
(Osima; Kagoshima). — Jordan
and Snyder, Annot. Zool. Japon.,
vol. 3, p. 107, 1901 (reference). —
Jordan and Starks, Bull. U. S.
Fish Comm., vol. 20, p. 596, fig.
1902;
Proc. U. S. Nat. Mus., vol. 32, p. 133,
1907 (name). — Jordan and
Richardson, Proc. U. S. Nat. Mus.,
vol. 33, p. 654, 1908
- Franz, Abhandl. Bayer. Akad. Wiss.,
vol. 4, Suppl. Band 1, p. 79, pl. 2,
fig. 1, 1910 (Aburatsubo).
- Jordan and Hubbs, Mem. Carnegie
Mus., vol. 10, no. 2, p. 289, 1925

— Matsubara and Hijama,
 Journ. Imp. Fisher. Inst.,
 Tokyo, vol. 28, no. 1, p. 21, fig. 8,
 Dec. 1932 (Nagasaki, Misaki,
 Tokyo Bay).

Lepidotrigle japonica Jordan, Tanaka,
Snyder, Journ. College Sci.,
 Tokyo, vol. 33, p. 291, fig. 241
 (copied), 1913 (reference) (error).

Lepidotrigla avis (Döderlein)
Steindachner and Döderlein, Denks.
Abad. Wiss. Wien, math.-naturw.
Kl., vol. 53, pt. 1, p. 264, 1887
(name in synonym).

U. S. N. M., no. 51425, Misaki,
Japan. U. S. Jordan and J. D.
Snyder. Length 133 mm.

U. S. N. M., no. 72144. Kago-
shima. Albatross Collection.
Length 109 mm. Two examples.

U. S. N. M., no. 72145. Nagasaki.
Albatross Collection. Length 114
to 120 mm. Two examples.

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Lepidotrigla bishinouyei Snyder

Lepidotrigla bishinouyei Snyder,
Proc. U. S. Nat. Mus., vol. 40,
p. 543, 1911 (type locality,
Kagoshima); vol. , p. 56,
fig. 3, 1914.

— Jordan, Tanaka, Snyder, Journ.
College Sci., Tokyo, vol. 33, p. 291,
1913 (reference).

Lepidotrigla kishinouyei
Matsumura and Hiyama, Journ.
Imp. Fisher. Inst., Tokyo, vol.
28, no. 1, p. 41, fig. 15, Dec. 1932
(Nagasaki; China Sea; Misaki).

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U. S. N. M., No. 74584, Kagoshima.
Albatross Collection. Paratype.
Length 95 mm.

The following species are not studied critically and have been included provisionally, or until sufficient materials are forthcoming to establish their relationship.

Lepidotrigla bishinouyei Snyder

Lepidotrigla abyssalis Jordan
and Starks

Lepidotrigla abyssalis Jordan
and Starks, Bull. U. S. Fish Comm.,
vol. 22, p. 595, fig., 1902 (type
locality, Suruga Bay, in 50 to 60 fathoms);
Proc. U. S. Nat. Mus., vol. 32, p. 133,
1907 (reference). — Franz, Abhandl.
Bayer. Akad. Wiss., vol. 4, Suppl.
Band 1, p. 79, 1910 (Enoshima, 80
meters). — Jordan, Tanaka,
Snyder, Journ. College Sci., Tokyo,
vol. 33, p. 292, fig. 242, 1913
(reference).
— Jordan and Richardson, Proc. U. S.
Nat. Mus., vol. 33, p. 654, 1908
(Suruga Bay).

— Jordan and Thompson, Mem.
Carnegie Mus., vol. 6, no. 4, p. 284,
fig. 54 (copied), Sep. 1914 (Osaka).

— Izuka and Matsura, Cat. Zool.
Spec. Tokyo Mus., Vertebr., p. 122,
1920 (Ishinomaki).

— Jordan and Hubbs, Mem. Carnegie
Mus., vol. 10, no. 2, p. 289, June 27, 1925
(Misaki).

— Matsubara and Hirajama, Journ.
Fishes. Inst. Tokyo, vol. 28, no. 1, p.
32, fig. 12, Dec. 1932 (Nagasaki; Misaki).

Lepidotrigla japonica (not
Hyström, Bih. K. Sv. Vet. Akad.
Handl., vol. 13, afd. 4, no. 4, p. 23,
1887 (Nagasaki)).

Depth 4; head $2\frac{4}{5}$, width 2.
 Snout $2\frac{1}{6}$ in head; eye $3\frac{3}{4}$, $1\frac{3}{4}$
 in snout; maxillary reaches $\frac{1}{4}$ in
 eye; interorbital $3\frac{1}{2}$, ^{deeply concave.} Gill rakers
 11 + 10, of which 7 of lower
 rudimentary; slender, $5\frac{1}{2}$ in
 orbit.

As seen above end of snout
 nearly truncate; rostral extensions
 broad, each with rather broad
 outer spine and several small
 accessory ones inside; interspace
 between apices of largest spines
 subequal with orbit. Supraorb-
 ital spines rudimentary;
 rudimentary postorbital spine;
 parietal ridges rudimentary,
 and sharp, serrated ridge
 runs back from postorbital
 furrow; nuchal spines and
 ridges feeble; short, narrow,
 cross-furrow above hind edge of

2375
eye, not extending across top of head. Humeral spine little less than eye.

Scales 59 in lateral line.
Dorsal scutes 23.

D. IX - 15, second spine $1\frac{3}{4}$ in head, third spine $2\frac{2}{3}$; A. 15, fourth ray $3\frac{2}{5}$; caudal $1\frac{1}{5}$, emarginate; least depth of caudal peduncle 6; pectoral $1\frac{1}{3}$; ventral $1\frac{2}{5}$.

In life bright red, somewhat paler below. First dorsal with large brick-red blotch posteriorly. Length 150 mm.

(Matsubara and Hiyama)

Japan.

Lepidotrigla altivelis Matsubara
and Hiyama

Lepidotrigla altivelis Matsubara
and Hiyama, Journ. Imp. Fisher.
Inst. Tokyo, vol. 28, p. 47, fig. 17,
1932 (type locality, Zenua-handô,
Iyosen, Japan).

2377

Lepidotrigla argus Ogilby

Lepidotrigla argus Ogilby, New
Fish. Queensland Coast, p. 123,
Dec. 20, 1910 (type locality, Between
S. Hill and Cape Gloucester,
Queensland, and Cape Byron, New
South Wales, in 13 to 73 fathoms);
Comm. Fish. Fisher. Queensland, p. ,
1915 (Moreton Island; Cape Moreton;
North Reef; Low Bluff; Cartwright Point).

— McCulloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p. 165,
July 7, 1925 (reference). — McCulloch,
Austral. Mus. Mem.,
no. 5, pt. 3, p. 395, Nov. 28, 1929
(reference).

Lepidotrigla brachyoptera
Hutton

Lepidotrigla brachyoptera Hutton,
 Fishes of New Zealand, p. 27, 1872
 (type locality, Wellington Harbour).

— Waite, Rec. Canterbury Mus.,
 vol. 1, no. 1, p. 29, April 25, 1907
 (reference).

Lepidotrigla brevispinis Matsubara
and Hiyama

Lepidotrigla brevispinis Matsubara
and Hiyama, Journ. Imp. Fisher.
Inst., Tokyo, vol. 28, p. 52, fig. 19,
1932 (type locality, Misaki).

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Lepidotrigla calodactyla Ogilby

Lepidotrigla calodactyla Ogilby,
New Fish. Queensland Coast, p. 125,
Dec. 20, 1910 (type locality, North
Reef, Capricorn Group, Queensland,
in 70 fathoms). — McCulloch
and Whitley, Mem. Queensland
Mus., vol. 8, pt. 2, p. 165, July 7,
1925 (reference). — McCulloch,
Austral. Mus. Mem., no. 5, pt. 3,
p. 395, Nov. 28, 1929 (reference).

Lepidotrigla eydouxi Sauvage

Lepidotrigla eydouxi Sauvage, nouv.
Arch. Mus. Hist. Nat., Paris, ser. 2,
vol. 1, p. 156, 1878 (type locality,
Manila). pl. 2, fig. 13 (scale)

— Jordan and Richardson, Philippine
Journ. Sci., vol. , p. 53, 1910
(reference).

Snout little elongate, upper profile concave. Eye large, $1\frac{1}{2}$ in snout. Interorbital concave, less than eye, strongly granular. Preorbital prolonged in 2 short points, slight and smooth, edge of bone finely denticulate. No spines on granular orbital rim. No salient line between preorbital and preopercular angles. Cheek strongly granular. Vertex ends in long point, beveled, granular. Strong horizontal line to preopercle, spineless. Opercle with feeble, granular spine. Shoulder strongly granular, with feeble point.

Scales large, front border rounded, hind border with 2 long points as 1 at each outer

end, and 5 or 6 intermediate short points. Line of back with strong spines, depressed posteriorly.

D. VII, 14, first 2 spines strongly granular, second spine higher than body depth; A. 13; pectoral reaches seventh anal ray. Length 140 mm. (Sauvage.)

Philippines.

Lepidotrigla faurei Gilchrist
and Thompson

Lepidotrigla faurei Gilchrist and
Thompson, Ann. South African
Mus., vol. 13, p. 75, 1914 (type locality,
Off Natal coast; Tugela River mouth N.
by W. $\frac{3}{4}$ W. 15 $\frac{1}{2}$ miles; Tugela River
mouth N. 22 miles; 40 to 63 fathoms).
— Barnard, Ann. South African Mus.,
vol. 21, p. 938, 1925 (Natal; Zululand;
types of L. faurei) and ~~L. natalensis~~

— Fowler, Proc. Acad. Nat. Sci.
Philadelphia, vol. 86, p. 486, 1934
(Natal). — L. B. Smith, Trans.
Roy. Soc. South Africa, vol. 22, pt. 4,
p. 323, pl. 16a, pl. 18a, pl. 19, A, C,
1934 (Natal, off Tugela mouth, 20
to 63 fathoms).

Depth 4; head $3\frac{1}{10}$, width $1\frac{1}{3}$.

Snout $2\frac{1}{4}$ in head; eye $3\frac{1}{3}$, $1\frac{2}{5}$ in snout, greater than interorbital; maxillary reaches $\frac{1}{8}$ in eye, length $2\frac{2}{5}$ in head; teeth in villiform bands in jaws, none on palate or tongue; interorbital $4\frac{4}{5}$, deeply concave; opercle ends in strong spine, also larger humeral spine. Gill rakers 2+14, of which upper and 7 lower rudiments, clavate, rather slender, $1\frac{3}{4}$ in gill filaments, which $2\frac{1}{5}$ in eye.

Scales 50+4 in lateral line; tubes in lateral line mostly trifid; 3 scales above, 11 below, 6 predorsal. Along each side of dorsals 27 basal denticles. Caudal largely covered with small scales. Scales with 11 to 16

basal radiating striae; 10 to 22 short apical denticles; circuli fine, obsolete apically.

D. IX - 16, I, third spine $1\frac{1}{2}$ in head, I, third ray 2; A. 17, I, fourth ray $3\frac{1}{8}$; caudal $1\frac{3}{5}$, nearly truncate; least depth of caudal peduncle $5\frac{1}{2}$; pectoral rays 9, I - III.

Olivaceous buff, scales on back above with very slight brownish tinge, also upper surface of head. Iris gray. Fins all pale, like body color, except dark neutral brown rayed pectoral, which area also with obscure blackish blotches or spots.

A. N. S. P., one example. Durban,
 Natal. H. W. Bell Marley. 1931.
 Length 158 mm.

2388

Lepidotrigla grandis Ogilby

Lepidotrigla grandis Ogilby, New
Fish. Queensland Coast, p. 122,
Dec. 20, 1910 (type locality, Off
Cape Moreton, South Queensland,
73 fathoms). — Mc Culloch and
Whitley, Mem. Queensland Mus.,
vol. 8, pt. 2, p. 165, July 7, 1925 (reference).
— Mc Culloch, Austral. Mus.
Mem., no. 5, pt. 3, p. 395, Nov. 28, 1929
(reference).

Lepidotrigla hima matsubara
and Hiyama

Lepidotrigla hima matsubara
and Hiyama, Journ. Imper.
Fish. Inst., Tokyo, vol. 28,
p. 36, fig. 13, 1932 (type locality,
Misaki; Suwayama Bay).

2390

Lepidotrigla modesta Waite

Lepidotrigla modesta Waite, Austral
Mus. Mem., No. 4, pt. 1, p. 106, pl. 23,
Dec. 23, 1899 (type locality, Off
Broughton Island, New South
Wales).

— McCulloch, Austral. Mus. Mem.,
No. 5, pt. 3, p. 395, Nov. 28, 1929
(reference); Fish. New South Wales,
ed. 3, p. 93, pl. 39, fig. 346 b, 1934.

2391

Lepidotrigla mullalli macleay

Lepidotrigla mullalli macleay,
Proc. Linn. Soc. New South Wales,
vol. 8, pt. 4, p. 460, Feb. 21, 1884
(type locality, Off Port Jackson,
in 40 fathoms) — Waite, Austral.
Mus. Mem., no. 4, pt. 1, p. 105, pl. 22,
Dec. 23, 1899 (New South Wales).

— McCulloch, Austral. Mus. Mem.;
no. 5, pt. 3, p. 395, Nov. 28, 1929
(reference); Fish. New South Wales,
ed. 3, p. 93, 1934.

2392

Lepidotrigla multispinosa J. L. B.
Smith

Lepidotrigla multispinosa J. L. B.
Smith, Trans. Roy. Soc. South
Africa, vol. 22, pt. 4, p. 326, pls.
17 and 20 ~~plates~~, 1934 (type locality,
"probably from Natal").

Depth 4; head 3. Snout 2 on head; eye 4, $1\frac{3}{4}$ in snout; maxillary reaches eye, length $2\frac{4}{5}$ in head; mouth partly inferior, lower jaw included; villiform teeth in bands in both jaws, wider in upper; palate edentulous; interorbital $4\frac{4}{5}$ in head, deeply concave. Gill rakers 4 + 5, upper as rudiments; length 5 in eye.

Nostril spines broadly obtuse, interspace 3 in head; 2 small antero-supraorbital spines, and larger poster-supraorbital spine; pair of weak parietal spines and pair of larger occipital spines; short, deep-groove at upper hind edge of orbit, continuous, angularly bent backwards across occiput; distinct

2394

ridge on lower edge of preopercle,
 $1\frac{1}{3}$ times eye, slightly oblique
downwards to angle, at
which no spine; humeral
spine 3 in head.

Scales 59 in lateral line.
Nose naked. Scales ctenoid
to below pectoral base, ventral
scales with single large denticle.
Pores of lateral line with 4 to
7 branches.

D. VIII, 15, second and third
spines subequal or $1\frac{4}{5}$ in head,
fifth to eighth rays $3\frac{1}{2}$; A. 16,
opposite soft dorsal; caudal
 $1\frac{3}{5}$, nearly truncate; least
depth of caudal peduncle $7\frac{1}{8}$;
pectoral $1\frac{1}{5}$ in head, rays 11-III,
largest or upper detached ray
 $1\frac{2}{5}$; ventral rays I, 5.
Uniform red brown. Pectoral dark.
Length 160 mm. (J. L. B. Smith.)

2395
natal. Known by the strong
lower preopercular keel, 10 or
more spines on each preorbital
and the pectoral less than head.

2396

Lepidotrigla natalensis Gilchrist
and Thompson

Lepidotrigla natalensis Gilchrist
and Thompson, Ann. South
African Mus., vol. 13, p. 76, 1914
(Type locality, Off the Natal
coast, 40 fathoms; ~~Cape Natal W.~~
~~by N. $\frac{1}{2}$ miles~~). Tugela River
~~at Barnard, Ann. South African~~
~~Mus., vol. 21, p. 938, 1925~~
mouth N. by W. $\frac{1}{2}$ W. 16 miles).

— J. L. B. Smith, Trans. Roy.
Soc. South Africa, vol. 22, pt. 4,
p. 325, pl. 16 B, pl. 18 B, C., pl. 19,
B, D - F, 1934 (Natal, off Tugela
mouth, to 63 fathoms).

Aellopor 26, 98

elongatus 98

wagneri 26

Aethoprora 400

Aetobates 136

Aetobatis 136

flagellum 137

lateriostriis 137

narinari 137, 138

Aetobatus 133, 137

narinari 137

Lepidotrigla faurei (not Gilchrist
and Thompson) Barnard, Ann.
South African Mus., vol. 21, pt. 2,
p. 938, Oct. 1927 (part).

Lepidotrigla paradoxa Matsubara
and Hiyama

Lepidotrigla paradoxa Matsubara
and Hiyama, Journ. Imper.
Fisheries Inst., Tokyo, vol. 28, no. 1,
p. 19 (on Jordan and Richardson).
Dec. 1932

Lepidotrigla alata (not Houttuyn)
Jordan and Richardson, Proc.
U. S. Nat. Mus., vol. 33, p. 650,
fig. 7, 1908 (Nagasaki; Wakanoura;
Misaki; Kobe; Tsushima;
Tsuwaga; Onomichi).

2399

Lepidotrigla phalaena (Cuvier)

Trigla phalaena Cuvier, Hist. Nat. Poiss., vol. 4, p. 83, Nov. 1929 (type locality, "Mer des Indes (Péron)").
— Swainson, Nat. Hist. Animals, vol. 2, p. 262, 1839 (reference).

Lepidotrigla phalaena Günther, Cat. Fish. Brit. Mus., vol. 2, p. 197, 1860 (copied).

— McCulloch, Austral. Mus. Mem., no. 5, pt. 3, p. 394, Nov. 28, 1929 (reference).

Lepidotrigla smithi Regan

Lepidotrigla smithi Regan,
Ann. Mag. Nat. Hist., London,
ser. 7, vol. 15, p. 22, 1905 (type
locality, Inland Sea of Japan).
— Jordan and Starks, Proc. U.
S. Nat. Mus., vol. 32, p. 133, 1907
(reference).

2401

Lepidotrigla sphinx (Cuvier)

Trigla sphinx Cuvier, Hist. Nat.
Poiss., vol. 4, p. 83, Nov. 1829 (type
locality, "Mers des Indes" Péron)

Lepidotrigla sphinx Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 197, 1860
(copied).

Lepidotrigla sphinx McCulloch,
Austral. Mus. Mem., no. 5, pt. 3,
p. 394, Nov. 28, 1929 (reference).

Lepidotrigla stigmatron Fowler

Lepidotrigla stigmatron Fowler,
Proc. Acad. Nat. Sci. Philadelphia,
vol. 86, p. 487, fig. 46, 1934 (type
locality, Durban, Natal).

Depth $4\frac{1}{5}$; head $3\frac{1}{4}$, width $1\frac{3}{5}$.
 Snout 2 in head; orbit $3\frac{7}{8}$;
 eye $4\frac{4}{5}$, $1\frac{7}{8}$ in snout, equals
 bony interorbital; maxillary
 reaches opposite front eye
 edge, length $2\frac{1}{2}$ in head;
 teeth in villiform bands in
 jaws, 5 transversely; small
 patch of villiform teeth on vomer;
 interorbital $5\frac{1}{4}$, very deeply
 concave; strong preorbital
 spine each side of snout;
 supraocular spines anterior,
 small, 2 in number; opercular
 spine $\frac{1}{2}$ of orbit; bones of head
 finely rugose striate. Gill-
 rakers 1 + 11, lanceolate, slightly
 less than gill filaments or $\frac{1}{3}$
 of eye.

Scales 59 in lateral line,
 large, narrowly imbricated;

2 above to soft dorsal origin,
 10 below, 5 predorsal. Supra-
 scapular spine moderate and
 humeral spine longer than
 opercular. Caudal largely
 covered with small scales
 from base, other fins, chest
 and breast naked. Along
 spinous dorsal base 15 low
 spines each side and 16 along
 each side of soft dorsal base.
 Scales with 7 or 8 basal radi-
 ating striae, fin edge scalloped;
 16 to 22 short apical denticles
 irregularly biserial; circuli
 fine.

D. VIII - 17, I, third spine $1\frac{2}{5}$
 in head, third ray $1\frac{7}{8}$; A. 17, I,
 third ray $2\frac{2}{5}$; caudal 1, concave
 behind; least depth of caudal
 peduncle $4\frac{2}{5}$; ventral with spine

and 5 rays; pectoral 3 in combined head and body without caudal, rays 10 - III.

Head and body brownish above, under surfaces whitish. Iris neutral gray. Fins all pale. Spinous dorsal with large dark brown round blotch, large as eye, on fin posteriorly. Soft dorsal with 3 or 4 brownish bars on each fin ray. Caudal with 4 very indistinct or slightly darker transverse bars. Pectoral with longest rays and membranes neutral black terminally. Anal whitish with median dark brown longitudinal band.

A. N. S. P., No. 54803. Durban,
Natal. H. W. Bell Marley.
Length 119 mm. Type.

Lepidotrigla teraoi matubara
and Hiyama

Lepidotrigla teraoi matubara
and Hiyama, Journ. Imp.
Fisher. Inst., Tokyo, vol. 28,
p. 29, fig. 11, 1932 (Type locality,
Tokyo Bay).

Lepidotrigla truncata Matsubara
and Hiyama

Lepidotrigla truncata Matsubara
and Hiyama, Journ. Imp.
Fisher. Inst., Tokyo, vol. 28, no. 1,
p. 46, fig. 16, ^{Dec.} 1932. (Type locality,
Nagasaki).

2407

Lepidotrigla vanessa (Richardson)

Trigla vanessa Richardson, Proc.
Zool. Soc. London, p. 97, Nov. 1839
(type locality, Port Arthur,
Tasmania); Trans. Zool. Soc.
London, vol. 3, p. 83, pl. 5, fig. 1.

Lepidotrigla vanessa Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 197,
1860 (type).

— Waite, Rec. Canterbury Mus., vol. 1,
no. 1, p. 29, April 25, 1907 (reference).

— McCulloch, Austral. Mus. Mem.,
No. 5, Pt. 3, p. 394, Nov. 28, 1929
(reference).

Pachytrigla paradoxa (Matsu-
bara and Hiyama)

Lepidotrigla paradoxa Matsubara
and Hiyama, Journ. Imp.
Fishery Inst., Tokyo, vol. 28,
no. 1, p. 19, fig. 7, Dec. 1932
(type locality, Kumamoto).

Lepidotrigla alata (not Houtteyn)
Jordan and Richardson, Proc.
U. S. Nat. Mus., vol. 33, p. 650,
fig. 7, 1908.

2419

differs from Pachytrigla
marissinensis in tubes of the
lateral line, each shown as a
simple pore by Jordan and
Richardson, as well as by Mat-
subara and Hiyama. Though
the former show the anterior
scales of the lateral deep and
narrowly imbricated, the latter
two authors show them similar
to the other body scales. All
these writers also show the
scutes along the ^{first} dorsal base
like those along the second
dorsal base. If this is
correct the species then perhaps
should remain in Lepidotrigla.

2420

Genus Trigla Linnaeus

Trigla Linnaeus, Syst. Nat., ed.
10, pt. 1, p. 300, 1758. (Type
Trigla lyra Linnaeus, Designated
by Jordan and ~~Evermann~~
~~Wilson~~, Gilbert,
Bull. U. S. Nat. Mus., No. 16, p. 733,
1883.)

Microtrigla Kaup, Archiv Naturg.,
p. 86, 1873. (Type Trigla papilio
Cuvier. Designated by Jordan,
Genera of Fishes, pt. 3, p. 369,
1919.)

Chelidonicichthys Kaup, Archiv
Naturg., p. 87, 1873. (Type Trigla
hirundo Linnaeus, designated
 by Jordan, Genera of Fishes,
 pt. 3, p. 370, 1919.)

Lyrichthys Kaup, op. cit., p. 88.
 (Type Trigla lyra Linnaeus,
 designated by Jordan, op. cit.,
 p. 369.)

2422

Aspitrigla Fowler, Amer. Mus.
Novit., New York, no. 162, p. 5,
March 31, 1925. (Type Trigla
cuculus Linnaeus, orthotypic.)

Trigloporus J. L. B. Smith,
Trans. Roy. Soc. South Africa,
vol. 22, pt. 4, p. 333, 1934.
(Type Trigla (Trigloporus)
africana J. L. B. Smith,
orthotypic.)

Head paralleloiped, with upper surface and sides entirely bony. Snout usually long, well inclined. Eye elevated, median or little postmedian in head. Mouth low, nearly horizontal, maxillary reaches ~~half way~~ below eye. Teeth villiform, in both jaws and usually on vomer, palatines toothless. Pseudo-branchiae present. Branchiostegals 7. Air bladder well developed, usually with lateral muscles and sometimes partially divided internally by partitions. Armature of head variable, at least spiny points usually present. Scales very small, 100 more in lateral series, those of lateral line sometimes

enlarged. Dorsals 2, usually
separated and spinous fin
higher and shorter at base
than soft dorsal. Anal like
second dorsal. Caudal small.
Pectoral various, with 3
detached rays below. Ventral
moderate.

2425

Trigla africana J. L. B. Smith

Trigla (Trigloporus) africana
J. L. B. Smith, Trans. Roy. Soc.
South Africa, vol. 22, pt. 4, p.
334, pl. 23, 1934 (type locality,
Cape St. Blaize, 26 to 33 fathoms;
Algoa Bay, 40 fathoms; Port
Alfred).

Trigla lineata (not Bloch)
Barnard, Ann. South African
Mus., vol. 21, pt. 2, p. 943, Oct. 1927
(Agulhas Banks; Algoa Bay; 20
to 40 fathoms).

Depth $4\frac{1}{2}$ to 5; head $3\frac{1}{2}$ to $3\frac{3}{5}$.
 Snout $2\frac{1}{5}$ in head; eye $4\frac{1}{3}$ to $4\frac{1}{2}$, 2 in snout; maxillary reaches below hind edge of eye; no vomerine teeth; inter-orbital 4 to $4\frac{1}{2}$ in head, deeply concave. Gill rakers 7 or 8.

Frontal spines not developed, front of snout rounded or with slight median concavity; 2 to 4 backwardly radiating antero-supraorbital ridged, each ending above orbital margin in small spine; 1 to 3 minute supero-~~supra~~^{post}orbital spinate ridges, without cross groove behind; 1 to 3 occipital spines; preopercular and opercular spines very feeble; humeral spine very short.

Scales 67 to 70 in lateral line

each bearing 2 to 5 spines.

Scales very small, strongly ctenoid above lateral line, cycloid on ventral surface.

Breast partly or entirely scaly.

D. $\overline{\text{X}}$ - 15 or 16, second spine $1\frac{1}{3}$ to $1\frac{2}{5}$ in head, soft rays $2\frac{1}{2}$; A. 15 or 16, opposite soft dorsal; caudal $1\frac{1}{10}$, slightly emarginate; least depth of caudal peduncle $5\frac{2}{3}$; pectoral $1\frac{1}{4}$ to $1\frac{1}{3}$ times head or $2\frac{3}{4}$ in fish without caudal, reach fourth to fifth dorsal ray, upper or longest detached ray $1\frac{1}{10}$ to $1\frac{1}{5}$ in head or tip reaches posterior third of ventral; ventrals 1 to $1\frac{1}{5}$ times head, reach bases of second to fourth anal rays.

Red brown, mottled and spotted, with 4 to 7 faint cross bars. Spinous and soft dorsal and caudal with irreg- blotches. Pectoral bluish, with irregular cross mottlings, detached rays with several brownish blotches. Ventral reddish. Length 230 mm.

(J. L. B. Smith.)

South Africa. Said to differ from Trigla lineata in its scaly breast, lower edges of preorbitals smooth, smaller eye, longer pectoral, and fewer dorsal spines.

Genus Currupeiscis Whitley

Currupeiscis Whitley, Australian
Zoologist, vol. 6, pt. 4, p. 327,
Feb. 13, 1931. (Type Currupeiscis
volucer Whitley, orthotypic.)

Bands of teeth on jaws and vomer, none on palatines. Interorbital concave. Head not very rugose. Orbit with 2 spines at front edge. Preorbital extended into 3 small spines on each side of snout. Gill rakers slender, less than half of eye. Scales very small, over 100 transverse rows. Along each side of both dorsals 23 spinigerous bucklers. First dorsal spine very slightly rugose. No pungent anal spine. Pectoral longer than head. Coloration reddish.

Apparently differs from Chelidnichthys Kaup, with which the species were formerly associated, in the less spiny head, shorter scapular spine, dorsal bucklers and coloration.

Analysis of Species

a.¹ Rostral extension ends in several free spines; breast naked.

b.¹ Eye distinctly greater than interorbital.

c.¹ Scales 180 in lateral line; pectoral reaches $\frac{3}{5}$ to caudal. sumu.

c.² Scales 65 in lateral line; pectoral nearly reaches caudal. ischyrus.

b.² Eye equals interorbital width. capensis.

a.² ~~Rostral extension ends in a~~
Rostral extension ends in a single exposed spine; breast pitted or scaly. quebetti.

Cuvier
Chelidonichthys kumu (Cuvier) 2432

~~Chelidonichthys~~

Trigla kumu Cuvier, Hist. Nat.
Poiss., vol. 4, p. 53, 1829 (type
locality, New Zealand). —
Lesson, Voy. Cochin, Poiss., p. 214,
pl. 19, 1830 (New Zealand, "le
grand Baie des Isles"). — Jenyns,
Zool. Voy. Beagle, pt. 4, Fish, p. 27, 1842.
(Bay of Islands, New Zealand).

— Bleeker, Nat. Tijds. Ned. Indië,
vol. 21, p. 53, 1860 (reference). —

Kner, Reise Novara, Fische, p.

124, pl. 6, fig. 2, 1865 (Cape of

Good Hope). — Schmeltz, Cat. Mus. Godeffroy,

Günther, Cat. Fish. Brit. Mus.,

vol. 2, p. 204, 1860.

— Steindachner, Sitz. Abad. Wiss. Wien,

Math.-naturw. Kl., vol. 53, pt. 1, p. 443, 1866

(Port Jackson).

998/8.1.1865 (Smithsonian)
998/8.1.1865 (Smithsonian)
998/8.1.1865 (Smithsonian)

- 2433
- McCoy, Prodr. Zool. Victoria, dec. 1, pl. 5, 1880. — Catelan, Proc. Linn. Soc. New South Wales, vol. 3, p. 380, 1880 (Port Jackson).
- Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, p. 590, 1881 (Port Jackson). — McCoy, Jenison-Woods, Fishes, New South Wales, p. 168, pl. 27.
- Pöhl, Cat. Mus. Godeffroy, no. 10, p. 32, 1884 (South Sea).
- Hystrom, Bih. Kon. Sv. Vet. Akad. Handl., vol. 13, aft. 4, no. 4, p. 21, 1887 (Nagasaki). — Steindachner and Döderlein, Denks. Akad. Wiss. Wien, math.-naturk. Mus., vol. 53, pt. 1, p. 265, 1889 (no locality). — Sherrin, Handb. Fish. New Zealand, p. 36.
- Ogilby, Edible Fish. New South Wales, p. 109, pl. 29, 1893.
- Ishikawa and Matsuura, Cat. Fish. Imp. Mus., Tokyo, p. 47, 1897.
- Steindachner, Ann. Hofmus. Wien, vol. 11, p. 205, 1896 (Japan). — Elera, Cat. Fauna Filipinas, vol. 1, p. 499, 1897 (Luzon; Mindoro).

2434

— Gilchrist, Marine Investig. South
Africa, vol. 1, p. 120, 1902 (reference).

— Stead, Edible Fish. New South
Wales, p. 14, pl. 79, 1908.

— Roughley, Fishes of Australia, p.
184, pl. 64, 1916.

— Fowler, Proc. Acad. Nat. Sci.
Philadelphia, vol. 75, p. 44, 1923
(Victoria).

— Pietschmann, Bull. Bishop Mus., no. 73,
p. 18, 1930 (near Kapaoo, west coast
of Hawaii).

Trigla kumu var. kumu Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 204,
1860 (New Zealand; Australia).

Chelidonichthys kumu Jordan and Evermann, Rep. U. S. Fish Comm.,

p. 488, 1895 (1896) (note). —

Waite, Austral. Mus. Mem., no. 4, pt. 1, p. 108, Dec. 23, 1899

(Thetis stations).

— Jordan and Starks, Proc. U. S. Nat. Mus., vol. 32, p. 133, 1907 (note).

— Waite, Rec. Canterbury Mus., vol. 1, no. 1, p. 29, April 25, 1907 (reference).

— Jordan and Richardson, Proc. U. S. Nat. Mus., vol. 33, p. 656, 1908

(Kobe, Tokyo, Nagasaki, Kagoshima, Kawatana, Misaki, Amami, Tsuruga, Wakamura, Hakodate, Matsushima; Port Arthur; Port Jackson).

— Jordan and Snyder, Annot. Zool. Japon., vol. 3, p. 107, 1901 (reference).

- Franz, Abhandl. math.-phys. Kl. Kais. Bayer. Akad. Wiss., vol. ~~10~~ 10, Suppl. Band 1, p. 79, 1910 (Saganis Bay; Oyama; Aburat^{subu}); pl. 2, fig. 2.
- Jordan, Tanaka, Snyder, Journ. College Sci. Tokyo, vol. 33, art. 1, p. 289, 1913 (reference).
- Jordan and Shampton, Mem. Carnegie Mus., vol. 6, no. 4, p. 282, Sep. 1914 (Osaka, Misaki, Matsushima).
- Izuka and Matsura, Cat. Zool. Spec. Tokyo Mus., Vertebr., p. 121, 1920 (Tokyo).
- Jordan and Hubbs, Mem. Carnegie Mus., vol. 10, no. 2, p. 288, June 27, 1925 (Tokyo, Osaka, Toba, Tatoku Island, Mihawa Bay, Choshi, Toyama, Misaki, Miyazu).
- Barnard, Ann. South African Mus., vol. 21, pt. 1, p. 941, Oct. 1927 (False Bay, Agulhas Bank, Natal, Zululand, to 100 fathoms). — Fowler, Mem. Bishop Mus., vol. 10, p. 302, 1928 (copied).
- McCulloch, Austral. Mus. Mem., no. 5, pt. 3, p. 394, Nov. 28, 1929 (reference).

— Fowler, op. cit., vol. 11, no. 5, p. 350, 1931
(reference).

— Matsubara and Hayama, Journ.
Fisher. Inst., Tokyo, vol. 28, no. 1, p.
5, fig. 1, Dec. 1932 (Yateyama, Tokyo
Bay, Hyugan).

— McCulloch, Fish. New South Wales,
ed. 3, p. 93, pl. 39, fig. 348, 1934.

— Fowler, op. cit., vol. 11, no. 6, p. 431, 1934
(reference).

— J. L. B. Smith, Trans. Roy. Soc. South
Africa, vol. 22, pt. 4, p. 328, 1934
(reference).

Trigla papilionacea (Parbenson)
Cuvier, Hist. Nat. Poiss., vol. 4, p. 50,
Nov. 1929 (type locality, New
Zealand).

Trigla papilionacea Swainson,
Nat. Hist. Animals, vol. 2, p. 262,
1839 (reference).

- Trigla peronii Cuvier, Hist. Nat. Poiss., vol. 4, p. 53, 1829 (type locality, Cape of Good Hope).
- Pappe, Synops. Edible Fish. Cape of Good Hope, p. 13, 1853 (Table Bay). — Bleeker, Nat. Tijds. Ned. Indie, vol. 21, p. (50, 53) 64, 1860 (Cape of Good Hope).
- Gilchrist, Marine Investig. South Africa, vol. 1, p. 120, 1902 (reference).
- Swainson, Nat. Hist. Animals, vol. 2, p. 262, 1839 (reference).

Trigla peroni Gilchrist and Thompson

Ann. South African Mus., vol. 3,
pt. 3, p. 78, May 7, 1914 (Natal);
Ann. Durban Mus., vol. 1, pt. 4, p.
413, May 21, 1917 (reference)

Trigla spinosa McClelland, Journ.
Calcutta Nat. Hist. Soc., vol. 4, p.
396, pl. 22, fig. 2, 1844 (type
locality, China).

Trigla kumu var. spinosa Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 204.
1860 (China; Hong Kong).

Crompiscus spinosus Whitley,
Australian Zoologist, vol. 16, pt.
4, p. 328, Feb. 13, 1931 (reference).

Trigla capensis (not Cuvier)
Castelnau, Mém. Poiss. Afrique
australe, p. 5, 1861 (part).

Chelidonichthys pictipinnis Kaup,
Archiv. Naturg., p. 87, 1873 (Type
locality, "Barbados" = Japan or
Australia).

Trigla kumu var. dorsomaculata
Steindachner, Sitzb. Akad. Wiss.
Wien, math.-naturw. Kl., vol. 74, p. 216,
1876 (type locality, "Tschifoo").

Currupeiscis volucer Whitley,
Australian Zoologist, vol. 6, pt.
4, p. 328, Feb. 13, 1931 (type
locality, La Perouse, Botany Bay,
New South Wales).

U.S.N.M., No. 59917. Port ²⁴⁴⁵
Jackson, New South Wales.
D. G. Stead. Length 138 mm.

U.S.N.M., No. 71742.
Kagoshima, Japan. Albatross
Collection. Length 158 to 215
mm. Four examples.

Curupiscis ischyru (Jordan
and Thompson)

Chelidamichthys ischyru Jordan
and Thompson, Mem. Carnegie
Mus., vol. 6, no. 4, p. 282, pl.
35, fig. 1, Sep. 1914 (type locality,
Sagami Bay) — Matsubara
and Hiyama, Journ. Fisher. Inst.,
Tokyo, vol. 28, no. 1, p. 7, Dec. 1932
(copied).

2447

curupescis

Chelidonichthys capensis (Cuvier)

Trigla capensis Cuvier, Hist. Nat. Paris, vol. 4, p. 55, 1829 (type locality, Cape of Good Hope).

— Pappe, Synop. Edible Fish. Cape of Good Hope, p. 13, 1853 (Table Bay).

— Günther, Cat. Fish. Brit. Mus.,

vol. 2, p. 203, 1860 (Cape of Good Hope). — Bleeker, Nat. Tijds. Ned. Indie, vol. 21, p. 53, 1860 (reference).

— Castelnau, Mém. Paris. Afrique

austral, p. 5, 1861 (Cape of Good Hope). — Kner, ^{Reise} Novara, Fische,

p. 124, 1866 ("Capstadt").

— Boulenger, Proc. Zool. Soc.
 London, p. 240, 1889 (Muscat).
 — Gilchrist, Marine Investig.
 South Africa, vol. 1, p. 120, 1902
 (reference).

— Fowler, Proc. Acad. Nat. Sci.
 Philadelphia, vol. 77, p. 256, 1925
 (Katal).

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Chelidonichthys capensis Gilchrist
and Thompson, Ann. Durban Mus.,
vol. 1, pt. 4, p. 413, ^{May} 1917 (reference).

— Barnard, Ann. South African
Mus., vol. 22, pt. 2, p. 940, text fig.
28c (head), pl. 34, fig. 3, Oct.
1927 (Table Bay; Agulhas Banks;
Katal; in 5 to 50 fathoms). —

Fowler, Proc. Acad. Nat. Sci.
Philadelphia, vol. 86, p. 486, fig. 41,
1934 (Katal). — J. L. B. Smith,
Trans. Roy. Soc. South Africa,
vol. 22, pt. 4, p. 328, 1934 (reference).

— Horman, Discovery Rep., vol. 12,
p. 57, 1935 (South Africa).

Prionotus pusillus Castelnau,
Mém. Poiss. Afrique australe,
p. 6, 1861 (type locality, Table
Bay). — Gilchrist, Marine
Investig. South Africa, vol. 1, p.
120, 1902 (reference).

U. S. N. M., No. 6402. Cape of
Good Hope. William Stimpson.
Length 200 mm. No ridge to
preorbital stay on side of
cheek.

2452

Cuvonipiscij
Lepidotrigla queketti Regan

Trigla queketti Regan, Ann. Mag.
Nat. Hist., London, ser. 7, vol. 14,
p. 128, 1904 (type locality, Natal
coast). — Gilchrist and Thompson,
Ann. Durban Mus., vol. 1, pt. 4, p. 414,
May 1917 (reference).

Chelidomichthys queketti Barnard,
Ann. South African Mus., vol. 21, pt. 2, p.
94 ^{fig. 28 c (head)}, Dec. 1927 (False Bay; Agulhas Bank; Natal
coast; Table Bay).

→ J. L. B. Smith, Trans. Roy. Soc.
South Africa, vol. 22, pt. 4, p. 328,
fig. 1 (rostral spines), 1934 (note).

Lepidotrigla queketti

2453

Depth 5 to $5\frac{1}{5}$; head $3\frac{1}{3}$ to $3\frac{1}{2}$.
Eye $3\frac{1}{2}$ to $3\frac{2}{3}$ in head, $1\frac{1}{2}$ to $1\frac{2}{3}$ in
snout, $1\frac{1}{3}$ times interorbital width;
snout profile straight, front
concave between preorbitals; inter-
orbital concave. Gill rakers 10 or 11
(excluding rudiments). Two or 3
antero-supraorbital spines; no
postorbital spine or groove; low,
well marked temporal ridge;
nuchal spines reaching level of
first dorsal spine; preorbital
with single strong spine, sometimes
smaller one internally; preorbital
without keel, with 3 series of
radiating lines of granules, 1
anteriorly, 1 above end of maxillary,
and another between latter and
eye.

Scales small, 80 scales in
lateral line. Breast pitted.
Dorsal base with 26 or 27 spines.

D. IX - 18, second spine longest,
almost smooth; A. 17; caudal
feebly emarginate; pectoral
reaches third or fourth soft
dorsal ray, longest detached ray
reaches hind third or quarter
of ventral, which reaches anal
origin.

Red, with yellow vermiculations.
Silvery below. Soft dorsal pink
along base and margin. Pectoral
pinkish on outer side, olive-
green on inner, with membrane
between ~~the~~ innermost 4 rays
pinkish. Other fins reddish.
Length 300 mm. (Barnard.)

South Africa, Natal.

Genus Pterygotrigla Waite

Pterygotrigla Waite, Mem. Austral. Mus., no. 4^{pt. 1, 2}, p. 108, 1899. (Type Trigla polyommata Richardson, virtually, as Pterygotrigla Waite proposed to replace Hoplanotus Guichenot.)

Hoplanotus (not Blanchard 1851) Guichenot, Ann. Sci. Linn. Maine et Loire, vol. 9, p. 3, 1866. (Type Trigla polyommata Richardson, monotypic.)

Body elongately ovoid. Head rather large. Snout rather long, oblique. Eye elevated, little postmedian length of head, rather large. Scapular spine short. Rostral spines short. No postero-supraorbital spine. Rather large bony bucklers along base of spinous dorsal. Scales very small in lateral line, which not armed with bony shields. Humeral spine long and prominent. Spinous and soft dorsal separated, former little higher. Caudal emarginate. Pectoral large, reaches well back in middle of soft dorsal and anal.

2455

Pterygotrigla polyommata (Richardson)

Trigla polyommata Richardson, Proc.
Zool. Soc. London, p. 96, Nov. 1839
(type locality, Port Arthur, Tasmania);
Trans. Zool. Soc. London, vol. 3, p. 87,
pl. 5, fig. 2. 1849.

— Günther, Cat. Fish. Brit. Mus., vol. 2,
p. 204, 1860 (type; Port Arthur), p. 524
(North Australia).

— Macleay, Proc. Linn. Soc. New South
Wales, vol. 5, p. 591, 1881 (Port Jackson;
Port Phillip; Western Australia).

— Klunzinger, Sitzs. Ber. Akad. Wiss.
Wien, math.-naturw. Kl., vol. 80, pt. 1,
p. 368, 1879 (Hobson's Bay; Port Phillip;
King George Sound).

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Hoplanotus polyommatus Guichenot,
Ann. Soc. Linn. Maine et Loire,
vol. 9, p. , 1866.

Pterygotrigla polyommata Waite,
Austral. Mus. Mem., no. 4, pt. 1,
p. 108, Dec. 23, 1899 (Port Stephens;
Port Jackson).

— McCulloch, Austral. Mus. Mem., no. 5, pt.
3, p. 393, Nov. 28, 1929 (reference); Fish.
New South Wales, ed. 3, p. 93, pl. 39,
fig. 349a, 1934.

? Trigla amoena Castelnau, Proc.
Zool. Acclimat. Soc. Victoria,
vol. 2, p. 131, May 10, 1873 (type
locality, Fremantle, Western
Australia).

Trigla polysticta Boulenger, Proc.
Zool. Soc. London, p. (245), pl. 27,
fig. 2 (dorsal plates), 1889
(Muscat) (lapsus).

Pterygotrigla picta (Günther)

Trigla picta Günther, Rep. Voy.
Challenger, vol. 1, pt. 6, p. 24, pl.
13, fig. a, 1880 (type locality,
Juan Fernandez).

Pterygotrigla picta McCulloch,
Austral. Mus. Mem., no. 5, pt. 3,
p. 393, Nov. 28, 1929 (reference).

2459
Trigla guttata Philippi, Anal.
Univ. Chile, vol. 2, p. 375, 1896
(type locality, Juan Fernandez).

Pterygotrigna andertonii Waite,
Proc. New Zealand Inst., vol. 1,
p. 26, 1910 (type locality, Bay
of Plenty, New Zealand).

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Genus Otochime Jordan and Starbuck

Otochime Jordan and Starbuck, Proc.

U.S. Nat. Mus., vol. 32, p. 13, 1907.

(Type Trigla hemisticta Schlegel,
orthotypic.)

Genus Lepidotrigla Günther

Lepidotrigla Günther, Cat. Fish.
Brit. Mus., vol. 2, p. 196, 1860.

(Type Trigla aspera Swainson,
monotypic.)

Palaeonichthys Kaup, Archiv Naturg.,
p. 90, 1873. (Type Trigla aspera

Swainson, designated by Jordan,
Genera of Fishes, pt. 3, p. 370,
1919.)

Body elongately ovoid. Head moderate. Snout moderate, profile nearly straight. Eye large, elevated, little premedian in head. Mouth little large, low, little inclined. Maxillary extends below eye. Teeth in bands in jaws, present or not on vomer and none on palatines. Scapular spine moderate. Opercle with very long, conspicuous spine. Humeral spine short, small. Crescentic rugose plate before first dorsal spine base, and 3 rounded ones behind along each side of spinous dorsal base, or last between bases of fourth and fifth spines. Scales very small, about 105. Spinous dorsal little higher than soft fin, with 8 spines and rays 10. Anal with spine and 11 rays.

Genus Otochime Jordan and Starbuck

Otochime Jordan and Starbuck,
Proc. U. S. Nat. Mus., vol. 32, p. 13,
1907. (Type Trigla hemisticta
Schlegel, ^{orth} ~~monotypic~~.)

Caudal emarginate. Pectoral moderate, upper^{of} detached rays nearly long as fin. Ventral moderate.

Differs greatly from Pterygotrigla, with which Matrubara and Hayama have identified it, in the greatly smaller scapular and humeral spines, and especially in its very greatly enlarged and elongated opercular spine.

Otochme hemisticta (Schlegel)

Trigla hemisticta Schlegel,
 Fauna Japonica, Poiss., pt.
 p. 36, pl. 14, figs. 3-4 (head), pl.
 14 B, 1843 (type locality, Japan).
 — Richardson, Ichth. China and
 Japan, p. 218, 1846 (China). —
Günther, Cat. Fish. Brit. Mus.,
 vol. 2, p. 201, 1860 (copied). —
Hystrom, Bih. Kon. Vet. Akad.
 Handl., Stockholm, vol. 13, afd. 4,
 no. 4, p. 21, 1887 (Nagasaki). —
Day, Fishes of India, Suppl.,
 p. 791, 1888; Fauna British
 India, Fishes, vol. 2, p. 241,
 1889. — Aloock, Cat. Deep Sea
 Fish. Indian Mus., p. 67, 1899
 (Bay of Bengal; off Ganjan
 coast, 28 to 102 fathoms).

Chelidonicichthys hemistictus
Jordan and Snyder, Annot.
 Zool. Japon., vol. 3, p. 107, 1901
 (reference).

Otohime hemisticta Jordan and
Starks, Proc. U. S. Nat. Mus.,
 vol. 32, p. 132, fig., 1907 (Yokoha-
 ma). — Jordan and Richardson,
 Proc. U. S. Nat. Mus., vol. , p. 658

— Franz, Abhandl. Bayer. Akad.
 Wiss., vol. 4, Suppl. Band 1, p. 80,
 1910 (Yokohama).

Otohuine

Pterygotrigla hemisticta Jordan,
Tanaka, Snyder, Journ. College
Sci., Tokyo, vol. 33, p. 289, fig.
239, 1913 (reference).

— Matsubara and Hiyama, Journ.
Imp. Fisher. Inst., vol. 28, no. 1,
p. 10, figs. 2-3, Dec. 1932 (Naga-
saki; Enoshima).

Trigla arabica Boulenger,
Proc. Zool. Soc., London, p. 663,
1887 (type locality, Muscat,
East Arabia); p. 245, pl. 27, fig. 1,
1889 (type).

U. S. N. M., No. 57564. Japan.

P. L. Jouy. Length 222 mm.