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Family Lactariidae

Body oblong, rather deep. Head with lower profile little more inclined. Snout pointed. Eye high, lateral. Mouth cleft deep, oblique. Teeth small in jaws, 1 or 2 pairs of canines in front. Preopercle edge entire. Gill openings wide, membranes not united, free from isthmus. Gill rakers lanceolate. Pseudobranchiae present. Branchiostegals 7. No deep notch on shoulder girdle inside gill opening. Peritoneum pale. Vertebral 24 of which 14 caudal. Upper surface of head with large muciferous cavities. Scales moderately small. Lateral line continuous. Air bladder bifurcate both anteriorly and posteriorly.

Pyloric appendages 6. Two dorsal fins, spinous fin feeble, Anal with 3 feeble spines. Caudal moderate. Pectoral rather low. Ventral small.

One genus.

Genus Lactarius Valenciennes

Lactarius Valenciennes, Hist. Nat.

Poiss., vol. 9, p. 237, 1833. (Type

Scomber lactarius Schneider,
monotypic.)

Platylopes Quoy, Nat. Hist. Animals, vol. 2, p. 247, 1839.

(Type Scomber lactarius Schneider, monotypic.)

Body deepest forward, well compressed. Head moderate, compressed. Snout conic. Eye large, little advanced in head. Maxillary reaches below eye. Teeth small, curved, pointed in jaws, upper in villiform band with 1 or 2 pairs of canines near symphysis and lower uniserial, with pair or large single canine anteriorly. Small teeth on vomer, palatines and tongue. Scales

Cuvier ¹⁷⁹ Pama pama (Buchanan-Hamilton)

Bola pama Buchanan-Hamilton, Fishes of Ganges, 1822, pp. 79, 368, pl. 32, fig. 26. Ganges tidal estuaries, Calcutta.

Sciæna pama Cuvier, Hist. Nat. Poiss., vol. 5, 1830, p. 55, pl. 101 (Bengal and Irrawaddi River). $\frac{1}{m}$ Jordan and

Eigenmann, Rep. U. S. Fish Comm., pt. 14, 1886 (1889), p. 347 (name). $\frac{1}{m}$ Steindachner, Ann. Hofmus. Wien, vol. 11, 1896, p. 227 (Irrawaddi mouth at Rangoon).

$\frac{1}{m}$ Lloyd, Records Indian Mus., vol. 1, 1907, p. 226 (Akyab).

Collichthys pama Günther, Cat. Fishes Brit. Mus., vol. 2, 1860, p. 316 (Calcutta, Bengal Bay, India, East Indies). $\frac{1}{m}$

Burckner, Mitteil. Naturh. Mus. Hamburg, vol. 21, 1903 (1904), p. 155 (Kuala Kelang).

$\frac{1}{m}$ Fowler, Proc. Acad. Nat. Sci. Philadelphia, 1929 (1930), p. 650 (East Indies).

moderate, cycloid, some extend
over soft dorsal and anal.
Lateral line axial, without
scutes. First dorsal with
feeble spines, connected by deeply
notched membrane. Soft
dorsal with numerous rays.
Anal like soft dorsal, little
longer. Caudal deeply emarginate.
Pectoral pointed, moderate.
Ventral inserted below pectoral
base.

A single species.

Lactarius lactarius (Schneider)

Scomber lactarius Schneider,
Syst. Ichth. Bloch, p. 31, 1801
(type locality, Tranquebar).

9/10

Follow - Incl Caps

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No. 72683 U.S.N.M. Palaboean Ratoe, Wynkoops Bay, Java. Bryant and Palmer, 1909. Length 106 mm.

No. 75433 U.S.N.M. Wakanoura, Japan. Jordan and Snyder. Length, 108 to 132 mm. 2 examples.

No. 75434 U.S.N.M. Kobe, Japan. Jordan and Snyder. Length 185 mm.

No. 85878 U.S.N.M. China. A. de C. Sowerby. Length, 103 mm. Scales 49 in lateral line to caudal base and 6 more on latter. Upper molars posteriorly in 4 rows, lower in 3. Black spot at origin of lateral line.

No. 97063 U.S.N.M. Shanghai. A. de C. Sowerby. June, 1927. Length, 94 to 195 mm. 4 examples.

No. 53015 A.N.S.P. Bombay, India. Prof. F. Hallberg, 1924. Purchased. Length 235 mm.

Figure 80 in Sparus berda Forskål, young

Sparus berda Forskål

Figure 8 ← ca - 8 pt

Sparus berda FORSKÅL, Descript. Animal., (1775, p. 32, Arabia) - Gmelin, Syst. Nat. Linn., vol. 1, (1789, p. 1276) (Red Sea). - Walbaum, Arti-
 di Pisc., vol. 3, (1792, p. 292) (on FORSKÅL). - Schneider, Syst. Ichth. Bloch, (1801, p. 278) (Red Sea). - Lacépède, Hist. Nat. Poiss., vol. 4, 1802, pp. 31, 105, (Arabia). - Klunzinger, Verh. zool. bot. Ges. Wien, vol. 20, (1870, p. 758) (Koseir, Red Sea); Fische Roth. Meer., 1884, p. 44, pl. 13, fig. 1, (1884) - Jordan and Evermann, Proc. U.S. Nat. Mus., vol. 25, 1902, p. 350 (Formosa). - Steindachner, Denkschr. Akad. Wiss. Wien Math.-nat. Kl., vol. 71, pt. 1, p. 135 (Kor Garrieh, South Arabia). - Jordan and Richardson, Mem. Carnegie Mus., vol. 4, Aug. 28, 1909, p. 189 (on Jordan and Evermann). - Seale, Philippine Journ. Sci., vol. 9, No. 1, (1914, p. 67) (Hong Kong). - Fowler, Copeia, No. 58, June 18, 1918, p. 64 (Philippines); Journ. Bombay Nat. Hist. Soc., vol. 31, Nov. 1926,

6 pt request

Handwritten signature

Seriola lactaria Cuvier, Règne
Animal, ed. 2, vol. 2, p. 206, 1829.

Platylopes lactaria Swainson, Nat.
Hist. Animals, vol. 2, p. 247, 1839
(on Cuvier pl. 261).

~~2 examples. Davao and Sulu~~

~~Islands. September 17, 1909. Length 40 to 44 mm.~~

~~1 example. Great Tobat Island.~~

~~December 15, 1909. Length 52 mm.~~

D. 5360. Limbones Cove, Manila Bay.

February 8, 1909. Length 65 to 71 mm.

2 examples.

4487.

D. 5164. Observation Island, S. 85° W. 8

miles (5° 01' 40" N., 119° 52' 20" E.).

Sulu Archipelago. February 24, 1908.

Length 58 mm.

14 and 23821. Pandanon Island,

between Cebu and Bohol. March 23, 1909.

Length 80 to 89 mm.

8316. Subig Bay, southern Luzon.

January 7, 1908. Length 55 mm.

Lactarius lactarius Fowler, Journ.
Acad. Nat. Sci. Philadelphia, ser.
2, vol. 12, p. 518, ^{June 10,} 1904 (~~1905~~) (Padang).
— Evermann and Seale, Bull. Bur.
Fisher., vol. 26, p. 63, 1906 (1907)
(San Fabian). — Seale, Philippine
Journ. Sci., vol. 5, p. 270, 1910.

Thalassoma *paucispinatum*, *paucispinatum*
Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.
Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.
Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.
Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.
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Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.
Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.
Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.
Boulenger, *Ann. Mag. Nat. Hist.* 1895, p. 100.

and species, a large fish of
the shores of the Bay of Bengal,
sometimes found in tidal estuaries
and rivers.

Pama, the specific name of the
genotype, according to Buchanan-Hamilton.

— Fowler, Copeia, no. 58, p. 63,
 June 18, 1918 (Philippines);
Journ. Bombay Nat. Hist. Soc.,
 vol. 30, no. 2, p. 318, January 25,
 1925 (Tuticorin); Proc. Acad.
Nat. Sci. Philadelphia, vol. 79,
 1927, p. 373 (Orion; Philippines);
Journ. Bombay Nat. Hist. Soc.,
 vol. 33, no. 1, p. 111, September 30,
 1928 (Bombay); New. Bishop
Mus., vol. 10, p. 153, 1928 (compiled).

— Weber and Beaufort, Fish. Indo
Austral. Archip., vol. 6, p. 307, fig. 65,
 1931 (Deli, Sumatra).

— Fowler, Proc. Acad. Nat. Sci.
Philadelphia, vol. 87, p. 144, 1935 (Bangkok).

Genus Pama, new genus

Type Bola pama Buchanan-Hamilton.

Elongately ovoid, narrowing to slender caudal peduncle. Snout short. Eye small, advanced. Mouth oblique, lower jaw little shorter. Teeth in villiform bands in jaws, outer upper and lower inner rows little enlarged. Preopercle crenulated, with distinct denticles at angle in young. Scales small, cycloid on head, ctenoid on body. Lateral line with enlarged scales. Spinous dorsal with 10 spines, fin small, and soft with long base, rays 40 to 43. Anal with 2 spines and 7 rays. Caudal carneate. Pectoral long as head, ventral much shorter.

Diagnosis. Known by its very long dorsal fin, base of which nearly half body length without caudal, also by

Lactarius delicatulus Valenciennes,
Hist. Nat. Poiss., vol. 9, p. 238,
pl. 261, 1833 (type locality,
Pondicherry; Malabar).

— Bleeker, ^{nat. Tijdschr. Arch. Ned. Indië, vol. 2, p. 578, 1845} Verh. Batavia. Genoot.
(Batavia);
(Madura), vol. 22, p. 4, 1849 ^(Pernambuco; Palembang; Singaperbangsa)

— Cantor, ^{Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1120, 1849 (1850)} (Bangcullong); ^(Makreel), vol. 24,
p. 74, 1852 (Batavia; Tegals;

Samarang; Rembang; Padang);
(Nat. Ichth. Bengal), vol. 25, p. 46,
1853 (reference); nat. Tijdschr. Ned.

Indië, vol. 7, p. 227, 1854 (Macassar),
p. 312 (Senjer); vol. 8, p. 345, 1855

(Tikoe, Sumatra), p. 393 (Amboina);
vol. 12, p. 215, 1856 (Nias); Act.

Soc. Sci. Ind. Neerl., vol. 2, no. 7,
p. 5, 1857 (Amboina); vol. 3, no. 6,
p. 2, 1857-58 (Sintang, Borneo);

vol. 3, no. 9, p. 6, 1857-58 (Siboga,
Sumatra). ~~Verslag Kon. Akad. Wet.~~

D. II, 10 or 11, spines weak, second 5, first ray $2\frac{4}{5}$; caudal $1\frac{1}{3}$, rounded to emeate; least depth of caudal peduncle $3\frac{1}{4}$; pectoral $1\frac{1}{2}$; ventral $1\frac{3}{5}$.

Grayish above, golden below. Five or 6 rows of black spots along body and caudal fin. Other fins grayish marginally. Young with body gray, fins except whitish caudal black. Reached 405 mm.

♂ (Cuvier.)

India, Burma, Pinang, Malayan Peninsula, Singapore, East Indies. According to Bleeker reaches 420 mm.

- Günther, Cat. Fish. Brit. Mus., vol. 2, p. 507, 1860 (Madras; Malay Peninsula; Sumatra; Amboyna). — Day, Fishes of Malabar, p. 107, 1865.
- Bleeker, Verslag. Kon. Akad. Wet. Amsterdam, ser. 12, vol. 2, p. 300, 1868 (Waigiu).
- Day, Fishes of India, pt. 2, p. 245, pl. 53, fig. 2, 1876.
- Klunzinger, Sitzb. Ber. Akad. Wiss. Wien, math.-naturw. Kl., vol. 80, pt. 1, p. 380, 1879 (1880) (Queensland). — Károli, Termesz. Füzetek, Budapest, vol. 5, p. 161, 1881 (Palaboen).
- Macleay, Proc. Linn. Soc. New South Wales, vol. 9, pt. 1, p. 26, 1884 (copied).
- Day, ~~Fishes~~ Fauna British India, Fishes, vol. 2, p. 196, fig. 67, 1889.

with 5 or 6 olive spots, most distinct medially on fin; inner rays somewhat reddish, membranes olivaceous, darker band at base. Pectorals pale reddish.

8316, 8590, 16577, 16578, 23193, 23194.

Catbulogan, Samar Island. April 15, 1908. Length 55 to 75 mm. (23193 male with buccal wa.)

2 examples. Catbulogan. April 15, 1908. Length 36 to 39 mm.

11 examples. Catbulogan. April 16, 1908. Length 27 to 67 mm.

18393 to 18396. Cebu market. April 4, 1908. Length 88 to 100 mm.

24068 and 24069. Cebu market. August 27, 1909. Length 66 to 70 mm.

— Duncker, Mitteil. Naturh. Mus. Hamburg,
vol. 21, p. 158, 1903 (Pinang; Malay
Peninsula; Singapore).

Lactaria delicatulus Bleeker,
Act. Soc. Sci. Ind. Néerl., vol. 3, no.
9, p. 2, 1857-58 (Padang, Sumatra).

Depth $5\frac{1}{8}$; head $3\frac{1}{2}$. Snout $4\frac{1}{2}$ in head from snout tip; eye 6 to 7, $1\frac{1}{4}$ to $1\frac{1}{3}$ in snout, $1\frac{1}{2}$ in interorbital; maxillary reaches $\frac{2}{3}$ in snout or opposite mid eye edge, length $2\frac{1}{2}$ in head from snout tip; pair of long front canines in each jaw; band of upper villiform teeth with outer conic curved row, below wide set, conic, pointed teeth along sides of mandible; interorbital low; preopercle edge spinate in young, crenulate to entire with age.

Scales cycloid, 95 rows along above lateral line, 85 along below; 14 scales above, 26 below. Lateral line arched forward, straight above middle of anal.

D. IX or X, I, 30, fifth spine $2\frac{4}{5}$ in total head length, first ray 3;

Lactarius burmanicus Lloyd, Rec.
Indian Mus., vol. 1, pp. ²²⁷ 229, ^(fig. 1) 1907 (type
locality, Abiyab).

soft dorsal with 1, sometimes 2,
longitudinal brown bands basally,
anal with 1; caudal with 4 or 5 deep
brown bands transversely, usually
as spots on membranes.

East Indies, Philippines.

Depth $2\frac{3}{4}$ to 3; head $2\frac{1}{2}$ to 3, width $2\frac{2}{3}$ to 3. Snout $3\frac{2}{3}$ to 4 in head from snout tip; eye $3\frac{1}{3}$ to 5, greater than snout in young to equal with age, greater than interorbital in young to $1\frac{1}{5}$ in interorbital with age; maxillary reaches $\frac{1}{2}$ to $\frac{2}{5}$ in eye, expansion $1\frac{1}{6}$ to 2 in eye, length 2 to $2\frac{1}{8}$ in head from snout tip; interorbital $3\frac{2}{3}$ to 4, convex. Gill rakers 3+12, lanceolate, little longer than gill filaments or 2 in eye.

Scales 70 to 80 in lateral line. Scales very caducous. Lateral line little high at first, slightly inclined, median at caudal base.

D. I, VII or I, VIII, 20 to 22, second

spine $2\frac{3}{5}$ to $3\frac{1}{3}$ in total head length, first branched ray $2\frac{2}{5}$ to $2\frac{3}{5}$; A. III, 25 to 28, third spine $4\frac{2}{3}$ to 5, first branched ray $2\frac{1}{4}$ to $2\frac{1}{2}$; caudal $1\frac{1}{4}$ to $1\frac{2}{5}$; least depth of caudal peduncle $3\frac{4}{5}$ to $4\frac{1}{6}$; pectoral 1 to $1\frac{1}{8}$, rays II, 15; ventral I, 5, fin $2\frac{1}{4}$ to $2\frac{4}{5}$ in total head length.

Brown on back, sides and below silvery white. Iris silvery white. Deep brown blotch about size of pupil on opercle above and another at upper end of opercular flap. Fins pale, dorsals and caudal tinged brownish.

Arabia, India, Ceylon, Malaya, Burma, East Indies, Philippines, China, Queensland.

22143. D. 5461. Carringo Island (W.), N. 12° W., 4.9 miles (lat. 13° 57' 42" N., long. 123° 06' 42" E.), east coast of Luzon. In 11 fathoms.

June 14, 1909. Length 145 mm.

22518. Dagupan, Luzon. March 19, 1908. Length 91 mm.

6748. Manila market. April 16, 1909. Length 398 mm.

⁶⁵³⁸ 8857. Off Daet beach. June 15, 1909. ~~Length 270 mm.~~ Length

230 ~~6538. Off Daet.~~ to 270 mm.

8572. D. 5442. San Fernando Point Light N. 39° E., 8.4 miles (lat. 16° 30' 36" N., long. 120° 11' 06" E.), west coast of Luzon. In 45 fathoms.

May 11, 1909. Length 235 mm.

11941. Tacloban market, Leyte. April 12, 1908. Length 175 mm.

10648. Polloc, Mindanao. May 22,
1908. Length 177 mm. Lower gill rakers
24.

13151. Santo Domingo Harbor, Batan
Island. November 7, 1908. Length 126 mm.

2965. Port Matalvi, Luzon.
Length 128 mm. Lower gill rakers 23.

13529. Ubi, Boro Island, Dutch
East Indies. December 9, 1909. Length
181 mm. Lower gill rakers 23.

13622. Bivabirahan Island, off
Borneo. December 31, 1909. Length 135 mm.
Lower gill rakers 23.

12857, 13647, 13649, 13651. Makyan
Island. November 29, 1909. Length 165 to
242 mm. Lower gill rakers 21 to 23.
One specimen with head broken off,
another with tail severed from body.

52388 U.S.N.M. Lipia, Samar.
Bureau of Fisheries. Lengths 103 to 287 mm,
3 examples.

17908. Sandakan, Borneo.
March 4, 1908. Length 184 mm.

Upeneus atherinoides Valenciennes,
 Hist. Nat. Poiss., vol. 7, 1831, p. 526.
 Giam. $\frac{1}{m}$ Elera, Cat. Fauna Filipinas,
 vol. 1, 1895, p. 481 (copied).

? Upeneus mauritianus E. J. Bennett,
 Proc. Zool. Soc. London, 1831, p. 59.
 Mauritius.

Upeneus queketti Gilchrist and Thompson,
 Ann. South African Mus., vol. 6, 1908-11,
 p. 168. Durban; Inner Harbor; Ann.
 Durban Mus., vol. 1, pt. 4, 1917, p. 365
 (copied).

A. N. S. P., ten examples. Orion,
Philippines. 1923. Rev. Joseph Clement.
Purchased.

A. N. S. P., three examples. Tuticorin
India, Madras Fisheries Department.
Length 84 to 113 mm.

A. N. S. P., four examples. Bombay,
India, 1925. Prof. F. Hallberg.
Purchased. Length 140 to 146 mm.

52718 A.N.S.P. Orion, Luzon. ⁴⁷⁵
May 11, 1923. Rev. Joseph Clemen. Purchased.
Length 156 mm.

52995 A.N.S.P. Durban coast, Natal.
November 27, 1925. H. W. Bell Marley.
Length 193 mm.

52998 A.N.S.P. Delagoa Bay,
Portuguese East Africa. July 1923. H. W.
Bell Marley. Length 235 mm.

53022 A.N.S.P. Natal, 1925. H. W.
Bell Marley. Length 232 mm.

53044 A.N.S.P. Tugela River in 60
fathoms, Natal. H. W. Bell Marley.
Length 337 mm.

53128 and 53129 A.N.S.P. Bombay,
India. 1924. Prof. F. H. Berg. Length
168 to 195 mm.