Orectolobus sp. A Last and Stevens, 1994 Fig. 125

***Orectolobus* sp. A** Last and Stevens, 1994, *Sharks Rays Australia*: 128, pl. 26.

Synonyms: None.

Other Combinations: None.

FAO Names: En - Western wobbegong; **Fr** - Requin-tapis sombre; **Sp** - Tapicero occidental.

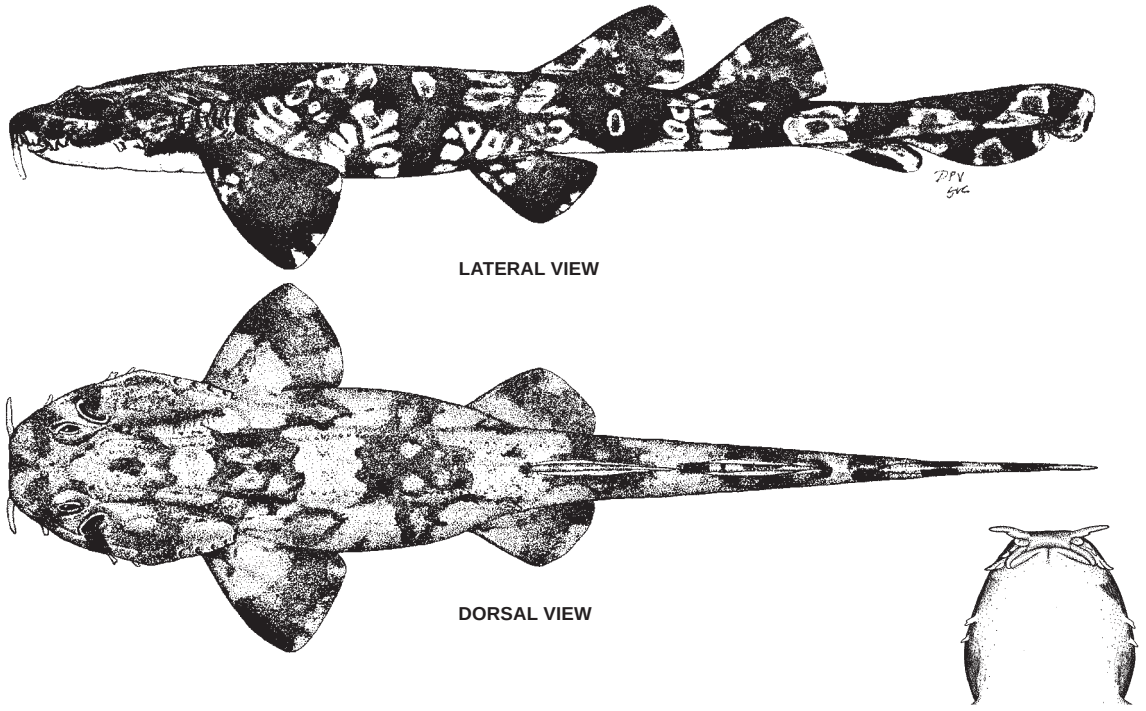
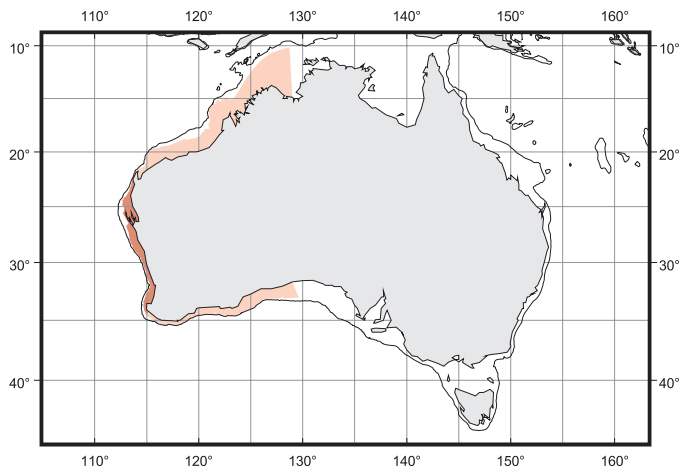


Fig. 125 ***Orectolobus* sp. A**

Field Marks: Flattened benthic sharks with dermal lobes on sides of head, symphysial groove on chin; a strongly contrasting, variegated colour pattern of conspicuous broad dark, dorsal saddles with light spots and deeply corrugated edges but without conspicuous black margins, interspaced with lighter areas and conspicuous light, dark-centred spots but without numerous light O-shaped rings; also, mouth in front of eyes, long, basally branched nasal barbels, nasoral grooves and circumnarial grooves, two rows of enlarged fang-like teeth in upper jaw and three in lower jaw; first dorsal-fin origin over rear half of pelvic-fin bases.

Diagnostic Features: Nasal barbels with one small branch. Four dermal lobes below and in front of eye on each side of head; dermal lobes behind spiracles unbranched or weakly branched and slender. Low dermal tubercles or ridges present on back in young, lost in adults. Interdorsal space somewhat shorter than inner margin of first dorsal fin, about one-fourth of first dorsal-fin base. Origin of first dorsal fin over about last third of pelvic-fin base. First dorsal-fin height about three-fourths of base length. **Colour:** colour pattern very conspicuous and highly variegated, dorsal surface of body with conspicuous broad, dark rectangular saddles with deeply corrugated margins, not black-edged, dotted with light spots but without numerous O-shaped light rings; saddles not ocellate in appearance; interspaces between saddles light, with numerous broad dark blotches.



Distribution: Eastern Indian Ocean, Australia (temperate west coast of Western Australia from Cape Leeuwin to Coral Bay, but possibly not extending into more southern waters or into tropical Western Australia).

Habitat: Inshore on the continental shelf of Western Australia, on reefs and in seagrass. Depths unreported, but probably in water from the intertidal to less than 100 m.

Biology: Poorly known. Ovoviviparous, presumably feeds on invertebrates and small fish.

Size: Maximum about 200 cm. Size at birth about 22 cm; an 85 cm male was mature.

Interest to Fisheries and Human Impact: Interest to fisheries minimal, taken as a bycatch in small quantities by the Western Australian shark fishery and used for human consumption. Viewed by divers off Western Australia. Conservation status uncertain but should be monitored because of its limited geographic range and presumably limited bathymetric range.

Remarks: See remarks above in the family account on similarities of this species to ***Sutorectus tentaculatus***.

Literature: Compagno (1984); Michael (1993); Last and Stevens (1994).

Sutorectus Whitley, 1939

Genus: ***Sutorectus*** Whitley, 1939, *Australian Zool.*, 9(3): 228.

Type Species: ***Crossorhinus tentaculatus*** Peters, 1864, by original designation.

Number of Recognized Species: 1.

Synonyms: None.

Diagnostic Features: Head rather narrow, its greatest width slightly less than distance from snout tip to first gill openings. Chin smooth, without a beard of dermal lobes. Dermal lobes of sides and front of head small, short, unbranched, and forming isolated groups that are broadly separated from one another, in 4 to 6 pairs. Nasal barbels simple and unbranched. Mouth narrow, width about 9% of total length. Dorsal surface of head, body and precaudal tail, and dorsal-fin bases, with rows of large, conspicuous dermal tubercles, resembling warts. Trunk moderately broad, width across pectoral-fin insertions considerably less than head length. Precaudal tail rather long, distance from pelvic-fin insertion to lower caudal-fin origin much greater than head length. Pectoral and pelvic fins small and widely spaced from each other, distance from pectoral-fin insertions to pelvic-fin origins about twice length of pectoral-fin bases and somewhat greater than pelvic-fin lengths from origins to free rear tips. Interspace between first and second dorsal fins much shorter than first dorsal-fin inner margin and less than a fifth of first dorsal-fin base. Dorsal fins low and long, height of first dorsal fin about half its base length, length of first dorsal-fin base greater than pelvic-fin length from origin to free rear tip. Origin of first dorsal fin in front of midbases of pelvic fins. **Colour:** dorsal surface with a colour pattern of jagged-edged broad dark saddles and scattered dark spots on a light background, no reticulating narrow lines with spots at their junctions.

Remarks: Whitley (1939) proposed the genus ***Sutorectus*** on the simple nasal barbels, tuberculate back, and narrower interdorsal space of the type and only species, ***S. tentaculatus*** (Peters, 1864). This genus was recognized by Whitley (1940), Bigelow and Schroeder (1948), Whitley and Pollard (1980), Compagno (1984), Dingerkus (1986), and Last and Stevens (1994), but was considered a synonym of ***Orectolobus*** by Stead (1963) and Applegate (1974). The writer was inclined to support Applegate's classification (Compagno, 1973) prior to examining specimens of ***Sutorectus tentaculatus***, but found additional characters by which this species may be distinguished from typical ***Orectolobus***. As noted above (see remarks under family), ***Orectolobus* sp. A**. approaches ***S. tentaculatus*** in certain features of its morphology.

Sutorectus tentaculatus (Peters, 1864) **Fig. 126**

Crossorhinus tentaculatus Peters, 1864, *Monatsb. Akad. Wiss. Berlin*: 123. Syntypes: Zoologisches Museum, Museum für Naturkunde der Humboldt-Universität, Berlin, ZMB 5073, a 750 mm female, and ZMB 5264, a 430 mm female (alcohol), according to Paepke and Schmidt (1988, *Mitt. Zool. Mus. Berlin*, 64(1): 163) and Eschmeyer (1998, *Cat. Fish.*: CD-ROM), from Adelaide, South Australia.

Synonyms: None.

Other Combinations: ***Orectolobus tentaculatus*** (Peters, 1864).

FAO Names: En - Cobbler wobbegong; **Fr** - Requin-tapis cordonnier; **Sp** - Tapicero zapatudo.

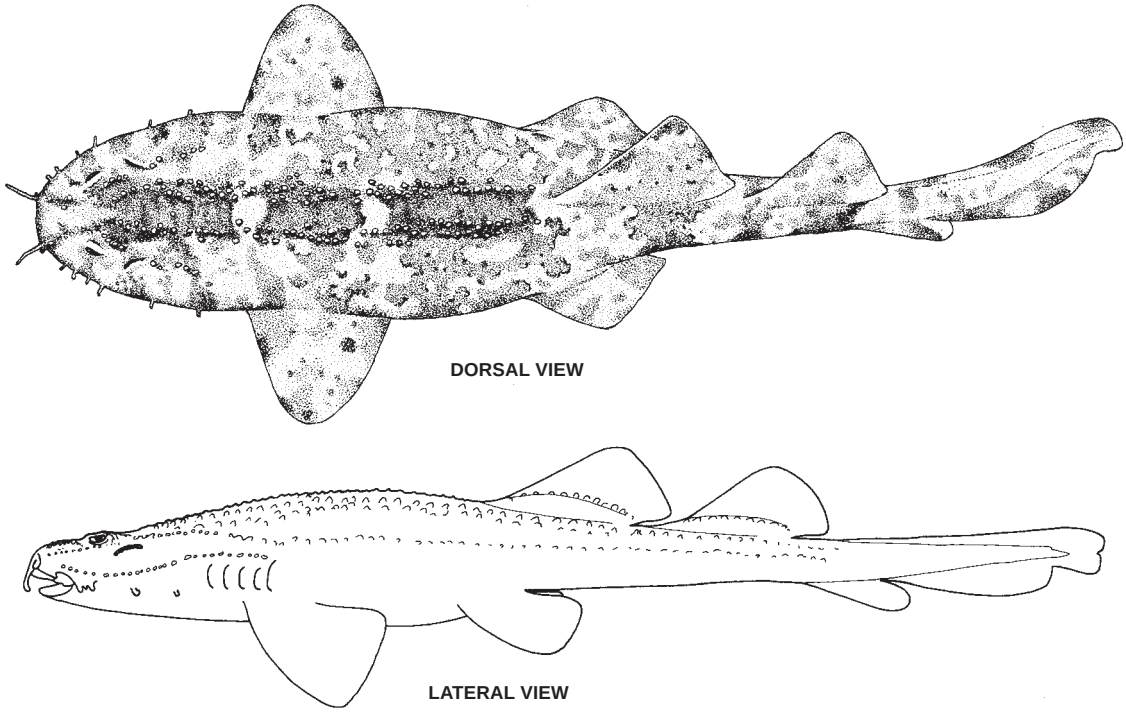
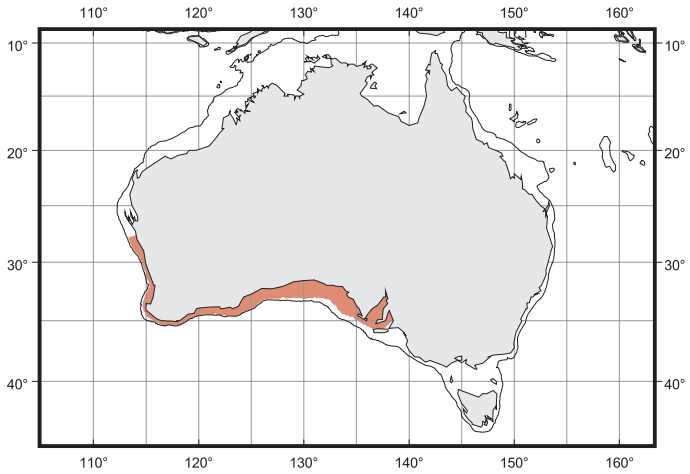


Fig. 126 ***Sutorectus tentaculatus***

Field Marks: A rather slender wobbegong, less flattened than most; with a few slender dermal lobes on sides of head, simple, unbranched nasal barbels, symphysial groove on chin; conspicuous warty tubercles in rows on the dorsal surface of the body and dorsal fin bases; dorsal fins very low and long, with heights half their base lengths, first dorsal-fin origin in front of pelvic-fin midbases; striking variegated colour pattern of broad dark, dorsal saddles with jagged, corrugated edges, interspaced with light areas with irregular dark spots; also, mouth in front of eyes, nasoral grooves and circumnarial grooves present, two rows of enlarged fang-like teeth in upper jaw and three in lower jaw.

Diagnostic Features: See genus ***Sutorectus*** above.

Distribution: Western South Pacific: Confined to Australian waters (west coast of temperate Western Australia from Houtman Abrolhos southeast to Adelaide, South Australia).



Habitat: A little-known but probably common inshore bottom shark of temperate continental waters, on rocky and coral reefs, and in seaweeds. Depths not recorded.

Biology: Biology almost unknown. Presumably ovoviviparous and preying on bottom invertebrates and fishes.

Size: Maximum recorded 92 cm. Size at birth about 22 cm; near full-term young, still with sizeable yolk sacs, were 18 cm long. Males mature at about 65 cm. Said to grow as large as the spotted wobbegong (***Orectolobus maculatus***) according to Stead (1963), but possibly by confusion with ***Orectolobus ornatus*** or some other large wobbegong.

Interest to Fisheries and Human Impact: Interest to fisheries none at present. Conservation status uncertain but needs to be monitored because of its limited range.

Local Names: Cobbler carpet shark, Cobbler shark.

Literature: Ogilby and McCulloch (1908); Garman (1913); Whitley (1940); Fowler (1941); Stead (1963); Compagno (1984); Last and Stevens (1994).

2.3.4 Family HEMISCYLLIIDAE

Family: Subfamily Hemiscylliinae Gill, 1862b, *Ann. Lyceum Nat. Hist. New York*, 7(32): 407, 408 (Family Scylliorhinoidae Gill, 1862). Also subfamily Hemiscylliinae Fowler, 1934, *Proc. Acad. Nat. Sci. Philadelphia*, 85: 238 (Family Orectolobidae).

Type Genus: ***Hemiscyllium*** Müller and Henle, *in* Smith, 1837.

Number of Recognized Genera: 2.

Synonyms: Subfamily Chiloscylliinae Gill, 1862b: 407, 408 (Family Scylliorhinoidae Gill, 1862). Type genus: ***Chiloscyllium*** Müller and Henle, 1837. Family Cheiloscyllium Hasse, 1879: 54. Type genus: ***Cheiloscyllium*** Hasse, 1879, = ***Chiloscyllium*** Müller and Henle, 1837. Family Hemiscylliidae Whitley, 1940: 68. Independently proposed as a separate family. Type genus: ***Hemiscyllium*** Müller and Henle, *in* Smith, 1837:86.

FAO Names: En - Bamboo sharks, Longtailed carpet sharks; **Fr** - Requins-chabot; **Sp** - Bamboas.

Field Marks: Small, slender sharks with nasoral grooves, perinasal grooves, short barbels, small transverse mouths in front of eyes, dorsolateral eyes, large spiracles below eyes, no lateral skin flaps on head; two spineless dorsal fins, the second dorsal-fin origin well ahead of the anal-fin origin, a long, low, keel-like rounded anal fin separated from the lower caudal origin by a narrow notch, and a long precaudal tail much greater than the head and body length.

Diagnostic Features: Head narrow to moderately broad and cylindrical to somewhat flattened, without lateral flaps of skin. Snout broadly to narrowly rounded or slightly pointed. Eyes dorsolaterally situated on head and with strong subocular ridges below them. Eyes without movable upper eyelids or subocular pockets. Spiracles large and subequal in size or somewhat larger than eyes, without prominent raised external rims; spiracles somewhat below and behind eyes. Gill slits small, fifth gill slit overlapping fourth; internal gill slits without filter screens. Nostrils with short pointed barbels, circumnarial folds and circumnarial grooves present around outer edges of incurrent apertures. Nasoral grooves long and strongly developed. Mouth small, nearly transverse, and subterminal on head. Lower lip not trilobate and without lateral orolabial grooves connecting edge of lip with medial ends of lower labial furrows, without a longitudinal symphysial groove on chin. Lower labial furrows extending medially nearly to symphysis and connected medially by a mental groove or groove and flap. Teeth not strongly differentiated in upper and lower jaws, with symphysial teeth not enlarged nor fang-like. Tooth row count 26 to 35/21 to 32. Teeth with a strong medial cusp, with or without a pair of short lateral cusplets, and with weak labial root lobes. Teeth orthodont with a central pulp cavity and no plug of osteodentine. Body cylindrical or slightly depressed, with or without ridges on sides. Precaudal tail longer than body. Caudal peduncle without lateral keels or precaudal pits. Pectoral fins small, broad and rounded. Pectoral fins aplesodic and with fin radials not expanded into fin web. Pectoral propterygium large and separate from mesopterygium and metapterygium or fused with mesopterygium; pectoral-fin radial segments three at most, and with longest distal segments 0.3 to 0.4 times the length of longest proximal segments. Pelvic fins somewhat smaller or about as large as dorsal fins and subequal to or much larger than anal fin, nearly as large or as large as pectoral fins and with anterior margins 0.6 to about 1.1 times pectoral-fin anterior margins. Claspers without mesospurs, claws or dactyls. Dorsal fins equal-sized. First dorsal-fin origin varying from over pelvic-fin bases to behind them, insertion well behind the pelvic-fin rear tips. Anal fin somewhat smaller than second dorsal fin, with broad base, broadly rounded keel-like apex, origin behind second dorsal-fin insertion, and insertion separated by a narrow notch much less than base length from lower caudal-fin origin. Caudal fin horizontally elongated and not crescentic, weakly heterocercal with its upper lobe hardly elevated above the body axis; dorsal caudal-fin margin less than a fifth as long as the entire shark. Caudal fin with a strong terminal lobe and subterminal notch but without a ventral lobe, preventral and postventral margins not differentiated and forming a continuous curve. Vertebral centra with well-developed radii but no annuli. Total vertebral count 151 to 192, monospondylous precaudal count 32 to 41, diplospondylous precaudal count 57 to 90, diplospondylous caudal count 55 to 72, and precaudal count 89 to 129. Cranium narrow and not greatly expanded laterally. Medial rostral cartilage moderately long and not reduced to a low nubbin. Nasal capsules elevated and not greatly depressed or fenestrated, internarial septum high and compressed. Orbits with small foramina for preorbital canals, medial walls not fenestrated around the optic nerve foramina. Supraorbital crests present on cranium but not laterally expanded nor pedicellate. Suborbital shelves moderately broad and not greatly reduced. Cranial roof unfenestrated, with isolated frontoparietal fenestrae, or with a continuous fenestra from the anterior fontanelle to the parietal fossa. Basal plate of cranium with separate pairs of carotid and stapedial foramina. Adductor mandibulae muscles of jaws with two or three divisions. Preorbitalis muscles extending onto posterodorsal surface of cranium. No anterodorsal palpebral depressor, rostromandibular, rostronuchal or ethmonuchal muscles. Valvular intestine of ring type with 12 to 20 turns. Development oviparous, eggs laid in elliptical egg capsules. Size small with adults between about 43 and 107 cm total length with most below 1 m; young may hatch at about 9 to 17 cm. Colour pattern of dark saddles and bars and dark or light spots present, or colour plain.

Distribution: Bamboo sharks are small inshore bottom sharks of continental waters of the Indo-West Pacific, ranging from Madagascar in the west to Japan, Philippines, and the Australian region in the east. One genus (***Hemiscyllium***) is centred on Australia, New Guinea and the Indo-Australian Archipelago, in the western Pacific (with an apparent outlier in the Seychelles), but the second (***Chiloscyllium***) is wide-ranging over the entire range of the family.

Habitat: Bamboo sharks commonly occur in the intertidal, in tidepools on rocky or coral reefs close inshore, sometimes in water sufficient only to cover them, and on soft bottoms inshore and offshore in open and enclosed bays.

Biology: Bamboo sharks are common to abundant and frequently kept in captivity, but their biology is poorly known at best. They have slender trunks and tails and strong, muscular, leg-like paired fins ideal for clambering on reefs and in crevices. These sharks are small, mostly less than 1 m maximum length. Michael (1993) suggested that the large epaulette spots seen on ***Hemiscyllium*** species may serve as eyespots to intimidate predators approaching them from above. At least some and probably all of the species are oviparous, depositing eggs on the bottom in oval egg cases. Colour patterns of the young are often strikingly different and bolder than adults and suggest different habitat preferences or habits. Food of these sharks is little known, but includes small bottom fishes, cephalopods, shelled molluscs, and crustaceans.

Interest to Fisheries and Human Impact: ***Hemiscyllium*** species are little-utilized for fisheries apart from the aquarium trade, but ***Chiloscyllium*** species are commonly caught in small-scale artisanal and commercial fisheries and by bottom trawlers in the western Pacific and East-Central Indian Ocean. In some countries such as Thailand large catches of ***Chiloscyllium*** are occasionally landed. Longtailed carpet sharks are ideal for aquaria, because they are small, often colourful and pleasingly marked, very hardy and can live over a decade in captivity and reproduce there. Several of the species figure in the aquarium trade and are displayed in captivity in public aquaria worldwide. Despite their importance to fisheries and the aquarium trade the conservation status of longtailed carpet sharks is poorly known, and they may be threatened by overfishing, bad fisheries practices and habitat modification, including the alteration and destruction of coral reefs. Some of the species are rare, have limited geographic, bathymetric, and habitat distributions, and live in poorly known and poorly-protected areas. There is an urgent need for investigations on the biology and conservation status of these sharks, particularly those that figure heavily in fisheries and those rarities that live in threatened and restricted habitats.

Remarks: The arrangement of this family follows Garman (1913), Whitley (1940, 1967), Fowler (1941), Compagno (1984), Dingerkus (1986), Last and Stevens (1994), and especially the comprehensive review and revision of the family by Dingerkus and DeFino (1983).

Literature: Müller and Henle (1838d); Bleeker (1852); Dumeril (1853, 1865); Günther (1870); Regan (1908a); Smith (1913); Garman (1913); Whitley (1940, 1967); Stead (1963); Fowler (1941, 1967a); Compagno (1973, 1984, 1988); Applegate (1984); Dingerkus and DeFino (1983); Dingerkus (1986); Michael (1993); Last and Stevens (1994).

Key to Genera:

1a. Nostrils subterminal on snout; preoral snout long, mouth closer to eyes than snout tip; eyes and supraorbital ridges hardly elevated; no black hood on head or large dark spot or spots on sides of body above pectoral fins (Fig. 127a and b) . . . . . ***Chiloscyllium***

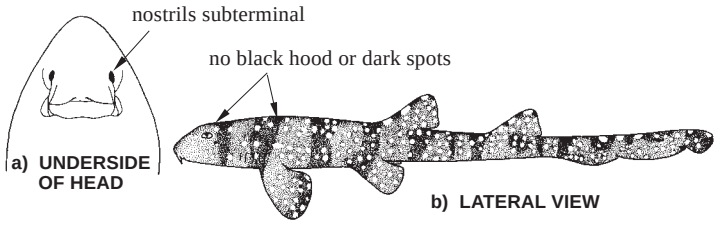


Fig. 127 ***Chiloscyllium***

1b. Nostrils terminal on snout; preoral snout short, mouth closer to snout tip than eyes; eyes and supraorbital ridges prominently elevated; a large dark spot or spots on sides of body above pectoral fins, or a black hood on head (Fig. 128a and b) . . ***Hemiscyllium***

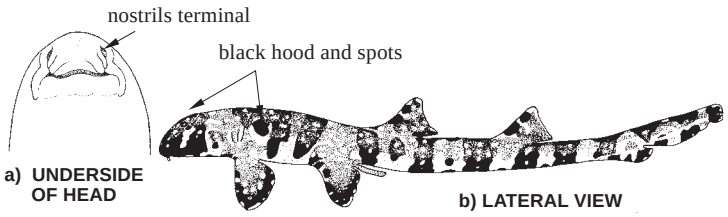


Fig. 128 ***Hemiscyllium***

Chiloscyllium Müller and Henle, 1837

Genus: ***Chiloscyllium*** Müller and Henle, 1837a, *Ber. K. preuss. Akad. wiss. Berlin*, 2: 112; Müller and Henle, 1837b, *Arch. Naturg.* 3: 395 (no species mentioned); Müller and Henle, *in* Smith, 1837, *Proc. Zool. Soc. London*, 5: 85 (one species, ***Scyllium plagiosum*** Bennett, 1830); Müller and Henle, 1838a, *Mag. Nat. Hist., new ser.*, 2: 34; Müller and Henle, 1838b, *L'Institut*, 6: 64; Müller and Henle, 1838c, *Arch. Naturg.* 4: 83 (no species mentioned); Müller and Henle, 1838d, *Syst. Beschr. Plagiost.*, pt. 1: 17 (five species, no type allocation).

Type Species: ***Scyllium plagiosum*** Bennett, 1830, by subsequent monotypy of Müller and Henle, *in* Smith, 1837, *Proc. Zool. Soc. London*, pt.5: 85; also by subsequent designation of Gill, 1862b, *Ann. Lyceum Nat. Hist. New York*, 7(32): 408, as "***Chiloscyllium plagiosum*** Mül. and Henle".

Number of Recognized Species: 7.

Synonyms: Genus ***Chyloscyllium*** Dumeril, 1853: 125. Apparent error for ***Chiloscyllium*** Müller and Henle, 1837. Genus ***Cheiloscyllium*** Hasse, 1879: 51, 55 (name only); Hasse, 1882: 276. Probable emendation of ***Chiloscyllium*** Müller and Henle, 1837, as Hasse consistently used ***Cheiloscyllium*** in his work. Genus ***Synchismus*** Gill, 1862b: 407, 408. Type species: ***Chiloscyllium tuberculatum*** Müller and Henle, 1838, by original designation, a junior synonym of ***Squalus indicus*** Gmelin, *in* Linnaeus and Gmelin, 1788.

Diagnostic Features: Snout relatively long, preoral length over 3% of total length. Eyes and supraorbital ridges hardly elevated. Nostrils subterminal on snout and well separated from snout tip. Nasal barbels moderately elongated, length over 1.3% of total length. Mouth slightly closer to eyes than snout tip. Lower labial folds usually connected across chin by a dermal fold. Pregill length more than 13.3% of total length. Preanal tail from vent to anal-fin origin usually less than 38% of total length. Pectoral and pelvic fins relatively thin, not heavily muscular. Pectoral-fin skeleton with propterygium separate from mesopterygium. Total vertebral count usually between 135 and 180. Colour pattern without a black hood on head or large dark spot or spots on sides of body above pectoral fins.

Local Names: Bamboo sharks, Lip sharks.

Remarks: The arrangement of this genus follows Dingerkus and DeFino (1983) and Compagno (1984). *Nomina dubia* possibly referable to ***Chiloscyllium*** include: ***Squalus (Scyliorhinus) lambarda*** Blainville, 1816: 121 (*nomen nudum*). Fowler (1941: 90), suggested that this species was a possible synonym of ***Chiloscyllium indicum*** Gmelin, *in* Linnaeus and Gmelin, 1788. ***Squalus (Scyliorhinus) russellianus*** Blainville, 1816: 121 (*nomen nudum*). Assumed by Fowler (1941: 86), to be based on the "Bokee Sorrah" of Russell (1803: 10, pl. 16), and a possible synonym of ***Chiloscyllium punctatum*** Müller and Henle, 1838. ***Squalus (Scyliorhinus) unicolor*** Blainville, 1816: 121 (*nomen nudum*). Fowler (1941: 88) suggested that this species was a possible synonym of ***Chiloscyllium griseum*** Müller and Henle, 1838. ***Squalus (Scyliorhinus) variegatus*** Blainville, 1816: 121 (*nomen nudum*). Fowler (1941: 90) suggested that this species was a possible synonym of ***Chiloscyllium indicum*** Gmelin, *in* Linnaeus and Gmelin, 1788.

Key to Species:

1a. Body and tail very slender; anal-fin origin far behind free rear tip of second dorsal fin, anal-fin length from origin to free rear tip subequal to length of hypural caudal lobe from lower caudal origin to subterminal notch; colour pattern with numerous small dark spots, bars, and saddles on a light background (Fig. 129) . . . . . ***Chiloscyllium indicum***

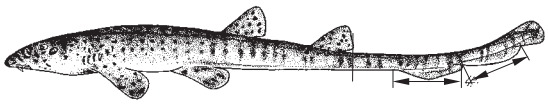


Fig. 129 ***Chiloscyllium indicum***

1b. Body and tail moderately slender to relatively stout; anal-fin origin below or close behind free rear tip of second dorsal fin, length of anal fin considerably shorter than hypural caudal lobe; colour pattern varying from plain to barred and spotted but without numerous small dark spots and bars (Fig. 130) . . . . . → **2**

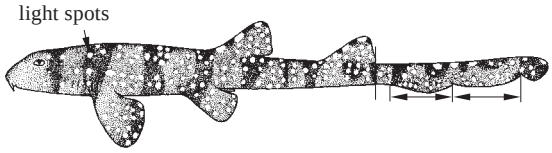


Fig. 130 ***Chiloscyllium plagiosum***

2a. Lateral ridges present on trunk; background colour of the dorsal surface of body dark with numerous light spots. (Fig. 130) . . . ***Chiloscyllium plagiosum***

2b. Lateral ridges absent from trunk; background colour of the dorsal surface of body light, uniform or with scattered dark spots or dusky bands . . . . . → **3**

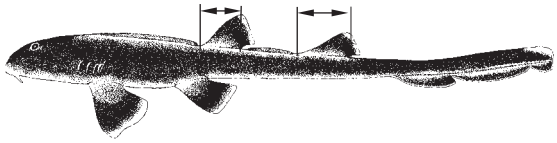


Fig. 131 ***Chiloscyllium arabicum***

3a. Second dorsal fin usually with a longer base than the first dorsal fin (Fig. 131); juveniles uniform in coloration, except for spotted fins . . ***Chiloscyllum arabicum***

3b. First dorsal fin base usually longer than the second dorsal fin base (Fig. 132); juveniles, where known, with bars and spots on body . . . . . → **4**

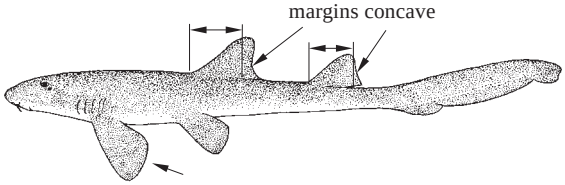


Fig. 132 ***Chiloscyllium punctatum***

4a. Posterior margins of first and second dorsal fins distinctly concave, free rear tips projecting; origin of first dorsal fin far forward, over anterior half of pelvic-fin bases (Fig. 132) . . . . . ***Chiloscyllium punctatum***

4b. Posterior margins of first and second dorsal fins distinctly straight or convex, free rear tips not projecting; origin of first dorsal fin over or behind midlengths of pelvic-fin bases (Fig. 133) . . . . . → **5**

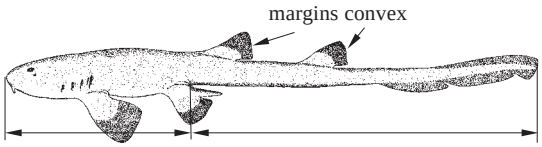


Fig. 133 ***Chiloscyllium burmensis***

5a. Eyes small, less than 1.25% of total length; distance from vent to tail tip more than 67% of total length; prepectoral length less than 15.8% of total length; snout to vent length less than 31% of total length (Fig. 133) . . . . . ***Chiloscyllium burmensis***

5b. Eyes large, more than 1.25% of total length; distance from vent to tail tip less than 67% of total length; prepectoral length more than 15.8% of total length; snout to vent length more than 31% of total length (Fig. 134) . . . . . → **6**

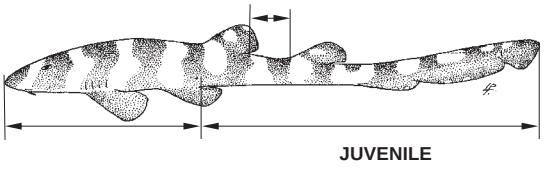


Fig. 134 ***Chiloscyllium griseum***

6a. Interdorsal space usually more than 9.3% of total length; first dorsal fin height more than 6.6% of total length; second dorsal fin height usually more than 5.8% of total length; saddle-markings of juveniles without black edging (Fig. 134) . . . . . ***Chiloscyllium griseum***

6b. Interdorsal space usually less than 9.3% of total length; first dorsal fin height less than 6.6% of total length; second dorsal fin height usually less than 5.8% of total length; saddle-markings of juveniles with black edging (Fig. 135) . . ***Chiloscyllium hasselti***

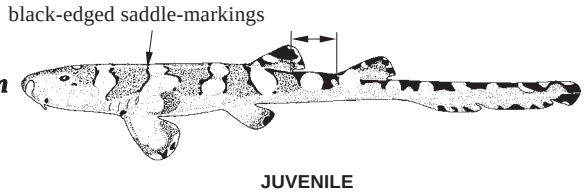


Fig. 135 ***Chiloscyllium hasselti***

Chiloscyllium arabicum Gubanov, 1980 — Fig. 136

Chiloscyllium arabicum Gubanov, *in* Gubanov and Schleib, 1980, *Sharks Arabian Gulf*: 14, figs 6-7, pl. Type material? Persian Gulf.

Synonyms: ***Chiloscyllium confusum*** Dingerkus and DeFino, 1983: 9, figs 2, 4-7, 51, 57, 61-64. Holotype: American Museum of Natural History, AMNH-44126, 408 mm TL subadult male, 18.5 km (10 mi) offshore of Calicut (Kozhikode), Kerala, India.

Other Combinations: None.

FAO Names: En - Arabian carpet shark; **Fr** - Requin-chabot camot; **Sp** - Bamboa arábiga.

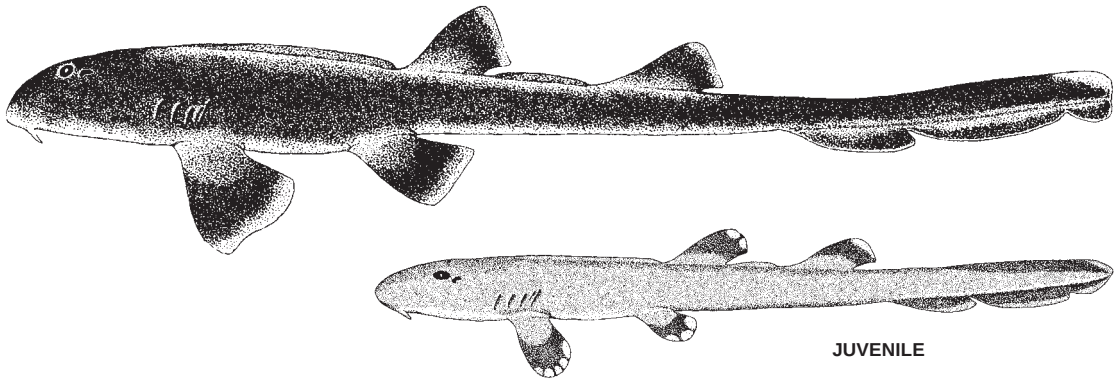
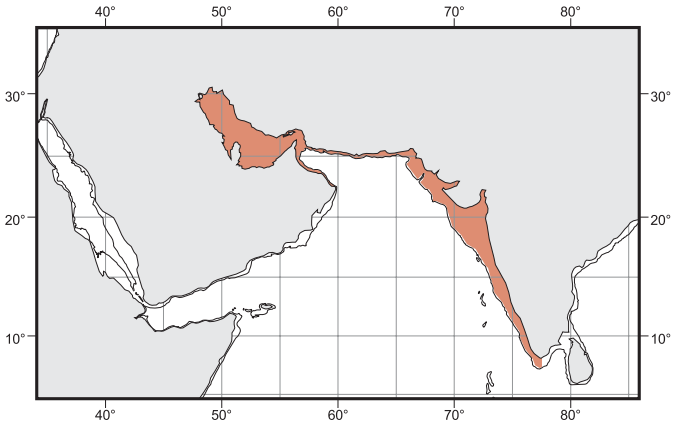


Fig. 136 ***Chiloscyllium arabicum***

Field Marks: Mouth well in front of eyes; spineless dorsal fins far posterior on tail, greatly elongated thick precaudal tail, long and low anal fin just anterior to caudal fin, prominent predorsal and interdorsal ridges on back, dorsal fins with nearly straight posterior margins, first dorsal-fin origin opposite or just behind pelvic-fin insertions, second dorsal fin usually with a longer base than first; no colour pattern in young and adults.

Diagnostic Features: Prepectoral length 16.1 to 19.6% of total length. Snout fairly thick and rounded anteriorly. Eyes moderately large, lengths 1.4 to 1.8% of total length. Body and tail moderately slender. Lateral ridges absent from trunk but interdorsal and predorsal ridges prominent. Interdorsal space fairly long, nearly or over twice first dorsal-fin base and 8.7 to 14.5% of total length. Snout to vent length 33.1 to 36.3% of total length; distance from vent to tail tip 61.0 to 67.6% of total length. Dorsal fins large and subangular, subequal to or larger than pelvic fins, and without concave posterior margins and projecting free rear tips. First dorsal-fin origin over or behind rear halves of pelvic-fin bases, first dorsal-fin base usually slightly shorter than second dorsal-fin base (rarely about equal), first dorsal-fin height 4.3 to 8.4% of total length. Second dorsal-fin height 4.2 to 7.1% of total length. Origin of anal fin somewhat behind free rear tip of second dorsal fin, anal-fin length from origin to free rear tip somewhat less than hypural caudal lobe from lower caudal origin to subterminal notch, anal-fin base less than six times anal-fin height. Total vertebral count between 141 and 175 (mean = 158.2, n = 23). Intestinal valve count unknown. **Colour:** colour pattern absent in adults, juveniles with light spots on fins but otherwise unmarked.

Distribution: Western Indian Ocean: India, Pakistan, and the Persian Gulf between Iran and the Arabian Peninsula (including Saudi Arabia and Kuwait).



Habitat: Found on coral reefs, lagoons, rocky shores, and mangrove estuaries, depths from 3 to 100 m.

Biology: A common inshore to offshore bottom shark in the Persian Gulf, especially during the summer. Biology sketchily known. Feeds on squid (Loliginidae), shelled molluscs (Gastropoda?), crustaceans, and snake eels (Ophichthidae). It has reproduced in aquaria, and the male grabs the pectoral fin of the female while mating. Lays up to four egg-cases on coral reefs, with hatching after 70 to 80 days.

Size: Maximum total length about 70 cm. Freeliving at 101 mm, size at hatching uncertain; matures between 45 and 54 cm long; an adult male 58 cm.

Interest to Fisheries and Human Impact: Interest to fisheries minimal at present, apparently little utilized in the Persian Gulf (Gubanov and Schleib, 1980) but probably is used in Pakistan and India. The conservation status of this species is uncertain; an immediate question is whether the Gulf War had an adverse effect on populations of this shark and other Gulf species.

Local Names: Arabian bamboo shark, Confusing bamboo shark.

Remarks: This species was first described by Gubanov and Schleib (1980) but Dingerkus and DeFino (1983) described it as a separate species, ***Chiloscyllium confusum***, without mention of ***C. arabicum.*** Compagno (1984) provisionally recognized ***C. arabicum*** but noted that it was apparently very close to ***C. punctatum***. Dingerkus and DeFino's account clearly establishes this species as being separable from ***C. punctatum***.

Literature: Kuronuma and Abe (1972); Gubanov and Schleib (1980); Dingerkus and DeFino (1983); Compagno (1984, and unpub. data); Michael (1993); Dibelius (1993).

Chiloscyllium burmensis Dingerkus and DeFino, 1983 Fig. 137

Chiloscyllium burmensis Dingerkus and DeFino, 1983, *Bull. American Mus. Nat. Hist.* 176(1): 9, figs 3, 7, 59-60. Holotype: US National Museum of Natural History, USNM-202672, 575 (569) mm TL adult male, 15° 04' N, 95° 51' E, off Rangoon, Burma, 29 to 33 m. Status of holotype and additional data from Howe and Springer (1993, *Smiths. Contr. Zool.* [540]: 5).

Synonyms: None.

Other Combinations: None.

FAO Names: En - Burmese bamboo shark; **Fr** - Requin-chabot birman; **Sp** - Bamboa birmana.

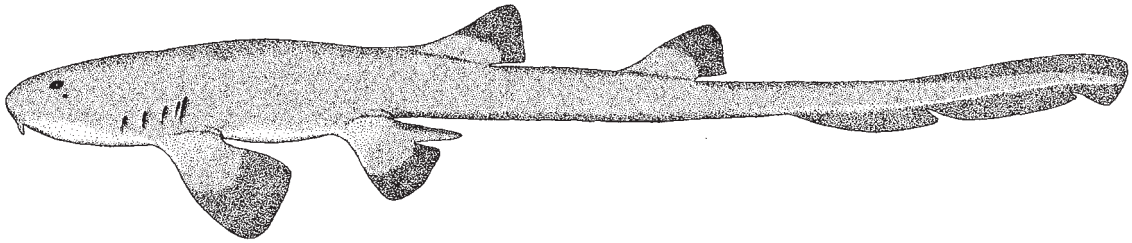


Fig. 137 ***Chiloscyllium burmensis***

Field Marks: Mouth well in front of eyes, eyes very small; spineless dorsal fins far posterior on tail, greatly elongated thick precaudal tail, long and low anal fin just anterior to caudal fin, no lateral ridges on trunk, dorsal fins with straight rear margins, first dorsal-fin origin about opposite pelvic-fin insertions; no colour pattern in adults.

Diagnostic Features: Prepectoral length 15.7% of total length. Snout fairly thick and rounded anteriorly. Eyes small, length 1.2% of total length. Body and tail slender. No lateral ridges on trunk, and predorsal and interdorsal ridges not prominent. Interdorsal space fairly long, nearly twice first dorsal-fin base and 11.1% of total length. Snout to vent length 30.8% of total length; distance from vent to tail tip 67.3% of total length. Dorsal fins small and rounded-angular, subequal in size to pelvic fins, and without concave posterior margins and projecting free rear tips. First dorsal-fin origin slightly behind pelvic-fin insertions, first dorsal-fin base slightly longer than second dorsal-fin base, first dorsal-fin height 6.3% of total length. Second dorsal-fin height 5.2% of total length. Origin of anal fin somewhat behind free rear tip of second dorsal-fin, anal-fin length from origin to free rear tip slightly less than hypural caudal lobe from lower caudal origin to subterminal notch, anal-fin base more than six times anal-fin height. Total vertebral count 176. Intestinal valve count unknown. **Colour:** colour pattern absent in adult male, juvenile colour pattern unknown.

Distribution: Northern Indian Ocean: Burma (Myanmar).

Habitat: Unknown, collected off Rangoon (Yangon), Burma, presumably inshore and off the Irrawaddy River delta.

Biology: Biology virtually unknown. Eats small bony fishes.

Size: The holotype and only known specimen is a 57 cm adult male.

Interest to Fisheries and Human Impact: Unknown, but presumably utilized in local fisheries. Conservation status unknown.

Remarks: Characterization of this species from Dingerkus and DeFino (1983).

Literature: Dingerkus and DeFino (1983).

Chiloscyllium griseum Müller and Henle, 1838 Fig. 138

Chiloscyllium griseum Müller and Henle, 1838d, *Syst. Beschr. Plagiost.*, pt. 1: 19. Syntypes: “Ein Exemplar aus Malabar durch Dussumier; 6 Exemplare von Pondichery durch Belanger, in Weingeist, in Paris. Indien, Japan”. Lectotype: Museum National d’Histoire Naturelle, Paris, MNHN-1010, 374 mm immature male, Malabar, Kerala, India, designated by Dingerkus and DeFino, 1983, *Bull. American Mus. Nat. Hist.* 176(1): 12.

Synonyms: None.

Other Combinations: ***Hemiscyllium griseum*** (Müller and Henle, 1838).

FAO Names: En - Grey bamboo shark; **Fr** - Requin-chabot gris; **Sp** - Bamboa gris.

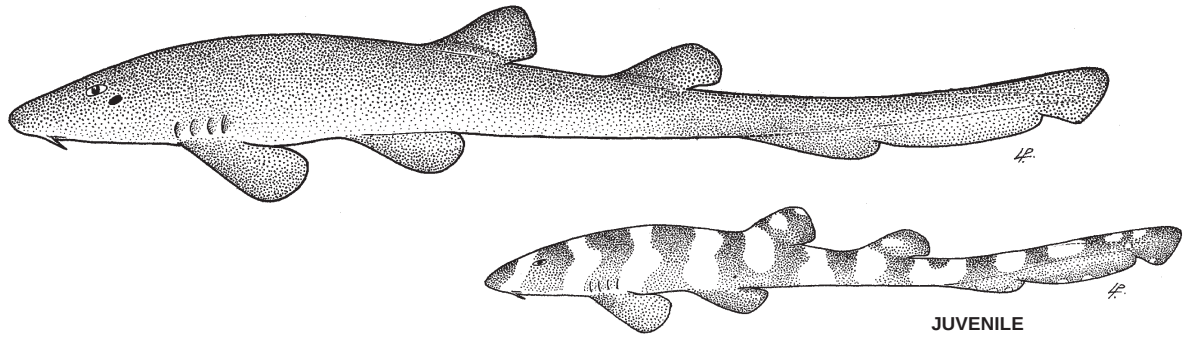
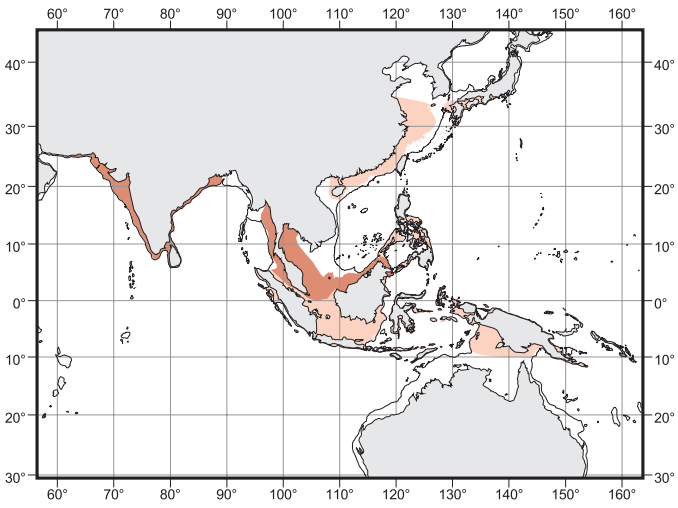


Fig. 138 ***Chiloscyllium griseum***

Field Marks: Mouth well in front of eyes; spineless dorsal fins far posterior on tail, greatly elongated thick precaudal tail, long and low anal fin just anterior to caudal fin, no lateral ridges on trunk, dorsal fins with straight or convex posterior margins, first dorsal-fin origin about opposite rear halves of pelvic-fin bases; often no colour pattern in adults, but young with transverse dark bands that lack black edging.

Diagnostic Features: Prepectoral length 16.5 to 19.5% of total length. Snout rounded anteriorly. Eyes moderately large, lengths 1.3 to 2.2% of total length. Body and tail fairly stout. No lateral ridges on trunk and predorsal and interdorsal ridges not prominent. Interdorsal space fairly short, slightly greater than first dorsal-fin base and 8.7 to 11.5% of total length. Snout to vent length 34.5 to 38.3% of total length; distance from vent to tail tip 58.1 to 64.4% of total length. Dorsal fins fairly large and rounded, subequal to or larger than pelvic fins, and without concave posterior margins and projecting free rear tips. First dorsal-fin origin over rear halves of pelvic-fin bases, first dorsal-fin base slightly longer than second dorsal-fin base, first dorsal-fin height 6.2 to 8.2% of total length. Second dorsal-fin height 7.4 to 9.1% of total length. Origin of anal fin slightly behind free rear tip of second dorsal fin, anal-fin length from origin to free rear tip slightly less than hypural caudal lobe from lower caudal-fin origin to subterminal notch, anal-fin base less than six times anal-fin height. Total vertebral count from 156 to 170 (mean = 161.7, n = 14). Intestinal valve count 15 to 19 (n = 2). **Colour:** colour pattern absent in adults but young with prominent dark saddle-marks without black edging.

Distribution: Indo-West Pacific: Pakistan, India, Sri Lanka, Malaysia, Thailand; nominal from Indonesia, China, Japan, Philippines, and Papua New Guinea but possibly based in part on ***C. hasselti.***



Habitat: An inshore bottom shark, on rocks and in lagoons. Depths 5 to 80 m.

Biology: Common where it occurs. Oviparous, deposits eggs in small oval egg cases on the bottom. Probably feeds mainly on invertebrates.

Size: Maximum total length at least 77 cm. Freeliving individuals down to at least 12.2 cm, size at hatching uncertain; males maturing between 45 and 55 cm.

Interest to Fisheries and Human Impact: Regularly taken in inshore fisheries off Pakistan, India and Thailand, and utilized for human food. Kept in public aquaria in the United States. Conservation status uncertain.

Local Names: Blackbanded bamboo shark; Ikan tjutjot, Ikan tjutjot pisang (Malaysia, Indonesia); Bambak gorbeh (Iran, possibly not this species); Blackbanded catshark, Catshark, Cat shark; Shimazame (Japan).

Remarks: This species was described as new by Müller and Henle without mention of the earlier ***Scyllium griseum*** van Hasselt, 1823. Fowler (1941) considered van Hasselt's species as lacking a description. Compagno (1984) listed it as a tentative *nomen nudum*, and noted that quite likely Müller and Henle based their name ***Chiloscyllium griseum*** on the earlier ***Scyllium griseum***, as they were apparently aware of van Hasselt's work in Java. Dingerkus and DeFino (1983) considered van Hasselt's species as valid and separable from Müller and Henle's ***Chiloscyllium griseum*** although a *nomen nudum* and not available as such, and so resurrected the earliest valid name based on it, ***C. hasselti*** Bleeker, 1852 (see below).

Literature: Garman (1913); Fowler (1941); Herre (1953); Gubanov and Schleib (1980); Dingerkus and DeFino (1983); Compagno (1984); Nakaya and Shirai (1984); Dibelius (1993); D. Didier (pers. comm.).

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