



Species Fact Sheets

Pseudocarcharias kamoharai (Matsubara, 1936)



Pseudocarcharias kamoharai: [\(click for more\)](#)

Synonyms

- *Carcharias yangi* Teng, 1959: 1, fig. 1. Holotype, Taiwan Fisheries Research Institute, TFRI 2895, 1 000 mm TL adult male, Su-ao fish market, from off Su-ao, Taiwan (Province of China). Type status confirmed by Eschmeyer (1998: CD-ROM).
- *Pseudocarcharias pelagicus* Cadenat, 1963: 529, figs. 1-5. Holotype: Museum National d'Histoire Naturelle, Paris, MNHN 1963-1, 975 mm adult male, off the Guinea coast, West Africa. Type status confirmed by Eschmeyer (1998: CD-ROM).

Other Combinations: *Odontaspis kamoharai* (Matsubara, 1936).

FAO Names

En - Crocodile shark, Fr - Requin crocodile, Sp - Tiburón cocodrilo.

3Alpha Code: PSK Taxonomic Code: 1060403601

Scientific Name with Original Description

Carcharias kamoharai Matsubara, 1936, Zool. Mag. Tokyo, 48(7): 380. Holotype: Imperial Fisheries Institute, Japan, Kyoto University, Department of Fisheries, Faculty of Agriculture, Japan (housed at Maizuru, Japan) FAKU, Fish Spec. 1823, 735 mm male, Koti Fish Market, Koti, Japan, apparently lost according to Eschmeyer (1998, Cat. Fish.: CD-ROM).

Diagnostic Features

fieldmarks: A small, very distinctive oceanic shark, with huge eyes lacking nictitating eyelids, long gill slits, slender, spindle-shaped body, long-cusped prominent teeth in a long angular mouth with highly protrusible jaws, small pectoral fins, two small spineless dorsal fins and an anal fin, weak keels and precaudal pits on the caudal peduncle, an asymmetrical caudal fin with a long ventral lobe. Colour: grey or grey-brown dorsal surface, lighter ventral surface, and light-edged fins.

Head much shorter than trunk. Snout moderately long, pointed and bulbously conical, not greatly elongated or flattened and blade-like. Eyes very large, length 3.6 to 4.9% of precaudal length. Gill openings moderately long, length of first 5.4 to 8.2% of precaudal length, extending onto dorsal surface of head; all gill openings in front of pectoral-fin bases; no gill rakers on internal gill slits. Mouth large, parabolic, ventral on head; jaws strongly protrusible to almost opposite snout tip but not greatly distensible laterally. Teeth large, the anteriors narrow and awl-like, the laterals more compressed and blade-like, with 26 to 29/21 to 26 (45 to 52 total) rows; two rows of enlarged anterior teeth on each side of upper jaw, the uppers separated from the smaller upper

lateral teeth by a row of small intermediate teeth; three rows of lower anteriors on each side, the first two rows enlarged but the third about as large as laterals; symphysials absent. Trunk cylindrical and slender. Caudal peduncle slightly depressed and with low lateral keels and upper and lower crescentic precaudal pits present. Dermal denticles small and smooth, with flat crowns, small ridges and cusps, and with cusps directed posteriorly on lateral denticles. Pectoral fins small, short and broad, much shorter than head in adults ; pectoral skeleton aplesodic with radials confined to fin bases. Pelvic fins large, somewhat smaller than pectoral and first dorsal fins ; fin skeleton aplesodic. First dorsal fin small, low, and angular ; fin skeleton aplesodic. Second dorsal fin smaller than first but larger than anal fin; second dorsal fin with a broad nonpivoting base but anal fin pivotable. Caudal fin not lunate, dorsal lobe moderately long but less than half as long as rest of shark, ventral lobe short but strong. Neurocranium moderately high, with a short to moderately elongated rostrum, depressed internasal septum and narrowly separated nasal capsules, large orbits with the supraorbital crests strong, small stapedia fenestrae, and with hyomandibular facets not extended outward. Vertebral centra strongly calcified, with well-developed double cones and radii but no annuli. Total vertebral count 146 to 158, precaudal count 80 to 88, diplospondylous caudal count 60 to 71. Intestinal valve of ring type with 24 to 27 turns.

Geographical Distribution



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Oceanic and circumtropical. Western Atlantic: Off Brazil. Eastern Atlantic: Southeast of Cape Verde Islands, between them and Guinea-Bissau, Guinea, Angola, and South Africa (Western Cape, vicinity of Cape Town and Cape Peninsula). Western Indian Ocean: Mozambique Channel between southern Madagascar, southern Mozambique and KwaZulu-Natal, South Africa, possibly south within Agulhas Current to off Eastern Cape. ? Eastern Indian Ocean: Bay of Bengal (possibly erroneous). Western North Pacific: Off Japan, Taiwan Island and Korean Peninsula; area between Marshall, Howland and Baker, Palmyra, Johnston and Hawaiian Islands. Western South Pacific: Australia (northeastern Queensland), west of New Zealand (North Island), Coral Sea, Indonesia (south of Sumatra near Sunda Straits and off Java). Central Pacific: Marquesas Islands, Hawaiian Islands, open ocean between Marquesas and Hawaiian Islands, open ocean between Hawaiian Islands and Baja California, around Line Islands, open water between Line Islands and southern Peru. Eastern Pacific: Mexico (off west coast of Baja California), Costa Rica, Panama and northern Peru.

Habitat and Biology

A rare to locally abundant oceanic, epipelagic and possibly mesopelagic shark, usually found offshore and far from land but sometimes occurring inshore and near the bottom. Found at depths from the surface to at least 590 m. Its bicolorate, countershaded colour pattern, lack of an expanded iris and prominent green or yellow retinal reflection, and frequent occurrence in pelagic **longline** catches suggests that it primarily inhabits the epipelagic zone. There are several records of strandings in the Cape Town area, South Africa, possibly due to upwelling of cold water that may stun these sharks but in at least one instance as a discarded catch of an offshore **longliner**.

The long body cavity, large liver, and small fins of this shark (microoceanic habitus, Compagno, 1990a) give it a superficial resemblance to *Isistius*, *Squaliolus*, *Euprotomicrus*, *Scymnodalatias*, and other oceanic squaloids, as well as *Odontaspis noronhai*, and like these sharks its extremely large and oily liver is probably important in maintaining neutral buoyancy. Its habits are little known, but its firm body musculature, tough skin, small precaudal fins, and large caudal fin suggests that it is a relatively active species, which is also suggested by its behaviour when captured. Off Cape Point, South Africa, one jumped out of the water after a bait and was caught. It snaps strongly and vigorously when captured (S. Kato, pers. comm.) and can bite very hard. The large but nonreflective eyes of the crocodile shark suggest nocturnal activity in the epipelagic zone, and

possibly a diel pattern of movement toward the surface at night and away from it in the day.

The crocodile shark is ovoviviparous and a uterine cannibal, with the young having yolk sacs at 3 to 4 cm long but reabsorbing them and subsisting on eggs and possibly other young beyond this size. Number of young in a litter four, two per uterus; egg cases formed in the oviducts have 2 to 9 fertilized eggs, but apparently only two of these survive, possibly through elimination of extra rivals. An interesting question is why two young survive in each uterus in this shark and some other lamnoids, while in *Carcharias taurus* only one foetus per uterus is normally produced.

Feeding habits of this shark are sketchily known. Its long, flexed teeth, strong and long jaws, and its vigorous activity when captured adapt it to moderately large, active oceanic prey. Of seven specimens examined by the writer for stomach contents, the stomachs of four were empty and three others had a number of small bristlemouths (gonostomatids), possibly lanternfish (myctophids), unidentified fish scales, small shrimp, and squid beaks, including onychoteutids (*Moroteuthis robsoni*), mastigoteuthids (*Mastigoteuthis*), pholidoteuthids (*Pholidoteuthis ?boschmai*), and cranchiids (*Megalocranchia?*) in their stomachs (M. Roeleveld and M. Lipinski, pers. comm., on identification of squid beaks). The jaws of the crocodile shark can be protruded for a considerable distance from its head.

Size

This is the smallest living lamnoid, with maximum size at least 110 cm; size at birth about 41 cm; males adult at 74 to 110 cm; adolescent females examined 96 to 110 cm and adults recorded at 89 to 110 cm and presumably greater.

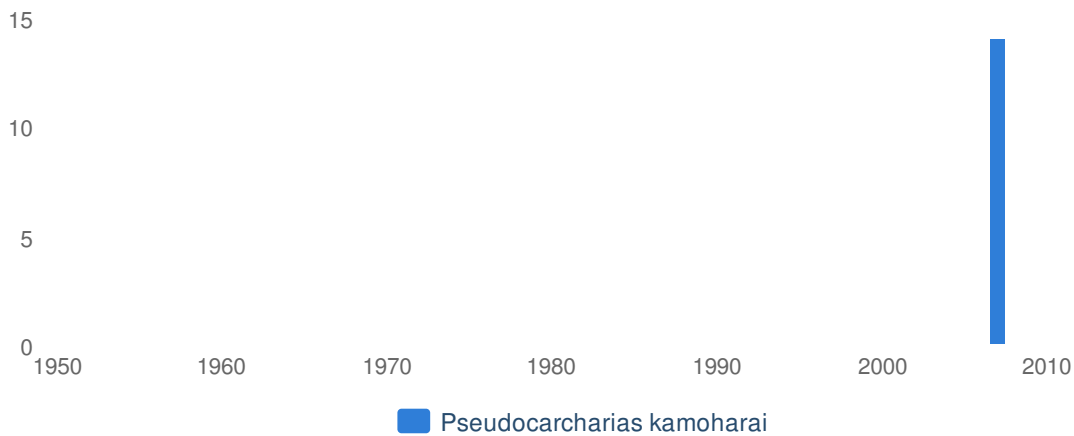
Interest to Fisheries

This shark is primarily caught as a discarded bycatch of pelagic longline fisheries for scombroids, but details are sketchy. Abe et al. (1969) noted that the species is often caught on tuna longlines, but discarded because of its small size and meat that is apparently unsuitable for the Japanese market. The liver of this species is very large and very high in squalene, and hence is of potential value. It also has been caught on squid jigs and occasionally washes up on beaches in the Cape Town area of South Africa. It may also be a discarded bycatch of pelagic squid fisheries as well as of pelagic net fisheries for scombroid fishes.

Conservation Status : Conservation status is uncertain but of concern because of its epipelagic habitat and because it is an apparently widespread, discarded, and largely unrecorded bycatch of the burgeoning pelagic longline fisheries. It is too small to be of much value for fins, and is little-utilized for flesh, but has a large mouth and strong teeth and is readily caught on longline hooks fished near the surface. It does not appear to be abundant anywhere with the known exception of the Mozambique Channel in the western Indian Ocean during the 1960s, and catch records are very limited and largely confined to a small number of specimens (less than 50) deposited in museums. It was assessed as Limited Risk (Near Threatened) for the Red List of the IUCN Shark Specialist Group (L.J.V. Compagno and J.A. Musick, pers. comm.).

Global Capture Production for species (tonnes)

Source: FAO FishStat



Local Names

Japan : Kamohara's sand shark , Mizu-wani , Mizuwani , Water crocodile , Water alligator .

South Africa : Japanese ragged tooth shark , Grootoog-skeurtandhaai , Bigeye ragged-tooth .

Remarks

Threat to humans: The crocodile shark is small and has never bitten people in the water, but should be treated with respect because of its strong jaws. It apparently has not been kept by large public aquaria but its small size and poorly-known behaviour suggests it may be more amenable to captivity than larger pelagic lamnoids and might be an interesting animal to observe in captivity.

Source of Information

Sharks of the world An annotated and illustrated catalogue of shark species known to date. Volume 2 Bullhead, mackerel and carpet sharks (Heterodontiformes, Lamniformes and Orectolobiformes). Leonard J.V. Compagno 2001. FAO Species Catalogue for Fishery Purposes. No. 1, Vol. 2. Rome, FAO. 2001. p.269.

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