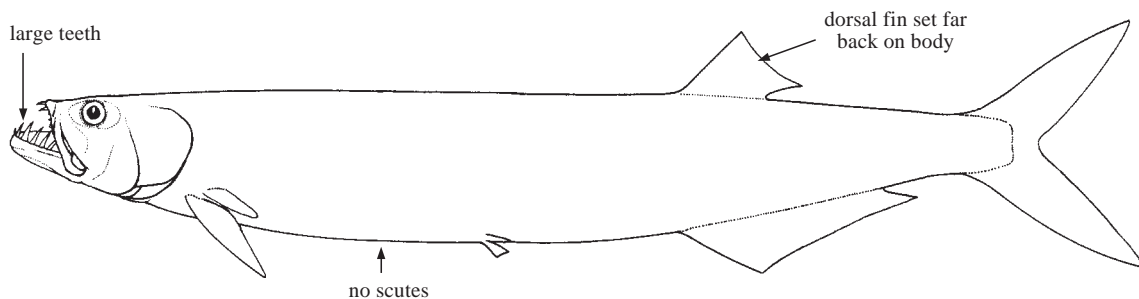


CHIROCENTRIDAE

Wolf-herrings

by T.A. Munroe, M.S. Nizinski, and T. Wongratana

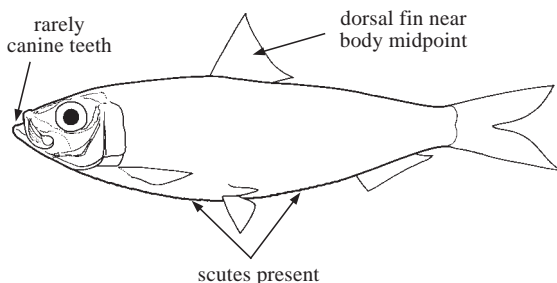
Diagnostic characters: **Very elongate (to about 1 m standard length), highly compressed**, silvery fishes resembling mostly the Clupeidae (herrings, sardines), but **without pelvic scute or scutes along the abdomen**. Head strongly compressed, articulation of lower jaw at vertical through anterior half of eye; **premaxillae with 2 enlarged fang-like canine teeth directed anteriorly followed by several smaller conical teeth; dentaries with 6 to 10 large teeth (larger at the front), with the largest measuring a little over 1 cm in height**. Mouth directed upwards. Eyes relatively small, with eyelids completely covering eyes. Abdomen somewhat carinate. **Dorsal fin short, set well behind midpoint of body**; pectoral fins set low; pelvic fins very small; anal fin longer than dorsal fin, beginning at a vertical about equal with dorsal-fin origin; caudal fin broadly and deeply forked. **Scales cycloid, numerous, small, (usually lost during capture), without striations; no lateral line on flanks. Predorsal bones lacking. Swimbladder cellular. Intestine straight, without pyloric caecae**. Total vertebrae 69 to 75; precaudal vertebrae 42 to 45; caudal vertebrae 27 to 31. Dorsal fin with iv to v unbranched and 12 to 14 branched soft rays; anal fin with iii or iv unbranched and 26 to 32 branched soft rays; pectoral fins with i unbranched and 12 to 14 branched soft rays; pelvic fins very small, with i unbranched and 6 branched soft rays. **Colour:** back bright bluish green (fading to grey), flanks bright silver; dorsal fin darkly pigmented or hyaline.



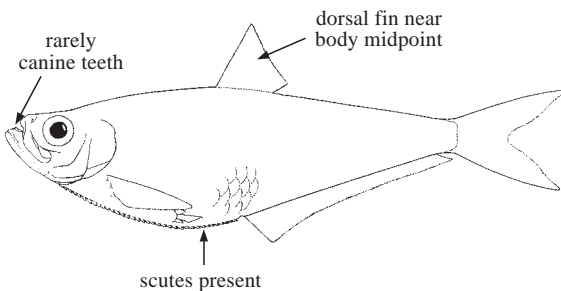
Similar families occurring in the area

Clupeidae: scutes usually present along abdomen (pelvic scute always present); canine teeth rare, never pointing directly forward in upper jaw; body usually oval or round in cross-section; eyelids with vertical opening in middle (completely covering eyes only in *Etrumeus*); scales large, with more or less striations; swimbladder tubular; intestine varying from straight (rarely) to very long and coiled; pyloric caecae 1 to numerous; dorsal fin (if present) near body midpoint; pelvic fins inserting below dorsal-fin base; anal fin with less than 28 fin rays.

Pristigasteridae: scutes usually present along belly (pelvic scute always present, except *Raconda* which lacks pelvic fins); canine teeth rare, never pointing directly forward in upper jaw; body usually oval or round in cross-section; eyelids with broad vertical opening in middle. Scales large, with more or less striations; swimbladder tubular; intestine slightly coiling; pyloric caecae 1 to numerous; dorsal fin (if present) near body midpoint; anal-fin rays at least 34.



Clupeidae



Pristigasteridae

Habitat, biology, and fisheries: Chirocentrids are coastal pelagic marine fishes, and they are among the largest of the clupeoids, reaching about 1 m standard length. They are widely distributed in tropical and subtropical Indo-Pacific region, from the Red Sea and East Africa south to Durban, to western Pacific including Japan, the Philippines, and south to northern Australia. They are predators on small fishes and are said to exhibit a sort of feeding frenzy among small herrings and anchovies during night fishing with lights. If they are schooling fishes, then schools are generally of moderate size (at least compared to schools of other clupeoids). They have an extended breeding season, scattering pelagic eggs from which planktonic larvae hatch. Age estimates up to 13 years have been made for some individuals; sexual maturity occurs around 42 cm fork length for females, and 31 cm fork length for males. Females reportedly have a faster growth rate than do males. No special fisheries exist and catches are small. They are commonly collected with drift nets, seines, shallow trawls, and stake-traps. Marketed fresh or frozen.

Remarks: In the past, most workers have assumed a single species, *Chirocentrus dorab*; a second species, *C. nudus*, was resurrected from synonymy in 1968, and is recognized in most recent works.

Key to the species of Chirocentridae occurring in the area

- 1a.** Pectoral fins comparatively short (11 to 13% standard length); upper part of dorsal fin with black markings *Chirocentrus dorab*
- 1b.** Pectoral fins comparatively long (13 to 18% standard length); upper part of dorsal fin without black markings. *Chirocentrus nudus*

List of species occurring in the area

The symbol  is given when species accounts are included.

 *Chirocentrus dorab* (Forsskål, 1775)

 *Chirocentrus nudus* Swainson, 1839

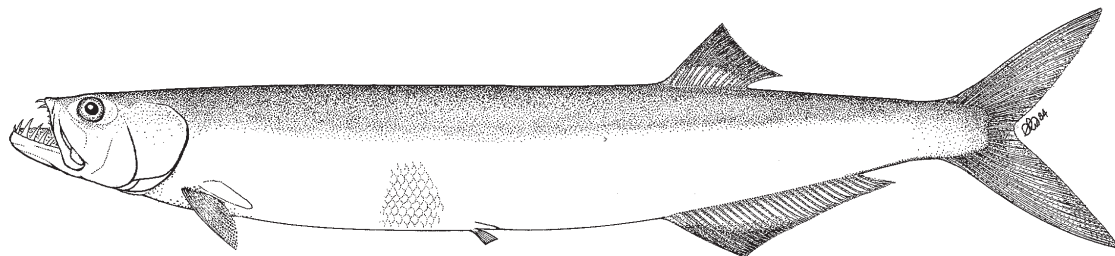
Reference

Whitehead, P.J.P. 1985. FAO species catalogue. Vol. 7. Clupeoid fishes of the world (Suborder Clupeioidi). An annotated and illustrated catalogue of the herrings, sardines, pilchards, sprats, shads, anchovies and wolf-herrings. Part I. Chirocentridae, Clupeidae, and Pristigasteridae. *FAO Fish. Synop.*, (125)Vol. 7,Pt.1:303 p.

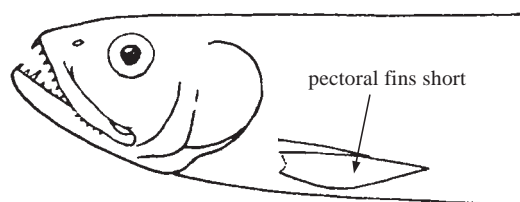
Chirocentrus dorab (Forsskål, 1775)

Frequent synonyms / misidentifications: *Chirocentrus hypselosoma* Bleeker, 1852 / *Chirocentrus nudus* Swainson, 1839.

FAO names: En - Dorab wolf-herring; Fr - Chirocentre dorab; Sp - Arencón dorab.



Diagnostic characters: Body elongate, strongly compressed, belly sharp, but without scutes. Scales cycloid, very small, easily shed. Mouth relatively large, directed upward. Posterior margin of maxilla fails to reach or, in rare cases, just reaches preopercular margin. **Large canine teeth in both jaws; 2 canine teeth on premaxillae pointing anteriorly.** Gill rakers on first arch 1 to 4 on upper limb and 10 to 16 on lower limb. **Dorsal fin located posterior to vertical through body midpoint.**

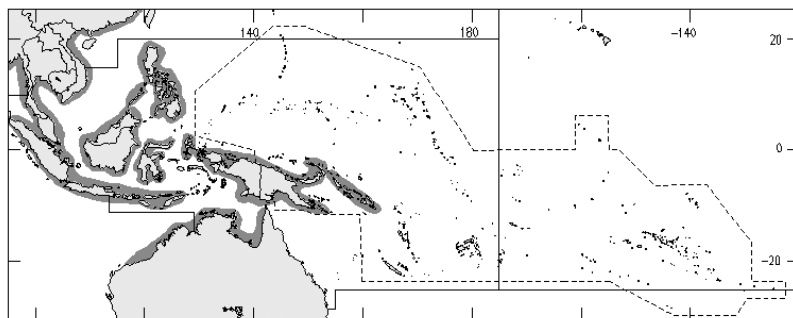


Anal-fin origin about under dorsal-fin origin; anal-fin base about twice or more than twice length of dorsal-fin base. Pectoral fins relatively short (11 to 13% standard length). Pelvic fins very small, with 7 fin rays. **Colour:** blue-green with a tinge of violet on back, flanks silvery; **upper part of dorsal fin black;** anal fin hyaline, except in larger specimens (40 cm standard length), which also have some black pigment on anterior part of anal fin; pectoral and caudal fins dark grey, acquiring a yellow tinge on preservation.

Size: Maximum standard length about 100 cm, commonly between 30 and 50 cm.

Habitat, biology, and fisheries: Pelagic, inshore fishes, occurring from the surface to a depth of about 120 m. Feeding occurs diurnally mainly on small fishes (primarily clupeids and engraulids), also crustaceans (shrimps), squids, and other small organisms. Common, but not abundant throughout range. Spawning season in Indian waters extends throughout most of year. Females grow faster than males. From 1990 to 1995, FAO's Yearbook of Fishery Statistics reports a range of yearly catch of *Chirocentrus dorab* of around 5 500 to 7 500 t from the Western Central Pacific (Thailand only). For the same period, the FAO reports a range of yearly catch of *Chirocentrus* spp. of about 18 100 to 25 700 t from the area (Indonesia, Malaysia, Philippines, Singapore), almost certainly including a proportion of *C. nudus* as well. Catches in Palk Bay and Gulf of Mannar (southern India) are the only ones where the 2 species of *Chirocentrus* were positively separated; *C. dorab* contributed only 20% to catch, the rest were *C. nudus*. Caught with gill nets, seines, shallow trawls, and traps. Marketed fresh or frozen and made into fish balls.

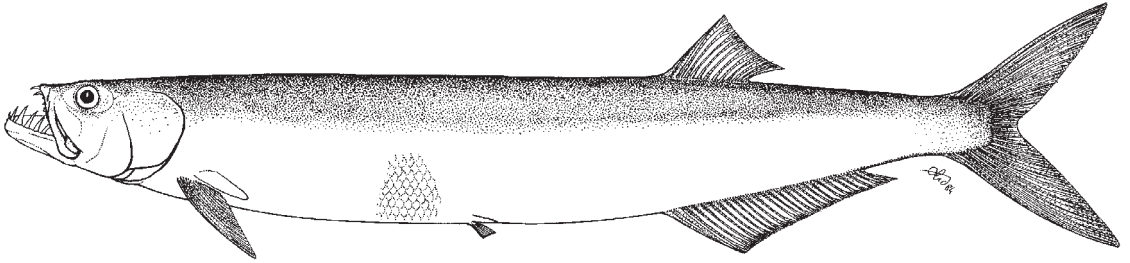
Distribution: Widespread tropical Indo-Pacific from the Persian Gulf, Red Sea south to Durban, eastward to the Philippines and Japan, and south to northern Australia. However, it is unknown to what extent *C. nudus* may contribute to these records.



Chirocentrus nudus Swainson, 1839

Frequent synonyms / misidentifications: None / *Chirocentrus dorab* (Forsskål, 1775).

FAO names: En - Whitefin wolf-herring; Fr - Chirocentre sabre; Sp - Arencón de aleta blanca.



Diagnostic characters: Body elongate, strongly compressed, belly sharp, but without scutes.

Scales cycloid, very small, easily shed. Mouth relatively large, directed upward. Maxilla reaches beyond preopercular margin in fish over 21 cm standard length. **Large canine teeth in both jaws; 2 canine teeth on premaxillae pointing anteriorly.** Gill rakers on first arch 2 to 5 on upper limb and 12 to 18 on lower limb. **Dorsal fin located posterior to vertical through body midpoint.** Anal-fin origin only slightly behind that of dorsal fin; anal-fin base about twice, or more than twice length of dorsal-fin base.

Pectoral fins about 13 to 18% standard length. Pelvic fins very small, with 7 fin rays. **Colour:** body blue-green on back, flanks silvery; **dorsal fin entirely white or colourless;** anal fin hyaline (turns yellow on preservation); pectoral fins dark grey, acquiring a yellow tinge on preservation.

Size: Maximum standard length to about 100 cm, commonly between 30 and 50 cm.

Habitat, biology, and fisheries: Apparently similar to *Chirocentrus dorab*. Diurnal predators on small fishes (primarily clupeids and engraulids), as well as shrimps and cephalopods. Spawning season in Indian waters extends from February to July or August, with peak spawning period during April to June. Individuals can live to be 13 years of age. Females grow faster than males. Size at maturity is about 42 cm fork length for females, and 31 cm fork length for males. Caught with gill nets, seines, shallow trawls, and traps. Marketed fresh or frozen, and made into fish balls.

Distribution: Widespread tropical Indo-West Pacific, probably similar to that of *C. dorab*, but not always distinguished from that species. Certain records are from Mombasa, the Persian Gulf to India and Sri Lanka, Thailand, Java, Borneo, the Indo-Australian Archipelago, and northward to Canton.

