

**RHINOPTERA JAVANICA MULLER & HENLE
FROM KENYA WATERS
(PISCES : RHINOPTERIDAE)**

By

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Rays of the family Rhinopteridae, commonly known as cow or bull rays, are rare in East African waters. Few are caught and none have been recorded previously by the East African Marine Fisheries Research Organization in Zanzibar. It was therefore of interest when two specimens of *Rhinoptera javanica* Müller & Henle were caught in a shark tangle-net set at the edge of a coral reef off Kikambala, Mombasa district, in March 1965. One of these specimens was purchased and is described below.

I would like to thank Mr. Peter Nicholas of Mombasa for supplying the specimen and catch data and Dr. J. F. C. Schwartz of Maryland University (U.S.A.) for confirming the identification.

RHINOPTERA JAVANICA Muller & Henle, 1841.

Rhinoptera javanica Müller & Henle, 1841, *Syst. Besch. Plagiostomen*: 182, pl. 58 (type locality: Java); Day, 1878, *Fishes of India*: 744, pl. 195, fig 4 (teeth) (India); Fowler, 1941, *Bull. U.S. nat. Mus.*, No. 100: 476 (references; Pacific specimens); Smith, 1953-1965, *Sea Fishes Southern Africa*: 504, fig. 77a (South Africa); *Idem*, 1958, in *Natural History of Inhaca Island, Mocambique*: 131 (Inhaca, Mocambique); Fourmanoir, 1964, *Cahiers — ORSTOM, oceanogr.*, No. 6: 40, pl. 7 (Madagascar).

Rhinoptera jayakari Boulenger, 1895, *Ann. Mag. nat. Hist.*, (6) 15: 141 (Muskat, Arabia).

DESCRIPTION: Based on the single specimen, 1194 mm. total length (head notch to tip of tail), a male approximately 26 lb. in weight from Kikambala, Mombasa district.

Body, head and pectoral fins form a broad lozenge-shaped disc. Head distinct, divided into two lobes by a deep median anterior notch. A pair of rostral fins not joined with front of skull and not continuous at sides of head with pectoral fins. Upper lip of mouth with a fringed edge, lower lip with numerous small papillae. Eyes prominent, placed laterally. Spiracles large, close behind eyes and open laterally. Gill openings of moderate size, the last smallest. Pectorals falcate, the leading edges convex, the hind edges concave. Dorsal fin set above basal part of tail.

Pelvic fins long and narrow. Anal fin absent. Tail long, slender and whiplike with a single basal serrated spine.

Teeth wide, angular and flat, set in pavement; nine rows in each jaw, the median row the widest, the outer narrowest. Skin smooth, without dermal denticles or tubercles; minute denticles on rostral fins.

Disc width 872 mm. (across pectoral fins), length 560 mm. (head notch to hind border of pectoral); maximum body depth 105 mm.; pre-oral distance 91 mm. (from head notch); pre-nasal distance 63.5 mm. (from head notch); eye diameter 30 mm.; inter-orbital distance 106 mm.; inter-spiracular distance 125 mm.; pre-pelvic distance 91 mm. (from head notch); dorsal fin base 58 mm., height 69 mm.; pelvic fin length 127 mm.; clasper length 114 mm.; tail length 322 mm. (? broken); serrated spine, length 54 mm., maximum width 7 mm.

COLOUR: *Fresh*, upper surfaces uniformly bluish-grey, ventral surface of disc greyish-white, darker towards tip of pectoral fins. Rostral fin denticles black.

DISTRIBUTION: Kenya (Mombasa district). Elsewhere, Indo-Pacific region; recorded from South Africa, Madagascar, Mozambique, Arabia, India, Ceylon, East Indies and China.

REMARKS: Two Indo-Pacific species are generally recognised, *R. javanica* and *R. adspersa* M. & H. These have been distinguished primarily on the presence or absence of dermal denticles or tubercles on the dorsal surface (i.e. back rough, tuberculate or smooth), and on the number of tooth rows in the jaws. Thus, Day (1878) and Fowler (1941) follow Müller and Henle (1841) and describe the dental formulae for *R. javanica* and *R. adspersa* as 7/7 and 9/7 respectively. That there must be some variation in the dental pattern is shown by the Kenya specimen with 9/9 tooth rows. I have now been informed by Dr. Schwartz (*in litt.*) that the dental formula of *R. javanica* may indeed vary from 7/7 to 9/9, or a combination of these. There is apparently but a single specimen of *R. adspersa* in existence (a stuffed mount in the Paris Museum); in this specimen the dorsal surface is warty or tuberculate.

Boulenger's (1895) description of *R. jayakari* from Muscat (nine tooth rows in each jaw, skin smooth) is very close to the specimen described here and may be regarded as a synonym of *R. javanica*.

Additional specimens of *Rhenoptera* are required from East African waters for further studies.

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