# REDESCRIPTION OF THE SAND SHARK *NEGAPRION ODONTASPIS* (FOWLER) OBTAINED FROM MINICOY ATOLL, LAKSHADWEEP

ABSTRACT

*Negaprion odontaspis* belonging to the Family Carcharhinidae is reported for the first time after its original discovery, based on a juvenile female specimen of 551 mm length obtained from the Minicoy lagoon of the Laccadive Archipelago. The specimen is redescribed and illustrated here.

DURING a study of fish collections from Minicoy waters, a specimen of *Negaprion odontaspis* (Fowler) belonging to the family Carcharhinidae, hitherto not reported from the Laccadive Archipelago was obtained. Fowler (1908) described the species *Eulamia odontaspis* based on a specimen of total length about 750 mm, with the type locality indicated as 'Probably from the Indian Ocean?'. The present record, the first after its original description, confirms the occurrence of *Negaprion odontaspis* (Fowler) in the Indian Ocean. A redescription of this little known species based on a juvenile female specimen is given here.

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**Negaprion odontaspis** (Fowler) (Figs. 1a-f)

*Eulamia odontaspis* Fowler, 1908. *Proc. Acad. nat. Sci. Philad.*, **60** : 62, Fig. 2.

*Triaenodon obesus* Ruppell, 1835. *Fische des Rothen Mees.*, pp. 10-38.

*Material :* One juvenile female 551 mm (T.L.) and 900 gm in weight collected rom the lagoon of the Minicoy Island (Lakshadweep) of the Indian Ocean. The

specimen is deposited in the Central Marine Fisheries Research Institute's Reference Collection Museum, Mandapam Camp (Reg. No. CMFRI-F 5/677).

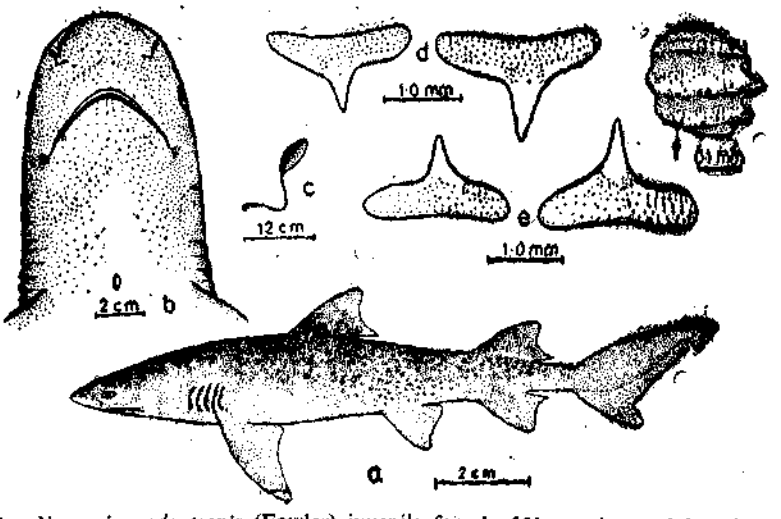


Fig. 1. *Negaprion odontaspis* (Fowler) juvenile female 551 mm in total length : a. Lateral view ; b. Ventral view of head ; c. Nostril ; d. Teeth from upper jaw ; e. Teeth from lower jaw ; and f. Dermal denticle.

*Diagnosis :* Carcharhinidae with anal not longer at base than second dorsal ; without spiracles; midpoint of base of first dorsal at least as near to axil of pectoral as to origin of pelvics ; second dorsal at least 0.75 as long at base as first dorsal; caudal peduncle without lateral ridges ; a peduncle pit above and below ; snout broadly and evenly rounded ; teeth almost similar in each jaw, with single cusp, slender, sharply pointed without any serrations both in upper and lower jaw.

*Description :* The proportional dimensions in per cent of the total length are given below. *Trunk at origin of pectoral* : breadth 13.4 ; height 11.8. *Snout length in front of* : anterior nostril 4.5 ; mouth 5.4. *Eye* : horizontal diameter: 2.2 ; vertical diameter 1.7 ; interorbital distance 11.2. *Mouth* : width 5.4 ; length 9.2. *Nostrils* : distance between inner ends 0.6. *Gill opening lengths* : 1st 3.9 ; 2nd 4.1 ; 3rd 4.5 ; 4th 4.4 ; 5th 4.1. *First dorsal fin* ; vertical height 7.0 ; length of base 10.1. *Second dorsal fin* : vertical height 6.5 ; length of base 10.3. *Anal fin* : vertical height 5.6 ; length of base 6.7. *Caudal fin* : upper margin 22.8 ; lower anterior origin 11.9. *Pectoral fin* : outer margin 18.1 ; inner margin 6.1 ; distal margin 12.3. *Distance from snout to* : 1st dorsl 34.6 ; 2nd dorsal 60.7 ; upper caudal 76.2 ; pectoral 21.4 ; pelvic 46.0 ; anal 61.7; upper angle of first gill opening 18.1 ; 5th gill opening 23.2. *Interspace between* : 1st and 2nd dorsal 18.3 ; 2nd dorsal and caudal 6.8 ; anal and caudal 7.1. *Distance from origin to origin of* : Pectoral and pelvic 24.6 ; pelvic and anal 15.2. *Height of* : Head at middle of eye 6.3 ; head at first gill opening 10.0 ; body midway between pectoral and pelvic fin origin 13.9 ; at origin of pelvic fin 10.3.

Some of the body proportions of the specimen as compared with that of Fowler's type specimen (in parenthesis) are as follows :—

Head length 5.4 (5.3), depth of head 8.4 (8.6) predorsal distance 2.9 (2.6) in total length. Width of head 1.5 (1.6), depth of head at first gill opening 1.6 (1.7),

snout 3.2 (2.7), width of mouth 3.0 (2.7), interorbital space 1.7 (2.0), front edge of first dorsal 1.4 (1.6), front edge of second dorsal 1.7 (2.0), front edge of anal 2.0 (2.1), front edge of lower caudal lobe 1.5 (1.6), least depth of caudal peduncle 5.0 (5.0), pectoral 1.1 (1.3), ventral 2.1 (2.4), in head length.

Body elongate, head well depressed ; greatest depth of body at about origin of D1 ; snout rather short and when viewed from above broadly convex ; eyes oval, small, horizontal diameter being slightly longer ; nictitating membrane broad ; corners of mouth without grooves ; gill openings moderately large with thickened flaps the last two over base of pectoral ; nostrils moderately oblique, its inner ends a little nearer to front of mouth than to tip of snout ; mouth broadly rounded and moderately arched.

Origin of first dorsal distinctly nearer to tip of snout than tip of posterior depressed point of second dorsal ; posterior point of D1 2.7 in length of fin ; origin of second dorsal about an eye diameter nearer that of upper caudal lobe than posterior basal margin of first dorsal and posterior point of fin 2.8 in its front margin ; point of insertion of the upper caudal lobe is slightly behind that of lower and its length about 3.4 in the rest of body ; upper lobe of caudal with a subterminal notch ; origin of anal slightly behind origin of second dorsal, anal fin reaching 1.5 to origin of lower caudal lobe ; pectoral broad, when depressed surpassing the origin of D1 by about two eye diameter distance, its greatest width 1.5 in its length. Ventral broad, its origin slightly behind tip of depressed dorsal, and depressed fin reaching 1.6 to anal.

*Dentition :* Teeth uniserial, alike in both jaws, their total number in upper jaw being 30 and lower jaw 24 ; teeth of both jaws single cusped, smooth edged and with smooth bases.

*Colour :* In formalin, upper three fourth of the body greyish and the remaining lower surface brownish. The margins of paired and median fins are grey with dusky margins. Lower side of outer tip of pectoral and ventral dusky ; sides of body, particularly beneath 1st and 2nd dorsals coarse having grannulated appearance.

*Remarks:* Fowler (1941) relegated his species to the synonymy of *Triaenodon obesus* Ruppell (1835), Bigelow and Schroeder (1948) stated that according to Fowler (1908), in *Eulamia odontaspis* the teeth are not only slender, errect and smooth edged, but without basal cusps and he so pictures them. Commenting on the validity of the species they remarked that the teeth in *Triaenodon* have one or two lateral cusps on each side of the longer medium cusps, this being a family character. The dentition in the present specimen conforms with the description and illustration given by Fowler (1908) for *Eulamia odontaspis* which has helped in its specific identity.

A few differences from Fowler's (1908) description of *E. odontaspis* are however noticed. The predorsal distance in total length is 2.9 as against 2.6 ; the origin of first dorsal is distinctly nearer to tip of snout than to tip of posterior depressed point of second dorsal as against the origin of first dorsal is about midway between tip of snout and tip of posterior depressed point of second dorsal ; pectoral when depressed surpassing origin of D1 by about 2 eye diameters as against depressed pectoral reaching about opposite origin of D1. These differences may be due to the compari-

son of the two juvenile specimens of different sex and size range. More information on adult specimens will be desirable.

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## REFERENCES

BIGELOW, H. B. AND W. C. SCHROEDER 1948. *Mem. Sears Found. Mar. Res.*, 1(1) : 59-546.

FOWLER, H. W. 1908. *Proc. Acad. nat. Sci. Philad.*, **60** : 52-70.

———. 1941. *Bull. U.S. nat. Mus.*, **100** (13) : 1-879.

RUPPELL, W. P. E. S. 1835. *Fische des Rothen Mees* ; pp. 10-38.