

ON THE OCCURRENCE OF THE STING RAY
DASYATIS (DASYATIS) MICROPS (ANNANDALE)
ON THE MADRAS COAST AND IN THE GULF OF MANNAR

R. V. NAIR AND R. SOUNDARARAJAN

Mandapam Regional Centre of C.M.F.R. Institute, Mandapam Camp.

ABSTRACT

The occurrence of *Dasyatis (Dasyatis) microps* on the Madras coast and in the Gulf of Mannar is reported with a brief description of the adults. The observations on the male foetus collected from a gravid female is also given.

Dasyatis (Dasyatis) microps was first described by Annandale (1908) as *Trygon microps* based on a single specimen caught by "Golden Crown" off Chittagong from a depth of 17 fathoms. Four more specimens were later reported by the same author (1909) off Orissa coast from a depth of 24-27

fathoms. Since then the occurrence of the species in Indian waters has not been reported. The occurrence of *D. (D.) microps* on the Madras coast and in the Gulf of Mannar is reported here which extends the distribution of the species to the southern part of the east coast of India. A brief description of the adults with observations on the male foetus (Reg.No.C.M.F.R.I., F.9|923) collected from a gravid female of the species is given.

Dasyatis (Dasyatis) microps (ANNANDALE)

Trygon microps Annandale, *Rec. Indian Mus.*, 2, 1908, p.393;
Mem. Indian Mus., 2, 1909, p.26.

Dasybatus microps Garman, *Mem. Mus. comp. Zool.*, 36, 1913, p.381.

Dasyatis (Amphotistius) microps Fowler, *Bull. U.S. natn. Mus.*,
100, 1941, p.431.

Dasyatis (Amphotistius) microps Misra, *Rec. Indian Mus.*,
45, 1947, p.36.

Dasyatis (Himantura) microps Misra, *Rec. Indian Mus.*,
49, 1952, p.124.

A gravid female measuring 2058 mm in disc width with a male foetus having a disc width of 330 mm, caught by a trawler off Dhanushkodi in the Gulf of Mannar from a depth of 13 metres on February 11, 1972; an adult female with a disc width of 1805 mm obtained from a trawl catch made off Madras at a depth of 18 metres on September 5, 1972; and an adult male with a width of 1630 mm got in a trawl net off Ervadi at a depth of 19 metres on October 12, 1972.

Description: Disc broader than long, 1.41-1.47 in width; outer angles greater than right angles. Snout 3.30-3.60 in disc length and 1.21-1.32 in head, rounded with a small terminal projection, covered with enlarged denticles. Eyes very small, 18.10-21.90 in snout. Spiracle large, 3.40-3.56 in snout, situated closely behind the eye. Mouth large, upper jaw slightly undulated, lower jaw almost straight; five buccal processes on the floor of the mouth, of which three are median and fused at base, the remaining lateral, small and widely separated from the median ones.

Disc with numerous small stellate-based denticles, slightly enlarged around eyes and spiracles. Tail almost as long as or a little longer than the disc, with a broad flat basal part up to the origin of caudal spine and a narrow, cylindrical posterior part. It has a thick, low cutaneous fold giving the appearance of a ridge on the ventral side. The fold originates below the base of the caudal spine and is prominent, up to one third of the narrow part of the tail. An indistinct keel is present on the dorsal side of the tail. Base of tail and the sides with enlarged denticles, ventral side with small denticles, terminal part densely covered with smaller denticles interspersed with few large denticles.

Colour whitish brown dorsally, paler ventrally. On the dorsal side a row of large, almost round whitish spots on either side of disc, midway between middorsal and pectoral angle, a few large white spots around the orbit, spiracle and base of tail. Eyes dark. Basal part of the tail brown, paler ventrally, becoming darker terminally.

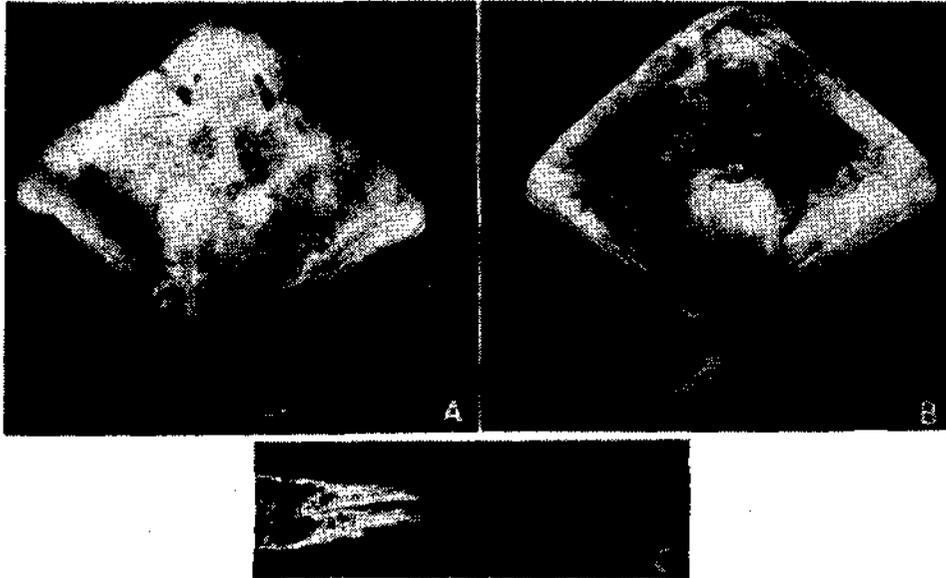


FIG. 1. *Dasyatis (Dasyatis) microps* — male foetus (330 mm in disc width). A: dorsal view. B: ventral view. C: ventral side of the tail showing the cutaneous fold.

The male foetus in advanced stage of growth (330 mm in disc width), recovered from the left uterus of the mother ray (2058 mm in disc width), showed some interesting features. Although the foetus resembles the adult in most characters, the body and tail are smooth and devoid of any denticles. Eyes are more prominent than in the adult and 10.83 in snout. Unlike in the adult, the tail is long and more than twice the length of the disc. A low cutaneous fold about 120 mm in length is present on the ventral side of the tail extending from the level of the origin of the caudal spine to the anterior one-fourth of the narrow part of the tail and continuing as a low ridge posteriorly to some distance. A low indistinct ridge is also found on the dorsal side of the terminal part of the tail. A small caudal spine covered by a sheath is present at the junction of the broad basal part and narrow terminal part of the tail. Vestiges of yolk sac are noticed in the middle of the ventral side of the disc between the 5th gill openings. The foetus is light pink both dorsally and ventrally, revealing more or less the same colour pattern of the adult.

The body measurements of the adults and the male foetus are given in Table 1.

TABLE 1. *Details of the body measurements (mm) of D. (D.) microps (Annandale) with particulars of area and date of capture (body measurements expressed as percentage in disc width given in parentheses).*

Character	Rameswaram 11-2-72		Madras 5-9-72	Ervadi 12-10-72
	Adult (female)	Foetus (male)	Adult (male)	Adult (male)
1. Width of the disc	2058	330	1805	1630
2. Length of the disc	1459 (70.89)	235 (71.21)	1225 (67.87)	1117 (68.53)
3. Head length (tip of snout to inner end of 1st gill opening)	533 (25.90)	97 (29.39)	459 (25.43)	410 (25.15)
4. Snout length (tip of snout to the anterior margin of the eye)	438 (21.28)	65 (19.70)	344 (19.06)	310 (19.02)
5. Eye diameter (horizontal)	20 (0.97)	6 (1.82)	19 (1.05)	17 (1.04)
6. Spiracle (maximum breadth)	129 (6.27)	19 (5.76)	97 (5.37)	87 (5.34)
7. Inter-orbital distance	240 (11.66)	49 (14.85)	177 (9.81)	181 (11.10)
8. Inter-spiracular distance	245 (11.90)	56 (16.97)	172 (9.53)	172 (10.55)
9. Inter-narial distance	175 (8.50)	30 (9.09)	135 (7.48)	130 (7.97)
10. Mouth width	140 (6.80)	28 (8.48)	96 (5.32)	105 (6.44)
11. Pre-oral distance	361 (17.54)	62 (18.79)	340 (18.84)	318 (19.51)
12. Tail length	1450 (70.46)	496 (150.30)	1525 (90.03)	1161 (71.22)

Distribution: India (east coast) and Philippines.

Remarks: The presence or absence of cutaneous fin-folds on the tail is one of the important characters for grouping the various species of *Dasyatis*. Garman (1913) arranged the different species under the following groups i.e. (1)

Himanturus (tail without keel or folds), (2) *Pastinachus* (tail without a keel above, with a fold below), (3) *Dasybatus* (tail with a keel above and a fold below) and (4) *Amphotistius* (tail with folds both above and below). He included the species *microps* under the group *Himanturus*. Fowler (1941) followed Garman's division of the genus using the generic name *Dasyatis* instead of *Dasybatus* and treated the above mentioned four groups as subgenera. He included *microps* under the sub-genus *Amphotistius* even though in his description of the species he mentions that the tail is without cutaneous fin-folds. Misra (1951) reassigned *microps* under the sub-genus *Himantura* but in his (1947) earlier check-list he had assigned *microps* under *Amphotistius*. Bigelow and Schroeder (1953) consider all the species under two genera, namely, (1) *Himantura*, in which the tail is without cutaneous fin-folds and (2) *Dasyatis*, in which the tail is with cutaneous folds.

The present observations show that in the adults as well as in the advanced foetus the tail has a distinct fold on the ventral side and an indistinct keel on the dorsal side, justifying the inclusion of the species in the sub-genus *Dasyatis* under the genus *Dasyatis*. The body shape, small eyes, presence of stellate-based denticles all over the body and tail, tail with a broad basal part and a narrow terminal part are diagnostic characters of *Dasyatis* (*Dasyatis*) *microps*. The row of round white spots on either side on the dorsal surface of the disc noted in the species has not been mentioned by Annandale (1908).

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