

Note on an albino spadenose shark, *Scoliodon laticaudus* from the north-east coast of India

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Albinism is a genetically inherited condition where the pigment protein melanin is either missing or nonfunctional. Individuals with total albinism exhibit total absence of melanin involving the entire body while partial albinism (or leucism) is phenotypically characterized by absence of melanin in parts of the body or reduction of melanin in the entire body or a part of it. It is rare in elasmobranchs as compared to teleosts. To date, 61 species of elasmobranchs have been reported with albinism globally and *Carcharhinidae* is no exception to this. The spadenose shark *Scoliodon laticaudus* Müller & Henle, 1838 (Family: *Carcharhinidae*) is a small shark landed all along the Indian coast in considerable numbers. Leucism

has been reported in this species from India (Veena *et al.*, 2011) while this report is on partial albinism in a specimen of *S. laticaudus* landed at Digha landing centre (East Midnapur, West Bengal, India) by a trawler that operated at a depth range of 30-50m (21°35'52"N 87°54'47"E). The specimen was collected during routine field sampling on 21st December, 2020, and body measurements were recorded. Morphometric comparisons were made with a normal specimen of the same sex and similar length. Tissue samples were processed for further detailed genetic analysis.

Out of fifty samples of *Scoliodon laticaudus* collected



Fig. 1. (a) Albino *S. laticaudus* (b) Normal *S. laticaudus* landed at Digha, West Bengal, India

for observations on the biology, one specimen was found to be a partial albino. Changes in tyrosinase and P genes located in autosomes are reported to be the most prevalent causes of total or partial albinism. The albino *S. laticaudus* recorded in this instance was a female, measuring 34.9 cm in total length and weighing 162 g (Fig. 1a). The morphometric measurements are presented in Table.1. Key morphometric features of the selected specimen were found to be well within the range of a normal specimen with same sex caught in the same region except the colour pattern. Unlike normal bronze grey body, the specimen was fully cream-coloured dorsally (Fig. 1a, b). The fins were also cream in colour without any conspicuous markings but the retinal coloration was normal from which it was confirmed that the shark was a partial albino. The specimen was found to be devoid of any signs of disease and completely free from parasites and was absolutely healthy.

Table. 1. Morphometric measurements for the albino and normal specimen of *S. laticaudus*

Measurements (cm)	Albino specimen	Normal specimen
Total length	34.9	32.6
Total weight(g)	162	121
Sex	female	female

Measurements (cm)	Albino specimen	Normal specimen
Fork length	29.5	27.8
Snout to first dorsal	12.8	12.7
Snout to 2nd dorsal	23.4	21.8
Snout to pectoral	8.4	7.2
Snout to pelvic	17.2	16.3
Snout to anal	21.3	29.8
Snout to caudal	27.2	25.7
Snout to nasal	2.8	2.4
Snout to mouth	3.3	2.9
Snout to eye	3.7	3.4
Snout to 1st gill	6.7	6.2
Snout to last gill	8.6	7.9
Distance between 1st & last gill	1.9	1.9
Height of 1st gill	0.9	1
Height of last gill	0.9	1
Inter dorsal	7.8	7
Inter nasal	2	1.9
Inter orbital	3.1	3
Eye diameter	0.62	0.71
Mouth width	2.4	2.6
Body depth	5.1	4.6
1st dorsal height	4.2	3.9

Measurements (cm)	Albino specimen	Normal specimen
2nd dorsal height	3.4	3.2
1st dorsal base	1.4	1.3
2nd dorsal base	1.1	1.1
Pectoral height	3.4	3.5
Pectoral base	2.4	2.2
Pelvic height	1.9	1.8
Pelvic base	1.9	1.7
Anal height	1.7	1.6
Anal base	2.6	2.5

Measurements (cm)	Albino specimen	Normal specimen
Caudal height(upper)	7.9	7.5
Caudal height(lower)	3.4	3.1
Caudal depth	1.6	1.5
Trunk length	11	10.5
Tail length	16.9	15.8
Eye	Normal	Normal

References

Veena, S. et al., 2011. *Indian J. Fish.*, 58(1): 109-112