

**Albinism and Lack of Second Dorsal
Fin in an Adult Tawny Nurse
Shark, *Nebrius concolor*,
from Japan**

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(Received September 26, 1986)

An unusual shark possessing only one dorsal fin and uniform white-colored body was captured with a set net off Ugui, Nachi-katsuura, Wakayama Prefecture, on 13 May 1986 (Fig. 1). Except for these peculiar characters, we believe this specimen is an orectolobiform shark because it possesses nasooral grooves, narial barbels, long labial furrows, and a short mouth. The dorsal fin is placed a little ahead of the pelvic fin. It lacked a second dorsal fin which may have been lost naturally or accidentally. We therefore regard the shark as a member of the family Ginglymostomatidae according to a key to families of Orectolobiformes (Compagno, 1984a) and the following characters: a short caudal fin; cylindrical head and body; and no lobe and groove around outer edges of nostrils. Further, since it has multicuspid teeth with the central cusp highest, and dorsal and pectoral fins that are distally pointed, it falls into the genus *Nebrius* (Compagno, 1984a; Dingerkus, 1986). Regarding the species name of *Nebrius*, Compagno (1984a) tentatively included *N. concolor* (Rüppell) in the synonymy of *N. ferrugineus* while Dingerkus (1986) retained it as *N. concolor* in his study on interrelationships of orectolobiform sharks. We follow Dingerkus' view because he regarded *N. ferrugineus* as a nomen nudum according to Randall

(1986).

Uniqueness of the body color indicates albinism. The albino shark is partial albinistic because its eyes are grayish brown. This is the first record of albinism in *N. concolor*.

Materials and methods

An adult male, 2,904 mm total length and 156 kg body weight, was captured on 13 May 1986, 3 km southeast of Ugui, Nachi-katsuura, Wakayama Prefecture, Japan. It is preserved in the Marinarium of the Taiji Whale Museum. Measurements follow Garrick and Schultz (1963).

Results and discussion

Proportional dimensions of the albino specimen are given as percentage of total length. Distance from snout tip to: outer nostril 1.3; eye 6.3; mouth 1.7; spiracle 8.9; 5th gill opening 19.1; pectoral origin 18.0; 1st dorsal origin 18.0; pelvic origin 43.4; anal origin 63.6. Distance between inner corners of nostrils 3.7. Horizontal diameter of eye 0.6. Mouth: width 7.1; length 0.7. Length of 3rd gill opening 3.0. Pectoral fin: base length 5.6; length of anterior margin 20.0; length of posterior margin 4.8. Dorsal fin: base length 7.2; length of posterior margin 3.4; height 7.7. Pelvic fin: overall length 9.6; length of anterior margin 11.0; length of posterior margin 9.1. Anal fin: base length 6.9; length of posterior margin 2.4; height 6.2. Caudal fin: length of dorsal lobe 11.4; length of ventral lobe 11.4; distance from dorsal tip to notch 3.4.

The measurement data except for the second dorsal fin approximate those of Bass et al. (1975)



Fig. 1. An abnormal specimen of *Nebrius concolor*, 2,904 mm TL, male, from Nachi-katsuura, Japan.

and Yoshino et al. (1981) for *N. concolor*. There is no external evidence of injury dorsally above the anal fin, where normal sharks have a second dorsal fin. Yanagisawa (1983) reported the occurrence of *N. concolor* completely lacking a second dorsal fin at Kumanonada off Taiji, Wakayama Prefecture and gave proportional body dimensions similar to our data. Other specimens lacking a second dorsal fin have been reported as *Ginglymostoma ferrugineus* from Taiwan (Teng, 1958, 1962) and *N. concolor* from the Ryukyu Islands (Yoshino et al., 1981). These sharks agree quite well with our specimen in external features so that we consider them to be *N. concolor*. Yanagisawa (1983) conjectured that frequent occurrences of fin anomalies in this species might be caused to the exposure of embryos to high temperature and/or high salinity when pregnant females remain in shallow waters like a tide pool. Compagno (1984b) pointed out the possibility that *Pentanchus profundicolus* is abnormal in lacking a first dorsal fin resulting in inclusion of the species into synonymy of *Apristurus herklotsi*. Five examples suggest that complete lack of a dorsal fin is not seldom in sharks.

Albinism is relatively rare in elasmobranchs and was reviewed by Nakaya (1973) and Talent (1973). Subsequently, albinism has been recorded in *Mustelus californicus* from California (Cohen, 1973), *Squalus acanthias* and *Cetorhinus maximus* from Norway (Frøiland, 1975), *Dasyatis pastinata* from Tunisia (Capape and Pantoustier, 1975), *Triakis semifasciata* from California (Follett, 1976), *D. americanus* from North Carolina (Schwartz and Safrit, 1977), and *Hemitriakis japonica* from Japan (Furuta, 1985). Almost all the albino elasmobranchs are partial albinistic except for *Sphyrna lewini* (see Nakaya, 1973). It is said that albino animals rarely survive in the wild because they lack the pigments that provide protective coloration. It is astonishing that our specimen lacking a second dorsal fin survived to a size of 2,904 mm and is the largest mature albino elasmobranch known.

Acknowledgments

We would like to thank Ugui Fishermen's Union for donating the abnormal specimen. We are very grateful to Professor F. J. Schwartz, Institute of Marine Sciences, University of North

Carolina, for his critical review of the manuscript.

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那智勝浦町沖で採集された第2背鰭を欠くオオテンジクザメの白子

谷内 透・柳沢 踐夫

和歌山県那智勝浦町宇久井沖の定置網で第2背鰭を欠くオオテンジクザメの白子が採集された。この標本は全長 2,904 mm の成熟した雄で、過去に知られている成熟した板鰓類の白子のなかでは最大の大きさであった。また、本報告以外にも第2背鰭を欠くオオテンジクザメの出現が3例報告されていることから、第2背鰭の欠除は本種では比較的容易に生じるものと推察される。

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