

A Singapore record of the short-horned pygmy devil ray, *Mobula kuhlii*

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Subjects: Short-horned pygmy devil ray, *Mobula kuhlii* (Chondrichthyes: Myliobatiformes: Mobulidae).

Subjects identified by: Kelvin K. P. Lim.

Location, date and time: Singapore Strait at Tuas Bay; 1 March 1994; around 1700 hrs.

Habitat: Marine. Artificial bay partially bordered by reclaimed land.

Observers: Liang Ban-sian (owner of kelong) and friends.

Observation: Twenty-eight examples were trapped in a kelong (fish trap positioned beneath a platform supported on wooden stilts in shallow sea). The largest individual is said to weigh over 30 kg and had a disc width of 4 feet. One example gave birth to a pup. 10 specimens were purchased by Underwater World Singapore for exhibition in the aquarium on Sentosa Island. One of them produced a pup at the aquarium. A total of 30 examples were observed (Guo, 1994). The fate of the remaining specimens at the kelong is not known.

Underwater World donated a dead adult male and a dead male pup to the Zoological Reference Collection (ZRC) at the National University of Singapore (now the Lee Kong Chian Natural History Museum) where they were preserved. The adult male, catalogued as ZRC 60595, has a disc width of about 120 cm (Fig. 1). The male neonate, accessioned as ZRC 37454, has a disc width of 39 cm (Fig. 2).

Remarks: According to Wang & Lim (2011: 290), three species of *Mobula* have been recorded from Singapore waters. These are based on records of '*Mobula eregoodoo*' by Tweedie (1936: 17), '*Mobula kuhlii*' by Tweedie (1940: 69), and '*Mobula diabolica*' by Chou et al. (1994: 101).

The *Mobula eregoodoo* (= *Mobula eregoodootenkee*) of Tweedie (1936: 17) refers to a foetal specimen (ZRC 2084) of 22 cm disc width, obtained in Singapore and presently housed at the Lee Kong Chian Natural History Museum. Although the specimen label states that it was obtained at a fish market on 13 November 1913, these details are not indicated by Tweedie (1936: 17). Since it was obtained at a fish market, there is a possibility that it did not originate from Singapore's territorial waters. Another specimen mentioned by Tweedie (1940: 69), was obtained from a fish market in Singapore, and identified as *Mobula kuhlii* by Albert Herre. Its identity cannot be confirmed as the specimen could not be found in the Lee Kong Chian Natural History Museum which took over the collections of the former Raffles Museum.

According to Stevens et al. (2018: 78-81, 86-89), both *Mobula kuhlii* and *Mobula eregoodootenkee*, the long-horned pygmy devil ray, are distributed throughout the tropical Indo-west Pacific and the two species are known to be sympatric although they have not been captured or observed together. The following characters are shared by these two species: 1) anterior margin of pectoral fins straight, without double curvature; 2) dorsal fin short and often white-tipped; 3) tail shorter than disc width and 4) tail does not bear spines. *Mobula kuhlii* has a 'short-necked' appearance, with cephalic fin length less than 16% of total disc width. The ventral side of its pectoral fin is either completely white or with a dark grey-silvery sheen on the distal ends (Fig. 1 & 2). In contrast, *Mobula eregoodootenkee* has a 'long-necked' appearance with longer cephalic fins (length greater than 16% of total disc width), and the ventral side of the leading edge of its pectoral fin has an area of distinct triangular-shaped blackish shading.

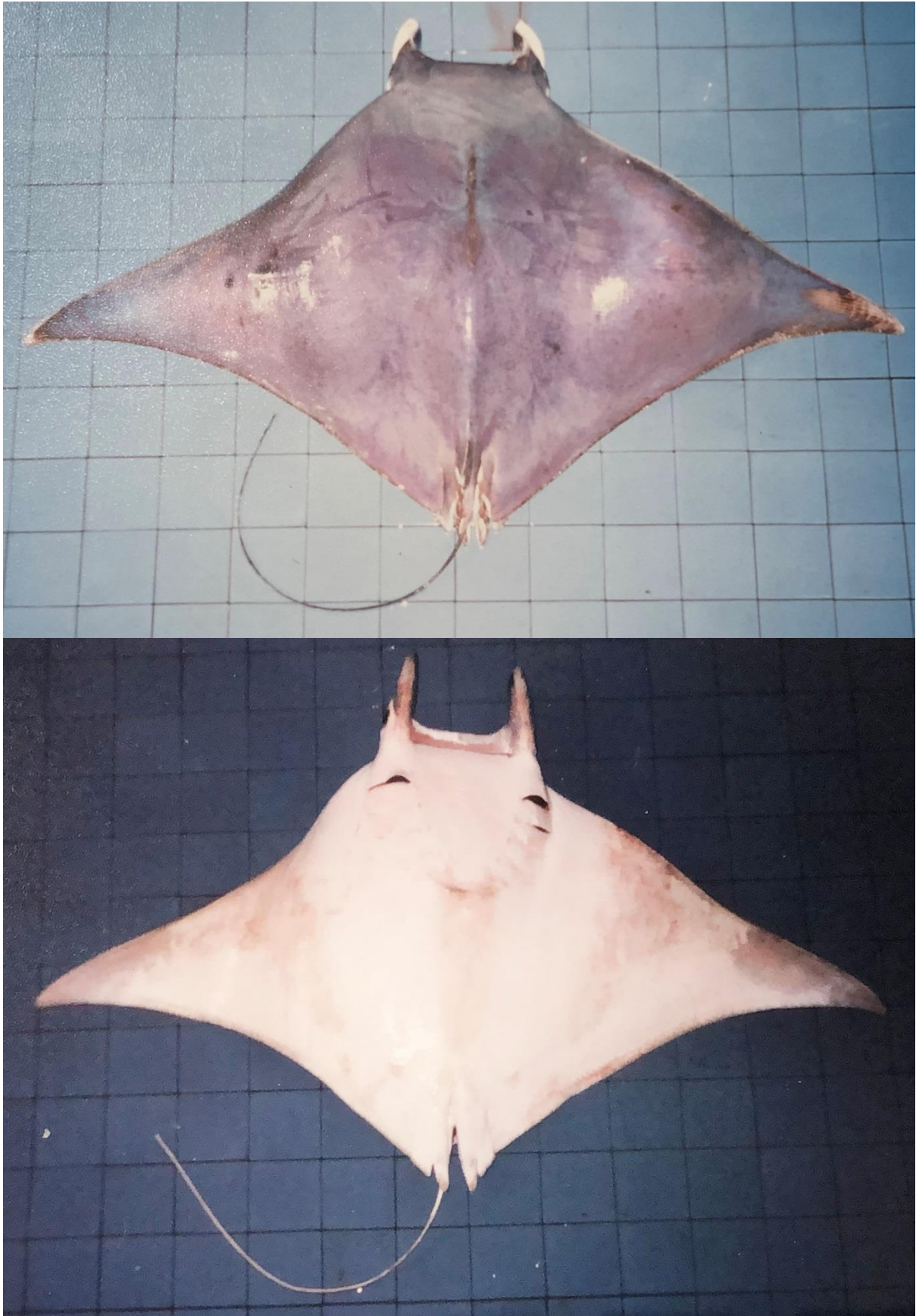


Fig. 1. Freshly dead *Mobula kuhlii* (ZRC 60595) of about 120 cm disc width. Dorsal (top) and ventral (bottom) views. Photographs by Kelvin K. P. Lim



Fig. 2. Ethanol-preserved newborn *Mobula kuhlii* (ZRC 37454) of 39 cm disc width. Dorsal (top) and ventral (bottom) views. Photographs by Kelvin K. P. Lim

The basis of ‘*Mobula diabolica*’ in the faunal checklist of Chou et al. (1994: 101) is unknown. ‘*Mobula diabolica*’ seems to be a mis-spelling of *Mobula diabolus*, which is a synonym of *Mobula mobular* (see Froese & Pauly, 2019). *Mobula mobular*, the spinetail devil ray, has not been recorded from Singapore, but its occurrence can be expected as it has a circum-global distribution. This species is distinguished from *Mobula kuhlii* and *Mobula eregoodootenkee* chiefly in having a spine at the base of its tail, and a longer dorsal fin (Stevens et al., 2018: 90-93). ‘*Mobula diabolica*’ may have been based on the earlier names cited by Tweedie (1936: 17, 1940: 69) as the list of Chou et al. (1994) does not mention any other species of *Mobula*.

Thus far, *Mobula kuhlii* is the only species of devil ray whose occurrence in Singapore is confirmed.

References:

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