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ON THE DIAGNOSIS OF THE SPINNER DOLPHIN, *STENELLA LONGIROSTRIS* (GRAY, 1828) AND ITS HOLOTYPE

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With one text-figure

In 1828 (p. 1-2), John Edward Gray described the spinner dolphin as follows: *Delphinus longirostris*, n. - *Osse palatino carinato, postice convexo; rostro longissimo attenuata, supra depresso, lineâ mediâ elevatâ; dentibus parvis utriusque $\frac{48}{48} \frac{50}{50}$* ." To this Latin diagnosis he added: "Inhab.

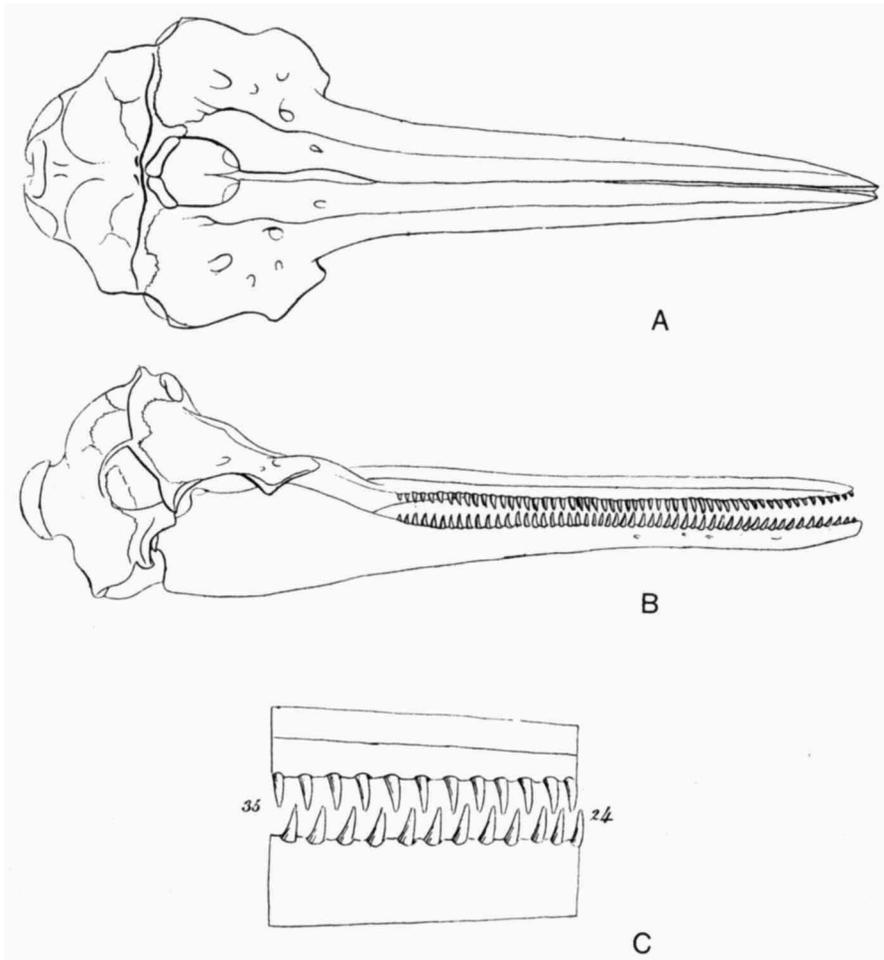
Cranium in Mus. D. Brookes. The beak is more slender and depressed than that of *D. delphis*; the palate bone more strongly keeled; and the elevated central process of the upper surface of the beak broad and convex. Length of the head 6 inches; beak 11- $\frac{1}{2}$. Breadth of the latter at its base 3 inches."

From the description it is evident that the skull on which the diagnosis was based formed part of the private museum of D. Brookes in London. In the same year in which Gray's publication appeared in print, the Brookes collection was sold. From the annual report of the Rijksmuseum van Natuurlijke Historie at Leiden, dated 10-III-1829 and written by its first director, Dr. C. J. Temminck, it becomes clear that the Leiden museum bought a large part of the Brookes collection (see: Gijzen, 1938: 162).

The transfer of the skull on which Gray's description was based from the Brookes collection to the Leiden Museum was also recorded by Schlegel (1841: 19). He wrote: "Diese Art wurde von Gray, Spic. Zool. p. 1, nach

einem Schädel aufgestellt, der aus der Sammlung des Doctor Brookes in die Unsige übergegangen und auf Taf. 1, 2 u 3, Fig. 4 abgebildet ist." For the figures published by Schlegel, see fig. 1 of this paper. The acquisition of Gray's *Delphinus longirostris* skull by the Leiden Museum is also mentioned by Flower (1883: 492, 504) and by Jentink (1887: 173) in his catalogue of osteological material in the Leiden Museum.

According to Gray (1828: 2) the total length of the skull was 17-1/2 inches (44.45 cm), the length of the rostrum 11-1/2 inches (29.21 cm), and the width of the rostrum at its base 3 inches (7.62 cm). Calculated after the



Reproductions ($\times 0.8$) of the figures of the skull of *Stenella longirostris* (RMNH 8676) published by Schlegel (1841). A = plate I, fig. 1; B = plate II, fig. 1; C = plate IV, fig. 1.

figures of the skull published by Schlegel (1841) these measurements are: total length of skull about 42.3 cm, rostrum length about 27.6 cm, and rostrum width at base about 6.1 cm. For the same dimensions True (1889: 76) listed: total length 42.0 cm, rostrum length 28.0 cm, and rostrum width at base 7.5 cm. Van Bree (1971: 102) remeasured the skull (now registered under number RMNH 8676) and came to the following results: total length of skull 42.6 cm, rostrum length 27.7 cm, and rostrum width at base 7.6 cm. If one takes into account the different ways of measuring skulls and the shrinkage of cetacean skulls in the course of time (van Bree, 1973: 132), then a great resemblance between the given sets of measurements can be observed. It must be noted that neither in the Latin diagnosis, nor in the additional notes in English, did Gray write anything about the palate. He only stated that the palatines (*Osse palatino*, "palate bone") were carinated (*carinatino*, "keeled"), which can be observed in the type skull.

To this point, the description of the species and the history of the type skull are quite clear. Gray, however, in later publications by changing and enlarging the diagnosis created confusion, which persists to the present day.

Eighteen years after description of the species, Gray (1846: 30-42), in section 6. "*Delphinus (head rather convex in front. Dorsal medial. Nose of skull rather depressed, convex above)*", under the subsection "*(skull roundish; triangle just to the toothline; palate with a deep groove on each side, and a high, central ridge behind - Beak of skull twice as long as the brain-cavity)*" listed one species, viz. the Cape Dolphin, *Delphinus longirostris*. Under this diagnosis he brought together as synonyms his *Delphinus longirostris*, described in 1828 in his *Spicilegia Zoologica*; *Delphinus longirostris* G. Cuvier, 1829; his *Delphinus capensis*, also described in 1828 in *Spicilegia Zoologica*; *Delphinus longirostris* Schlegel, 1841 (which Schlegel called *Delphinus longirostris* Gray, 1828) and the dolphin from Japan, mentioned by Schlegel in 1841 (p. 20) and described and pictured by Temminck & Schlegel in 1844 (p. 13-14, pl. 24), both under the same denomination. A most remarkable combination of characters and specimens, as of his *Delphinus longirostris* and the one described by Cuvier the external aspects were not known at that time, and of his *Delphinus capensis* and the Japanese dolphin the skulls were not known to him. It was only in 1884 that the skull was removed from the mounted specimen of *Delphinus capensis* (see Flower, 1885: 26). Furthermore the skull of his *Delphinus longirostris* did not have deep grooves in the palate; this detail, however, could easily have been forgotten after 18 years. In addition, it might on the surface appear that he was not of the opinion that Schlegel (1841) had examined his (1828) holotype skull.

Almost the same diagnosis of *Delphinus longirostris*, the Cape Dolphin, was published by Gray in 1886 (p. 241) in his Catalogue of Seals and Whales in the British Museum. It is understandable that this new composite diagnosis, together with a mistake made in the translation of the Latin text of the original diagnosis in 1828 (carinated palate instead of carinated palatines) resulted in a nomenclatorial puzzle, described by Perrin (1975). Perrin came to the conclusion that the type skull of *Delphinus longirostris* Gray, 1828, did not come to the Leiden Museum, as it ought to have a strongly grooved palate according to Gray's diagnoses of 1846 and 1866, and that the skull described by Schlegel in 1841 under the name of *Delphinus longirostris* should be the type of the species, which presently is known under the name of *Stenella longirostris*. This would lead to very knotty nomenclatorial difficulties because of the earlier (between 1828 and 1841) use of *Delphinus longirostris* by Cuvier based on a skull of a taxon closely related to or synonymous with *Delphinus delphis* Linnaeus, 1758.

It now seems probable, however, on the basis of retranslation of the original diagnosis and archival research, that the confusion and apparent discrepancies can be laid to memory lapses and errors by Gray and that his holotype of 1828 (and the name *Delphinus (Stenella) longirostris*) belong to the spinner dolphin. Only the original diagnosis is valid; it fits very well the skull originally in the museum of D. Brookes in London and now in the Rijksmuseum van Natuurlijke Historie at Leiden (RMNH 8676).

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