

A Note on Evidence for Pelagic Warm-Water Dolphins Resembling *Lagenorhynchus*

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ABSTRACT

This note reviews new and historical sightings of *Lagenorhynchus*-like dolphins in tropical and sub-tropical waters of the Indian and Pacific Oceans. Given the distributions of the three Southern Hemisphere species, it seems probable that these sightings refer to an unrecognised species in tropical and sub-tropical waters. It is recommended that observers on future surveys in these regions are especially vigilant for sightings of these dolphins.

KEYWORDS: INDIAN OCEAN; SOUTH PACIFIC; DOLPHINS-GENERAL; DISTRIBUTION; PEALE'S DOLPHIN; PACIFIC WHITE-SIDED DOLPHIN; DUSKY DOLPHIN; HOURGLASS DOLPHIN; WHITE-BEAKED DOLPHIN; SIGHTINGS-INCIDENTAL

INTRODUCTION

No specimens of the dolphin genus *Lagenorhynchus* are known from the tropics, but new and historic sightings have recently come under consideration. Descriptions invariably include one or more of the following external characteristics: indication of a bi-toned dorsal fin; whitish streaks on the sides sometimes interpreted as an hourglass pattern; and (explicitly or implicitly) a short snout. Body size also appears to agree with that of a *Lagenorhynchid*. Below we review seven sighting events that refer to *Lagenorhynchus*-like dolphins from tropical and sub-tropical waters (see Fig. 1).

SIGHTINGS

South Pacific Ocean

- (1) Leatherwood *et al.* (1991) reported a sighting of several dolphins near Palmerston Atoll, westernmost of the Cook Islands (18°10'S, 163°20'W) in waters with a depth of over 3,600m. The pigmentation pattern in the published photographs seemed most similar to that of Peale's dolphin *Lagenorhynchus australis* and the authors tentatively determined the dolphins as that species, although the locality was completely outside the then known range of this South American dolphin. Van Waerebeek (1992) concurred with the provisional identification by Leatherwood *et al.* (1991) and called them a form of *L. australis*. Goodall *et al.* (1997) however, believe that it is unlikely that these were actually *L. australis* because this species has never been recorded in a habitat other than cold, shallow waters several thousand km from the Cook Islands sighting. The sea surface temperature (SST) for the Palmerston sighting was not given; few temperatures have been reported for *L. australis*, but the highest was 14.7°C (Goodall *et al.*, 1997).
- (2) Trained observers for the Inter-American Tropical Tuna Commission (IATTC) saw 40 dolphins resembling *Lagenorhynchus* at 06°46'S, 89°10'W in the offshore eastern tropical Pacific on 27 February 1988. They were tentatively identified as Pacific white-sided dolphins *L.*

obliquidens, probably in part because the observers were most familiar with that species. However, it does not normally occur farther south than the tip of Baja California (about 23°N) with the southernmost positive record at 20°N; at best there are a few disputed sightings from near the Mexican Islas de Revillagigedo at about 19°N (Leatherwood *et al.*, 1984; Vidal *et al.*, 1993).

The *Lagenorhynchus* species with distribution nearest to the IATTC sighting is the similarly pigmented dusky dolphin, *L. obscurus*. The northernmost confirmed specimen records of this species in coastal waters off Peru are two skulls retrieved near Salaverry at 08°12'S, 78°59'W (Van Waerebeek *et al.*, 1997). However, these are extreme cases; even at the port of Chimbote (09°05'S, 78°36'W) bycaught dusky dolphins are rarely landed (e.g. Van Waerebeek and Reyes, 1994). Although in absolute distance this is not too far from the IATTC sighting, no dusky dolphin populations have been recorded beyond the Peruvian continental shelf which is 130km at its widest and is characterised by the cool Humboldt Current system (Schweigger, 1964).

Indian Ocean

- (3) In the late 1800s, the zoologist Giglioli (1875) saw dolphins at 12°30'S, 105°E (i.e. southwest of Christmas Island in the eastern Indian Ocean) which had black backs and white on the sides and undersurfaces and which he called *Delphinus cruciger*, as described by Quoy and Gaimard (1824). He expressed surprise that Quoy and Gaimard found their animals in cold waters, as the sea surface temperature of his 14 February sighting was 30°C. The highest SST recorded to date for *L. cruciger* is 13°C (Goodall, 1997).
- (4) Based on head colour patterns and morphology, Small and Small (1991) reported a group of six animals seen offshore on 5 September 1986 at about 12°N in the western Gulf of Aden that most closely resembled hourglass dolphins *L. cruciger*. Sighting conditions were excellent. Water temperature was 32°C. The authors emphasised that the sighting was of unusual dolphins, observed only this once.
- (5) After inspecting photographs of a sighting on 4 February 1988 south of Madagascar at 31°46'S, 49°18'E in 25°C waters (Kasamatsu *et al.*, 1990), which had a 'very indistinct hourglass pattern', Van Waerebeek *et al.* (1995) considered the field identification of *L. obscurus*

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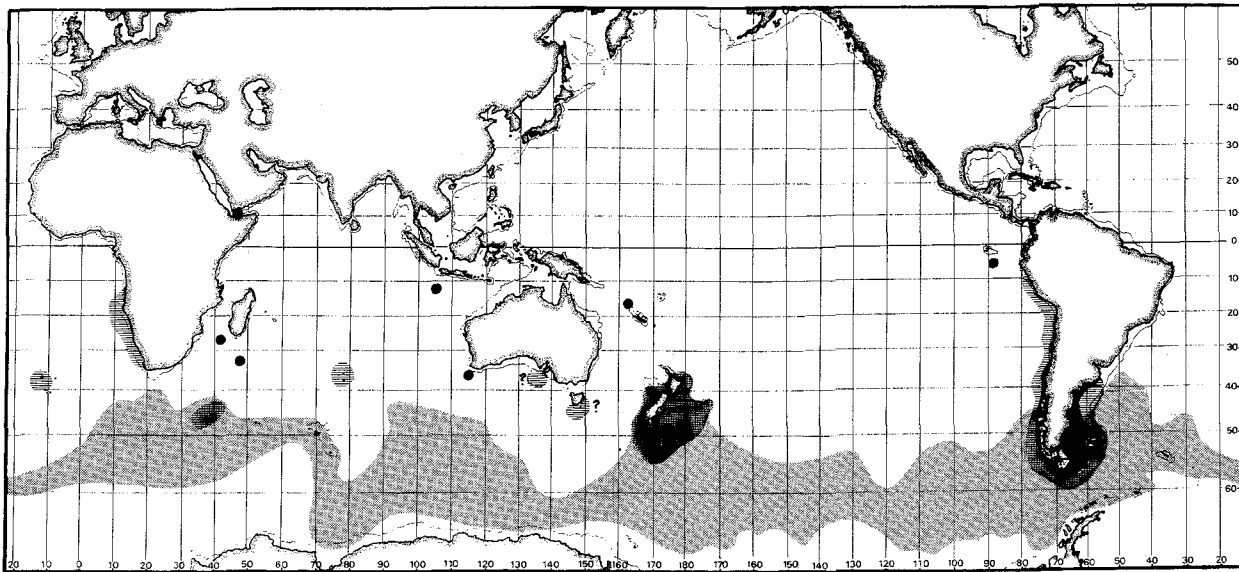


Fig. 1. World map showing the distribution of sightings of *Lagenorhynchus*-like dolphins in tropical and sub-tropical waters (black circles) and of Southern Hemisphere species of *Lagenorhynchus*. Dark shading, the known distribution of *L. australis*, although it is not common in the northern part of its range (Goodall *et al.*, 1997). Horizontal shading, sightings of *L. obscurus* (Van Waerebeek *et al.*, 1995) and light shading, of *L. cruciger* (IWC database and works cited in Goodall, 1997).

to be doubtful. The usual upper temperature limit for this species is considered to be about 18°C (Würsig and Würsig, 1980; Van Waerebeek, 1992).

Owing to confusion of catalogue numbers, it now transpires that these photographs could refer to a sighting of *Lagenorhynchus albirostris* off Iceland (J. Joyce, pers. comm 17 July 1997). Thus, although the observers' description of and comments about the doubtful identity of the sighting as *L. obscurus* remain valid, the photographs can no longer be considered as supporting evidence.

- (6) At 15.39hrs on 11 December 1996, a mixed group of small cetaceans was encountered by the RV *Shonan Maru 2* at 26°52.9'S, 40°36.5'E during an IWC/SOWER blue whale survey south of Madagascar. The SST was 26.1°C. The animals were seen during closure on a minke whale, so were of secondary interest at the time and observed only by crew from the masthead lookout. The group was composed of 10 bottlenosed dolphins, 10 'blackfish' and 10 'dusky dolphins'. The highly experienced bosun, Kenichi Endo, identified the latter as Pacific white-sided dolphins, based largely on their bicoloured dorsal fins. Unfortunately, none of the scientists onboard had a good look at these dolphins (PBB).
- (7) A sighting of 70 *Lagenorhynchus* sp., thought to be dusky dolphins by the observers, southwest of Australia at 35°25'S, 117°36'E with a sea temperature of 18.7°C (J. Bannister, in Van Waerebeek *et al.*, 1995) is unauthenticated. However, Bannister *et al.* (1996) claim confirmed records of dusky dolphin exist from Australia: sightings near Kangaroo Island, South Australia, and off Tasmania and a recent stranding in the latter State.

CONCLUSION

In an earlier paper, Van Waerebeek *et al.* (1995), reviewing dusky dolphins from the southern Indian and Atlantic Oceans, concluded that several reported sightings are

puzzling, because they would suggest that *Lagenorhynchus* species may occasionally move into warmer, deeper water than is typical of their natural habitat. However, as an alternative, they stated that the identifications may be incorrect, and a previously undescribed form may be involved.

The evidence now accumulating from unexplained sightings such as those given in this note suggests that they are not likely to represent rare extra-limital occurrences of a known species, but may rather refer to a so far unrecognised pelagic *Lagenorhynchus*-like dolphin, which is widely distributed in sub-tropical and tropical waters of the Indian and Pacific Oceans. However the true identity of these enigmatic sightings will have to await the results of further investigations. In this connection, we advise that cetologists working in tropical areas of the Pacific or Indian Oceans should be alert to the possibilities of encountering a specimen of this animal, and recommend that, in the event of any further sightings, a skin biopsy and the maximum amount of photographic evidence possible should be obtained.

ACKNOWLEDGEMENTS

CEPEC (KVV) was partially funded by Gesellschaft zum Schutz der Meeressäugtiere. Goodall's work was funded in part by grants from the Committee for Research and Exploration of the National Geographic Society. PBB acknowledges the support of the IWC for his participation in the 1996/7 IWC/SOWER blue whale cruise. We thank A. Schiavini, R. Reeves, F. Kasamatsu and an anonymous reviewer for comments on the manuscript.

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