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RESEARCH ARTICLE

OCCURRENCE OF BARNACLE (*XENOBALANUS GLOBICIPITIS*) ON SPINNER DOLPHIN (*STENELLA LONGIROSTRIS*) AND INDO-PACIFIC BOTTLENOSE DOLPHIN (*TURSIOPS ADUNCUS*) FROM THE BAY OF BENGAL, INDIA

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ABSTRACT

Occurrence of pseudo-stalked barnacle in spinner dolphin and bottlenose dolphin from Chennai is reported here. Earlier report on the host bottlenose dolphin is revised in the light of present taxonomy. This is the first report of spinner dolphins as host in the Northern Indian Ocean and further studies are required to use them as natural biological tags for identifying wild cetaceans.

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INTRODUCTION

The thoraciccirriped, *Xenobalanus globicipitis* (Steenstrup, 1852) is known to occur in 33 species of cetaceans throughout the world of which 20 species are dolphins and four species are porpoises (Hayasi, 2012). However, reports on *Xenobalanus* from Indian waters is limited to two species viz., Indo-Pacific Finless Porpoise, *Neophocaena phocaenoides* (Cuvier, 1829) from the Arabian Sea (Devaraj and Bennet, 1974) and Indian Ocean Bottlenose Dolphin, *Tursiops aduncus* (Ehernberg, 1833) (Kumaran, 1989, Rajaguru and Shantha, 1992; Karuppiyah *et al.*, 2004) from Parangipettai (11° 29' 24" N, 79° 45' 36" E earlier known as Porto Novo) from Southeast coast of India. Earlier records of *Xenobalanus* on *Tursiops aduncus* were from Parngipettai (Table 1). The host reported by Rajaguru and Shantha (1992) and Karuppiyah *et al.* (2004) as *Tursiops truncatus* (Montagu 1821) is *Tursiops aduncus* (Ehernberg, 1833) based on morphological, osteological and genetic observations (Kumaran 1989; Kannan 1990; Jayashankar *et al.*, 2008; Kumarran 2012). However still these records are treated as *Tursiops truncatus* (Bearzi and Patonai, 2010; Aguirre *et al.*, 2012; Hayasi, 2012) despite the IUCN designation to coastal dwelling forms in Bay of Bengal as *Tursiops aduncus* (Rice, 1998; Hammond, 2012).

Karuppiyah *et al.* (2004) claim on *Xenobalanu* as first record from Parangipettai is invalid because of the earliest known record from Parangipettai was in 1985 (Rajaguru and Shanta, 1992) and in 1989 (Figure 1a) from Kumaran (1989). It is unfortunate that Karuppiyah *et al.* (2004) did not include despite quoting Kumaran (1989) in their publication (Table 1). In the present study we report two records of *Xenobalanus* from Chennai (13° 5' 2" N, 80° 16' 12" E) located about 250km north of Parangipettai, Bay of Bengal from *Tursiops aduncus* and *Stenella longirostris* (Table 1). Both the animals were accidentally caught in gillnets during a monitoring study on by catch of dolphins in different gears off Chennai in 2004. During one month observation a total of 19 dolphins belonging to four species viz., *Stenella longirostris* (n=12), *Tursiops aduncus* (2), *Stenella attenuata* (3) and *Grampus griseus* (2) was recorded dead in gillnet entanglement. In earlier studies in 1985 and 1989 from Parangipettai 11 animals from two species in 66 months (Rajaguru and Shantha, 1992) and 37 animals from four species in 7 months (Kumaran, 1989 and unpublished records) were recorded respectively. However the likelihood of recording *Xenobalanus* from different host species and the frequency of occurrence appear to be effort dependent and rather than reflecting the actual distribution pattern. Present report is the fourth incident of *Xenobalanus* on *Tursiops aduncus* and first on *Stenella longirostris* from Indian waters to the best of our knowledge. As much of the information on Indian cetaceans is either from accidental catch or from stranding (Kumaran, 2002, Kumarran, 2012), it is difficult draw conclusion regarding spatiotemporal variation or

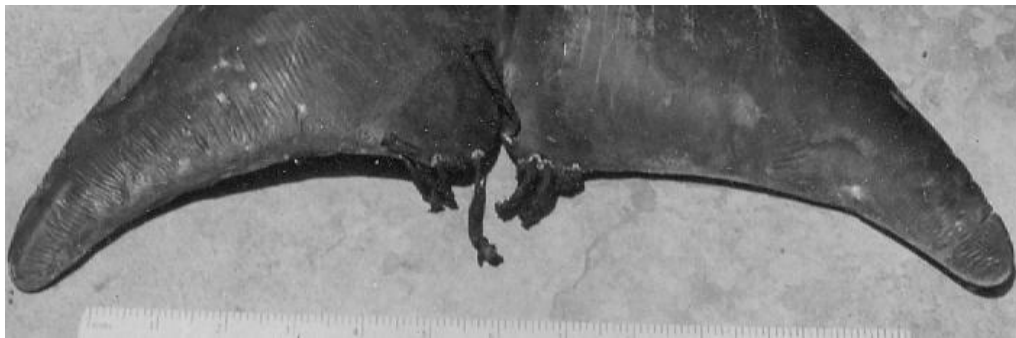
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**Table 1. Records of *Xenobalanus globicipitis* occurrence from Indian waters**

Date	Location	Host Species & (Sex)	Length (cm)	Site of attachment	Number of XBAL	Source
02.12.1965	Karwar	<i>Neophocaena phocaenoides</i>		Fluke	1	Devaraj and Bennet (1974)
01.28.1985	Parangipettai	<i>Tursiops aduncus</i> * (M)	148	Left Fluke	4	Rajaguru and Shantha (1992)
				Right Fluke	8	Rajaguru and Shantha (1992)
				Left Flipper	1	Rajaguru and Shantha (1992)
				Right Flipper	1	Rajaguru and Shantha (1992)
04.02.1989	Parangipettai	<i>Tursiops aduncus</i> (M)	164.5	Right caudal fluke near notch	6	Kumaran (1989)
				Left caudal fluke near notch	5	Kumaran (1989)
03.29.1998	Parangipettai	<i>Tursiops aduncus</i> * (F)	163	Right caudal fluke near notch	4	Karrupiah <i>et al.</i> (2004)
10.11.2004	Chennai	<i>Tursiops aduncus</i> (M)	140	Right Flipper	1	Present study
				Right caudal fluke near notch	1	Present study
10.14.2004	Chennai	<i>Stenella longirostris</i> (M)	89	Left Flipper	1	Present study
				Left caudal fluke near notch	1	Present study

\* Species corrected



**Fig. 1. *Tursiops aduncus* – on both sides of the caudal fluke (Source Kumaran, 1989)**



**Fig. 2 a. *Tursiops aduncus* Present study – on right caudal fluke**



**Fig. 2 b. *Tursiops aduncus* Present study – on right flipper**

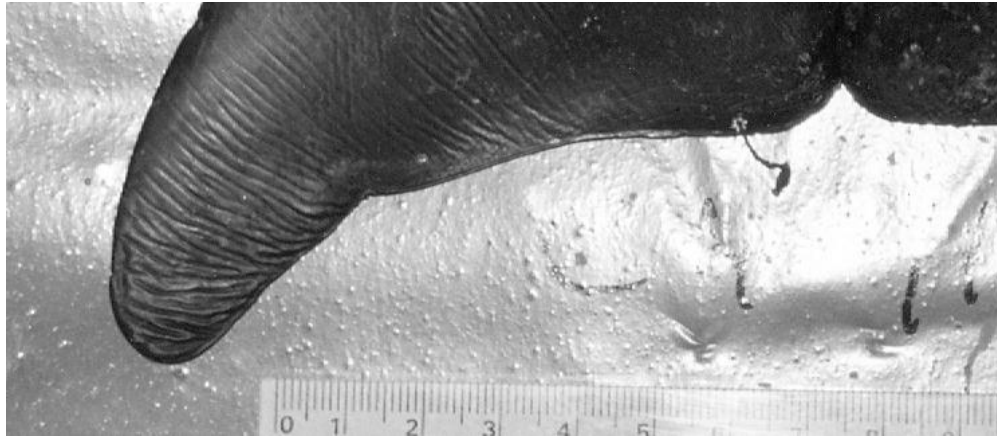


Fig. 3 a. *Stenella longirostris* Present study – on left caudal fluke

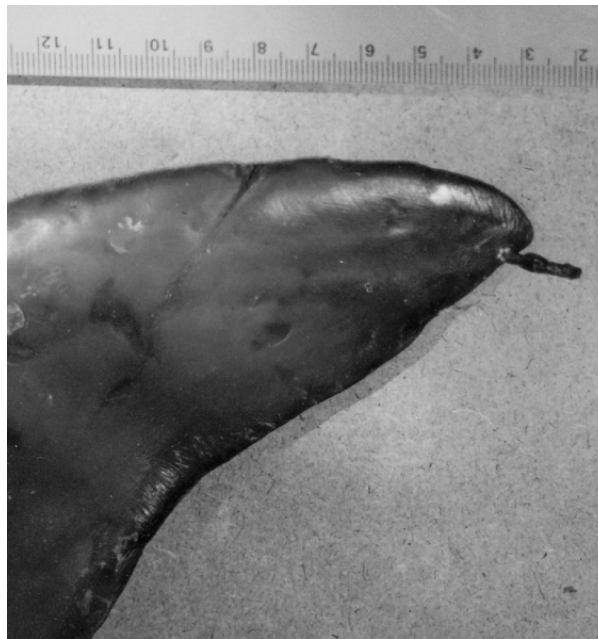


Fig. 3 b. *Stenella longirostris* Present study – on right flipper

host specificity. Both dolphins were apparently healthy and free from other internal parasites. Understanding on the host specificity of these phoretic barnacles are too limited to consider using them as natural biological tags for individual identification of cetaceans in the wild.

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