

Description of whistles of Irrawaddy dolphins (*Orcaella brevirostris*) from the waters of Matang, Peninsular Malaysia

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ABSTRACT

The whistles of Irrawaddy dolphins (*Orcaella brevirostris*) from the waters of Matang, western Peninsular Malaysia are described. Duration, frequency and frequency modulation variables were measured from 163 whistles recorded using a broadband towed hydrophone. Irrawaddy dolphins produced whistles with a mean duration of 0.366 s (S.D. \pm 0.217 s). The fundamental frequency of whistles extended from 3040 to 17,123 Hz with low levels of frequency modulation. These dolphins produced whistles that were comparable to those of conspecifics recorded from the waters of Kalimantan, but were generally different from the related Australian snubfin dolphin (*O. heinsohni*). They also differed from the whistles of the sympatric Indo-Pacific humpback dolphin (*Sousa chinensis*). Characteristics of Irrawaddy dolphin whistles may be useful in future passive acoustic monitoring studies to investigate differences in sympatric species and their habitat.

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Introduction

Delphinids rely on sound for communication between conspecifics or other species, as well as for the sensing of their environment and detection of both prey and predators underwater (Nummela 2009). Most delphinids produce two main types of sounds: narrowband, frequency-modulated whistles and broadband clicks, which include burst-pulse sounds (Thomson & Richardson 1995). Most delphinids whistle with a high level of plasticity to communicate with conspecifics (Thomson & Richardson 1995; McCowan et al. 1999).

Irrawaddy dolphins (*Orcaella brevirostris*) are a small coastal species often associated with estuaries and rivers in South-east Asia (Stacey & Arnold 1999) and South Asia (Smith et al. 2006; Sutaria 2009). The species is currently listed as “Vulnerable” on the IUCN Red List of Threatened Species (Reeves et al. 2008). Studies on Irrawaddy dolphins have focused mainly on the species’ distribution, abundance and conservation threats (Baird & Mounsouphom