

Spinner dolphins off tropical East Africa: group dynamics, daily occurrence, and “unusual” pattern of behaviour

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This study provides a baseline description of spinner dolphin (*Stenella longirostris*) behavioural ecology in the semi-pelagic habitat of Pemba Channel, East Africa. Fieldwork was conducted off the north-western coast of Pemba Island, Zanzibar Archipelago, Tanzania, over a 3-month period, mid-January through mid-April 2005. Spinner dolphins were seen daily; the animals approached the western shores of Pemba in mid-morning, generally moving in a northerly direction along the island's shoreline. This northerly movement was predominant in the morning (92.5%), followed by movement offshore either north-northwest or southwest in early afternoon. Group size ranged from less than a hundred to several hundred animals; although some individuals were resighted throughout the study period, the overall group structure was fluid with membership varying from day to day. The pattern of group dynamics and predictable daily occurrence resemble that of spinner dolphins elsewhere. However, the daily behaviour of animals at Pemba differed considerably from what has been described for spinner dolphins in other locations. During the majority of encounters, the predominant behaviour was foraging, which took place over the slope of the island in the vicinity of fringing reefs and at entrances to inland lagoons. This active foraging during day-time, undocumented elsewhere for spinner dolphins, could be an expression of behavioural adaptability to local environmental conditions; the location of sites where foraging occurred suggests that bottom-living and reef-associated prey represent important food items for spinner dolphins in this region. Alternatively, it is possible that the spinner dolphins off Pemba represent a subspecies, the dwarf spinner dolphin (*S. l. roseiventris*), which is thought to be diurnally active and forage on reef-associated prey. The seemingly smaller size of the animals off Pemba is in accordance with such a supposition, although genetic data proved inconclusive. The population size and range remain unknown, but both are likely to be extensive. Genetic data, although limited, indicate a large genetic diversity, supporting further the notion of a large, possibly interbreeding population. Such a population is likely to range over large distances, including pelagic waters away from the direct vicinity of the island. However, their daily occurrence off Pemba's northwest shore and frequent use of a limited number of preferred locations indicates that there are certain sections of the Pemba Island coast that are particularly important, possibly vital, in the daily lives of spinner dolphins in this region.