

Male Bottlenose Dolphins Form Unique Alliances To Defend Females

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<http://www.asianscientist.com/in-the-lab/bottlenose-dolphin-male-alliances-2012/>

AsianScientist (Apr. 30, 2012) - A new study reveals that bottlenose dolphins in Shark Bay, Western Australia form unique "nested" male alliances within an open social network based on shifting geographical ranges.

The study, published in the journal *Proceedings of the Royal Society B*, reveals a pattern of alliances not described before in comparable animals or dolphin communities.

Male bottlenose dolphins (*Tursiops sp.*) use physical contact - petting and rubbing each other – to cement their personal bonds. Earlier studies had shown that the Shark Bay dolphins form three different kinds of alliances:

Groups of two to three males form "first-order" alliances that involve close relatives, (such as cousins) co-operating to guard or act as consorts to females. These small groups may persist for up to 20 years.

Teams of 4 to 14 males cooperate in "second-order" alliances to attack other alliances and to defend against such attacks. Second-order alliances can persist intact for over 15 years and may be considered the core unit of male social organization in Shark Bay, the researchers say.

Finally, two or more "second-order" groups may team up from time to time to form a "third-order" alliance. The study tackled the question of how they choose to make these alliances.

Notably, two common defense models were ruled out in even the largest dolphin alliances – the "community defense model" and the "mating season defense model."

The so-called "community defense model" is that in which semi-closed communities (ones that occasionally accept new members emigrating from other groups) are defended by males ranging across their group's entire range.

In the "mating season defense model," males defend a tighter geographic range only in the mating season. However, at such times, the range of one male alliance would have little overlap with others but would have considerable overlap with the range of certain female individuals.

It was found that the key difference between dolphin alliances and those of comparable species seems to be that they have an open social network, with a fission-fusion grouping pattern with strongly differentiated relationships, including nested male alliances.

"Humans, elephants and other mammals live in semi-closed groups with sex-biased dispersal but have relationships with other groups," explained Richard Connor, a Research Fellow at the UNSW

Ecology and Evolution Research Center.

"So humans and elephants differ from the dolphins in that key respect of living in semi-closed groups, but have in common a nested relationship structure."

"All three have unusually low costs of locomotion, which would have allowed larger ranges, leading to interactions with larger numbers of individuals and groups, further complicating their social lives."

The article can be found at: [Randic S et al. \(2012\) A novel mammalian social structure in Indo-Pacific bottlenose dolphins \(*Tursiops* sp.\): complex male alliances in an open social network](#).

Source: [UNSW](#); Photo: Wikipedia.

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