

Allomothering in the Beluga Whale (*Delphinapterus leucas*)

Kimberly Patterson and Michael Noonan
Canisius College, Buffalo, New York



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Introduction

Allomothering occurs when a nonrelated individual provides care-giving behaviors to a juvenile in ways that are ordinarily carried out by a mother. In beluga whales maternal care ordinarily takes the form of parallel swimming with a young whale (providing a form of shepherding and/or protection), touching or allowing touching (particularly allowing the adoption of an infant head-tapping position by the young), and/or actual suckling.

Prior to the present study, an instance was observed in which a non-parturient adult beluga seemed to completely “adopt” a juvenile. The relationship extended over the course of two years and exhibited all of the normal components of mothering (including nursing). A separate instance of “baby stealing” was also observed in which a dominant peri-parturient female took over the entirety of maternal care (including nursing) from a subordinate female who gave birth at about the same time.

These observations raised the question of whether allomothering is an ordinary component of beluga whale behavior. In an effort to examine the extent to which allomothering occurs in this species, the present study assessed this behavior in a wild-caught population held in captivity at Marineland of Canada (Niagara Falls, Ontario).

Results

The findings can be summarized as follows:

1. Immediate Post Partum. At the time of birth when a calf initially appears in the midst of a captive population, it is typical for nearly all individuals to swim in close proximity of the calf, often mouthing or pushing it at the surface.
2. Established Mother-Calf Pairs. Over 50 hours of focal-animal observation of two separate instances in which established mother-infant pairs (N=2 & 6 respectively) were housed together in pools containing only other mother-infant pairs, 99% of touches and parallel swims between an adult and a juvenile occurred between a mother and her own offspring. No instances were recorded in which an infant adopted the head-tapping or suckling posture on a non-related whale.
3. Mixed Social Groups. Over 18 hours of scan sampling in two separate pools that contained mother-offspring pairs along with 3-6 other adult females, 1-5 adolescent females, and 1-3 adult males, the frequency with which scans recorded individuals touching or parallel swimming with non-related calves was 1.5% and 1.0% respectively for adult females, 0.6% and 0.8% for adolescent females, and 0.1% and 0.2% for adult males.



Methods

Utilizing both focal animal (60 hours) and scan sampling (18 hours) procedures, occurrences of parallel swimming and any forms of touching on or by calves were recorded under varying group-housing conditions that included new mothers and neonates (N=6), established mother-calf pairs (N=8), pregnant females (N=4), non-breeding adult females (N=2), adolescent females (N=6), and adult males (N=4).

Discussion

There are two consistent findings stemming from this study:

1. It does appear to be common for unrelated whales to swim with, and to touch, neonates during the first few hours post birth.
2. However, after that initial period of contact the shepherding and touching of calves is almost exclusively performed by their own mothers. It appears that resources (such as milk and time) are not ordinarily shared by non-related individuals.

In view of the rarity of allomothering observed in the present study, it is concluded that the two earlier instances of calf “adoption” were artifacts consequent to the close quarters of captivity.

In future research on this topic it will be interesting to determine the mechanism by which females recognize their own offspring and selectively allocate their care to them.

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