

Evidence of Segregation by Sex in Juvenile Beluga Whales (*Delphinapterus leucas*)



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INTRODUCTION

In the wild, beluga whales characteristically inhabit shallow waters along the Arctic ice edge. They are characteristically migratory in nature, moving northward in Spring as the polar ice retreats and southward in Fall as it expands. During much of the year, observers report seeing socially segregated groups, with pods of adult females and associated juveniles separate from pods primarily consisting of adult males. It is primarily only in the spring time that adult males have been observed intermixing with the female groups and this has been widely presumed to be the mating period.

Even in captivity, where males and females are often housed together, there is evidence that males primarily associate with each other during most of the year. The developmental period over which this tendency of males to self segregate is as yet unknown.

To shed light on this topic, the present study investigated the degree to which male and female beluga calves associated with an adult male with which they were housed.

METHODS

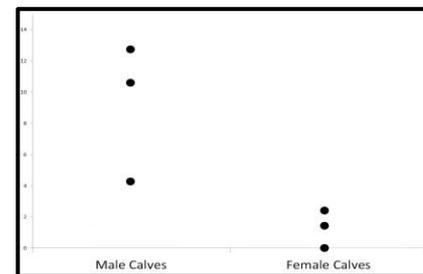
The subjects were three male and three female beluga calves (*Delphinapterus leucas*), housed in a one-million liter pool with their mothers, and a single adult male. At the time of this study, two of the calves (1 M, 1 F) were 1.5 years of age; four were 0.5 years of age (2 M, 2 F).

Utilizing a scan-sampling procedure, the identify of any whale within 2 meters of the adult male was recorded once per minute, over 15 minutes, twice per week for three weeks.

For the present analysis, the number of times each calf was recorded near the male, without the presence of its mother, was tallied. A Mann-Whitney U test was used to compare the counts for the three male calves with those for the three female calves.

RESULTS

The results are depicted in Figure 1, below. The number of times that each male calf was observed (without its mother) in close proximity of the adult male was greater than any of the counts for the same aged female calves. And despite the low sample size the difference reached statistical significance (Mann-Whitney $U = .000$, $n_1 = n_2 = 3$, $p = 0.05$ two-tailed).



DISCUSSION

Because of the low sample size in the present investigation, the results can clearly be taken as only preliminary. Nevertheless, this finding suggests that the tendency toward segregation by sex develops early in this species, and is already evident at an age during which the calves are still nursing on their mothers.

If this effect is replicated with additional subjects, in the future it will be interesting to determine

- whether there are more general sex differences among the calves that could account for the results found here (e.g., boldness, greater sociality, etc.)
- whether the tendency to associate is more the result of male calves approaching male adults, or the reverse
- the nature of the male-adult /male-calf interactions when they are near each other
- the age in the wild at which male calves switch over from female-calf groups to male-only groups during seasonal segregations

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