

**Olfaction of Abiotic Objects and the Social Environment in Steller Sea Lion's  
(*Eumetopias jubatus*) Rookery Life**

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Olfaction is one of the most important senses for the sustenance of social structure in populations of Steller sea lions (SSL). Olfaction serves as one of the main ways of receiving information regarding the surrounding social environment as well as to detect attributes about the surrounding abiotic objects. To understand the development of olfaction and its role in the social life of different sexes and age classes of SSL in connection with their harem was the aim of our research. The observations were conducted on Medny Island (Commander Islands) during the summers of 2005/06. During the two seasons of study 2564 olfactory contacts were registered (652-muzzle of understratum of rookery, 15- olfactory contacts with Northern fur seals and 1872-olfactory contacts with the conspecifics). Besides these mentioned olfactory contacts, SSL often were also observed smelling the air of the rookery. Unfortunately, we were unable to estimate the quantity of this behavior, but it seems likely that general olfaction of wind contents influences SSL behavior very much. During the reproductive period the smell duration of abiotic objects averaged 1.5s (n=338; min=1; max=10), while the average duration of interspecific olfactory contact was 2.8s (n=913, min=1, max=45). Our observations demonstrate that SSL spend more time on olfactory contacts with conspecifics than with abiotic things. At the time immediately after leaving the water SSL devote most of their olfactory energies toward the understratum of rookery, and only then continue to move onto the rookery. Olfaction of abiotic objects borrows approximate ¼ of all SSL's muzzle. Adult females smell the rookery's understratum more often than males and other age classes of both sexes of SSL, however this does not appear to depend on whether the female gave birth that season or not. Various rookery smells are very informative for SSL, but in a reproductive gathering, intimate contact with conspecifics seems the most important.

Student Presentation