

Onset of vocal recognition of filial pups by female northern elephant seals

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Allo-nursing is more common in phocid than in otariid pinnipeds and thus mother-pup vocal recognition has been suggested to be less well developed. The northern elephant seal is a colonial breeding species with a 27 -day nursing period on shore and an abrupt weaning when females return to sea. Allo-nursing rates reach 18% within some rookeries, and breeding females can be aggressive towards non-filial pups, leading to increased mortality. These observations question the occurrence and onset of vocal recognition, as misguided maternal care could be a consequence of a mother's failure to recognise her dependent pup. Playback experiments were conducted with 22 adult females to examine behavioural responses to calls of their own pup and responses elicited by vocalisations from unknown pups. Playback tests were performed weekly on focal females from birth to weaning to determine when vocal discrimination of pups by their mothers emerges. Females demonstrated vocal recognition of their pups from the first week. To further resolve the onset of vocal recognition, eight additional females were tested 1 - 2 days after parturition. These playbacks showed that some females are able to recognise their pup's call within one day of birth. Our findings indicate that female northern elephant seals learn to recognise their pup's voice as early as do some otariid species, and that factors other than lack of vocal recognition may explain the occurrence of allo-nursing behaviour in this species.