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**USE OF PHOTOGRAPHIC IDENTIFICATION IN CAPTURE-RECAPTURE
STUDIES OF MEDITERRANEAN MONK SEALS**

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ABSTRACT

The use of photo-identification and its reliability in capture-recapture studies of Mediterranean monk seals were assessed using slides collected in the colony at Cap Blanc, western Sahara, from 1993 to 1996. Five tests indicated that researchers involved in photo-identification were proficient in matching slides of identified seals, consistent in classifying the side of the seal shown in slides and in assigning the morphological stage of the seal, and that changes of markings over a period of 3 years were insufficient to affect matching success. The certainty of identifying a seal was not dependent on the number of slides used but on distinctiveness of the markings and the quality of the slides taken. Capture-recapture abundance estimates were biased upwards when including poor quality slides. The exclusive use of excellent and good quality slides provided the best estimates. The proportion of distinctive seals varied between morphological stages and was significantly lower in juveniles. When including the identification histories of juveniles, the heterogeneity of capture probabilities was higher. Therefore, abundance estimates were less biased when all juveniles were considered as non-distinctive seals. Reliable abundance estimates required a balance between duration of capture occasions and time interval between these.