

# Not so happy: King penguins stressed by human presence

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These are *Aptenodytes patagonicus* from the subantarctic Crozet Archipelago. Credit: V.Viblanc/IPEV

King penguins tolerate some, but not all, human interference. Research published in BioMed Central's open access journal, *BMC Ecology*, investigates the adjustment of a king penguin colony on the protected Possession island in the subantarctic Crozet Archipelago to over 50 years of constant human disturbance.

A team of researchers from the University of Strasbourg, the Centre National de la Recherche Scientifique (CNRS) and the University of Lausanne, compared 15 king penguins (*Aptenodytes patagonicus*) breeding in areas disturbed daily by humans and 18 penguins breeding in undisturbed areas. All penguins selected were brooding a chick aged from 2 days to 1 month.

Using heart rate to indicate the [stress level](#) of each penguin, they compared the [stress response](#) of penguins from the different areas to three

stressors. Two low intensity [stressors](#), a human approach to 10 meters and a [loud noise](#), mimicked the actions of tourists, researchers, and noises from machines when operating on the outskirts of the colony. One [high intensity](#) stressor, a capture, simulated researchers taking measurements.

Compared with penguins from undisturbed areas, penguins from areas of high human disturbance were less stressed by noise and approaching humans, but following capture, their maximum relative heart rate increased 42% although they then recovered faster.

"Our findings report a case of physiological adjustment to human presence in a long-studied king penguin colony, and emphasize the importance of considering potential effects of human presence in ecological studies", said lead author Vincent Viblanc.

Penguins 'getting used to' people may be beneficial to scientific research and tourist management. However, this study also raises the question of the potential influence of human activities on the selection of specific phenotypes. For example the progressive desertion of disturbed areas by more stress-sensitive individuals. For scientists studying animals in their [native habitat](#), it also underlines the importance of physiological studies in interpreting results before conservation measures are implemented.

Evaluating the impact of humans on protected wildlife such as the king penguins is particularly important given the rise in popularity of Antarctic tour groups. Dr Viblanc said, "A central question for ecologists is the extent to which anthropogenic disturbances (e.g. tourism) might impact wildlife and affect the systems under study". He continued "One of the major pitfalls of such research is in forgetting that, from the perspective of the wildlife studied, tourism and scientific research are not two worlds apart."

Provided by BioMed Central

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