

King penguins keep an ear out for predators

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Sleeping king penguins react differently to the sounds of predators than to non-predators and other sounds, when they are sleeping on the beach. Research carried out at the University of Roehampton, UK, has revealed that even asleep, these penguins can distinguish between dangerous and benign sounds.

Both adult and juvenile king penguins are prey to large predators like orcas and giant petrels. Even huge non-predator elephant seals can crush penguins to death with their bulky passage. In an environment like this, king penguins who are exhausted after long diving sessions must constantly keep an ear out for incoming threats.

PhD student Tessa Abigail van Walsum explains: "When we played single tones to sleeping penguins, they woke up with little reaction. However, playing them the calls of orcas or skuas caused them to wake up and flee."

Penguins also had strong reactions to some non-predator sounds, reports Ms van Walsum: "The sounds of approaching elephant seals rang big alarm bells for the penguins. Interestingly too, a recording of simple white noise had an unexpectedly strong effect, likely because it sounds much like an incoming wave on the beach." Notably, playing them the sound of unfamiliar predators, such as a dog's growl, got little reaction when they awoke.

The ability of these birds to respond differently upon waking up suggests that they might sleep with just one half of their brain, while keeping

close watch with the other half similar to some migratory birds - essentially 'keeping an eye open'.

This research helps us to understand the survival strategies of king penguins in their natural habitats. In line with this, the research group would also like to test the sleeping behaviours of these birds at sea, as Ms van Walsum explains: "Presumably, [king penguins](#) sleep at sea when they are on long diving expeditions, so it will be fascinating to discover how they stay alert in that environment."

This work will be presented by Tessa Abigail van Walsum (University of Roehampton, United Kingdom) at the annual meeting of the Society for Experimental Biology (SEB) in Brighton at 14:05 on Wednesday 6 July 2016.

Provided by Society for Experimental Biology

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