Study: Penguin tracking bands hurt the seabirds

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A colony of king penguins huddle together on Possession Island in the Crozet archipelago in the Austral seas in 2007. Tagging penguins with flipper bands harms their chances of survival and breeding, a finding which raises doubts over studies that use these birds as telltales for climate change, biologists said on Wednesday.

Some scientists studying penguins may be inadvertently harming them with the metal bands they use to keep track of the tuxedo-clad seabirds, a new study says.

The survival rate of King penguins with metal bands on their flippers was 44 percent lower than those without bands and banded birds produced far fewer chicks, according to new research published Wednesday in the journal Nature.

The theory is that the metal bands - either aluminum or stainless steel - increase drag on the penguins when they swim, making them work harder, the study's authors said.

Author Yvon Le Maho of the University of Strasbourg in France, said the banded penguins looked haggard, appearing older than their actual age.

Consequently, studies that use banded penguins - including ones about the effects of global warming on the seabirds - may be inaccurate, mixing up other changes in penguin life with the effects from banding, said Le Maho and colleague Claire Saraux.

Le Maho said this is the first study showing a long-term harm from banding penguins.

"There is an ethical question: should we continue" with banding penguins? Le Maho asked. The very act of studying the birds is harming them, he said.

The researchers followed 50 already banded adult penguins and 50 without bands for 10 years, tracking them with under-the-skin transponders. Thirty-six percent of the non-banded seabirds survived for 10 years, compared to only 20 percent of the band-wearing birds.

In general, penguins live about 20 years. King penguins - among the largest penguins at 3-feet tall - can live even longer, Le Maho said.

The no-band penguins had 80 chicks, while the banded seabirds produced 47 chicks, a 41 percent drop.

The penguins were studied on a French island in the Indian Ocean between Africa and Antarctica.

Penguin researchers have long debated the use of bands. The bands weigh just under an ounce and are a bit more than an inch wide, Saraux said.

One prominent American penguin researcher, P. Dee Boersma of the University of Washington, has been banding another kind of penguin for 28 years and will continue.

"Their study shows that the bands they used on King penguins were a problem," Boersma, who studies Magellenic penguins, wrote in an e-mail. "You don't want to say all flipper bands are terrible because the evidence is not there."

Boersma said the difference in species matters. She pointed to a 14-year study she did that showed that male Magellenic penguins with two bands survived the same as unbanded penguins, but that study did show that double-banded females had a lower survival rate.

Le Maho said he sees no reason why bands would harm some penguin species but not others.

Another expert, who wasn't part of the French study, said he found the case against banding convincing. Norman Ratcliffe of the British Antarctic Survey, which no longer uses bands, said it "augments a growing body of evidence" that bands harm the penguins and may bias the studies.

There is an alternative to the metal bands, Ratcliffe and the French researchers said. That's using transponder tags that are injected under the penguin's skin and send radio signals to buried antennas, much like pets with radio chips embedded in them.

The seabirds spend more time in the water than on land, and the

transponder doesn't affect the penguin's swimming, Saraux said. But Le Maho said this technique is a bit more expensive and has some other drawbacks.

The scientists singled out potential problems with research on global warming's effect on penguins. Banding may have skewed the data, but climate change is still harming and will harm penguins, they said.

Saraux said a study she did a couple years ago - without bands - showed harm to penguins from global warming.

More information: Nature: http://www.nature.com/nature