KING PENGUINS

Adults of King Penguins (*Aptenodytes patagonicus*) during their incubation fast in summer (part of the breeding colony and one individual bird), and a crèche of King Penguin chicks during their winter fast at Crozet Islands, southern Indian Ocean. Due to spatial segregation between their foraging grounds at sea and breeding habitats on land, penguins have a feasting and fasting way of life and are well suited to fast during weeks and months when they breed and molt. We consequently used the King Penguin, a well-known "professional" faster, to investigate the influence of protein balance on the nitrogen stable isotope signature of tissues, a method that is increasingly used in ecology over recent years. As expected, we found that fasting induced a tissue-^{15}N enrichment, thus leading to an increase in the apparent trophic levels of penguins. Consequently, the nutritional status of animals influence their isotopic signature, and can induce erroneous interpretations of δ^{15}N values within the context of feeding ecology.

These photographs supplement the article by Yves Cherel, Keith A. Hobson, Frederic Bailleul, and Rene Groscolas, "Nutrition, physiology, and stable isotopes: new information from fasting and molting penguins," which will appear in *Ecology* 86(11), November 2005.