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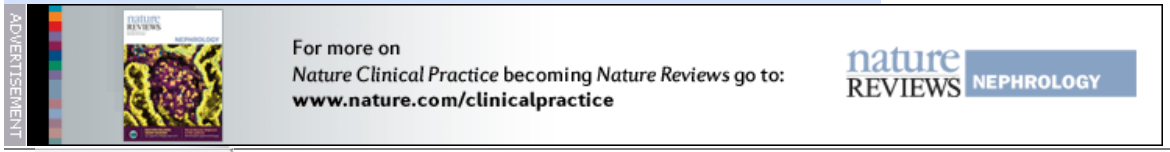

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A study of animals across the world has confirmed what many men have long suspected - a large penis can be a recipe for success in the mating game.

The value of an impressive organ depends on the terrain, however. Animals at high latitudes tend to benefit more from being better endowed than species in more hospitable climes, according to Steven Ferguson of the Freshwater Institute in Winnipeg, Canada, and Serge Larivière from the Delta Waterfowl Foundation in Portage La Prairie, Canada.

The researchers compiled data on the size of the penis bone, called the baculum, in 122 carnivorous mammal species that have this feature, collected from around the world. They then looked to see whether the bone's size correlates with factors such as the temperature that the animal lives at, or the latitude of its home.

Those living at polar latitudes have a longer baculum relative to their body size than their tropical counterparts, the authors report in the journal *Oikos*[1]. This is probably thanks to the differing mating strategies that come into play in different climates, the researchers say.

A lonely life in the cold means males make the most of sexual encounters.

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Bone of contention

Animals such as elephant seals (*Mirounga*), for example, which live at more pleasant, lower latitudes, tend to live in large colonies. Males fight against each other for access to females, with the winners collecting a harem. This kind of mating behaviour can cause selection for such things as large body size, which helps the males to win physical fights. These seals can weigh up to 2,300 kilograms, but have relatively small baculums compared with similarly sized animals.

Walruses (*Odobenus*), however, which live in the frozen Arctic, weigh less, at up to 1,700 kilograms, but have a baculum that can reach up to 60 centimetres in length - one of the largest members of any mammal in both absolute and relative terms.

The hostile Arctic landscape supports few individuals, so walruses tend not to come into contact with each other very frequently. This means that sexual encounters are few and far between, and males don't fight directly with each other for mates as often.

So males with a greater chance of inseminating their sexual partners might win the evolutionary race, says Ferguson. In this case, he thinks that means a larger sexual organ.

Longer penis bones may ensure that the male's sperm is inserted closer to the egg, says Ferguson. So a well-hung male is more likely to succeed in becoming a father. "What counts is which sperm get into the female's egg," says Matthew Gage of the University of East Anglia, UK, an expert on sexual competition.

Other researchers have in the past proposed alternative explanations for the difference in baculum size between the two animals. Some say that a shorter penis might reduce the risk of bacular fracture, for example. Elephant seals mate on land, whereas walruses mate in the water. The land-romping creatures might be more at risk of broken bones, leading to smaller members.

But fracture can happen in the water too, says Ferguson. He thinks that differences in behaviour due to latitude is a more

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