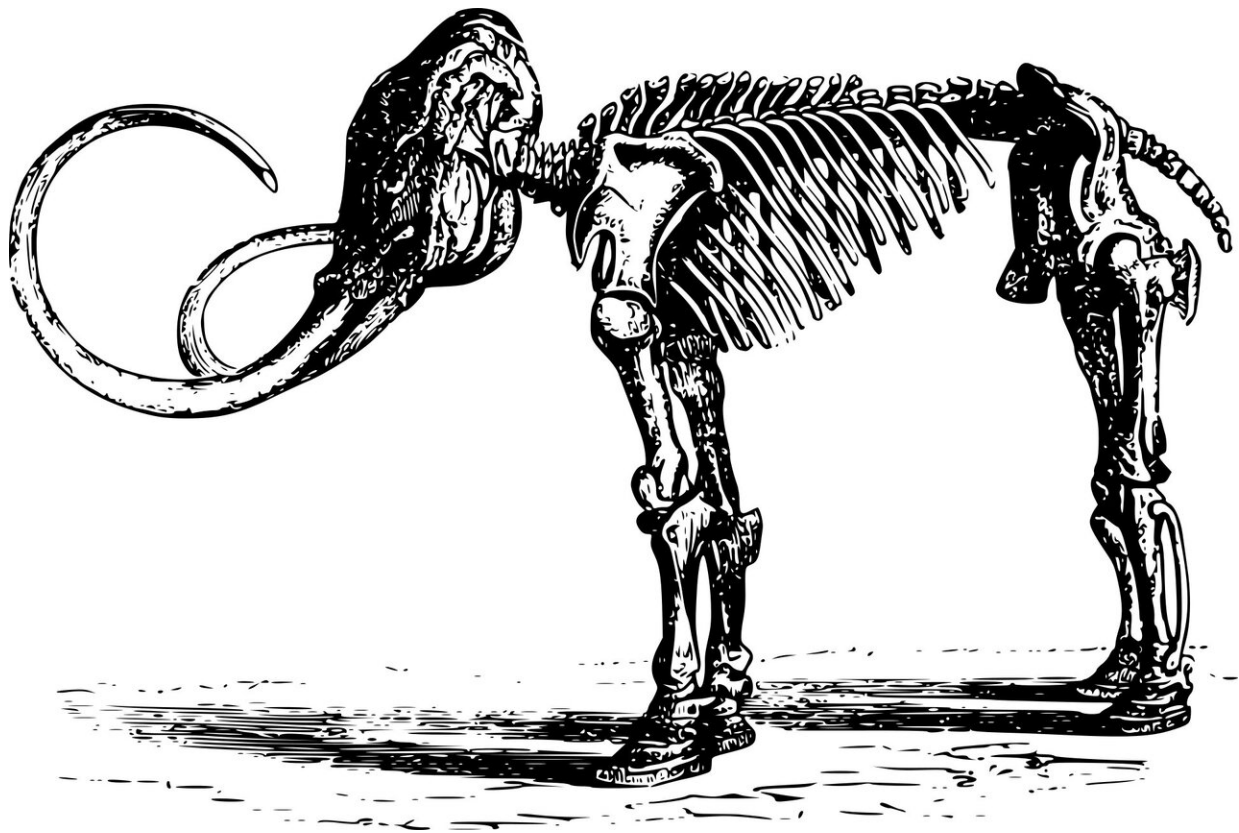


Researchers discover more male than female mammalian fossils in museum collections

September 3 2019, by Bob Yirka



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A team of researchers from the University of Adelaide and the Polish Academy of Sciences has found that there are, on average, many more male mammalian fossil specimens in museums than female. In their

paper published in *Proceedings of the National Academy of Sciences*, the group describes their fossil gender study and what they found.

Logic suggests that if you stroll through the catalogs of fossils collected by institutions over the years, you should find them divided roughly in half by [gender](#)—most mammals reproduce genders in equal number, after all. But the researchers with this new effort found that was not the case—there were many more [males](#) than female fossils.

The researchers report that they began their study when they noticed a gender [bias](#) in the fossil collection at the University of Adelaide. They estimated that 75 percent of [bison fossils](#) there were male. That got them to wondering if that might be the case in other museums, as well. To find out if that might be the case, they accessed databases of fossil information for museums across Europe and North America. They focused specifically on ancient bison and bear specimens. They chose the two because bison are herding animals and bears are not. They thought that the herding behavior of male bison might make them more likely to encounter situations in which their remains would be preserved if they died. This is because each herd has just one male—other males must wander about, trying to establish their own herd, or give up and congregate with other males. The researchers theorized that bear fossils, on the other hand, should have their remains more evenly distributed, because both genders are loners, except for when the females are caring for their young. The researchers report that they found the same gender bias in both species. They suggest the bias in the bears may be due to males wandering farther than females, or because they are more likely to win competitions for caves.

The researchers note that they also looked at some other [mammalian species](#) in the database and found the same gender bias for most of those they studied—one exception was bats. For some reason, researchers have unearthed more female bat fossils than male. The researchers cannot

explain the [gender bias](#) in the [fossil](#) collections, but suggest the differences should be noted when scientists are studying them.

More information: Graham Gower et al., Widespread male sex bias in mammal fossil and museum collections, *PNAS* (2019).

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