

Researchers find social lifestyle also helps mole rats live a long time

January 28 2015, by Bob Yirka



naked mole-rat. Credit: Joshua Clark

(Phys.org)—A pair of researchers based at New York University has found a second explanation for the long lifespan of naked mole rats—their social networks. In their paper published in *The Royal Society Proceedings B*, Scott Williams and Milena Shattuck describe the statistical analysis they undertook in comparing the lifespan of various species of animals and comparing them against other factors such as

size, environment and degree of social behavior and what they found in doing so.

Naked mole rats live a ridiculously long time for their size—they average just three or four inches in length, but live for up to thirty years (underground in parts of Africa). Prior research has found that as a general rule, life spans are longer for animals that are bigger—mice, for example, tend to live just three years. So what gives?

After much study, scientists have found that the rodents have a large amount of a certain type of protein in their tissue that appears to ward off aging and things like cancer. The protein appears to do its magic by causing genes to be more careful in how they make new proteins. But how did this protein magic get started in mole rats, and why does it persist? Prior research has shown that their fossorial (living in a burrow) existence is a factor—animals that live underground tend to live longer, partly because it helps them avoid predators. But other underground animals do not live nearly as long, so there has to be another reason—that is what Williams and Shattuck sought to better understand by taking a closer look at their communal lifestyle.

Naked mole rats live a lot like bees or ants, with workers doing different jobs and a queen that does the reproducing—an unusual trait for a rodent. Suspecting that it might have something to do with their longevity, the research duo began doing some research, creating a database of different animals (440 mammals) that allowed for comparing longevity with their environment and social habits. Analysis revealed that mammals that both live underground and do so socially, tend to live longer than those that do just one or the other, or neither. Thus it appears that the [mole rats](#) remarkable lifespan is at least partly due to both its underground environment and their social lifestyle.

More information: Ecology, longevity and naked mole-rats:

confounding effects of sociality? Published 28 January 2015. [DOI: 10.1098/rspb.2014.1664](https://doi.org/10.1098/rspb.2014.1664)

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