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Family bonds are key to helping at-risk species, study suggests

Efforts to protect endangered species could be helped by fresh insights into how parenting affects the survival chances of inbred animals.

The findings could inform conservation strategies to protect wild animals, some of which face a threat from inbreeding as their natural habitats shrink.

Researchers studied the impact of varying levels of care given by female beetles to their broods of inbred offspring. They assessed how inbred juveniles born to larger mothers fared compared with those born to smaller mothers.

Their results, from the first study of its kind, showed a marked difference in the survival rates of inbred young beetles at various stages of development, linked to how much time mothers spent feeding and grooming their young, and cleaning their burrow.

The offspring of bigger mothers were less likely to live long enough to leave the burrow in which they were born. This finding – which was the opposite of what scientists had expected – may be because larger females are likely to produce more than one brood in their lifetimes and do not spend energy caring for offspring that are inbred and therefore less healthy.

Scientists from the University of Edinburgh say their study reinforces the importance of parental care in the survival prospects of wild animals whose parents are closely related, and may help identify risk elements in wild populations.

Researchers compared the development and survival of groups of beetles born to large females and smaller females, all of which had mated with a close relative, and to the offspring of large and small females whose mates were not relatives. The study, published in *Proceedings of the Royal Society B*, was supported by the University of Edinburgh.

Natalie Pilatouka of the University of Edinburgh's School of Biological Sciences, who led the study, said: "Variations in parenting for inbred wild animals has implications for their survival. We need to look more closely at how factors such as age and condition of parents affect their offsprings' prospects."

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