

Primate mothers may carry infants after death as a way of grieving, study finds

September 15 2021



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Some primate species may express grief over the death of their infant by carrying the corpse with them, sometimes for months, according to a new UCL-led study—with implications for our understanding of how

non-human animals experience emotion.

Published today in *Proceedings of the Royal Society B*, the researchers compiled data from anecdotes reported in 126 publications on primate [behavior](#). In the largest study of its kind, researchers undertook the most extensive and rigorous quantitative analysis to date of a behavior known as "infant corpse carrying" in primate mothers, looking at 409 cases across 50 species.

While there is debate among scientists around whether primates are aware of death, this new study suggests that primate mothers may possess an awareness—or be able to learn about death over time.

Study co-author Dr. Alecia Carter (UCL Anthropology) said: "Our study indicates that primates may be able to learn about death in similar ways to humans: it might take experience to understand that death results in a long-lasting 'cessation of function', which is one of the concepts of death that humans have. What we don't know, and maybe will never know, is whether primates can understand that death is universal, that all animals—including themselves—will die.

"Our study also has implications for what we know about how grief is processed among non-human primates. It's known that human mothers who experience a stillbirth and are able to hold their baby are less likely to experience severe depression, as they have an opportunity to express their bond. Some primate mothers may also need the same time to deal with their loss, showing how strong and important maternal bonds are for primates, and mammals more generally."

Overall, 80% of the species in the study were found to perform corpse carrying behavior. Although widely distributed across the primate order, the behavior was found to most frequently occur in great apes and Old World monkeys, who also carried their [infants](#) after death for the longest

durations.

The team found that the [primate species](#) was a strong determinant of whether bodies of infants were carried; primates that diverged long ago, such as the lemurs, did not carry infant bodies after death, but were still found to express grief through other behaviors, such as returning to the corpse or giving "mother-infant contact calls".

Both the age of the mother at the time of the infant's death and the way in which the infant died were found to influence the likelihood of infant corpse carrying. The researchers found that younger mothers were more likely to carry their infants after death, while traumatic deaths, such as infanticides or accidents, were less likely to result in corpse carrying compared to deaths caused by non-traumatic events, such as illness.

The study also revealed that among those species that carry their dead infants, the length of time spent carrying the corpse varied depending on the strength of the mother-infant bond, indicated by the age of the infant at the time of their death; infants were carried for longer when they died at younger ages, with a sharp decline when they reached approximately half the weaning age.

Study co-author Elisa Fernández Fueyo (UCL Anthropology) said: "We show that mothers that were more strongly bonded to their infant at death carry the [corpse](#) for longer, with emotions possibly playing an important role. However, our study also shows that, through experience with death and external cues, primate [mothers](#) may gain better awareness of death and therefore 'decide' not to carry their dead infant with them, even if they may still experience loss-related emotions.

"We found that bonds, particularly the mother-infant bond, possibly drive primates' responses to death. Because of our shared evolutionary history, human social bonds are similar in many ways to those of non-

human [primates](#). Therefore, it is likely that human mortuary practices and grief have their origins in social bonds. The thanatological behaviors that we see in [non-human primates](#) today may have been present in early human species as well—and they may have transformed into the different rituals and practices during human evolution.

"However, we need more data to enable us to further develop our understanding of this, and of how much primate behaviors relating to death may not only be explained by bonds but also by the associated emotions and, thus, resemble human grief."

The study authors acknowledge that their study may have several limitations, due to the unsystematic recording of thanatological behavior. To address this, they have launched the website ThanatoBase, which invites researchers to contribute their own observations to a 'living database' of non-human primate [death](#)—and aims to help address fundamental questions about the evolution of animal cognition and emotion.

More information: Why do some primate mothers carry their infant's corpse? A cross-species comparative study, *Proceedings of the Royal Society B* (2021). [rspb.royalsocietypublishing.org1098/rspb.2021.0590](https://royalsocietypublishing.org/journal/rspb/2021.0590)

Provided by University College London

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