

# Some monkeys can understand danger calls made by different monkey species

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(Phys.org)—A team of researchers with members from France, Ivory Coast, Switzerland and the U.K. has found that some monkeys of one species are able to listen in and respond to communications made by monkeys of another species. In their paper published in *Proceedings of the Royal Society B*, the researchers describe a field study they conducted with two monkey species and what they learned from it.

Human beings are the only species known to have a complete language,

though other animals make sounds that can be interpreted by others of their species, and now it appears that at least in one case, the sounds made by one [species](#) can be interpreted by members of another. In this new effort focusing on the [communication skills](#) of monkeys the researchers looked to Campbell's and Diana monkeys living in the Ivory Coast.

Prior research has found that male Campbell's monkeys use at least six unique sounds to convey information to their group members. Two of those "krak" and "krak-oo" have been found to be variations of the same idea—there is a threat at hand. Krak is more specific however, it means that a leopard is nearby whereas adding that oo suffix waters it down to meaning there is some threat, but it is not a leopard. Because Diana monkeys live in the same places as Campbell's monkeys, the team wondered if they were able to understand the danger calls of the Campbell's. To find out, they made recordings of Campbell's monkey calls, and edited some of them—adding or removing the oo suffix. Then, they took the recordings into the jungle and played them in the vicinity of Diana monkeys and watched to see how they responded.

The team found that the Diana monkeys reacted to the Campbell's monkey calls in a manner almost identical to other Campbell's monkeys—they grew much more agitated when hearing the krak call than when hearing the krak—oo call, and remained on alert longer, which the team claims proves that the Diana [monkeys](#) were able to differentiate between the two and to respond accordingly.

**More information:** Suffixation influences receivers' behaviour in non-human primates, *Proceedings of the Royal Society B*, Published 29 April 2015. [DOI: 10.1098/rspb.2015.0265](https://doi.org/10.1098/rspb.2015.0265)

## Abstract

Compared to humans, non-human primates have very little control over

their vocal production. Nonetheless, some primates produce various call combinations, which may partially offset their lack of acoustic flexibility. A relevant example is male Campbell's monkeys (*Cercopithecus campbelli*), which give one call type ('Krak') to leopards, while the suffixed version of the same call stem ('Krak-oo') is given to unspecific danger. To test whether recipients attend to this suffixation pattern, we carried out a playback experiment in which we broadcast naturally and artificially modified suffixed and unsuffixed 'Krak' calls of male Campbell's monkeys to 42 wild groups of Diana monkeys (*Cercopithecus diana diana*). The two species form mixed-species groups and respond to each other's vocalizations. We analysed the vocal response of male and female Diana monkeys and overall found significantly stronger vocal responses to unsuffixed (leopard) than suffixed (unspecific danger) calls. Although the acoustic structure of the 'Krak' stem of the calls has some additional effects, subject responses were mainly determined by the presence or the absence of the suffix. This study indicates that suffixation is an evolved function in primate communication in contexts where adaptive responses are particularly important.

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