

Male New World monkeys attract females by washing in urine

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Wild Capuchin monkey (*Cebus capucinus*), on a tree near a river bank in the jungles of Guanacaste, Costa Rica. Image: David M. Jensen/Wikipedia.

(PhysOrg.com) -- Male capuchin monkeys have been observed to urinate on their hands and then rub the urine vigorously into their fur, and now a new study by scientists in Texas suggests the behavior signals their availability to females, and the females find the smell of the urine-soaked fur attractive.

The new research, by Dr Kimberley Phillips and colleagues of the Department of Psychology at Trinity University in San Antonio, used [functional magnetic resonance imaging \(fMRI\)](#) scans to study the brains of four adult female tufted capuchin monkeys (*Cebus apella*) while they were smelling the [urine](#) of juvenile males and of sexually mature adults.

The results showed the monkeys' brain scans were different when they were exposed to the urine of juveniles and adults, becoming much more active when the urine was from adult males. Several regions of the brain were activated when the females were sniffing the adult male urine, especially those regions associated with olfactory processing.

Dr Phillips and her team suggest the increased activity shows the urine is being used as a means of communicating the male's sexual availability and social status. The females' ability to discriminate between the urine of young monkeys and sexually mature adults also suggests the females are able to detect the higher levels of testosterone in the adult males' urine. Higher testosterone levels are linked with sexual maturity and also higher social status in capuchin monkeys.

Previous hypotheses put forward to explain the urine-washing behavior included maintenance of body temperature and as a means of identification of individuals, but studies testing these hypotheses have been inconclusive. Another study reported that when females solicited the males, which they do when they are at their peak in fertility, the males increased the frequency of washing with urine.

Several other species of New World monkeys show the same behavior of urinating into their hands and then rubbing it on their fur. They include squirrel monkeys, mantled howler [monkeys](#), and other species of capuchins.

The paper is published in the *American Journal of Primatology*. Dr Phillips, an associate professor of psychology, is investigating the biological and neurological bases of primate behaviors.

More information: Why do capuchin monkeys urine wash? An experimental test of the sexual communication hypothesis using fMRI, by Kimberley A. Phillips et al. *American Journal of Primatology* Early View, [DOI:10.1002/ajp.20931](https://doi.org/10.1002/ajp.20931)

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