

Spider monkeys lower their 'whinnies' when making long-distance calls

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Isolated spider monkeys (*Ateles geoffroyi*) likely lower the pitch of their calls to improve the chances of re-establishing contact with their group, according to a study published April 3, 2019 in the open-access journal

PLOS ONE by José D. Ordóñez-Gómez from the German Primate Center, Germany, and colleagues.

Spider monkeys live in groups and communicate with out-of-sight group members using vocalizations known as whinnies. They are known to vary the pitch, or frequency, of their whinnies, and in this study, the authors analyzed whether such variation relates to the relative social isolation of the caller. They also assessed whether listener responses changed depending on the frequency of the original whinny.

Between February and June of 2016, the authors followed a group of 27 female and 8 male adult black-handed [spider monkeys](#) in the Lacandona Rainforest of Mexico, recording the monkeys whenever they came within 20 meters of their microphones. For the purposes of this study, callers were defined as isolated if more than 40m from other adult monkeys—otherwise, the caller was defined as being within a subgroup.

After analyzing 566 whinnies from the 35 monkeys, the authors found that callers outside a subgroup produced whinnies with a lower fundamental frequency than those produced by spontaneous callers within a subgroup. Since lower-frequency calls travel longer distances, this may improve the monkey's chance of re-establishing contact with their group. The authors also found that listeners responded more quickly to lower-frequency whinnies, and themselves used lower-frequency whinnies when there was a greater separation distance between callers.

Previous studies have shown that aroused spider monkeys tend to produce lower-frequency calls, and the authors suggest that socially isolated spider monkeys might experience higher arousal, which could explain the lower-frequency calls they produce. More research is needed to investigate this link; regardless, these results indicate that spider monkeys do lower the pitch of their calls when socially isolated.

The authors emphasize: "The acoustic variation of the spider [monkeys'](#) contact calls (whinnies) is related to callers' contexts and listeners' responses."

More information: Ordóñez-Gómez JD, Santillan-Doherty AM, Hammerschmidt K (2019) Acoustic variation of spider monkey (*Ateles geoffroyi*) contact calls is related to caller isolation and affects listeners' responses. *PLoS ONE* 14(4): e0213914.
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