

# Raven food calls disclose their age and sex

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A Common Raven. Credit: CanadianWikilover/CC BY-SA 4.0

Common ravens (*Corvus corax*) use food associated 'haa' calls to recruit other individuals of the same species (conspecifics) to food foraging sites which may be dangerous because of predators or territorial breeding pairs. These calls provide clues about the age and sex of the caller, according to a study published in the open access journal *Frontiers*

*in Zoology.*

Researchers at the University of Vienna and the University of Cambridge found that vocal signals emitted by ravens to alert conspecifics to feeding sites varied in frequency, call duration and amplitude, according to their age and sex. These differences may enable ravens to extract information about the caller and use this knowledge to aid in decision-making processes.

Dr. Markus Böckle, the corresponding author, said: "The majority of previous research on call characteristics in ravens focused on recognition of known individuals. However, to our knowledge, no experiments have tested for features in [food](#) calls that might provide ravens with information about unknown individuals."

Dr. Böckle adds: "Our results suggest that ravens have the necessary variation in their food calls and the cognitive means to distinguish between specific classes of sex and age (class-recognition). Thus, we show for the first time that ravens can potentially use food calls to tell other ravens apart, according to these categories. This gives ravens the opportunity to use information about the caller in decision making processes, such as whether to join or avoid foraging groups."

Ravens facing problems in accessing food are likely to use the information provided by the calls to recruit allies that will help them reduce potential dangers and overpower dominant ravens. Class-recognition of unknown callers could allow ravens to assess the degree of competition for food and decide whether to join a specific feeding situation or not.

Dr. Böckle said: "It is important to note that ravens use these calls to primarily refer to food items but at the same time transmit more [information](#) than just the presence of food. Calls referring to external

objects like food are frequently thought of as precursors of language. Our results add further insights into [raven](#) intelligence and their complex feeding behavior."

Between summer 2009 and winter 2010, the authors studied a population of free-ranging common ravens that regularly gathered during the feedings of wild boar at the Cumberland Wildpark Grünau, Austria. Each feeding session was simultaneously video- and audio-recorded to identify vocalizing individuals and a total of 418 calls of 12 individuals were analyzed.

The authors suggest that several factors may cause variation in 'haa' calls, such as size differences between sexes and age groups. Similarly, differences in male and female hormone levels may lead to variation in calling behavior and neural activity.

**More information:** Markus Boeckle et al, Raven food calls indicate sender's age and sex, *Frontiers in Zoology* (2018). [DOI: 10.1186/s12983-018-0255-z](#)

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