

# Honest deer every year

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The vocalisations or 'groans' of male fallow deer provide rivals and potential mates with an honest account of the emitting animal's competitive abilities. A study, published in the open access journal *BMC Biology*, describes how the acoustic qualities of a deer's call change year by year and reflect changes in status and age.

Alan McElligott and Elodie Briefer from Queen Mary, University of London together with Elisabetta Vannoni, University of Zurich, studied fallow deer, during four consecutive breeding seasons. McElligott said, "As males aged, their dominance ranks changed and rank was a good predictor of mating success. Their calls contained features that were honest signals, modified dynamically according to male quality, and showing a very robust example of 'truth in advertising' in animal communication".

The researchers recorded all male-male competition and all matings between dawn and dusk every day during the rut. They also recorded the vocalisations of each male. Combining the results, they found that as well as containing accurate information about a male's competitive abilities, vocal cues of an individual's identity were partially conveyed in the same components of groans. Unlike the information about quality however, these identity signals were unreliable during the animal's lifetime. According to McElligott, "In addition to fallow bucks groans being honest signals of age and competitiveness or rank, we've shown that a buck's 'vocal identity' changes substantially from one year to the next, while genetic identity of course remains exactly the same. Often, researchers do not consider that the vocalisations of animals change as

they age".

All of the males in the study had been individually tagged as fawns, which allowed McElligott and his colleagues to follow the same individual males as they aged, with additional details of [reproductive success](#), dominance and detailed records of their calls each year. He said, "Logistically, this is extremely difficult and that is why these data are so important. This study should give people a better idea of what is happening when they see male deer active during the rut, calling and fighting. It would not surprise me if what we found in [fallow deer](#) is also eventually found to be the case for other species of animals in which males call a lot during the breeding season and live for several years".

**More information:** Quality prevails over identity in the sexually selected vocalisations of an ageing mammal, Elodie Briefer, Elisabetta Vannoni and Alan G McElligott, BMC Biology 2010, 8:35, [doi:10.1186/1741-7007-8-35](https://doi.org/10.1186/1741-7007-8-35)

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