

IN FOCUS

Featured Articles in This Month's *Animal Behaviour*

Communicating Fear is Sexy in Chickens

Alarm calls, vocalizations uttered when individuals encounter predators, have always been of interest to behavioural and evolutionary ecologists because alarm calling may increase the caller's vulnerability to predation. Previous studies have explained the adaptive value of calling by focusing on the direct or indirect fitness gained by warning relatives and the personal fitness gained by either creating pandemonium and therefore guaranteeing escape or discouraging pursuit by a predator. Sexually selected functions of calling have not been explored. In this issue, David Wilson and his colleagues at Macquarie University in Sydney, Australia, present evidence that in ornamented fowl, *Gallus gallus* (Fig. 1), males that alarm call at higher rates are preferred sexual partners for females. Females, seemingly, are attracted to honestly scared males.

Chickens are an ideal system to study this question for a variety of reasons. First, there is some evidence that morphological traits may be important in mate choice decisions. Second, chickens live in stable groups where behaviour and social relationships may indeed provide information about an individual's quality. Third, they have individually distinctive alarm calls so females could potentially keep track of callers. And fourth, a considerable amount is known about the conditions under which calls are produced and the meaning of calls.



Figure 1. Alarm-calling males mate most. Photo: Chris Evans.

Cockerels utter predator-specific, functionally referential alarm calls to aerial and terrestrial predators. Calls to higher-risk aerial predators are uttered only when there is a suitable audience: a conspecific. Raptors are a real threat and solitary individuals make themselves inconspicuous. Terrestrial predators, however, may be discouraged upon hearing a cockerel's terrestrial alarm call. Thus, calling rate may be a revealing handicap whereby only some males can afford to accept the risks of calling. In natural groups, many hens are within earshot of a caller and therefore could evaluate the reliability of males exposing themselves to a real risk of predation.

Wilson et al. studied mate choice decisions and reproductive success in seminatural conditions. They found that dominance rank and the aerial alarm-calling rate were the most important predictors of male mating success, while terrestrial alarm-calling rate and ornament area were the most important predictors of male reproductive success. These results could emerge either from female choice for risk-taking males or because males invest more (by alarm calling) in mates.

More generally, this study highlights the importance of properly quantifying behaviour when studying sexual selection. Many previous studies in this and other systems have ignored behaviour and focused solely on the importance of morphological trait variation in sexual selection. This study shows that when animals live in stable groups and have well-developed social relationships, behaviour matters. While it is relatively easy to catch and measure static traits, females may pay more attention to dynamic behavioural traits. In sum, how one behaves, not simply how one looks, may be very important in mate choice decisions and hens are particularly attracted to honestly scared males.

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They've got Great (Tit) Personalities

As we're all told from the moment we begin dating, it's not looks, it's personality that really counts. While we might like to believe this to be true, especially if we're not blessed with great beauty, a brief glance around the rest of the Animal Kingdom would suggest that appearance matters more. In this month's issue of *Animal Behaviour*,