

Maternal food calling in domestic hens: an honest signal?

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Food-associated calls have been reported in many field and laboratory studies of social non-human primates and birds given their interest in questioning referential communication in animals. In chickens, food calls consist in a series of pulse like sound delivered at almost regular intervals. They are generally uttered when a bird is frequently picking up and dropping either edible or inedible objects that are not usually swallowed and attract other foragers to the food caller site.

These vocalizations have been of interest for research addressing proximate questions, especially efforts to understand the meaning of animal signals. To which extent do these calls reflect the characteristics of the food items and/or the internal state of the emitter? What influence can have the presence of chicks on the production of these calls?

The aim of this study was to understand the relationship between production of food calls by maternal hens and food context. In a series of experiments with broody hens, we manipulated quality of items, quantity of food, food experience, dispersion of food items and familiarity with the environment and looked at their influence on the frequency of food calling during standardized tests. Our results show that all the variables tested had significant effects on food calling. These results present some similarities and some discrepancies with previous reports on food calling by cockerels. Food-associated calls appear to give honest information on food characteristics in broody hens.