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## Would *Salmonella Enteritidis* modify social behaviour in contaminated chickens ?

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**Personality dependent corridor use in a grassland species****G.J. Kowalski<sup>1</sup>, A. Herde<sup>1,2</sup>, J.A. Eccard<sup>2</sup>**<sup>1</sup>Animal Ecology, University of Potsdam.<sup>2</sup>Department of Animal Behaviour, University of Bielefeld.

The effectivity of corridors connecting isolated patches has been investigated for more than three decades with animals of different species. It is already known that the presence and the properties of corridors are crucial for the species' dispersal and mobility in a landscape. But corridor use may also depend on the behavioural traits of its users. Animal personality, i.e. consistent among-individual differences in behaviour, might affect the space use in general, but also the usage of corridors. We investigated whether the width of grass stripes and the personality of the individual are important for the corridor use of common voles (*Microtus arvalis*). If so, corridors may allow passage only for a proportion of individuals in a population and may thus affect individual mobility and population gene flow. We studied movement behaviour of male common voles in experimental grassland corridors of different width (1m and 3m). Voles were tested with established behavioural tests to parametrise boldness and activity. Automated and hand VHF telemetry was used to observe the individual movement of the tested animals (N=34) and to determine whether the animal perceives the structure as a corridor. Results on movement will be discussed in relation to animal personality and corridor width to allow predictions of dispersal abilities of personality types in habitats with different degrees of fragmentation.

**Would Salmonella Enteritidis modify social behaviour in contaminated chickens?****N. Kraimi<sup>1</sup>, C. Leterrier<sup>1</sup>, P. Velge<sup>2</sup>, P. Constantin<sup>1</sup>, P. Menanteau<sup>2</sup>, O. Boulesteix<sup>3</sup>, M. Dawkins<sup>4</sup>**<sup>1</sup>UMR PRC, INRA Centre Val de Loire, 37380 Nouzilly, France. <sup>2</sup>UMR ISP, INRA Centre Val de Loire, 37380 Nouzilly, France. <sup>3</sup>PFIE, INRA Centre Val de Loire, 37380 Nouzilly, France. <sup>4</sup>University of Oxford, OX1 3PS Oxford, Great Britain.

*Salmonella Enteritidis* (S.E) is a bacterium that is involved in foodborne toxi-infection in human, particularly via the intake of contaminated chicken meat or eggs. It is difficult to identify the contaminated chickens since this pathogen induces no illness cue in this species (asymptomatic carrier state). In order to detect the contamination in chickens, we then looked for changes in general activity and in social behaviour. Four flocks containing eight non-inoculated chicks reared in cages were progressively contaminated (aerial contamination) by two other flocks close to these cages and that were orally inoculated with S.E (5x10<sup>4</sup> bacteria /chick). Individual faecal samples were collected to establish the contamination by S.E. and they confirmed that aerial contamination by S.E. can be reproduced under experimental conditions. Scan sampling analysis showed that the mean distances between birds were reduced in the target flocks between 3 and 8 days after inoculation of the neighbour flocks and they rose up to the initial value thereafter. The analysis of focal birds showed that the mean duration of quick walk bouts was lower in contaminated birds than in birds that were not contaminated yet. This experimental design made us able to detect differences in behaviour according to the level of contamination within the week following S.E infection. The changes observed in inter-individual distances suggest that S.E. may modify social behaviour during the week following contamination. The changes in behaviour suggest automated analysis of behaviour in commercial flocks would enable the detection of contamination by S.E.

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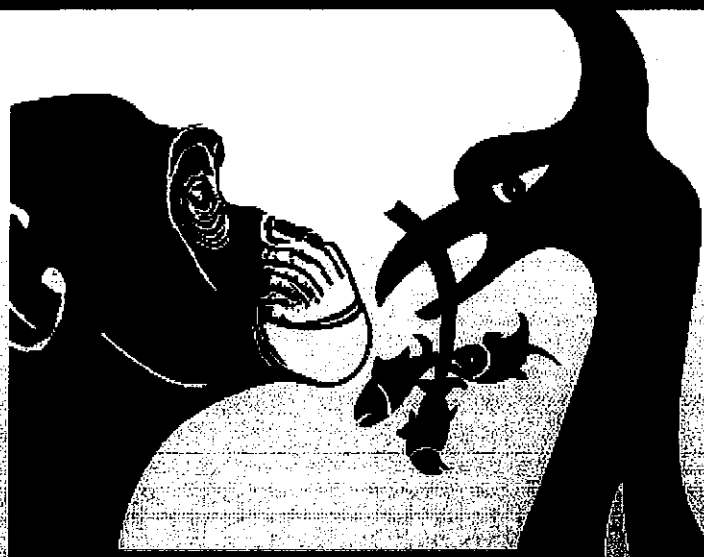
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*Corrections:*

**Talk cancellation:** E. Millesi; M. Nemeth; D. Schuster; B. Wallner. *Effects of dietary fatty acids on cortisol secretion, postnatal development and social behaviour in guinea pigs.*

**Abstract in poster section now presented as a talk:** V. Puehringer-Sturmayr, J. Hemetsberger, K. Kotrschal, D. Frigerio. *Paternal stress in successful Northern bald ibis males: Behavioural, physiological and parasite load evidence.*



# ECBB 2018

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