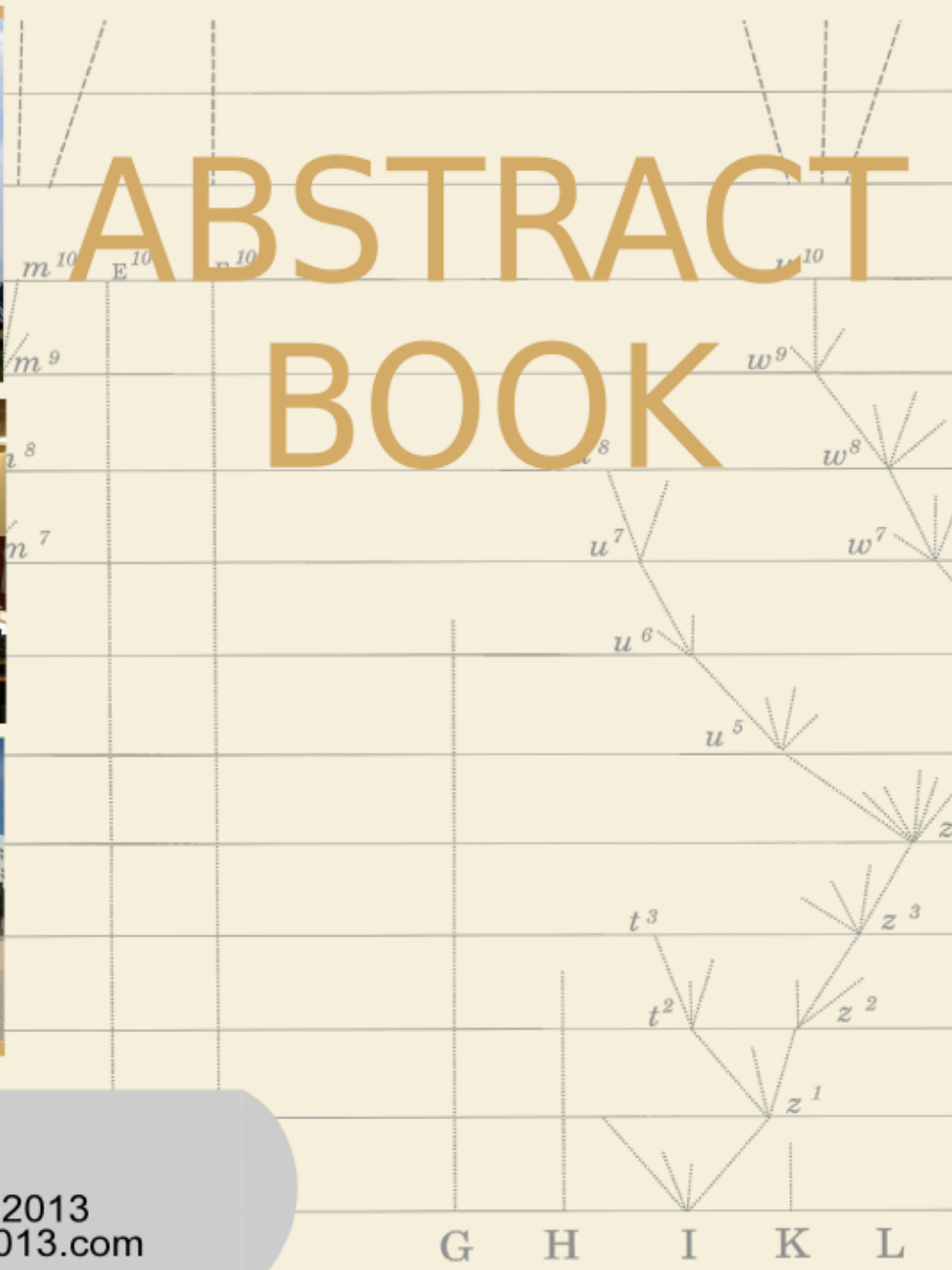


b^{14} f^{14} o^{14} e^{14} m^{14} F^{14} n^{14} r^{14} w^{14}



Congress of The European Society for Evolutionary Biology

19 to 24 August 2013
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OF POSTERS**

14th Congress, Lisbon, Portugal, 19 - 24 August 2013

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14. Non Genetic Inheritance

D23SY14RT14:48R6

SEX SPECIFIC SOCIAL GENETIC EFFECTS IN PARENTAL-CARE BEHAVIOUR

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The social environment, namely conspecifics, can influence the expression of phenotypes i.e., individuals other than the one expressing the trait in question can explain some of the phenotypic variation. The genetic part of this indirect effect represents an indirect genetic effect (IGE). Not accounting for IGEs can considerably under- or over-estimate the total heritable variation available for selection to act on, and thus predict misleading evolutionary trajectories. Yet, empirical studies on wild populations often ignore IGEs. We present a quantitative genetic analysis of biparental care in a wild, genetically pedigreed, bird population. Sex-specific IGEs increased the total heritable variation. Our data suggests that the female trait could evolve through indirect selection by her mating partner, which most theoretical models explaining the evolution of biparental care do not take into account. Notably, the within-individual repeatability of female parental care was lower than the total heritable variation. Our results show that the assumption that repeatability is the upper limit of heritability should be used cautiously when applying to socially interactive traits, and highlight the importance of accounting for social effects.

18. Evolutionary Demography

D20SY18PS0509

AGE-SPECIFIC BREEDING SUCCESS IN A WILD MAMMALIAN POPULATION: SELECTION, CONSTRAINT, RESTRAINT AND SENESCENCE

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The Selection, Constraint, Restraint, and Senescence Hypotheses predict how breeding success should vary with age. The Selection Hypothesis predicts between-individual variation arising from quality differences; the other hypotheses predict within-individual variation due to differing skills or physiological condition (Constraint), residual reproductive lifespan (Restraint), or somatic and reproductive investment (Senescence). Studies tend to focus on either the initial increase in breeding success or later decrease; however, both require consideration when unravelling the underlying evolutionary processes. Additionally, few studies present genetic fitness measures, and rarely for both sexes. We therefore test these four hypotheses, which are not mutually exclusive, in a high-density population of European badgers *Meles meles*. Using an 18-year dataset (including 22 microsatellite loci) we show an initial improvement in breeding success with age, followed by a later and steeper rate of reproductive senescence in males than in females. Breeding success was skewed within age-classes indicating the influence of factors other than age-class. This was partly attributable to selective appearance and disappearance of badgers (Selection Hypothesis). Individuals with a late age of last breeding showed a concave down relationship between breeding success and experience (Constraint Hypothesis). There was no evidence of abrupt terminal effects; rather, individuals showed a concave down relationship between breeding success and residual reproductive lifespan (Restraint Hypothesis), with an interaction with age of first breeding only in females. Our results demonstrate the importance of investigating a comprehensive suite of factors in age-specific breeding success analyses, in both sexes, in order to fully understand evolutionary and population dynamics.

34. General Symposium

D20SY34PS0520

FEWER INVITED TALKS BY WOMEN IN EVOLUTIONARY BIOLOGY: MEN ACCEPT INVITATIONS TO SPEAK MORE OFTEN THAN WOMEN

Hannah L Dugdale¹, Julia Schroeder², Reinder Radersma³, Martin Hinsch², Deborah M Buehler⁴, Jennifer Saul⁵, Lindsey Porter⁵, András Liker¹, Isabelle De Cauwer (16), Paul J Johnson³, Anna W Santure¹, Ashleigh S Griffin³, Elisabeth Bolund¹, Laura Ross³, Thomas J Webb¹, Philine GD Feulner⁶, Isabel Winney¹, Marta Szulkin³, Jan Komdeur⁷, Maaïke A Versteegh⁷, Charlotte K Hemelrijk⁷, Erik I Svensson⁸, Hannah Edwards¹, Maria Karlsson⁸, Stuart A West³, Emma LB Barrett⁹, David S Richardson⁹, Valentijn Van den Brink (10), Joanna H Wimpenny¹, Stephen A Ellwood³, Mark Rees¹, Kevin D Matson⁷, Anne Charmantier (11), Natalie Dos Remedios¹, Nicole A Schneider (12), Celine Teplitsky (13), William F Laurance (14), Roger K Butlin¹, Nicholas P Horrocks (15)

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⁷*University of Groningen, Netherlands*

⁸*Lund University, Sweden*

⁹*University of East Anglia, United Kingdom 10: Rue de la Blancherie 29, Switzerland 11: CNRS, France 12: Swedish University of Agricultural Sciences, Sweden 13: Ecologie et Gestion de la Biodiversité, CNRS, France 14: James Cook University, Australia 15: Univesrity of Cambridge, United Kingdom 16: Lab. Génétique et Evolution des Populations, UMR CNRS, France*

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Lower 'visibility' of female scientists, compared to male scientists, is a potential reason for the under-

representation of women among senior academic ranks. Visibility in the scientific community stems partly from presenting research as an invited speaker at organised meetings. We analysed the sex ratio of presenters at the European Society for Evolutionary Biology Congress 2011, where all abstract submissions were accepted for presentation. Women were under-represented among invited speakers at symposia (15% women) compared to all presenters (46%), regular oral presenters (41%) and plenary speakers (25%). At the ESEB congresses in 2001–2011, 8–23% of invited speakers were women. This under-representation of women is partly attributable to a larger proportion of women, than men, declining invitations: in 2011, 50% of women declined an invitation to speak compared to 26% of men. We expect invited speakers to be senior scientists or authors of recent papers in high-impact journals. Considering all invited speakers (including declined invitations), 23% were women. This was lower than the baseline sex ratios of early–mid career stage scientists, but was similar to senior scientists and authors published in high-impact journals. High-quality science by women therefore has low exposure at international meetings, which will constrain Evolutionary Biology from reaching its full potential. We wish to highlight the wider implications of turning down invitations to speak. In particular, under-representation of women among invited speakers reduces the number of female role models for evolutionary biology students and contributes to the leaky pipeline. We encourage conference organisers to implement steps to increase acceptance rates of invited talks.