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DESCRIPTION

First published in 1953, *Animal Behaviour* is a leading international publication and has wide appeal, containing critical reviews, original papers, and research articles on all aspects of animal behaviour. Book Reviews and Books Received sections are also included.

Growing interest in behavioural biology and the international reputation of *Animal Behaviour* prompted an expansion to monthly publication in 1989. *Animal Behaviour* continues to be the journal of choice for biologists, ethologists, psychologists, physiologists, and veterinarians with an interest in the subject.

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- Behavioural ecology
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- Sociobiology
- Ethology
- Behavioural psychology
- Behavioural physiology
- Population biology
- Sensory behaviour
- Navigation and migration

AUDIENCE

Behaviourists, behavioural ecologists, behavioural neuroscientists, ethologists, evolutionary ecologists

IMPACT FACTOR

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INTRODUCTION

Types of article

Research papers

Animal Behaviour publishes original papers relating to all aspects of the behaviour of animals, including humans. Papers may be field, laboratory or theoretical studies. Preference is given to studies that are likely to be of interest to the broad readership of the Journal and that test explicit hypotheses rather than being purely descriptive.

Reviews

These should address fundamental issues relating to behaviour and provide new insights into the subject(s) they cover. Original interdisciplinary syntheses are especially welcome. Reviews should be no longer than 6000 words (excluding references) and should include an abstract of up to 300 words. In the first instance, a preliminary outline of up to 600 words should be submitted online (see Contact details for submission below). The decision as to whether to proceed to a full review then rests with the Executive Editors or invited advisers. Contributions submitted on this basis will be subjected to the same refereeing process as normal manuscripts.

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The Commentaries section of the Journal provides an opportunity to raise issues of general importance to the study of behaviour, including statistical analysis, theory, methodology and ethics. Unless there are clearly broader implications for the study of behaviour as a whole, critiques of particular papers or issues of more local interest should be reserved for the Forum section (see below). Decisions as to whether borderline submissions are more appropriate to the Commentaries or Forum section rest with the Executive Editors. Contributions should be brief, normally not more than six printed pages, and should not contain an abstract. Methodological contributions may be longer, and may contain an abstract, subject to the discretion of the Executive Editors. The initial decision as to prima facie merit rests with the Executive Editors or invited advisers. Contributions with prima facie merit are subjected to the same refereeing process as normal manuscripts, but responses or complementary articles may be solicited by the Executive Editors at their discretion. Other contributions are returned unrefereed to the author(s).

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The Forum section is published on ScienceDirect with contributions listed in the contents of the relevant hardcopy issue and cited as indicated in References below. The section accepts critiques of published papers relevant to the areas of interest of the Journal, and provides an opportunity for constructive exchanges on issues surrounding particular fields of study. Submission, review and acceptance procedures are as for Commentaries (see above), but there is no word limit. In the case of Forum critiques of published papers, the author(s) of the target article must be contacted and trivial points of difference or misunderstanding resolved; this correspondence must be submitted in a cover letter accompanying the Forum article with the knowledge of the author(s) of the target article.

More general correspondence on matters relating to behavioural research is published, unrefereed, in the newsletters of ASAB and ABS. Such correspondence should be sent to the newsletter editors: Dr. Dr H. M. Rowland, Department of Zoology, University of Cambridge, Downing Street, Cambridge CB2 3EJ, UK, e-mail: asabnewslettereditor@gmail.com) for ASAB; Susan M. Bertram, Department of Biology, Carleton University, 1125 Colonel By Drive, Ottawa, ON K1S 5B6, Canada, e-mail: Sue_Bertram@carleton.ca) for ABS.

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For other general correspondence:

The address of the UK office is: Dr A.K. Turner, Managing Editor, Animal Behaviour Editorial Office, School of Life Sciences, University of Nottingham, University Park, Nottingham NG7 2RD, U.K. (fax: (0) 115 9 513 249, e-mail: angela.turner@nottingham.ac.uk).

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BEFORE YOU BEGIN

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presenting multiple experiments, authors may use main headings for the titles of each experiment, with the Methods and Results of each experiment listed as subheadings. Try to keep subheadings short enough to fit within a single column.

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

The Introduction should be brief, not normally exceeding two manuscript pages. Keep references to a minimum by citing reviews rather than primary research papers where appropriate.

Methods

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

Give the names and addresses of companies providing trademarked products. Always state sample sizes (the number of animals used in the study) and the age, sex, breed/strain and source of animals. Full details of testing or observational regimes should be given. If captive animals were used, include details of housing conditions relevant to the study (e.g. cage size and type, bedding, group size and composition, lighting, temperature, ambient noise conditions, maintenance diets) both during the study and during any period before the study that might bear on the results. The Methods section may also contain a description of the kinds of statistics used and the activities that were recorded.

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Results should be clear and concise. This section should include only results that are relevant to the hypotheses outlined in the Introduction and considered in the Discussion. The text should complement material given in Tables or Figures but should not directly repeat it. Give full details of statistical analysis either in the text or in Tables or Figure legends. Include the type of test, the precise data to which it was applied, the value of the relevant statistic, the sample size and/or degrees of freedom, and the probability level. Number Tables and Figures in the order to which they are referred in the text. Means and standard errors/standard deviations (and medians and interquartile ranges/confidence limits), with their associated sample sizes, are given in the format $X \pm SE = 10.20 \pm 1.01$ g, $N = 15$, not $X = 10.20$, $SE = 1.01$, $N = 15$.

For significance tests, give the name of the test followed by a colon, the test statistic and its value, the degrees of freedom or sample size (whichever is the convention for the test) and the P value (note that F values have two degrees of freedom). The different parts of the statistical quotation are separated by a comma. Note use of italics for F , P , N and other variables.

If the test statistic is conventionally quoted with degrees of freedom, these are presented as a subscript to the test statistic. For example:

ANOVA: $F_{1,11} = 7.89$, $P = 0.017$

Kruskal-Wallis test: $H_{11} = 287.8$, $P = 0.001$

Chi-square test: $\chi^2_{22} = 0.19$, $P = 0.91$

Paired t test: $t_{12} = 1.99$, $P = 0.07$

If the test is conventionally quoted with the sample size, this should follow the test statistic value. For example:

Spearman rank correlation: $r_s = 0.80$, $N = 11$, $P < 0.01$

Wilcoxon signed-ranks test: $T = 6$, $N = 14$, $P < 0.01$

Mann-Whitney U test: $U = 74$, $N_1 = N_2 = 17$, $P < 0.02$

P values for significant outcomes can be quoted as below a threshold significance value (e.g. $P < 0.05$, 0.01 , 0.001), but wherever possible should be quoted as an exact probability value. Departure from a significance threshold of 0.05 should be stated and justified in the Methods. Marginally nonsignificant

outcomes can be indicated as exact probability values or as $P < 0.1$. Nonsignificant outcomes should be indicated with an exact probability value whenever possible, or as NS or $P > 0.05$, as appropriate for the test.

State whether a test is one tailed or two tailed (or specific or nonspecific in the case of Meddis' nonparametric ANOVAs). One-tailed (or specific) tests should be used with caution. Their use is justified only when there are strong a priori reasons for predicting the direction of a difference or trend and results in the opposite direction can reasonably be regarded as equivalent to no difference or trend at all. Authors are referred to Kimmel (1957, *Psychological Bulletin*, 54, 315-353).

Do not quote decimals with naked points, for example quote 0.01, not .01, or normally to more than three decimal places (the exception being P values for significance tests, which may be quoted to four decimal places where appropriate, e.g. 0.0001).

Regressions and analyses of variance. The significance of regressions should be tested with F or t but not the correlation coefficient r . R^2 should be quoted with both regressions and parametric analyses of variance.

Multiple range tests. Unplanned multiple range tests following ANOVA should be avoided unless their appropriateness for the comparisons in question is verified explicitly. Authors are referred to the review by Day and Quinn (1989, *Ecological Monographs*, 59, 433-463).

Power tests. Where a significance test based on a small sample size yields a nonsignificant result, explicit consideration should be given to the power of the data for accepting the null hypothesis. Authors are referred to Thomas and Juanes (1996, *Animal Behaviour*, 52, 856-859) and Colegrave and Ruxton (2003, *Behavioral Ecology*, 14, 446-447) for guidance on the appropriate use of power tests. Providing a value for power based on a priori tests is preferred. Values of observed power are not appropriate. Authors should consider effect sizes and their confidence intervals in drawing conclusions regarding the null hypothesis.

Transformations. Where data have been transformed for parametric significance tests, the nature of the transformation and the reason for its selection (e.g. $\log x$, x^2 , arcsine) should be stated.

Discussion

It is often helpful to begin the Discussion with a summary of the main results. The main purpose of the Discussion, however, is to comment on the significance of the results and set them in the context of previous work. The Discussion should be concise and not excessively speculative, and references should be kept to a minimum by citing review articles as much as possible.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, as a subsection of a Discussion or Results and Discussion section.

Appendices

If there is more than one appendix, they should be identified as 1, 2, etc. Formulae and equations in appendices should be given separate numbering: equation (A1), equation (A2), etc.

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