

Instructions to Authors

1. GENERAL

Proceedings: Biological Sciences is published monthly. It contains announcements of important new developments in biology. Papers crossing the boundaries of subjects are particularly welcome. The normal maximum length is 4000 words including the abstract and references (plus four figures and/or tables; equivalent to five printed pages). With the same restriction on length, reviews containing original and interesting ideas, and extensions to, or criticisms of, papers already published (subject to the criteria of interest, originality and good manners) will also be acceptable. The target publication time is three months from receipt of a paper, excluding the time that the typescript is in the hands of the author. Authors are advised that **papers prepared in accordance with these instructions will be given priority**. Acceptance of a paper will be determined by its quality and interest.

The format of the journal is A4 (297 mm × 210 mm), double column, with a normal text area of 255 mm × 167 mm.

2. SUBMISSION

Submitted papers must not have been published previously, nor be under consideration for publication elsewhere. Authors should send papers to the *Proceedings* B Editorial Office, The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG, U.K. The date of the paper's receipt will be published if the paper is accepted. Authors are asked to include their telephone numbers, fax numbers and/or electronic mail addresses in correspondence about the paper.

Four copies of the typescript and any figures (together with one set of original drawings and prints) are required. A word count should be included. The extra copies of any photographs should be prints rather than photocopies.

Submission on computer disk is welcomed, but only the *final* version should be on disk (hard copy will be required for refereeing and a definitive copy should also accompany the disk). Use of the disk cannot be guaranteed, but will depend on the format, the program used and the nature of the material. MS-DOS and Macintosh disk formats are acceptable: the preferred word-processor format is Word-Perfect but documents prepared in Microsoft Word and Wordstar can be used.

3. COPY

Papers should be clearly typewritten, **with double spacing throughout**, on one side of the paper only, with a margin of at least 3 cm all round; all sheets should be numbered serially and **securely clipped together**. Typescripts must be carefully corrected by authors before being sent in. Spelling should conform

to the preferred spelling of the *Shorter Oxford English Dictionary*. Footnotes should be avoided.

4. TITLE AND SUMMARY

It is **very important** that both the title and the summary should be comprehensible, and interesting, to the non-specialist. Authors are asked to make their titles as short and general as possible. The title should be typed on a separate covering sheet which should also bear the names of the authors and that of the laboratory or other place where the work has been done. Addresses for correspondence, where these differ from the place of work, should also be given, indicating which author correspondence should be addressed to, and giving telephone and fax numbers. A very short title (maximum of 50 letters and spaces) suitable for page headings should also be given. The summary should not exceed 200 words, and should be precise and informative.

5. SECTIONS

Papers may be divided into sections, described by short headings. Subsections should not be used. Materials and methods sections should be marked in the margin for small type.

6. UNITS, SYMBOLS AND ABBREVIATIONS

As far as possible the recommendations contained in *Quantities, units, and symbols* (1975, The Royal Society, £2.50) should be followed; in particular the International System of Units (SI) should be used whenever it is practicable to do so.

Special care is necessary in differentiation between handwritten symbols of comparable shape, e.g. $V v$, v , w , W , s , S , p , ρ , P , T , τ . Marginal indications and differential underlinings should be used where necessary, the normal conventions being followed where applicable, e.g. $\underline{\underline{w}}$ to signify bold characters. Mathematical variables should be underlined.

Wherever possible, only internationally agreed abbreviations should be used; see, for example, the list of accepted abbreviations for use in the *Biochemical Journal*.

7. STATISTICS

As far as possible, the presentation of statistics should follow the guidelines published each year in the December issue of the *Proceedings*.

When referring to computer programs, authors should specify clearly the procedures used, and should quote publications that will allow the reader to ascertain how they are carried out.

8. ILLUSTRATIONS

Duplicate figures (e.g. Xerox or photographic copies, as appropriate) should be supplied with each copy. The author's name and the number of the figure should be written on the back of all illustrations. Figures should be numbered in one sequence throughout the paper.

Colour illustrations will be included only if scientifically necessary and if the cost is met by the author (unless an acceptable case is made by the author why funds are not obtainable).

The position of each illustration should be clearly marked in the typescript thus:

Figure 2 near here

Line drawings

Any labelling necessary for the understanding of a figure should be applied directly on the original drawings before duplicate copies are taken. All lettering should be in lower case except for the initial capital letters of proper names or where capitals are essential, e.g. for chemical abbreviations. Times or a close equivalent should be used. The height of capital letters *after reduction* should be as close to 2 mm as possible. When in doubt use smaller rather than larger lettering.

Consultation between authors or their draughtsmen and the Editorial Office (telephone 071-839 5561, extension 229) will help ensure satisfactory results.

Legends

These should be typed with double spacing on a separate sheet at the end of the paper. Figure legends should follow the style given below:

Figure 7. Time-course of changes in fibre type composition during post-stimulation recovery. (a) Type 1 fibres. (b) Type 2A fibres, including the transitional fibres (asterisks) referred to in the text. (c) Type 2B fibres. Bands indicate the range (mean \pm s.d.) for the corresponding fibre type in control muscles.

Photographs

When it is essential to include photographs they should make the most efficient use of the space required. The area covered by the photographs should be restricted to the subject in question, or to a *minimum* representative area in photomicrographs, etc. This enables the photograph to be reproduced at the largest possible scale. The text area available in *Proceedings B* is 255 mm \times 167 mm. Photographs will be printed with the text, not on plates.

Authors should supply unlettered, unmounted glossy prints marked on the back with the authors' names, the number of the figure and with the top and bottom indicated. A rough set should be provided with any required lettering clearly marked. Each micrograph must include a scale bar, either applied directly to the original or marked on the rough set, with an indication of the exact length.

9. TABLES

Tables, however small, should be numbered in arabic numerals and referred to in the text by their numbers. The position of each table should be shown as follows:

Table 3 near here

Table headings should be a brief title only; descriptions of experimental detail should follow, starting on a new line, in parentheses. Column headings should be in lower-case lettering except for the capital initial letters of proper names. The units of measurement and any numerical factors should be placed unambiguously at the head of the column, e.g. F/MHz , $10^{28}\sigma/\text{m}^3$ or $q/(\text{kJ mol}^{-1})$.

10. REFERENCES

References to the literature cited must be given in double-spaced typing, in alphabetical order at the end of the paper. They should be prepared following the style of recent issues of *Proceedings B*.

Reference citations in the text are made by the name and year method; references by number are not permitted.

11. PROOFS

On acceptance of a paper, the Society's Editorial Office will inform authors when they may expect to receive proofs for checking. Because of the need for fast publication, only a few days may be available for checking proofs, so authors who may be absent from their normal address should either inform the Society of their intended whereabouts or make other arrangements for the proofs to be checked quickly. Fax numbers are welcomed; the Society's is 071-976-1837 for publication matters.

Authors are liable for the cost of excessive alterations to their proofs.

12. OFFPRINTS

Fifty offprints of each paper will be supplied free of charge; further copies may be ordered at extra cost at proof stage.

13. COPYRIGHTS

In order to give the Royal Society authority to deal with matters of copyright, authors will be asked to assign to the Society the copyright in any article published in the journal. In assigning copyright, authors will not be forfeiting the right to use their original material elsewhere subsequently. This may be done without seeking permission and subject only to normal acknowledgement to the journal. However, it would be appreciated if authors would inform the Society in this event.

TO BE PUBLISHED IN *PHILOSOPHICAL TRANSACTIONS* SERIES B

Philosophical Transactions: series B publishes original papers in all aspects of the biological sciences, including clinical science. Papers up to 25 000 words long are welcomed, particularly those of an interdisciplinary or multidisciplinary nature. Longer papers and reviews are also invited; authors intending to submit these should consult with the Editor at an early stage in preparation. Papers will be published rapidly (normally within six months of receipt).

The proceedings of the Royal Society's Discussion Meeting on *Estimating extinction rates*, held in October 1993, will be published in the April issue and will include the papers listed below.

C.J. Humphries & C.T. Fisher
The loss of Banks's legacy

D. Jablonski
Extinctions in the fossil record

G.R. Coope
The response of insect faunas to glacial–interglacial climatic fluctuations

S.L. Pimm, M.P. Moulton & L.J. Justice
Bird extinctions in the central Pacific

C.J. Bibby
Recent past and future extinctions in birds

W. Greuter
Extinctions in Mediterranean areas

J.A. Thomas & M.G. Morris
Patterns, mechanisms and rates of extinction among invertebrates in the United Kingdom

J.B.C. Jackson
Constancy and change of life in the sea

J.H. Lawton
Population dynamic principles

C.R. Margules
Biological models for monitoring species decline: the construction and use of databases

S. Nee, E.C. Holmes, R.M. May & P.H. Harvey
Extinction rates can be estimated from molecular phylogenies

W.J. Bond
Do mutualisms matter? Assessing the impact of pollinator and disperser disruption on plant extinction

G.M. Mace
Classifying threatened species: means and ends

P.R. Ehrlich
Energy use and biodiversity loss

A second issue in April will include papers on: morphology and phylogenetic position of holodipteran dipnoans (P.A. Pridmore *et al.*); peptide vaccines: dream or reality (F. Brown); and landmarks in the anterior central nervous system of amphioxus larvae (T.C. Lacalli *et al.*).

TO BE PUBLISHED IN
PHILOSOPHICAL TRANSACTIONS SERIES B

Philosophical Transactions: series B publishes original papers in all aspects of the biological sciences, including clinical science. Papers up to 25 000 words long are welcomed, particularly those of an interdisciplinary or multidisciplinary nature. Longer papers and reviews are also invited; authors intending to submit these should consult with the Editor at an early stage in preparation. Papers will be published rapidly (normally within six months of receipt).

The May issue of the journal will include the papers listed below.

E.J. Denton & D.M. Rowe

Reflective communication between fish, with special reference to the greater sand eel, *Hyperoplus lanceolatus*

J.W. Essex, M.M. Hann & W.G. Richards

Molecular dynamics simulation of a hydrated phospholipid bilayer

A. Packard & M. Wurtz

An octopus, *Ocythoe*, with a swimbladder and triple jets

E.N. Arnold

Do ecological analogues assemble their common features in the same order? An investigation of regularities in evolution, using sand-dwelling lizards as examples

A.P.F. Flint, G.E. Lamming, H.J. Stewart & D.R.E. Abayasekara

The role of the endometrial oxytocin receptor in determining the length of the sterile oestrous cycle and ensuring maintenance of luteal function in early pregnancy in ruminants

I.M. Hastings

Selfish DNA as a method of pest control

The proceedings of the Royal Society's Discussion Meeting on *Mathematical and statistical aspects of DNA and protein sequence analysis* will be published in the June issue.

FUTURE PAPERS IN PROCEEDINGS SERIES B

Proceedings: series B publishes original papers in all aspects of the biological sciences, including those of an interdisciplinary or multidisciplinary nature. Papers up to 4000 words long are welcomed, particularly announcements of important new developments in biology. Reviews containing original and interesting ideas, and criticisms of papers already published, are also invited. Papers will be published rapidly (normally within three months of receipt).

Future issues of the journal will include the papers listed below.

D.C. Queller

Extended parental care and the origin of eusociality

R.V. Alatalo, L. Gustafsson & A. Lundberg

Male coloration and species recognition in sympatric flycatchers

D.L. Stern

A phylogenetic analysis of soldier evolution in the aphid family Hormaphididae

A.L. Hughes

The evolution of functionally novel proteins after gene duplication

C. Kvarnemo

Temperature differentially affects male and female reproductive rates in the sand goby: consequences for operational sex ratio

M. Smith, A. Hickman, D. Amanze, A. Lumsden & P. Thorogood

Trunk neural crest origin of caudal fin mesenchyme in the zebrafish *Brachydanio rerio*

R.A. Johnstone

Honest signalling, perceptual error and the evolution of 'all-or-nothing' displays

D.J. Emlen

Environmental control of horn length dimorphism in the beetle *Onthophagus acuminatus* (Coleoptera: Scarabaeidae)

D.H. Clayton & D.M. Tompkins

Ectoparasite virulence is linked to mode of transmission

P. Cotgreave

The relation between body size and abundance in a bird community: the effects of phylogeny and competition

J.T. Manning & A.T. Chamberlain

Sib competition and sperm competitiveness: an answer to 'Why so many sperms?' and the recombination-sperm number correlation

R. Poulin

Mate choice decisions by parasitized female upland bullies, *Gobiomorphus breviceps*

G.D. Ruxton

Low levels of immigration between chaotic populations can reduce system extinctions by inducing asynchronous regular cycles

S.B. Piertney & G.R. Carvalho

Microgeographic genetic differentiation in the intertidal isopod, *Jaera albifrons* Leach. I. Spatial distribution of allozyme variation

CONTENTS

H. F. STANLEY, M. KADWELL & J. C. WHEELER	pages 1–6
Molecular evolution of the family Camelidae: a mitochondrial DNA study	
A. R. MCLEAN & B. S. BLUMBERG	7–15
Modelling the impact of mass vaccination against hepatitis B. I. Model formulation and parameter estimation	
S. MANNE, C. M. ZAREMBA, R. GILES, L. HUGGINS, D. A. WALTERS, A. BELCHER, D. E. MORSE, G. D. STUCKY, J. M. DIDYMUS, S. MANN & P. K. HANSMA	17–23
Atomic force microscopy of the nacreous layer in mollusc shells	
D. E. MACHUGH, R. T. LOFTUS, D. G. BRADLEY, P. M. SHARP & P. CUNNINGHAM	25–31
Microsatellite DNA variation within and among European cattle breeds	
E. MICHAEL, B. T. GRENFELL & D. A. P. BUNDY	33–40
The association between microfilaraemia and disease in lymphatic filariasis	
S. BUDARAJU, W. E. STEWART & W. P. PORTER	41–46
Prediction of forced ventilation in animal fur from a measured pressure distribution	
J. KOMDEUR	47–52
The effect of kinship on helping in the cooperative breeding Seychelles warbler (<i>Acrocephalus sechellensis</i>)	
D.-E. NILSSON & S. PELGER	53–58
A pessimistic estimate of the time required for an eye to evolve	
S. D. ERULKAR, J. RENDT, R. D. NORI & B. GER	59–65
The influence of 17 β -oestradiol on K ⁺ currents in smooth muscle cells isolated from immature rat uterus	
P. H. WILLIAMS, C. J. HUMPHRIES & K. J. GASTON	67–70
Centres of seed-plant diversity: the family way	
L. R. BRANNAN, C. M. R. TURNER & R. S. PHILLIPS	71–75
Malaria parasites undergo antigenic variation at high rates <i>in vivo</i>	
H. FRITZ & P. DUNCAN	77–82
On the carrying capacity for large ungulates of African savanna ecosystems	
F. GÖTMARK	83–87
Does a novel bright colour patch increase or decrease predation? Red wings reduce predation risk in European blackbirds	
C. M. LIVELY & S. G. JOHNSON	89–95
Brooding and the evolution of parthenogenesis: strategy models and evidence from aquatic invertebrates	
M. R. EVANS, T. L. F. MARTINS & M. HALEY	97–103
The asymmetrical cost of tail elongation in red-billed streamertails	

* * *

INSTRUCTIONS TO AUTHORS