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. Papers should be submitted direct to the Editor: Professor B. C. Clarke, Department of Genetics, Queen’s Medical Centre, Clifton Boulevard, Nottingham NG7 2UH, 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, w W, i 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. \ldots\ldots\ldots 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 July issue of the Proceedings, starting from July 1992.

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±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 x 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, 10⁶σ/m² or q/(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. COPYRIGHT

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.

[January 1992]
Indexes to Volume 248 (B)

Author index

Abraham, E. P. See Cantwell et al.
Adam, A. See Morgan et al.
Adams, P. R. See Marrion et al.
Anderson, J. C., Martin, K. A. C. & Picanço-Diniz, C. W. The neurons in layer 1 of cat visual cortex, 27.
Arcangeli, A. See Becchetti et al.
Archer, S. N., Lythgoe, J. N. & Hall, L. Rod opsin cDNA sequence from the sand goby (Pomatoschistus minutus) compared with those of other vertebrates, 19.
Barratt, J. See Hackney et al.
Beckmann, R. See Cantwell et al.
Benos, D. J. See Hackney et al.
Bontrhorne, K. M., Vollrath, F., Hunter, B. K. & Sanders, J. K. M. The elasticity of spiders' webs is due to water-induced mobility at a molecular level, 141.
Bruneau, S. See Cobb et al.
Cameron, R. A. D. Change and stability in Cepaea populations over 25 years: a case of climatic selection, 181.
Carvalho, G. R. See Magurran et al.; see also Shaw et al.
Cobb, M., Bruneau, S. & Jallon, J.-M. Genetic and developmental factors in the olfactory response of Drosophila melanogaster larvae to alcohols, 103.
Dawson, A. See McNaughton et al.
Drapeau, P. See Merz & Drapeau.
Edmonds, D. T. & Vollrath, F. The contribution of atmospheric water vapour to the formation and efficiency of a spider’s capture web, 145.
Ellar, D. J. See Knowles et al.
Fahle, M. See Morgan & Fahle.
Fox, A. P. See Penington et al.
Frackowiak, R. S. J. See Friston et al.
Frith, C. D. See Friston et al.
Fruhling, D. See Vega-Saenz de Miera et al.
Fuchs, P. A. & Murrow, B. W. A novel cholinergic receptor mediates inhibition of chick cochlear hair cells, 35.
Furness, D. N. See Hackney et al.
Giddings, G. D. & Rees, H. The cytology of Lycopersicon somatic hybrids, 63.
Goldsmith, A. R. See McNaughton et al.
Grafen, A. See Johnstone & Grafen.
Gruner, W. See Marrion et al.
Guest, J. R. See Green et al.
Hale, G., Wallis, N. G. & Perham, R. N. Interaction of avidin with the lipoyl domains in the pyruvate dehydrogenase multienzyme complex: three-dimensional location and similarity to biotinyl domains in carboxylyase, 247.
Hall, L. See Archer et al.
Head, S. I., Williams, D. A. & Stephenson, D. G. Abnormalities in structure and function of limb skeletal muscle fibres of dystrophic mdx mice, 163.
Healy, S. D. & Krebs, J. R. Food storing and the hippocampus in corvids: amount and volume are correlated, 241.
Higashida, H. See Ito et al.
Horridge, G. A. & Marcelja, L. On the existence of ‘fast’ and ‘slow’ directionally sensitive motion detector neurons in insects, 47; see also Zhang et al.
Huckle, J. W. See Gupta et al.
Hunter, B. K. See Bontrhorne et al.
Hurst, L. D. Intragenomic conflict as an evolutionary force, 135.
Hutson, V. See Law & Hutson.
Ito, Y., Yokoyama, S. & Higashida, H. Potassium channels cloned from neuroblastoma cells display slowly inactivating outward currents in Xenopus oocytes, 95.
Jacobs, H. T. See Mayhook et al.
Jallon, J.-M. See Cobb et al.
Kelly, J. S. See Penington et al.
Korentos, C. See Vega-Saenz de Miera et al.
Knowles, B. H., White, P. J., Nicholls, C. N. & Ellar, D. J. A broad-spectrum cytolytic toxin from Bacillus thuringiensis var. kyushuensis, 1.
Krebs, J. R. See Healy & Krebs.
Kusnic, C., Marchiafava, P. L. & Strettoi, E. Photoresponses and light adaptation of pineal photoreceptors in the trout, 149.
Law, R. & Hutson, V. Intracellular symbionts and the evolution of uniparental cytoplasmic inheritance, 69.
Liddle, P. F. See Friston et al.
Lythgoe, J. N. See Archer et al.
MacInnes, J. I. See Green et al.
McNaughton, F. J., Dawson, A. & Goldsmith, A. R. Juvenile photorefractoriness in starlings, Sturnus vulgaris, is not caused by long days after hatching, 123.
Magurran, A. E., Seghers, B. H., Carvalho, G. R. & Shaw, P. W. Behavioural consequences of an artificial introduction of guppies (Pseudacara reticulata) in N. Trinidad: evidence for the evolution of anti-predator behaviour in the wild, 117; see also Shaw et al.
Marcelja, L. See Horridge & Marcelja.
Marchetti, K. Costs to host defence and the persistence of parasitic cuckoos, 41.
Marchiafava, P. L. See Kusnic et al.
Marrion, N. V., Adams, P. R. & Gruener, W. Multiple kinetic states underlying macroscopic M-currents in bullfrog sympathetic neurons, 207.
Martin, K. A. C. See Anderson et al.
Merz, D. C. & Drapeau, P. Cell-specific contact selects transmitter responses in an identified leech neuron, 129.
Miles, A. & Miller, D. J. Genomes of diploblastic organisms contain homeoboxes: sequence of eveC, an even-skipped homologue from the cnidarian Acropora formosa, 159.
Miller, D. J. See Miles & Miller.
Moller, A. P. Patterns of fluctuating asymmetry in weapons: evidence for reliable signalling of quality in beetle horns and bird spurs, 199.
Mollon, J. D. See Morgan et al.
Morby, A. P. See Gupta et al.
Moreno, H. See Vega-Saenz de Miera et al.
Morgan, M. J., Adam, A. & Mollon, J. D. Dichromats detect colour-camouflaged objects that are not detected by trichromats, 291.
Morgan, M. J. & Fahle, M. Effects of pattern element density upon displacement limits for motion detection in random binary luminance patterns, 189.
Murrow, B. W. See Fuchs & Murrow.
Nicholls, C. N. See Knowles et al.
Nowak, M. A. See Sherratt & Nowak.
Olivotto, M. See Becchetti et al.
Passingham, R. E. See Friston et al.
Pennington, N. J., Kelly, J. S. & Fox, A. P. Action potential waveforms reveal simultaneous changes in \( I_{Na} \) and \( I_k \) produced by 5-HT in rat dorsal raphe neurons, 171.
Perham, R. N. See Hale et al.
Picanço-Diniz, C. W. See Anderson et al.
Queener, S. W. See Cantwell et al.
Rees, H. See Giddings & Rees.
Riccarda del Bene, M. See Becchetti et al.
Rinaldi, A.-M. See Mayhock et al.
Robinson, N. J. See Gupta et al.
Rudy, B. See Vega-Saenz de Miera et al.
Sanders, J. K. M. See Bonthrone et al.
Seghers, B. H. See Magurran et al.; see also Shaw et al.
Sharrock, A. D. See Green et al.
Shaw, P. W., Carvalho, G. R., Seghers, B. H. & Magurran, A. E. Genetic consequences of an artificial introduction of guppies (Poecilia reticulata) in N. Trinidad, 111; see also Magurran et al.
Srinivasan, M. V. See Zhang et al.
Stephenson, D. G. See Head et al.
Strettø, E. See Kusnic et al.
Vega-Saenz de Miera, E., Moreno, H., Fruhling, D., Kentros, C. & Rudy, B. Cloning of ShIII (Shaw-like) cDNAs encoding a novel high-voltage-activating, TEA-sensitive, type-A K+ channel, 9.
Vollrath, F. See Bonthrone et al.; see also Edmonds & Vollrath.
Wallis, N. G. See Hale et al.
Wanke, E. See Becchetti et al.
White, P. J. See Knowles et al.
Whiteman, P. See Cantwell et al.
Whitton, B. A. See Gupta et al.
Williams, D. A. See Head et al.
Woodley, J. F. See Hackney et al.
Yokoyama, S. See Ito et al.
Zhang, S. W., Srinivasan, M. V. & Horridge, G. A. Pattern recognition in honeybees: local and global analysis, 55.
Subject index

A.
  action potentials, 171.
  adhesion, 235.
  algorithm, vision, 47.
  allozymes, 111.
  amiloride, 215.
  anti-oncogenes, 261.
  artificial introduction, 111.
  auditory, 215.
  avidin, 247.
  Bacillus thuringiensis δ-endotoxin, 1.
  biological insecticide, 1.
  brood parasite, 41.
  cadmium, 273.
  Cajal–Retzius cells, 27.
  calcium current, 171.
  camouflage, colour, 291.
  cancer, 261.
  capture web, 145.
  cDNA, ShIII, 9.
  Cepaea, 181.
  Cephalopodium, 283.
  cerebellum, 223.
  cerebral blood flow, 223.
  chiasma frequencies, 255.
  cholinergic receptor, 35.
  chromosome complements, 63.
  chromosome homology, 255.
  climatic selection, 181.
  cladidian, Acropora formosa, 159.
  cocklea, 215.
  coho salmon, 25.
  coexistence, 41.
  colour blindness, red–green, 291.
  communication, 229.
  co-option hypothesis, 159.
  Corvidae, 241.
  cross-links, intermolecular, 247.
  cytoplasmic genes, 135.
  deacetoxycyclosporin C, 283.
  dichromats, 291.
  dihydrodiolpoamide acetyltransferase chain, 247.
  diploblastic organism, 159.
  D-loop, 85.
  DNA replication, 85.
  dorsomedial cortex, 241.
  Drosophila melanogaster, 103.
  egg discrimination, 41.
  enzyme complex, 247.
  error, 229.
  ecoC, 159.
  evolutionary history, 117.
  fibronectin, 235.
  fish, 111.
  fluctuating asymmetry, 199.
  FNR, 79.
  food storing, 241.
  form vision, bee, 55.
  gene rearrangement, 273.
  genes, ultradish, 135.
  genetic modifiers, 69.
  genetic systems, 69.
  genetic variability, 111.
  glue droplets, 145.
  haemolysin synthesis regulator, 79.
  hair cell inhibition, 35.
  hair cells, 215.
  handicap, 229.
  heteromultimeric channels, 95.
  hippocampus, 241.
  HlyX, 79.
  homeobox, 159.
  homeostasis, 63.
  honesty, 229.
  host defence, 41.
  5-HT, 171.
  immunology, 261.
  inhibition, hair cells, 35.
  inhibitory cholinergic actions, 35.
  insect vision, 55.
  inspection behaviour, 117.
  integrins, 235.
  intracellular injection, 27.
  intragenomic conflict, 135.
  intrasexual competition, 199.
  ion channels, 215.
  juvenile, 123.
  K⁺ current, 235.
  larvae, 105.
  layer I neurons, 27.
  leech neurons, 129.
  leukaemia cell, 235.
  light adaptation, 149.
  lipoïd domains, 247.
  lucifer yellow, 27.
  luteinizing hormone, 123.
  Lyceodermis, 255.
  Lyceodermis esculentum, 63.
  Lyceodermis peruvianum, 63.
  M-current, 207.
  max mice, 163.
  melosis, 63, 255.
  memory, 241.
  metal tolerance, 273.
  microscopic photometry, 19.
  mitochondrial DNA, 85.
  mobility, 141.
  motion detection, 189.
  motor displacement threshold, 189.
  motor task, 223.
  moult, 123.
  muscarinics, 107.
  muscular dystrophy, 163.
  mutualists, 69.
  natural selection, 69.
  neurophysiological adaptation, 223.
  neurophysiology of vision, 47.
  noise analysis, 207.
  nonanol, 103.
  nuclear magnetic resonance, 141.
  nucleotide sequence, 159.
  nucleotype, 63.
  olfaction, 103.
  oncogenes, 261.
  opsin cDNA, 19.
  orb web, 145.
  organelles, 69.
  parallel visual pathways, 47.
  parasites, 69.
  pattern discrimination, bee, 55.
  pattern element density, 189.
  Penicillium, 283.
  pet, 223.
  photorefractoriness, 123.
  photoreponses, 149.
  pineal photoreceptors, 149.
  planar lipid bilayer, 1.
  plasmid, 79.
  Pocelina reticulata, 111.
  polymerase chain reaction, 19.
  population differences, 117.
  populations, Cepaea, 181.
  potassium channel genes, 95.
  potassium channels, 9.
  potassium current, 171, 207.
  prokaryotic metallothionein, 273.
  puberty, 125.
  pyruvate dehydrogenase, 247.
  reaction diffusion, 261.
  reliable signalling, 199.
  sand goby, 19.
  schooling behaviour, 117.
  sea urchin, 85.
  selection, Cepaea, 181.
  serotonin responses, 129.
  sex determination, 135.
  sex ratio, 135.
  sexes, 135.
  sexual selection, 199.
  signalling, 229.
  silk, 141.
  skeletal muscle, 163.
  smtA, 273.
  somatic hybrids, 255.
  spider, Araneus diadematus, 145.
  spiders, 141.
  starling, 123.
  Streptomyces, 283.
  sympathetic neurons, 207.
  synapse formation, 129.
  Synnechococcus, 273.
  TEA sensitivity, 9.
  texture, 291.
  three-dimensional reconstruction, 27.
  tissue culture, 129.
  transduction, 215.
  transformation, 283.
  transient outward currents, 95.
  transplant experiments, 117.
  trichromats, 291.
  Trinidadian guppies, 117.
  trinomial expansion analysis, 255.
  trout, 149.
  velocity measurement, visual, 47.
  vision, colour, 291.
  vision, insect, 47.
  vision, local, global, 55.
  visual mechanisms, 47.
  visual pigment, 19.
  water vapour, 145.
  weapons, 199.
  web, spider, 141, 145.
  whole cell, 207.
  Xenopus oocytes, 95.

End of the two hundred and forty-eighth volume (Series B)
N. V. Marrion, P. R. Adams & W. Gruner  
Multiple kinetic states underlying macroscopic M-currents in bullfrog sympathetic neurons  
pages 207–214

C. M. Hackney, D. N. Furness, D. J. Benos, J. F. Woodley & J. Barratt  
Putative immunolocalization of the mechanoelectrical transduction channels in mammalian cochlear hair cells  
215–221

K. J. Friston, C. D. Frith, R. E. Passingham, P. F. Liddle & R. S. Frackowiak  
Motor practice and neurophysiological adaptation in the cerebellum: a positron tomography study  
223–228

R. A. Johnstone & A. Grafen  
Error-prone signalling  
229–233

A. Becchetti, A. Arcangeli, M. R. Del Bene, M. Olivotto & E. Wanke  
Response to fibronectin–integrin interaction in leukaemia cells: delayed enhancing of a K+ current  
235–240

S. D. Healy & J. R. Krebs  
Food storing and the hippocampus in corvids: amount and volume are correlated  
241–245

G. Hale, N. G. Wallis & R. N. Perham  
Interaction of avidin with the lipoyl domains in the pyruvate dehydrogenase multienzyme complex: three-dimensional location and similarity to biotinyl domains in carboxylases  
247–253

G. D. Giddings & H. Rees  
The cytology of Lycopersicon somatic hybrids II. A detailed analysis of chromosome pairing at meiosis in pollen mother cells of somatic hybrids of Lycopersicon esculentum and Lycopersicon peruvianum  
255–259

J. A. Sherratt & M. A. Nowak  
Oncogenes, anti-oncogenes and the immune response to cancer: a mathematical model  
261–271

A. Gupta, B. A. Whitton, A. P. Morby, J. W. Huckle & N. J. Robinson  
Amplification and rearrangement of a prokaryotic metallothionein locus smt in Synechococcus PCC 6301 selected for tolerance to cadmium  
273–281

C. Cantwell, R. Beckmann, P. Whiteman, S. W. Queener & E. P. Abraham  
Isolation of deacetoxysterigmatocystin C from fermentation broths of Penicillium chrysogenum transformants: construction of a new fungal biosynthetic pathway  
283–289

M. J. Morgan, A. Adam & J. D. Mollon  
Dichromats detect colour-camouflaged objects that are not detected by trichromats  
291–295

Instructions to Authors  
297–298

Indexes  
299–301

Volume Title Page and Contents

Published by the Royal Society, 6 Carlton House Terrace, London SW1Y 5AG
Printed in Great Britain for the Royal Society by the University Press, Cambridge