Indexes to Volume 351 (B)

Author index

Acheson, A. & Lindsay, R. M. Non target-derived roles of the neurotrophins, 417.
Ackerly, D. D. See Donoghue & Ackerly.
Albon, S. D. See Pemberton et al.
Anand, P. Neurotrophins and peripheral neuropathy, 449.
Armanini, M. F. See Phillips & Armanini.
Ashall, H. L. See Mansfield et al.
Avruch, J. See Woodgett et al.

Baddley, A. & Della Sala, S. Working memory and executive control, 1397.
Barde, Y.-A. See Ockel et al.
Barnes, D. K. A. & Peck, L. S. Epibiotica and attachment substrata of deep-water brachiopods from Antarctica and New Zealand, 677.
Barrett, S. C. H. The reproductive biology and genetics of island plants, 725.
Barth, F. G. See Devarakonda et al.
Barton, N. H. Natural selection and random genetic drift as causes of evolution on islands, 785.
Batailleon, T. See Schoen et al.
Benfield, J. N. See Boult et al.
Bennett, P. M. See Cunningham et al.
Benton, M. J. See Wilkinson & Benton.
Bergström, J. See Hou et al.
Berman, K. F. See Weinberger & Berman.
Bercov, R. I. Small mammal differentiation on islands, 753.
Bignell, D. E. See Eggleton et al.
Bignell, N. C. See Eggleton et al.
Blackburn, T. M. & Gaston, K. J. Spatial patterns in the geographic range sizes of bird species in the New World, 897.
Blunt, T. See Finnie et al.
Boletzky, S. v. See Boyle & Boletzky.
Boyle, P. R. & Boletzky, S. v. Cephalopod populations: definition and dynamics, 985.
Branch, G. M. See Hodgson et al.
Braver, T. S. See Cohen et al.
Briscoe, J., Guschin, D., Rogers, N. C., Wailing, D., Müller, M., Horn, F., Heinrich, P., Stark, G. R. & Kerr, I. M. JAKs, STATs and signal transduction in response to the interferons and other cytokines, 167.
Brook, B. S. See Pedley et al.
Brown, N. D. See Whitmore & Brown.
Brown, V. K. See Rivero-Lynch et al.
Brunton, C. H. C. See Williams et al.
Burgess, P. See Shallice & Burgess.
Burley, S. K. X-ray crystallographic studies of eukaryotic transcription initiation factors, 483.
Busby, S. See Savery et al.

Cameron, R. A. D., Cook, L. M. & Hallows, J. D. Land snails on Porto Santo: adaptive and non-adaptive radiation, 309.
Carlson, S. J. See Williams et al.
Chambon, P. See Le Douarin et al.
Champely, S. See Bjornstad et al.
Chan, C. L. See García et al.
Chapman, L. See Rhodes et al.
Clarke, A. See Wells & Clarke.
Clarke, B., Johnson, M. S. & Murray, J. Clines in the genetic distance between two species of island land snails: how ‘molecular leakage’ can mislead us about speciation, 773.
Clarke, M. R. Cephalopods as prey. III. Cetaceans, 1055.
Clarke, M. R. The role of cephalopods in the world’s oceans: general conclusions and the future, 1105.
Clarke, M. R. The role of cephalopods in the world’s oceans: an introduction, 979.
Clarke, R. T. See Hochberg et al.
Clutton-Brock, T. H. See Marrow et al.; see also Pemberton et al.
Cohen, J. D., Braver, T. S. & O’Reilly, R. C. A computational approach to prefrontal cortex, cognitive control and schizophrenia: recent developments and current challenges, 1515.
Cook, L. M. See Cameron et al.
Cooke, F. See Stephens et al.
Coullon, T. N. See Pemberton et al.
Crawley, M. J., Harvey, P. H. & Purvis, A. Comparative ecology of the native and alien floras of the British Isles, 1251.
Curnow, R. N. See Hau & Curnow.
Cusack, M. & Williams, A. Chemico-structural degradation of Carboniferous lingulid shells, 33.
Damasio, A. R. The somatic marker hypothesis and the possible functions of the prefrontal cortex, 1413.
Das, P. See Zvelebil et al.
Davis, G. M. See Lydeard et al.
Davis, W. See Sakladava et al.
Dechant, G. See Ockel et al.
Della Sala, S. See Baddley & Della Sala.
Devarkonda, K., Barth, F. G. & Humphrey, J. A. C. Dynamics of arthropod filament hairs. IV. Hair motion in air and water, 933.
Diamond, A. Evidence for the importance of dopamine for prefrontal cortex functions early in life, 1483.
Dennel, L. T. See Tomlinson et al.
Dodd, M. See Silverztov & Dodds.
Domini, J. See Zvelebil et al.
Downward, J. S. See Rodriguez-Viciana et al.
Drury, S. E. N. See Cunningham et al.
Durrett, R. See Levin & Durrett.
Egelhaaf, M. See Warzecha & Egelhaaf.
Eguinoa, A. See Stephens et al.
Elmes, G. W. See Hochberg et al.
Embley, T. M. See Ebert et al.
Entwistle, A., Racey, P. A. & Speakman, J. R. Habitat exploitation by a gleaning bat, Plecotus auritus, 921.
Errede, B. & Ge, Q.-Y. Feedback regulation of map kinase signal pathways, 143.
Evans, S. E. & Mihler, A. R. A metamorphosed salamander from the early Cretaceous of Las Hoyas, Spain, 827.
Fairall, L. See Rhodes et al.
Fernyhough, P. See Tomlinson et al.
Feucht, A. See Errington et al.
Fine, A. See Samuels et al.
Finnie, N. J., Gottlieb, T. M., Blunt, T., Jeggo, P. A. & Jackson, S. P. DNA-dependent protein kinase defects are linked to deficiencies in DNA repair and V(D)J recombination, 173.
Fisher, H. C. See Boulter et al.
Foulkes, N. S. See Lalli et al.; see also Lamas et al.
Franco, M. & Silvertown, J. Life history variation in plants: an exploration of the fast-slow continuum hypothesis, 1341.
Fryer, G. The carapace of the branchiopod Crustacea, 1703.
Gaston, K. J. See Blackburn & Gaston.
Gathercole, L. J. See Knight et al.
Ge, Q.-Y. See Errede & Ge.
Gee, D. A. See Boulter et al.
Gilligan, C. A. See Swinton & Gilligan.
Goldberg, D. E. Competitive ability: definitions, contingency and correlated traits, 1377.
Goldman-Rakic, P. S. The prefrontal landscape: implications of functional architecture for understanding human mentation and the central executive, 1445.
Götemark, F. & Post, P. Prey selection by sparrowhawks, Accipiter nisus: relative predation risk for breeding passerine birds in relation to their size, ecology and behaviour, 1539.
Gottlieb, T. M. See Finnie et al.
Gough, R. E. See Cunningham et al.
Gout, I. See Zvelebil et al.
Granner, D. K. See Sutherland et al.
Grant, B. R. See Grant & Grant.
Grant, P. R. & Grant, B. R. Speciation and hybridization in island birds, 765.
Gratto, K. A. See Verge et al.
Greeff, J. M. Effects of thelytokous worker reproduction on kin-selection and conflict in the Cape honeybee, Apis melifera capensis, 617.
Greenwood, J. J. D., Gregory, R. D., Harris, S., Morris, P. A. & Yalden, D. W. Relations between abundance, body size and species number in British birds and mammals, 265.
Gregory, R. D. See Greenwood et al.
Gronemeyer, H. See Le Douarin et al.
Guedon, F. See Saklatvala et al.
Guschin, D. See Briscoe et al.
Hallows, J. D. See Cameron et al.
Hanun, Y. A. See Saba et al.
Harder, L. D. See Barrett et al.
Harris, S. See Greenwood et al.
Harvey, P. H. See Crawley et al.
Hau, C. M. & Curnow, R. N. Separating the environmental and genetic factors that may be causes of bovine spongiform encephalopathy, 913.
Hawkins, P. T. See Stephens et al.
Hawkins, S. J. See Hodgson et al.
Hebert, P. D. N. See Colbourne & Hebert.
Heery, D. See Le Douarin et al.
Heine, M. See Le Douarin et al.
Heinrich, P. See Briscoe et al.
Hendriks, R. J. J. See van Groenendaal et al.
Hentschel, H. G. E. See Samuels et al.
Hill, C. See Price et al.
Ho, M.-W. See Knight et al.
Hoch, M. See Sauer et al.
Hollocher, H. Island hopping in Drosophila: patterns and processes, 735.
Holmer, L. E. See Williams et al.
Horn, F. See Briscoe et al.
Houston, A. I. See Marrow et al.
Hu, X. W. See Knight et al.
Humphrey, J. A. C. See Devarakonda et al.
Ihle, J. N. Janus kinases in cytokine signalling, 159.
Jablonski, D. See Roy et al.
Jäll, S. See Sauer et al.
Jackson, S. P. See Finnie et al.
Jeggo, P. A. See Finnie et al.
Johnson, M. S. See Clarke et al.

Jones, D. A. See Cook & Jones.

Kalcheim, C. The role of neurotrophins in development of neural-crest cells that become sensory ganglia, 375.

Karchewski, L. A. See Verge et al.


Kerr, I. M. See Briscoe et al.

Kitching, J. W. See Shishkin et al.

Klages, N. T. W. Cephalopods as prey. II. Seals, 1045.

Klimeč, L. See van Groenendaal et al.

Klimelová, J. See van Groenendaal et al.

Knight, D. P., Hu, X. W., Gathercole, L. J., Rusuăneanu-Innensè, M., Ho, M.-W. & Newton, R. Molecular orientations in an extruded collagenous composite, the marginal rib of the egg capsule of the dogfish Seiurusheinus canicauda; a novel lyotropic liquid crystalline arrangement and its origin in the spinneters, 1205.

Koga, H. See Velebel et al.

Kraukaier, D. C. & Pagel, M. Selection by somatic signals: the advertisement of phenotypic state through costly intercellular signals, 647.

Kyriakis, J. M. See Woodgett et al.

Lacalli, T. C. Mesodermal pattern and pattern repeats in the starfish bipinnaria larva, and related patterns in other deuterostome larvae and chordates, 1737.

Lacalli, T. C. Frontal eye circuity, rostral sensory pathways and brain organization in amphioxus larvae: evidence from 3D reconstructions, 243.

Lalli, E. See Lamas et al.


Lamas, M. See Lalli et al.


Langton, T. E. S. See Cunningham et al.

Latchman, D. S. Activation and repression of gene expression by POU family transcription factors, 491.

Lawton, J. H. See EGGLETON et al.; see also Rivero-Lynch et al.


Lee, J. S. See Lalli et al.

Lees, D. R. See Stewart & Lees.

Leesers, S. See Zvelebil et al.

Leishman, M. See Westoby et al.

Levin, S. A. & Durrett, R. From individuals to epidemics, 1615.

Lewin, G. R. Neurotrophins and the specification of neuronal phenotype, 465; see also Ockel et al.

Lewin, J. F. See Cunningham et al.

Lewis, P. J. See Errington et al.

Lhotak, M. See Boulter et al.

Li, C. See Manley et al.

Linacre, J. See Zvelebil et al.


Lindsay, R. M. Role of neurotrophins and trk receptors in the development and maintenance of sensory neurons: an overview, 365; see also Acheson & Lindsay.

Lunetto, M. A. See Gross et al.

Lord, J. See Westoby et al.

Lord, M. See Errington et al.

Losos, J. B. Ecological and evolutionary determinants of the species-area relation in Caribbean anoline lizards, 847.

Loson, R. See Le Donnain et al.


Macdougall, L. See Zvelebil et al.

Maggregor, S. K. See Cunningham et al.

McNamara, J. M. See Marrow et al.

Magnin, T. See Errington et al.

Malhotra, A. See Torpe & Malhotra.

Mallet, J. L. B. See Turner & Mallet.

Manley, J. L., Um, M., Li, C. & Ashali, H. Mechanisms of transcriptional activation and repression can both involve TFIIID, 517.


Marshall, T. C. See Pemberton et al.

Marte, B. M. See Rodriguez-Viciana et al.

Matsuno, A. See Tamori et al.

Mawdsley, N. A. See Eggleton et al.

Mazzucchelli, C. See Lamas et al.

McMahon, S. B. NGF as a mediator of inflammatory pain, 451.


Meyer, A. See Verheyen et al.

Milner, A. R. See Evans & Milner.


Monaco, L. See Lamas et al.

Morgan, M. T. See Schoen et al.

Morris, P. A. See Greenwood et al.

Moyersoen, B. See Fitter & Moyersoen.

Muller, M. A novel classification of planar four-bar linkages and its application to the mechanical analysis of animal systems, 689.

Muller, M. See Briscoe et al.

Mulvey, M. See Lydeard et al.

Murray, J. See Clarke et al.

Najafi, S. M. A. See Errington et al.

Nantel, F. See Lalli et al.; see also Lamas et al.

Newton, R. See Knight et al.

Nigmatullin, Ch. M. See Rodhouse & Nigmatullin.

Obeid, L. M. See Saba et al.

O’Brien, R. M. See Sutherland et al.


O'Reilly, R. C. See Cohen et al.

Pagel, M. See Krakauer & Pagel.

Pages, F. See Zvelebil et al.

Panaretou, C. See Zvelebil et al.

Panayotou, G. See Zvelebil et al.

Pandy, D. N. & Yeretian, E. H. Comparison of prefrontal architecture and connections, 1425.

Passingham, R. E. Attention to action, 1473.

Paterson, S. See Pemberton et al.
Peck, L. S. See Barnes & Peck.
Pedley, T. J., Brook, B. S. & Seymour, R. S. Blood pressure and flow rate in the giraffe jugular vein, 835.
Penna, L. See Lalli et al.; see also Lamas et al.
Petrides, M. Specialized systems for the processing of mnemonic information within the primate frontal cortex, 1455.
Phillips, H. S. & Armanini, M. P. Expression of the trk family of neurotrophin receptors in developing and adult dorsal root ganglion neurons, 413.
Phillips, S. E. V. & Stockley, P. G. Structure and function of Escherichia coli met repressor: similarities and contrasts with trp repressor, 527.
Popov, L. See Williams et al.
Post, P. See Götmark & Post.
France, G. T. Islands in Amazonia, 823.
Price, M. A., Hill, C. & Treisman, R. Integration of growth factor signals at the c-los serum response element, 531.
Prince, P. A. See Croxall & Prince.
Purvis, A. See Crawley et al.
Racey, P. A. See Entwistle et al.
Rainey, P. See Ebert et al.
Ratnieks, F. L. W. See Boomsma & Ratnieks.
Rees, M. Evolutionary ecology of seed dormancy and seed size, 1299.
Reid, D. G., Rumbak, E. & Thomas, R. H. DNA morphology and fossils: phylogeny and evolutionary rates of the gastropod genus Littorina, 877.
Rhodius, V. See Savery et al.
Richardson, P. M. See Verge et al.
Ridgway, S. See Hodgson et al.
Rivera-Pomar, R. See Sauer et al.
Robbins, T. W. Dissociating executive functions of the prefrontal cortex, 1463.
Rodhouse, P. G. & Nigmatullin, Ch. M. Role as consumers, 1003.
Rogers, N. C. See Briscoe et al.
Rolls, E. T. The orbitofrontal cortex, 1433.
Rosen, B. See Ellegren et al.
Rücker, L. See Verheyen et al.
Rubidge, B. S. See Shishkin et al.
Rumbak, E. See Reid et al.
Russoeu-Imnocent, M. See Knight et al.
Saitoh, T. See Bjornstad et al.
Saklatvala, J., Davis, W. & Guesdon, F. Interleukin 1 (IL1) and tumour necrosis factor (TNF) signal transduction, 151.
Salim, K. See Zvelebil et al.
Sands, W. A. See Eggleton et al.
Sassone-Corsi, P. See Lalli et al.; see also Lamas et al.
Savery, N., Rhodiou, V. & Busby, S. Protein–protein interactions during transcription activation: the case of the Escherichia coli cyclic AMP receptor protein, 543.
Sawada, P. See Ellegren et al.
Schluter, D. Ecological speciation in postglacial fishes, 807.
Schole, D. See Ebert et al.
Schroep, A. See Ockel et al.
Schwabe, J. W. R. See Rhodes et al.
Seymour, R. S. See Pedley et al.
Shalllice, T. & Burgess, P. The domain of supervisory processes and temporal organization of behaviour, 1405.
Sílos-Santiago, I. See Snider & Sílos-Santiago.
Silvertown, J. & Dodds, M. Comparing plants and connecting traits, 1233; see also Franco & Silvertown.
Siever, D. J. See Hou et al.
Slater, J. See Pemberton et al.
Smale, M. J. Cephalopods as prey. IV. Fishes, 1067.
Smith, J. A. See Pemberton et al.
Snider, W. D. & Sílos-Santiago, I. Dorsal root ganglion neurons require functional neurotrophin receptors for survival during development, 395.
Snoeks, J. See Verheyen et al.
Speckman, J. R. See Entwistle et al.
Speed, M. P. See Turner & Speed.
Stark, G. R. See Briscoe et al.
Stein, R. See Zvelebil et al.
Sircuel, N. Chr. See Bjornstad et al.
Stevenson, I. R. See Marrow et al.
Stockley, P. G. See Phillips & Stockley.
Takahashi, K. See Tamori et al.
Tamai, K. See Lalli et al.; see also Lamas et al.
Tamori, M., Matsuno, A. & Takahashi, K. Structure and function of the pore canals of the sea urchin madreporite, 659.
Templeton, D. J. See Woodgett et al.
Thomas, J. A. See Hochberg et al.
Thomas, R. H. See Reid et al.
Thorpe, R. S. & Malhotra, A. Molecular and morphological evolution within small islands, 815.
Tjian, R. The biochemistry of transcription in eukaryotes: a paradigm for multisubunit regulatory complexes, 497.
Treisman, R. See Price et al.
Turner, J. R. G. & Mallet, J. L. B. Did forest islands drive the diversity of warblingly coloured butterflies? Biotic drift and the shifting balance, 835.
Um, M. See Manley et al.
Valentine, J. W. See Roy et al.
Vanhaesebroeck, B. See Zvelebil et al.
Venable, D. L. Packaging and provisioning in plant reproduction, 1319.
Vivat, V. H. See Le Douarin et al.
Volinia, S. See Zvelebil et al.
von Baur, E. See Le Douarin et al.
von Schack, D. See Ockel et al.
Walossek, D. See Hou et al.
Warne, P. H. See Rodriguez-Viciana et al.
Warzecha, A.-K. & Egelhaaf, M. Intrinsic properties of biological motion detectors prevent the optomotor control system from getting unstable, 1579.
Waterfield, M. See Zvelebil et al.
Watling, D. See Briscoe et al.
Weinberger, D. F. & Berman, K. F. Prefrontal function in schizophrenia: confounds and controversies, 1495.
Wells, M. J. & Clarke, A. Energetics: the costs of living and reproducing for an individual cephalopod, 1083.
Wetzker, R. See Zvelebil et al.
White, M. F. The IRS-signalling system in insulin and cytokine action, 181.
Whitmore, T. C. & Brown, N. D. Dipterocarp seedling growth in rain forest canopy gaps during six and a half years, 1195.
Wilkinson, J. F. See Errington et al.
Williams, A., Carlson, S. J., Brunton, C. H. C., Holmer, L. E. & Popov, L. A supra-ordinal classification of the Brachiopoda, 1171; see also Cusack & Williams.
Williams, D. M. Fossil species of the diatom genus *Tetraecylus* (Bacillariophyta, *ellipiticus* species group): morphology, interrelationships and the relevance of ontogeny, 1799.
Williams, M. See Hou et al.
Wood, T. G. See Eggleton et al.
Woodward, F. J. See Kelly & Woodward.
Worley, A. C. See Barrett et al.
Yalden, D. W. See Greenwood et al.
Yeterian, E. H. See Pandya & Yeterian.
Yudkin, M. D. See Errington et al.
Zanke, B. See Woodgett et al.
Zanker, J. M. On the elementary mechanism underlying secondary motion processing, 1725.
Zaropoulos, E. See Lall et al.; see also Lamas et al.
Zechel, C. See Le Douarin et al.
Zon, L. I. See Woodgett et al.
Subject index

abundance, 265.
Acer database, 589.
Aceraceae, 589.
activating regions, 543.
activators, 497.
active memory, 1515.
activity patterns, 921.
adaptation, 735.
adaptive radiation, 797, 807.
adult mortality, 1341.
Aeromonas hydrophila, 1539.
allometry of reproduction, 1319.
allopatric divergence, 309, 765.
alcoholases, 947, 1291.
Alzheimer’s disease, 1397.
Amazonian vegetation, 823.
Amphibia, 627, 1635.
amphibian, 1539.
amphioxus, 243.
ancient DNA, 1529.
animal disease, 913.
anoline lizards, 847.
Antarctica, 677.
antenial cirquulate cortex, 1473.
AP-1, 127.
Apsi melitifera copisn, 617.
apparent hypothesis, 1233.
appendages, 1131.
arthropds, 933.
assembly rules, 1251.
attention, 1397, 1473, 1515.
atentional set-shifting, 1463.
autocrine, 365.
autocrine loops, 389, 417.
axon, 1147.
auxotony, 423.

Bacillus subtilis, 537.
bacteria, 1689.
bats, 265.
BDNF, 405, 405, 417.
Beaufort Group, 1635.
bet hedging, 1299.
biodiversity, 1605.
biological clock, 201, 561.
biological regulation, 1413.
biotic drift, 835.
birds, 265.
birds of prey, 1559.
bivalves, 1593, 1291.
boby size, 265, 897.
boby—plan evolution, 1737.
bottleneck, 1661.
bottom—up control, 1713.
bovine spongiform encephalopathy, 913.
brachiopod classification, 1171.
brachiopod (limulid) taxonomy, 33.
brachiopod phylogeny, 1171.
brachiopod supraordinal classification, 1171.
brachiopods, 677.
Bradieozida, 1131.
brain evolution, 243.
brain-derived neurotrophic factor, 375, 413, 423.
branchiopod carapace development, 1703.
branchiopod carapaces, 1703.
breeding system, 1291.

Britain, 69.
Burgess Shale, 279.

castingas, 823.
Cambria, 279, 1131.
cAMP dependent protein kinase, 217.
Canada, 279.
Capsella, 1671.
β-casein kinase, 151.
cell cycle, 233.
cell death, 383, 389.
cell proliferation, 383.
cell specificity, 337.
cellular automata, 1615.
centrode, 689.
cephalopod beaks, 1045.
cephalopods, 985, 1045.
cephalopods as food, 1053.
cephalopods as predators, 1003.
cetacean food, 1053.
character evolution, 1241.
children, 1483.
China, 1131.
chordate brain, 243.
chordate origins and evolution, 1737.
Cichlidae, 797.
ciliary current, 659.
Cluedera, 1689.
classification, 91.
clinal variation, 773.
clinical trials, 365.
cloning, 1261.
clumped distributions, 51.
cns organization, 243.
coacervates, 497.
coalescent, 1281.
coevolution, 1361.
cognition, 1445.
colour/pattern polymorphism, 69.
communication, 329.
community module, 1713.
comparative biology, 1241.
comparative demography, 1341.
comparative methods, 1299.
comparative neuroanatomy, 1423.
comparative population dynamics, 867.
compatibility, 1.
competitive ability, 1377.
competitive effect, 1377.
competitive exclusion, 1261.
competitive hierarchies, 1377.
competitive interaction, 309.
competitive response, 1377.
conflict, 617.
consensus, 1.
conservation genetics, 1661.
conserved host associations, 1361.
constraints, 1361.
consumption estimates, 1067.
contact sites, 345.
continuous performance test, 1515.
contrast sensitivity, 1483.
control system, 1579.
cortex, 1495.
corticocortical, 1423.
cost of mutualism, 1261.
cost of reproduction, 17.
c–Raf, 151.
crystallography, 507.

Ctenophora, 279.
cyclic AMP, 201, 561.
cyclic AMP receptor, 543.
cytarchitectonics, 1423.
cytokine, 151, 181, 465.
cytokine receptors, 159.

Daphnia, 349, 1689.
decision-making, 1413.
decreasing amphibian populations, 1539.
deep water, 677.
degraded lingulid shell, 33.
delayed response, 1445.
devolution, 365.
diabetes, 455.
diatoms, 1759.
diet and feeding ecology, 1023.
dietary analysis, 1003.
differentiation, 1147.
Dipteroncaraeae, 1195.
distance between ramets, 1331.
diversity, 1113.
DNA repair, 173, 1529.
DNA structure, 507.
DNA-PK, 173.
dolphin food, 1053.
dopamine, 1515.
dormancy, 1299.
dorsal root ganglia, 375, 441.
dorsolateral prefrontal cortex, 1463.
Drosophila, 579, 735.
Dutch elm disease, 605.
eastern Pacific, 1605.
echinoderm, 659.
echinoderm larvae, 1737.
ecological adaption, 765.
ecological determinants, 847.
economy, 965.
economy and evolution of reproductive isolation, 807.
effective population size, 745.
elasticity, 855.
elm, 605.
emotion, 1433.
emotion and feeling, 1413.
energy budget, 1083.
environment, 985.
environmental factors, 913.
epibiosis, 677.
epidemiology, 605, 1615.
episodic memory, 1465.
Eremodini, 797.
ERK, 127.
Escherichia coli, 475, 527.
eusocial, 617.
evolution, 279, 589.
evolution of carapaces, 1703.
evolution of development, 647.
evolution on islands, 309.
evolutionary comparative methods, 1261.
evolutionary determinants, 847.
evolutionary relationships, 339.
evolutionary stable strategy, 1319.
evolutive control, 1397.
extrusion, 1205.
eye evolution, 243.
fast-slow continuum, 1341.
feedback phosphorylation, 143.
feeding groups, 51.
feeding preference, 1671.
fibril, 1205.
fibroblast growth factor, 375.
fish feeding, 689.
fisheries, 985.
fitness, definition of, 1349.
floral biology, 1281.
flow limitation, 855.
fluid mechanics, 933.
food webs, 1067.
foraging, predation risk, 1559.
forest canopy gaps, 1195.
forest refugia, 823.
forgetting by predators, 1157.
forward model, 1505.
fossil amino acids, 33.
fossil vertebrates, 627.
fossilized brachiopod degradation, 33.
fossils, 1759.
founder effect, 753.
founder effect speciation, 785.
founder effects, 735.
founder events, 765.
four-bar, 689.
frontal context, 1455.
frontal lobes, 1397, 1495.
functional imaging, 1405.
game-theoretic, 1309.
gangliogenesis, 383.
gene expression, 455, 491.
gene frequency change, 1023.
gene regulation, 579.
genetic distance, 773.
genetic diversity, 1291.
genetic drift, 753, 1623.
genetic factors, 913.
genetic variation, 745, 1361.
genetics, island plants, 725.
geographic range, 897.
geographic variation, 69.
global cephalopods, 1105.
global migration, 589.
Gondwanan, 1635.
gravitational effect, 855.
grey wolf, 1661.
growth, 1083.
growth factor, 225.
growth form, 1309.
guild structure, 1113.
habitats preference, 1331.
habitat use, 921.
hair sensilla, 933.
handicap, 647.
handicap principle, 329.
Helicon, 339.
Heliconius, 835.
heterogeneous mixing, 1615.
heterostyly, evolution of, 1271.
heterotrimeric GTPase, 211.
higher taxa, 1605.
honest signalling, 329.
human disturbance, 51.
human peripheral neuropathies, 449.
hybridization, 349.
hyperglycaemia, 431.
hypothesis, 647.
inbreeding, 1661.
independent contrasts, 1341.
infectious diseases, 605.
inflammation, 431, 441.
inflammatory cytokine, 135.
inflammatory hyperalgesia, 465.
inflorescence design, 1319.
inhibition inhibitory control, 1483.
inhibitory response control, 1463.
inhibition factors, 483.
insect diversity, 51.
insect herbivores, 1671.
inselbs, 823.
insensation, 947.
insulin, 181, 191.
interacting particle systems, 1615.
intercellular signal, 647.
interferons, 167.
interleukin 1, 151.
intrigressive hybridization, 765.
invasion, 1251.
iridovirus, 1539.
IRS-signalling system, 181.
island evolution, 807.
island plants, 725.
islands, 735, 815, 1679.
JAKs, 167.
Janus kinas (Jak), 159.
JNK, 127.
Jun, 127.
just-so stories, 733.
kinematic linkage, 689.
kinesin, 689.
knee joint, 689.
knockouts, 465.
Ku, 173.
Kummingella, 1131.
latitude, 897.
lattice models, 1679.
leaf shape, 1671.
learning, 1433.
learning by predators, 1157.
lesion studies, 1455.
life cycle, 985.
life forms, 1291.
life history traits, 1291.
lignins, 569.
limpets, 339.
linguid chemico-structural degradation, 33.
lipases, 233.
lipids, 233.
lithographic limestones, 627.
Littorina, 877.
Littorina biogeography, 877.
Littorina evolution, 877.
Littorina mitochondrial DNA, 877.
Littorina phyllogeny, 877.
lizards, 815.
locomotion, 1083.
longevity of connection, 1331.
Lydekkerinidae, 1635.
madrepore, 659.
mating success, 745.
mammals, 265.
MAP kinase, 127, 151, 191, 551.
MAP kinase activation pathways, 143.
marine Mollusca, 1605.
mate choice, 329.
mating, 947.
mating systems, 1271, 1281.
matrix correspondence Mantel tests, 7815.
measles, 1679.
mechanoreception, 933.
mediators, 569.
mediocris gene, 1623.
medium flow detection, 933.
MEK, 191.
MEK regulation, 143.
MEKK, 135.
melanin, 69.
membrane ruffling, 211.
memory, 1455.
memory in predators, 1157.
mesoderm patterning, 1737.
mesophase, 1205.
met represer, 527.
Metazoa, 279.
methology, 1.
microgeographic variation, 815.
microsatellites, 1661.
migration, 897.
misery, 435.
minicry: predator behaviour, 1157.
mitochondrial DNA, 1593, 1661.
model, 1725.
molecular leakage, 773.
molecular phylogeny, 815.
molecular systematics, 1593.
Mollusca, 91.
molluscan diversity, 309.
molluscs, 1593.
monkey, 1455.
morphogenesis, 1147.
morphological and behavioural adaptations, 1003.
motion, 1725.
motion detection, 1579.
motor learning, 1473.
mouse, 413.
16S mRNA gene, 1593.
mDNA, 797, 815.
mDNA sequences, 349.
multivariate analysis, 867.
mugenesis, 1529.
mycorrhiza, 1367.
natural selection, 785, 807.
nematic, 1205.
nerve growth factor, 413, 423, 449.
neural tube, 375.
neurite, 1147.
neuropathy, 449, 455.
neuropeptides, 441.
neurophysiology, 1495.
neurotrophic factors, 389.
neurotrophic hypothesis, 465.
neurotrophin 4/5, 413.
neurotrophin-3, 375, 413, 423, 455.
neurotrophins, 365, 383, 395, 417.
nociception, 431.
noicceptors, 395.
populations, 985.
postglacial fishes, 807.
POLL, 491.
predation, 1067.
predation on songbirds, 1559.
predation: psychology, 1157.
predator-prey dynamics, 1023.
predator/prey behaviour, 1067.
prefrontal cortex, 1495.
prefrontal cortex, 1405, 1433, 1473.
predation ecology, 1559.
prey identification, 1045.
prey of seals, 1045.
pregulation, 1067.
process of context, 1515.
procedures, 543.
proprioceptors, 395.
protein modelling, 217.
protein-protein contacts, 543.
psychology of predation, 1157.
psychophysics, 1725.
quantifying predation, 1003.
rac, 211.
random genetic drift, 785.
random-labelling methods, 913.
rarity, 1261.
Ras, 225.
Raunkiaer life form, 1251.
reasoning, 1413.
recognition code, 507.
red-leg, 1539.
refuge theory, 835.
reinforcement hypothesis, 765.
relatedness, 947.
reproduction, 1083.
reproduction, island plants, 725.
reproductive adaptations, 1271.
reproductive allocation, 1233.
reproductive effort, 1349.
reproductive isolation, 785.
reproductive traits, evolution, 1271.
reproductive value, 1349.
retinoblastoma gene production, 233.
rheology, 1205.
rhesus monkeys, 1445.
Rho, 551.
RNA pol II, 497.
RNA polymerase, 475, 543.
rodent abundance, 867.
role in marine ecosystems, 1003.
role of cephalopods, 799, 1105.
root nodules, 1367.
root-microbe symbiosis, 1367.
rule attainment, 1405.
Sacoglossa, 91.
St Kilda, 17.
sampling protocols, 51.
savannas, 823.
sca1ng, 1615, 1679.
schizophrenia, 1495, 1505.
Scid, 173.
seabird-fishery interactions, 1023.
seabirds as squid spawners, 1023.
second-order, 1725.
seed mass, 1299, 1309.
seed plants, 1291.
seed size, 1349.
seed weight, 1251.
seedling establishment, 1309.
seedling growth, 1195.
selection, 745, 753, 1623.
selling and growth form, 1271.
self-monitoring, 1505.
sensitivitiy analyses, 1241.
sensory ganglia, 385.
sensory neuron development, 389, 465.
sensory neurons, 365, 405, 413, 417.
sensory–motor integration, 1579.
sequence specific, 507.
sperm release element, 551.
ssexual allocation, 1271, 1319.
social selection, 329.
σ² activity, 537.
shifting balance, 835.
sib competition, 1299.
signal evolution, 647.
signal transducers and activators of transcription (Stat), 159.
small mammals, 753.
smell, 1433.
social insects, 947.
somatic markers, 1413.
somatic selection, 647.
somatic mesoderm, 375.
song, predation risk, 1559.
spatial heterogeneity, 1713.
spatial models, 1615.
spatio-temporal pattern, 867.
speciation, 309, 349, 735, 773, 807.
species flock, 797.
species richness, 1113.
species-area relations, 847.
specific leaf area, 1309.
sperm, 947.
spermatogenesis, 201, 561.
Sphenodon, 1.
spingolipids, 233.
squid, 1883.
SRF, 551.
stabilization of gaze, 1579.
starfish development, 1737.
STATs, 167.
stimulus transformation, 933.
stochastic dynamic programming, 17.
strategy selection, 1405.
stress activated kinase, 135.
structure/function analysis, 475.
succession, 1113.
supervisory system, 1405.
supraordinal brachiopod classification, 1171.
sympathetic ganglia, 383.
systematics, 91, 349.
TAF, 517.
TAFs, 497.
taste, 1433.
TBP, 517.
TCF, 551.
Temnognathus, 1633.
temple theory, 1113.
etupis, 823.
Tetraogallus (Bacillariophyta), 1759.
TFIID, 517.
Thelytoky, 617.
time series, 867.
toothed whale food, 1053.
Tramtrack, 507.
transcription, 201, 483, 497, 551, 561.
transcription factors, 135, 491, 579.
transcriptional activation, 517.
transcriptional repression, 517.
transitivity, 1377.
tree infections, 605.
Triassic, 1635.
trk, 431.
trk receptors, 365, 423.
trkA, 455.
Trks, 395.
trophic niche, 1003.
tropical rain forest, 1195.
trp repressor, 527.
tumour necrosis factor, 151.
tyrosine, 1483.
tyrosine kinase, 225.
tyrosine kinases, 159.
tyrosine phosphorylation, 159.
ultrastructure, 1689.
unionid mussels, 1593.
unstable population dynamics, 17.
vacant niche, 1251.
vascular siphon, 855.
vascular waterfall, 855.
V(D)J recombination, 173.
vein collapse, 855.
ventromedial prefrontal cortex, 1413.
vision, 1579, 1725.
visuospatial sketchpad, 1445.
VPS34, 217.
warning coloration, 835.
water-vascular system, 659.
weighting, 1.
whale food, 1053.
wildlife disease, 1539.
worker reproduction, 617.
working memory, 1397, 1445, 1463, 1483, 1515.
wortmannin, 191.
X-ray crystallography, 483.
Copyright
© 1996 The Royal Society

Except as otherwise permitted under the Copyright,
Designs and Patents Act, 1988, this publication may only
be reproduced, stored or transmitted, in any form or by
any means with the prior permission in writing of the
publisher, or, in the case of reprographic reproduction, in
accordance with the terms of a licence issued by the
Copyright Licensing Agency. In particular, the Society
permits the making of a single photocopy of an article
from this issue (under Sections 29 and 38 of the Act) for
an individual for the purposes of research or private
study.

The text paper used in this publication is alkaline sized
with the coating which is predominantly calcium carb-
onate. The resultant surface pH is in excess of 7.5, which
gives maximum practical permanence.

Printed in Great Britain at the University Press,
Cambridge
Contents

*Philosophical Transactions: Biological Sciences. Volume 351*

**NO. 1335  29 JANUARY 1996**

Sphenodontid phylogeny and the problems of multiple trees  
By M. Wilkinson & M. J. Benton  
1

State-dependent life history evolution in Soay sheep: dynamic modelling of reproductive scheduling  
By P. Marrow, J. M. McNamara, A. I. Houston, I. R. Stevenson & T. H. Clutton-Brock  
17

Chemico structural degradation of Carboniferous lingulid shells  
By M. Cusack & A. Williams  
33

The diversity, abundance and biomass of termites under differing levels of disturbance in the Mbalmayo Forest Reserve, southern Camaroon  
By P. Eggleton D. E. Bignell, W. A. Sands, N. A. Mawdsley, J. H. Lawton, T. G. Wood & N. C. Bignell  
51

The colour/pattern polymorphism of Philaenus spumarius (L.) (Homoptera: Cercopidae) in England and Wales  
By A. J. A. Stewart & D. R. Lees  
69

Phylogenetic systematics and classification of the Sacoglossa (Mollusca, Gastropoda, Opisthobranchia)  
By K. R. Jensen  
91

**NO. 1336  29 FEBRUARY 1996**

Current understanding of intracellular signalling pathways  
A Discussion organized and edited by R. F. Irvine, R. H. Michell and C. J. Marshall  
127

**NO. 1337  29 MARCH 1996**

Frontal eye circuitry, rostral sensory pathways and brain organization in amphioxus larvae: evidence from 3D reconstructions  
By T. C. Lacalli  
243

Relations between abundance, body size and species number in British birds and mammals  
By J. J. D. Greenwood, R. D. Gregory, S. Harris, P. A. Morris & D. W. Yalden  
265

Middle Cambrian ctenophores from the Stephen Formation, British Columbia, Canada  
By S. Conway-Morris & D. H. Collins  
279

Land snails on Porto Santo: adaptive and non-adaptive radiation  
By R. A. D. Cameron, L. M. Cook & J. D. Hallows  
309

Multiple displays in animal communication: backup signals and multiple messages  
By R. A. Johnstone  
329

Spermatozoan morphology of 19 species of prosobranch limpets (Patellogastropoda) with a discussion of patellid relationships  
By A. N. Hodgson, S. Ridgeway, G. M. Branch & S. J. Hawkins  
339

The systematics of North American Daphnia (Crustacea: Anomopoda): a molecular phylogenetic approach  
By J. K. Colbourne & P. D. N. Hebert  
349

**NO. 1338  29 MARCH 1996**

Neurotrophins and sensory neurons: role in development, maintenance and injury  
A Discussion organized and edited by S. B. McMahon, L. M. Mendell, H. S. Phillips and P. D. Wall  
365
NO. 1339  29 APRIL 1996

Transcription factors
A Discussion organized and edited by S. Busby, F. G. Grosveld and D. S. Latchman  475

NO. 1340  29 MAY 1996

The evolution and global migration of the Aecaceae
By M. C. Boulter, J. N. Benfield, H. C. Fisher, D. A. Gee & M. Lhotak  589

Dutch elm disease and the future of the elm in the U.K.: a quantitative analysis
By J. Swinton & C. A. Gilligan  605

Effects of thelytokous worker reproduction on kin-selection and conflict in the Cape honeybee, *Apis mellifera capensis*
By J. M. Greeff  617

A metamorphosed salamander from the early Cretaceous of Las Hoyas, Spain
By S. E. Evans & A. R. Milner  627

Selection by somatic signals: the advertisement of phenotypic state through costly intercellular signals
By D. C. Krakauer & M. Pagel  647

Structure and function of the pore canals of the sea urchin madreporite
By M. Tamori, A. Matsuno & K. Takahashi  659

Epibiotia and attachment substrata of deep-water brachiopods from Antarctica and New Zealand
By D. K. Barnes & L. S. Peck  677

A novel classification of planar four-bar linkages and its application to the mechanical analysis of animal systems
By M. Muller  689

NO. 1341  29 JUNE 1996

Evolution on islands
A Discussion organized and edited by B. C. Clarke and P. R. Grant  725

NO. 1342  29 JULY 1996

Blood pressure and flow rate in the giraffe jugular vein
By T. J. Pedley, B. S. Brook & R. S. Seymour  855

Cyclicity and stability of grey-sided voles, *Clethrionomys rufocanus*, of Hokkaido: spectral and principal components analyses
By O. N. Bjornstad, S. Champely, N. Chr. Stenseth & T. Saitoh  867

DNA, morphology and fossils: phylogeny and evolutionary rates of the gastropod genus *Littonia*
By D. G. Reid, E. Rumbak & R. H. Thomas  877

Spatial patterns in the geographic range sizes of bird species in the New World
By T. M. Blackburn & K. J. Gaston  897

Separating the environmental and genetic factors that may be causes of bovine spongiform encephalopathy
By C. M. Hau & R. N. Curnow  913

Habitat exploitation by a gleaning bat, *Plecotus auritus*
By A. C. Entwistle, P. A. Racey & J. R. Speakman  921

Dynamics of arthropod filiform hairs. IV. Hair motion in air and water
By R. Devarakonda, F. G. Barth & J. A. C. Humphrey  933

Paternity in eusocial Hymenoptera
By J. J. Boomser & F. L. W. Ratnieks  947
NO. 1343  29 AUGUST 1996

The role of cephalopods in the world's oceans
A Theme edited by M. R. Clarke

NO. 1344  30 SEPTEMBER 1996

By T. R. E. Southwood

Appendages of the arthropod Kunmingella from the early Cambrian of China: its bearing on the systematic position of the Bradoridea and the fossil record of the Ostracoda
By X. Hou, D. J. Sixeter, M. Williams, D. Walossek & J. Bergström

The origin of neuronal polarization: a model of axon formation
By D. C. Samuels, H. G. E. Hentschel & A. Fine

Learning and memory in mimicry. I. Simulations of laboratory experiments
By J. R. G. Turner & M. P. Speed

A supra-ordinal classification of the Brachiopoda
By A. Williams, S. J. Carlson, C. Howard, C. Brunton, L. E. Holmer & L. Popov

Dipterocarp seedling growth in rain forest canopy gaps during six and a half years
By T. C. Whitmore & N. D. Brown

Molecular orientations in an extruded collagenous composite, the marginal rib of the egg capsule of the dogfish Scyliorhinus canicula; a novel lyotropic liquid crystalline arrangement and its origin in the spinnnerets
By D. P. Knight, X. W. Hu, L. J. Gathercole, M. Rusouën-Innocent, M.-W. Ho & R. Newton

Erratum

NO. 1345  30 SEPTEMBER 1996

Plant life histories: ecological correlates and phylogenetic constraints
A Discussion organized and edited by J. Silvertown, M. Franco and J. L. Harper

NO. 1346  29 OCTOBER 1996

Executive and cognitive functions of the prefrontal cortex
A Discussion organized and edited by A. C. Roberts, T. W. Robbins and L. Weiskrantz

NO. 1347  29 NOVEMBER 1996

The Croonian Lecture, 1996. Endogenous damage to DNA
By T. Lindahl

Pathological and microbiological findings from incidents of unusual mortality of the common frog (Rana temporaria)
By A. A. Cunningham, T. E. S. Langton, P. M. Bennett, J. F. Lewin, S. E. N. Drury, R. E. Gough & S. K. Macgregor

Prey selection by sparrowhawks, Accipiter nisus; relative predation risk for breeding passerine birds in relation to their size, ecology and behaviour
By F. Götsmark & P. Post

Intrinsic properties of biological motion detectors prevent the optomotor control system from getting unstable
By A.-K. Warzecha & M. Egelhaaf

Molecular systematics and evolution of reproductive traits of North American freshwater unionacean mussels (Mollusca: Bivalvia) as inferred from 16S rRNA gene sequences
By C. Lydeard, M. Mulvey & G. M. Davis

Higher taxa in biodiversity studies: patterns from eastern Pacific marine molluscs
By K. Roy, D. Jablonski & J. W. Valentine
From individuals to epidemics
  By S. A. Levin & R. Durrett

The medionigra gene in the moth Panaxia dominula: the case for selection
  By L. M. Cook & D. A. Jones

A new lydekkerinid (Amphibia, Temnospondylia) from the lower Triassic of South Africa: implications for evolution of the early capitosauroid cranial pattern
  By M. A. Shishkin, B. S. Rubidge & J. W. Kitching

NO. 1348  29 DECEMBER 1996

The genetical history of an isolated population of the endangered grey wolf Canis lupus: a study of nuclear and mitochondrial polymorphisms
  By H. Ellegren, P. Savolainen & B. Rosn

The impact of leaf shape on the feeding preference of insect herbivores: experimental and field studies with Capsella and Phyllotreta

A scaling analysis of measles epidemics in a small population
  By C. J. Rhodes & R. M. Anderson

Development, life cycle, ultrastructure and phylogenetic position of Pasteuria ramosa Metchnikoff 1888: rediscovery of an obligate endoparasite of Daphnia magna Straus
  By D. Ebert, P. Rainey, T. M. Embley & D. Scholz

The carapace of the branchiopod Crustacea
  By G. Fryer

Mechanisms of local persistence in coupled host-parasitoid associations: the case model of Maculinea rebeli and Ichneumon eumerus
  By M. E. Hochberg, G. W. Elmes, J. A. Thomas & R. T. Clarke

On the elementary mechanism underlying secondary motion processing
  By J. M. Zanker

Mesodermal pattern and pattern repeats in the starfish bipinnaria larva, and related patterns in other deuterostome larvae and chordates
  By T. C. Lacalli

Fossil species of the diatom genus Tetraecyclus (Bacillariophyta, ellipticus species group): morphology, interrelationships and the relevance of ontogeny
  By D. M. Williams

Indexes