

GENETICAL RESEARCH

EDITORIAL BOARD

CHARLOTTE AUERBACH ARTHUR CHOVNICK W. HAYES
BRUCE HOLLOWAY D. ISH-HOROWICZ MARY F. LYON
ANNE McLAREN M. VAN MONTAGU R. NÖTHIGER J. PAUL
W. J. PEACOCK PETER A. PETERSON R. H. PRITCHARD
R. RILEY A. ROBERTSON N. S. WILLETTS

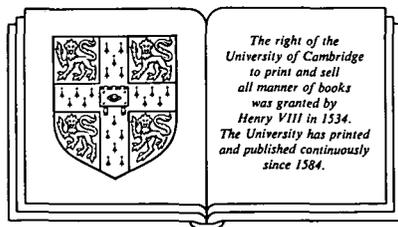
EXECUTIVE EDITOR

E. C. R. REEVE

ASSISTANT EXECUTIVE EDITORS

DAVID J. FINNEGAN
TRUDY F. C. MACKAY

Volume 46. 1985



CAMBRIDGE UNIVERSITY PRESS
CAMBRIDGE
LONDON NEW YORK NEW ROCHELLE
MELBOURNE SYDNEY

PUBLISHED BY
THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE

The Pitt Building, Trumpington Street, Cambridge CB2 1RP
32 East 57th Street, New York, NY 10022
10 Stamford Road, Oakleigh, Melbourne 3166, Australia
© Cambridge University Press, 1985

Printed in Great Britain by the University Press, Cambridge

CONTENTS

No. 1 (August 1985)

TAKAHASHI, MIHOKO, HAGA, NOBUYUKI, HENNESSEY, TODD, HINRICHSEN, ROBERT D. <i>and</i> HARA, RITSUO. A gamma ray-induced non-excitabile membrane mutant in <i>Paramecium</i> <i>caudatum</i> : a behavioural and genetic analysis	page 1
JACKSON, ELIZABETH A., HOLT, LINDA M. <i>and</i> PAYNE, PETER I. <i>Glu-B2</i> , a storage protein locus controlling the D group of LMW glutenin subunits in bread wheat (<i>Triticum aestivum</i>)	11
PRASAD-SINHA, JAYASHREE <i>and</i> MUKHERJEE, A. S. Cellular autonomy of hyperactivity in segmental X chromosomal aneuploids of <i>Drosophila</i> and dosage compensation	19
RIPOLL, PEDRO <i>and</i> KENNISON, JAMES A. Cell autonomy of two DNA-repair mutations in <i>Drosophila melanogaster</i>	31
WEST, JOHN D. <i>and</i> FISHER, GRAHAM. Inherited cataracts in inbred mice	45
BISHOP, S. C. <i>and</i> HILL, W. G. Effects of selection on growth, body composition, and food intake in mice. III. Correlated responses: growth, body composition, food intake and efficiency and catabolism	57
ISHII, KAZUSHIGE <i>and</i> MATSUDA, HIROTSUGU. Extension of the Haldane-Muller principle of mutation load with application for estimating a possible range of relative evolution rate	75
MIKAMI, HITOSHI <i>and</i> ONISHI, AKIRA. 'Heterosis' in litter size of chimaeric mice	85
LYON, MARY F., FISHER, G. <i>and</i> GLENISTER, P. H. A recessive allele of the mouse agouti locus showing lethality with yellow, <i>A^y</i>	95
GARCÍA-DORADO, AURORA <i>and</i> LOPEZ-FANJUL, CARLOS. Optimum selection strategies: studies with <i>Drosophila melanogaster</i>	101
TAKAHATA, NAOYUKI. Gene diversity in finite populations	105
BOOK REVIEWS	115
BOOKS RECEIVED	123

No. 2 (October 1985)

AKADA, RINJI. Mating types and mating-inducing factors (gamones) in the ciliate <i>Euplotes patella</i> syngen 2	page 125
---	----------

SMYTH, ROBERT D. <i>and</i> EBERSOLD, W. T. Genetic investigation of a negatively phototactic strain of <i>Chlamydomonas reinhardtii</i>	133
FOSTER, G. G. <i>and</i> MADDERN, R. H. Segregation and pairing of compound fifth-chromosomes in <i>Lucilia cuprina</i> males	149
COYNE, JERRY A. Genetic studies of three sibling species of <i>Drosophila</i> with relationship to theories of speciation	169
STEPHENSON, DENNIS A., GLENISTER, PETER H. <i>and</i> HORNBY, JANET E. Site of beige (<i>bg</i>) and leaden (<i>ln</i>) pigment gene expression determined by recombinant embryonic skin grafts and aggregation mouse chimaeras employing sash (<i>W^{sh}</i>) homozygotes	193
PETERSON, PETER A. Virus-induced mutations in maize: on the nature of stress-induction of unstable loci	207
PEREIRA, ANDY <i>and</i> PETERSON, PETER A. Origin and diversity of mutants controlled by the <i>Uq</i> transposable element system in maize	219
BOOK REVIEWS	237

No. 3 (December 1985)

BARKER, RUTH M. <i>and</i> YOUSOF, A. A. Clonal relationships among naturally occurring nicotinamide-requiring <i>Salmonella typhimurium</i>	page 241
WILLIAMS, E. N. D. <i>and</i> TODD, N. K. Numbers and distribution of individuals and mating type alleles in populations of <i>Coriolus versicolor</i>	251
JERKA-DZIADOSZ, MARIA <i>and</i> DUBIELECKA, BOZENA. Transmission of a genetic trait through total conjugation in a hypotrich ciliate <i>Paraurostyla weissei</i> . Genetic basis of the multi-left-marginal mutant	263
MAGUIRE, MAJORIE P. Crossover frequencies within paracentric inversions in maize: the implications for homologue pairing models	273
PARTRIDGE, LINDA, MACKAY, TRUDY F. C. <i>and</i> AITKEN, SUSAN. Male mating success and fertility in <i>Drosophila melanogaster</i>	279
PURO, JAAKO. Meiotic behaviour of compound chromosomes in tricomplex heterozygotes in <i>Drosophila melanogaster</i>	287
WEST, JOHN D., FISHER, GRAHAM, LOUTIT, JOHN F., MARSHALL, MICHAEL J., NISBET, NORMAN W. <i>and</i> PERRY, HUGH, V. A new allele of microphthalmia induced in the mouse: microphthalmia-defective iris (<i>mi^{dl}</i>)	309
CHEVERUD, JAMES M. <i>and</i> LEAMY LARRY J. Quantitative genetics and the evolution of ontogeny. III. Ontogenetic changes in correlation structure among live-body traits in randombred mice	325
FALCONER, D. S. A note on Fisher's 'average effect' and 'average excess'	337

Contents

v

WEST, JOHN D., LYON, MARY F., PETERS, JOSEPHINE <i>and</i> SELBY, PAUL B. Genetic differences between substrains of the inbred mouse strain 101 and designation of a new strain 102	349
EVANS, E. P., BURTEISHAW, M. D. <i>and</i> ADLER, ILSE-DORE. Chromosome differences between substrains of the inbred 101 mouse strain	353
BOOK REVIEWS	357
BOOKS RECEIVED	359
INDEX	361

Copying

This journal is registered with the Copyright Clearance Center, 21 Congress St., Salem, Mass. 01970. Organizations in the USA who are also registered with the C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to C.C.C. of the per-copy fee of \$05.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0016-6723/85/2828-0001 \$05.00.

ISI Tear Service, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA is authorized to supply single copies of separate articles for private use only.

For all other use, permission should be sought from Cambridge or the American Branch of Cambridge University Press.

GENETICAL RESEARCH

VOLUME 46, NUMBER 3, DECEMBER 1985

CONTENTS

BARKER, RUTH M. <i>and</i> YOUSUF, A. A. Clonal relationships among naturally occurring nicotinamide-requiring <i>Salmonella typhimurium</i>	page 241
WILLIAMS, E. N. D. <i>and</i> TODD, N. K. Numbers and distribution of individuals and mating type alleles in populations of <i>Coriolus versicolor</i>	251
JERKA-DZIADOSZ, MARIA <i>and</i> DUBIELECKA, BOZENA. Transmission of a genetic trait through total conjugation in a hypotrich ciliate <i>Paraurostyla weissei</i> . Genetic basis of the multi-left-marginal mutant	263
MAGUIRE, MAJORIE P. Crossover frequencies within paracentric inversions in maize: the implications for homologue pairing models	273
PARTRIDGE, LINDA, MACKAY, TRUDY F. C. <i>and</i> AITKEN, SUSAN. Male mating success and fertility in <i>Drosophila melanogaster</i>	279
PURO, JAAKO. Meiotic behaviour of compound chromosomes in tricomplex heterozygotes in <i>Drosophila melanogaster</i>	287
WEST, JOHN D., FISHER, GRAHAM, LOUTIT, JOHN F., MARSHALL, MICHAEL J., NISBET, NORMAN W. <i>and</i> PERRY, HUGH, V. A new allele of microphthalmia induced in the mouse: microphthalmia - defective iris (<i>mi^{di}</i>)	309
CHEVERUD, JAMES M. <i>and</i> LEAMY, LARRY J. Quantitative genetics and the evolution of ontogeny. III. Ontogenetic changes in correlation structure among live-body traits in randombred mice	325
FALCONER, D. S. A note on Fisher's 'average effect' and 'average excess'	337
WEST, JOHN D., LYON, MARY F., PETERS, JOSEPHINE <i>and</i> SELBY, PAUL B. Genetic differences between substrains of the inbred mouse strain 101 and designation of a new strain 102	349
EVANS, E. P., BURTENSHAW, M. D. <i>and</i> ADLER, ILSE-DORE. Chromosome differences between substrains of the inbred 101 mouse strain	353
BOOK REVIEWS	357
BOOKS RECEIVED	359
INDEX	361

© Cambridge University Press 1985

CAMBRIDGE UNIVERSITY PRESS

The Pitt Building, Trumpington Street, Cambridge CB2 1RP

32 East 57th Street, New York, NY 10022, USA

10 Stamford Road, Oakleigh, Melbourne 3166, Australia