

BULLETIN
OF
ENTOMOLOGICAL RESEARCH

**ISSUED BY THE COMMONWEALTH
INSTITUTE OF ENTOMOLOGY**

EDITOR : THE DIRECTOR

**VOL. 55
(1964)**

LONDON :
**COMMONWEALTH INSTITUTE OF ENTOMOLOGY,
56, QUEEN'S GATE, S.W.7**

1965

Commonwealth Agricultural Bureaux

EXECUTIVE COUNCIL

C. S. McMORRIS, *Chairman*, Jamaica
W. HARTLEY, *Vice-Chairman*, Australia
W. G. ALEXANDER, C.B.E., United Kingdom
H. WILLIAMSON, O.B.E., Canada
V. ARMSTRONG, Ph.D., New Zealand
A. J. KIDWAI, India
C. KEMAL REHEEM, Pakistan
H. E. SENEVIRATNE, Ceylon
J. A. AFARI, Ghana
TOH CHOR KEAT, Malaysia
I. P. J. OBEIBE, Nigeria
S. PHYLAKTIS, Cyprus
H.E. THE HIGH COMMISSIONER, Sierra Leone
O. ZAHRAN, Tanzania
E. MURRAY, Trinidad and Tobago
L. MWANGA, Uganda
H.E. THE HIGH COMMISSIONER, Kenya
J. R. NGWIRI, Malawi
J. E. C. COVENTRY, Rhodesia
W. A. C. MATHIESON, C.M.G., M.B.E., Dependent Territories
Sir THOMAS SCRIVENOR, C.M.G., *Secretary*, Farnham House, Farnham Royal, Slough, Bucks.
E. L. HAY, O.B.E., *Assistant Secretary*

COMMONWEALTH INSTITUTE OF ENTOMOLOGY

Director and Editor

E. O. PEARSON, M.A.

Assistant Director

R. G. FENNAH, M.A.

Assistant Editor

W. RUTTLEDGE, M.A.

Head Office—c/o British Museum (Natural History), Cromwell Road, London, S.W.7

Publication Office and Library—56, Queen's Gate, London, S.W.7

CONTENTS

	PAGE
ASHMAN, F.	
Insect reinfestation problems in fumigated maize on the Kenya coast	139
ASKEW, R. R.	
On the biology and taxonomy of some European species of the genus <i>Elachertus</i> Spinola (Hymenoptera, Eulophidae) ...	53
BALDRY, D. A. T.	
An assessment by bioassay of the comparative toxicity and persistence of dieldrin and isobenzan deposits on riverine vegetation in the Northern Guinea Savannah zone of Nigeria in relation to the control of <i>Glossina palpalis</i> (R.-D.) ...	49
BEESLEY, J. S. S. (see BURNETT, G. F., and CHADWICK, P. R.)	
BESS, H. A.	
Populations of the leaf-miner <i>Leucoptera meyricki</i> Ghesq. and its parasites in sprayed and unsprayed coffee in Kenya ...	59
BOOKER, R. H.	
Pests of cowpea and their control in Northern Nigeria ...	663
BROWN, A. W. A. (see ROESSLER, P.)	
BULLOCK, J. A.	
The control of <i>Hylemya arambourgi</i> Séguy (Dipt., Anthomyiidae) on barley ...	645
BURGES, H. D. & CAMMELL, M. E.	
Effect of temperature and humidity on <i>Trogoderma anthrenoides</i> (Sharp) (Coleoptera, Dermestidae) and comparisons with related species ...	313
BURGES, H. D. & HASKINS, K. P. F.	
Life-cycle of the tropical warehouse moth, <i>Cadra cautella</i> (Wlk.), at controlled temperatures and humidities ...	775
BURNETT, G. F., CHADWICK, P. R., MILLER, A. W. D. & BEESLEY, J. S. S.	
Aircraft applications of insecticides in East Africa. XIV.—Very-low-volume aerosols of dieldrin and isobenzan for the control of <i>Glossina morsitans</i> Westw. ...	527
BURTON, G. J.	
Method of attachment of pupae of <i>Mansonia annulifera</i> (Theo.) and <i>M. uniformis</i> (Theo.) to <i>Pistia stratiotes</i> ...	691

CONTENTS

	PAGE
BUSVINE, J. R.	
The insecticidal potency of γ -BHC and the chlorinated cyclodiene compounds and the significance of resistance to them ...	271
BUSVINE, J. R. (see also GUNEIDY, A. M.)	
CAMMELL, M. E. (see BURGES, H. D.)	
CANCELA DA FONSECA, J. P.	
Oviposition and length of adult life in <i>Caryedon gonagra</i> (F.) (Col., Bruchidae) ...	697
CHADWICK, P. R.	
A study of the resting sites of <i>Glossina swynnertoni</i> Aust. in northern Tanganyika ...	23
CHADWICK, P. R., BEESLEY, J. S. S., WHITE, P. J. & MATECHI, H. T.	
An experiment on the eradication of <i>Glossina swynnertoni</i> Aust. by insecticidal treatment of its resting sites ...	411
CHADWICK, P. R. (see also BURNETT, G. F.)	
CHAUDHURI, R. P. & NAITHANI, R. C.	
Resistance to BHC in the cattle tick <i>Boophilus microplus</i> (Can.) in India ...	405
CORBET, P. S.	
The ovarian condition of certain sylvan mosquitos in Uganda (Diptera, Culicidae) ...	367
CROWE, T. J. (see WHEATLEY, P. E.)	
CURRIE, J. E. (see HOWE, R. W.)	
EDWARDS, C. A.	
The bionomics of swift moths. I.—The ghost swift moth, <i>Hepialus humuli</i> (L.) ...	147
FARNHAM, A. W. (see SAWICKI, R. M.)	
FURLONG, M. (see GILLIES, M. T., and VAN SOMEREN, E. C. C.)	
GARDINER, B. G. & POLLER, R. C.	
Insecticidal activity and structure of some organotin compounds	17
GILES, P. H.	
The insect infestation of sorghum stored in granaries in Northern Nigeria ...	573
GILLIES, M. T. & FURLONG, M.	
An investigation into the behaviour of <i>Anopheles parensis</i> Gillies at Malindi on the Kenya coast ...	1
GRATWICK, M.	
Laboratory assessment of the toxicity of field-weathered deposits of insecticides to larvae of the codling moth, <i>Cydia pomonella</i> (L.) ...	35

CONTENTS

	PAGE
GREEN, G. (see SAWICKI, R. M.)	
GUNEIDY, A. M.	
Dieldrin-resistance in a strain of <i>Aedes aegypti</i> (L.) from Puerto Rico	519
GUNEIDY, A. M. & BUSVINE, J. R.	
Genetical studies on dieldrin-resistance in <i>Musca domestica</i> L. and <i>Lucilia cuprina</i> (Wied.)	499
GUNEIDY, A. M. & BUSVINE, J. R.	
Inheritance of dieldrin-resistance in <i>Cimex lectularius</i> L. and <i>Pediculus h. humanus</i> L.	509
HADDOW, A. J.	
Observations on the biting habits of mosquitos in the forest canopy at Zika, Uganda, with special reference to the crepuscular periods	589
HARRIS, E. C.	
A field test of a lindane/dieldrin smoke for control of the death-watch beetle, <i>Xestobium rufovillosum</i> Deg. (Col., Anobiidae) ...	383
HARRIS, K. M.	
The sorghum midge complex (Diptera, Cecidomyiidae) ...	233
HARRIS, W. V.	
A new phytophagous termite from Saudi Arabia	479
HILL, S. T.	
Axenic culture of the foreign grain beetle, <i>Ahasverus advena</i> (Waltl) (Coleoptera, Silvanidae), and the rôle of fungi in its nutrition	681
HOCKING, B. (see KLASSEN, W.)	
HOWE, R. W. & CURRIE, J. E.	
Some laboratory observations on the rates of development, mortality and oviposition of several species of Bruchidae breeding in stored pulses	437
HURLOCK, E. T.	
Infestation of foodstuffs from the United States of America inspected in the United Kingdom between 1953 and 1961 ...	173
JORDAN, A. M.	
Trypanosome infection rates in <i>Glossina morsitans submorsitans</i> Newst. in Northern Nigeria	219
KHAN, N. H. (see RAHMAN, S. J.)	
KLASSEN, W. & HOCKING, B.	
The influence of a deep river valley system on the dispersal of <i>Aedes</i> mosquitos	289
LEFKOVITCH, L. P.	
The growth of restricted populations of <i>Lasioderma serricorne</i> (F.) (Coleoptera, Anobiidae)	87

CONTENTS

	PAGE
LEWIS, D. J. (see MARR, J. D. M.)	
MARR, J. D. M. & LEWIS, D. J.	
Observations on the dry-season survival of <i>Simulium damnosum</i> Theo. in Ghana	547
MATECHI, H. T. (see CHADWICK, P. R.)	
MILLER, A. W. D. (see BURNETT, G. F.)	
MINTER, D. M.	
The distribution of sandflies (Diptera, Psychodidae) in Kenya ...	205
MINTER, D. M.	
Seasonal changes in populations of Phlebotomine sandflies (Dipt., Psychodidae) in Kenya	421
NAITHANI, R. C. (see CHAUDHURI, R. P.)	
OSBORNE, P.	
Morphology of the immature stages of <i>Meligethes aeneus</i> (F.) and <i>M. viridescens</i> (F.) (Coleoptera, Nitidulidae)	747
POLLER, R. C. (see GARDINER, B. G.)	
PRINS, G.	
A laboratory rearing method for the cocoa Mirid <i>Distantiella</i> <i>theobroma</i> (Dist.) (Hemiptera, Miridae)	615
RAHMAN, S. J., RIAZ, N. & KHAN, N. W.	
The sensitivity of <i>Musca domestica nebula</i> F. and <i>M. domestica</i> <i>vicina</i> Macq. to DDT, BHC and dieldrin, as shown by dosage- mortality curves	355
RAJAGOPALAN, P. K. (see TRAPIDO, H.)	
REBELLO, M. J. (see TRAPIDO, H.)	
RIAZ, N. (see RAHMAN, S. J.)	
ROESSLER, P. & BROWN, A. W. A.	
Studies on the responses of the female <i>Aedes mosquito</i> . X.—Com- parison of oestrogens and amino acids as attractants ...	395
ROULSTON, W. J. & WILSON, J. T.	
Chemical control of the cattle tick <i>Boophilus microplus</i> (Can.) ...	617
SAUNDERS, D. S.	
The effect of site and sampling method on the size and composition of catches of tsetse flies (<i>Glossina</i>) and Tabanidae (Diptera) ...	483
SAWICKI, R. M.	
Similarity in response to diazinon, dieldrin and pyrethrum extract by allatectomised and normal house-flies (<i>Musca domestica</i> L.)	727
SAWICKI, R. M. & FARNHAM, A. W.	
A dipping technique for selecting house-flies, <i>Musca domestica</i> L., for resistance to insecticides	541

CONTENTS

	PAGE
SAWICKI, R. M. & GREEN, G.	
Changes in the susceptibility of normal and resistant house-flies (<i>Musca domestica</i> L.) to diazinon with age	715
SERVICE, M. W.	
An analysis of the numbers of <i>Anopheles gambiae</i> Giles and <i>A. funestus</i> Giles (Diptera, Culicidae) in huts in Northern Nigeria ...	29
SERVICE, M. W.	
The identification of blood-meals from Culicine mosquitos from Northern Nigeria	637
SHANAHAN, G. J.	
Mutations in the sheep blowfly <i>Lucilia cuprina</i> (Wied.). I.—Studies on genes for white eye and dieldrin-resistance ...	709
SINGH, K. R. P. (see TRAPIDO, H.)	
SMITH, A.	
Studies on <i>Anopheles gambiae</i> Giles and malaria transmission in the Ubugwe area of Tanganyika	125
VAN SOMEREN, E. C. C. & FURLONG, M.	
The biting habits of <i>Aedes (Skusea) pembaensis</i> Theo. and some other mosquitos of Faza, Pate Island, East Africa ...	97
SPILLER, D.	
Numbers of eggs laid by <i>Anobium punctatum</i> (Degeer) ...	305
SURTEES, G.	
Laboratory studies on dispersion behaviour of adult beetles in grain. VI.—Three-dimensional analysis of dispersion of five species in a uniform bulk	161
SURTEES, G.	
Laboratory studies on dispersion behaviour of adult beetles in grain. VIII.—The effect of isolated pockets of damp and mouldy grain on <i>Tribolium castaneum</i> (Hbst.) (Coleoptera, Tenebrionidae)	327
SURTEES, G.	
Laboratory studies on dispersion behaviour of adult beetles in grain. XII.—The effect of isolated pockets of damp and mouldy wheat on <i>Cryptolestes ferrugineus</i> (Steph.) (Coleoptera, Cucujidae)	673
TAYLOR, T. Ajibola	
<i>Blaesoxipha filipjevi</i> Rohd. (Diptera, Sarcophagidae) parasitising <i>Zonocerus variegatus</i> (L.) (Orthoptera, Acridoidea) in Nigeria	83
TAYLOR, T. Ajibola	
Observations on the bionomics of <i>Laspeyresia ptychora</i> Meyr. (Lepidoptera, Eucosmidae) infesting cowpea in Nigeria ...	761

CONTENTS

	PAGE
TJOA TJIEN-MO The occurrence of two strains of <i>Brontispa longissima</i> (Gestro) (Col., Hispidae) based on resistance or non-resistance to the parasite <i>Tetrastichus brontispae</i> (Ferrière) (Hym., Eulophidae) in Java ...	609
TRAPIDO, H., VARMA, M. G. R., RAJAGOPALAN, P. K., SINGH, K. R. P. & REBOLLO, M. G. A guide to the identification of all stages of the <i>Haemaphysalis</i> ticks of South India ...	249
VARMA, M. G. R. (see TRAPIDO, H.)	
WEAVING, A. J. S. A preliminary assessment of the effectiveness of pyrethrum against the stalk borer <i>Busseola fusca</i> (Fuller) in the field in Kenya ...	565
WHEATLEY, P. E. & CROWE, T. J. Field studies of insecticides against the coffee leaf-miner <i>Leucoptera</i> <i>meyricki</i> Ghesq. (Lepidoptera, Lyonetiidae) ...	193
WHITE, P. J. (see CHADWICK, P. R.)	
WILSON, J. T. (see ROULSTON, W. J.)	
WOOD, B. J. Trials with dimethoate against the California red scale, <i>Aonidiella</i> <i>aurantii</i> (Mask.), and other <i>Citrus</i> pests in Cyprus ...	339
WOODROW, D. F. Laboratory analysis of oviposition behaviour in the red locust, <i>Nomadacris septemfasciata</i> (Serv.) ...	733

DATES OF PUBLICATION IN PARTS

Part 1 pp. 1–192	...	28 May 1964
Part 2 pp. 193–394	...	21 August 1964
Part 3 pp. 395–608	...	21 December 1964
Part 4 pp. 609–789	...	7 May 1965

ERRATA

Vol. 54

Page 643, footnote to Table I, for "1952" read "1962"

Vol. 55

Pages 90 and 91, for " e_t+1 ", " l_t+1 ", etc., read " e_{t+1} ", " l_{t+1} ", etc., respectively
 Page 159, Summary, paragraph 6, line 3, for "rate" read "ratio"
 Page 372, in text under Table II, second line, for "Table I" read "Table II"
 Page 495, Summary, paragraph 2, line 8, for "smaller portion" read "smaller proportion"

Page 598, paragraph 3, lines 5 and 9, for "five" read "six"