

**BULLETIN**  
**OF**  
**ENTOMOLOGICAL RESEARCH**

ISSUED BY THE COMMONWEALTH  
INSTITUTE OF ENTOMOLOGY

EDITOR : THE DIRECTOR

---

VOL. 53  
(1962)

---

LONDON :  
COMMONWEALTH INSTITUTE OF ENTOMOLOGY,  
56, QUEEN'S GATE, S.W.7  
1963

# Commonwealth Agricultural Bureaux

---

## EXECUTIVE COUNCIL

---

- W. A. C. MATHIESON, C.M.G., M.B.E., *Chairman*, Dependent Territories  
H. E. SENEVIRATNE, *Vice-Chairman*, Ceylon  
W. G. ALEXANDER, C.B.E., United Kingdom  
J. B. MARSHALL, Ph.D., Canada  
P. F. BUTLER, M.Agr.Sc., Australia  
V. ARMSTRONG, Ph.D., New Zealand  
A. M. D'ROZARIO, Ph.D., India  
C. K. REHEEM, Pakistan  
J. A. AFARI, Ghana  
TOH CHOR KEAT, Federation of Malaya  
ISA MODIBBO, Federation of Nigeria  
HIS EXCELLENCY THE HIGH COMMISSIONER FOR SIERRA LEONE IN THE U.K.  
G. M. NHIGULA, Tanganyika  
J. E. C. COVENTRY, Federation of Rhodesia and Nyasaland  
SIR THOMAS SCRIVENOR, *Secretary*, Farnham House, Farnham Royal, Nr.  
Slough, Bucks.
- 

## 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
<b>ASHMAN, F.</b> Factors affecting the abundance of the copra beetle, <i>Necrobia rufipes</i> (Deg.) (Col., Cleridae) ( <i>illustrated</i> ) .. .. .	671
<b>BARLOW, F.</b> (see HADAWAY, A. B.)	
<b>BAR-ZEEV, M.</b> A rapid method for screening and evaluating mosquito repellents ( <i>illustrated</i> ) .. .. .	521
<b>BENNETT, F. D.</b> (see MANSER, P. D.)	
<b>BREESE, M. H.</b> Studies on the oviposition of <i>Rhyzopertha dominica</i> (F.) in rice and paddy ( <i>illustrated</i> ) .. .. .	621
<b>BROWN, E. S.</b> Notes on parasites of Pentatomidae and Scutelleridae (Hemiptera-Heteroptera) in Middle East countries, with observations on biological control .. .. .	241
<b>BROWN, E. S.</b> Researches on the ecology and biology of <i>Eurygaster integriceps</i> Put. (Hemiptera, Scutelleridae) in Middle East countries, with special reference to the overwintering period ( <i>illustrated</i> ) .. .. .	445
<b>BURGES, H. D.</b> Studies on the Dermestid beetle <i>Trogoderma granarium</i> Everts. V.—Reactions of diapause larvae to temperature ( <i>illustrated</i> ) ..	193
<b>BURNETT, G. F.</b> The susceptibility of tsetse flies to topical applications of insecticides. III.—The effects of age and pregnancy on the susceptibility of adults of <i>Glossina morsitans</i> Westw. ( <i>illustrated</i> ) .. .. .	337
<b>BURNETT, G. F.</b> The susceptibility of tsetse flies to topical applications of insecticides. IV.—Wild-caught adults of <i>Glossina swynnertoni</i> Aust. ( <i>illustrated</i> ) ..	347
<b>BURNETT, G. F.</b> The susceptibility of tsetse flies to topical applications of insecticides. V.—Young adults of <i>Glossina morsitans</i> Westw. and some substituted N-methyl carbamates ( <i>illustrated</i> ) .. .. .	747
<b>BURNETT, G. F.</b> The susceptibility of tsetse flies to topical applications of insecticides. VI.—Data on more chlorinated hydrocarbons and organophosphates, and a general discussion ( <i>illustrated</i> ) .. .. .	753
<b>BUSVINE, J. R. &amp; TOWNSEND, M. G.</b> The significance of BHC degradation in resistant house-flies ..	763

CONTENTS.

	PAGE
CARNEGIE, A. J. M. Woolly aphid of apple, <i>Eriosoma lanigerum</i> (Hsm.), and its control in Southern Rhodesia ( <i>illustrated</i> ) .. .. .	609
COLE, J. H. <i>Hofmannophila pseudospretella</i> (Stnt.) (Lep., Oecophoridae), its status as a pest of woollen textiles, its laboratory culture and susceptibility to mothproofers .. .. .	83
COLUZZI, M. & CONTINI, C. The larva and pupa of <i>Mansonia (Coquillettidia) buxtoni</i> (Edwards), 1923 (Diptera, Culicidae) ( <i>illustrated</i> ) .. .. .	215
CONTINI, C. (see COLUZZI, M.)	
CORBET, P. S. The age-composition of biting mosquito populations according to time and level: a further study ( <i>illustrated</i> ) .. .. .	409
CROSSKEY, R. W. A new species of <i>Actia</i> R.-D. (Diptera, Tachinidae) parasitic on the coconut leaf moth, <i>Agonoxena pyrogramma</i> Meyrick, in New Britain ( <i>illustrated</i> ) .. .. .	173
DAVID, W. A. L. & GARDINER, B. O. C. Oviposition and the hatching of the eggs of <i>Pieris brassicae</i> (L.) in a laboratory culture ( <i>illustrated</i> ) .. .. .	91
DAVID, W. A. L. & GARDINER, B. O. C. Observations on the larvae and pupae of <i>Pieris brassicae</i> (L.) in a laboratory culture ( <i>illustrated</i> ) .. .. .	417
DUDLEY, B., GREGORY, G. E. & PAYNE, D. W. An all-metal cage for rearing locusts in the laboratory ( <i>illustrated</i> ) .. .. .	219
DUNCAN, J. (see HADAWAY, A. B.)	
FENNAH, R. G. Nutritional factors associated with seasonal population increase of cacao thrips, <i>Selenothrips rubrocinctus</i> (Giard) (Thysanoptera), on cashew, <i>Anacardium occidentale</i> ( <i>illustrated</i> ) .. .. .	681
FENNAH, R. G. The species of <i>Pyrilla</i> (Fulgoroidea: Lophopidae) in Ceylon and India ( <i>illustrated</i> ) .. .. .	715
FERNANDO, H. E. (see WICKRAMASINGHE, N.)	
GARDINER, B. O. C. (see DAVID, W. A. L.)	
GHAURI, M. S. K. Distinctive features and geographical distribution of two closely similar pests of cotton ( <i>Empoasca devastans</i> Dist. and <i>E. terrae-reginae</i> Paoli) (Homoptera, Cicadellidae) ( <i>illustrated</i> ) .. .. .	653
GLASGOW, J. P. & WELCH, J. R. Long-term fluctuations in numbers of the tsetse fly <i>Glossina swynner-toni</i> Austen ( <i>illustrated</i> ) .. .. .	129
GREGORY, G. E. (see DUDLEY, B.)	
HADAWAY, A. B., BARLOW, F. & DUNCAN, J. Effects of piperonyl butoxide on insecticidal potency .. .. .	769
HADDOW, A. J. & SSENKUBUGE YOVANI Studies on the biting habits of East African mosquitos in the genera <i>Uranotaenia</i> , <i>Ficalbia</i> and <i>Hodgesia</i> ( <i>illustrated</i> ) .. .. .	639

CONTENTS.

	PAGE
HARRIS, K. M. Lepidopterous stem borers of cereals in Nigeria ( <i>illustrated</i> ) ..	139
HARRISON, I. R. Population studies on the poultry red mite <i>Dermanyssus gallinae</i> (Deg.) ( <i>illustrated</i> ) .. .. .	657
HAYDOCK, K. P. (see STONE, B. F.)	
HEATHCOTE, G. D. & WARD, J. The effect of DDT on <i>Myzus persicae</i> (Sulz.) and <i>Brevicoryne</i> <i>brassicae</i> (L.) (Aphididae) in relation to the spread of cauliflower mosaic and cabbage black ring spot viruses .. .. .	779
HINCKLEY, A. D. Lepidopterous leafminers on sweet potato in Fiji .. .. .	665
HOWE, R. W. The effects of temperature and humidity on the oviposition rate of <i>Tribolium castaneum</i> (Hbst.) (Coleoptera, Tenebrionidae) ..	301
HUSSAIN, ALI A. Biology and control of the dubas bug, <i>Ommatissus binotatus lybicus</i> de Berg. (Homoptera, Tropiduchidae), infesting date palms in Iraq ( <i>illustrated</i> ) .. .. .	737
JEPSON, W. F. (see SOUTHWOOD, T. R. E.)	
JORDAN, A. M. The ecology of the <i>fusca</i> group of tsetse flies ( <i>Glossina</i> ) in southern Nigeria ( <i>illustrated</i> ) .. .. .	355
JORDAN, A. M. The pregnancy rate in <i>Glossina palpalis</i> (R.-D.) in southern Nigeria ( <i>illustrated</i> ) .. .. .	387
LAURENCE, B. R., PAGE, R. & SMITH, S. A. Laboratory colonisation of <i>Mansonia</i> mosquitos .. .. .	515
LEFKOVITCH, L. P. The biology of <i>Cryptolestes capensis</i> (Waltl) (Coleoptera, Cucujidae) ( <i>illustrated</i> ) .. .. .	529
LEGGATE, B. M. (see PILSON, R. D.)	
MACCUAIG, R. D. The collection of spray droplets by flying locusts ( <i>illustrated</i> ) ..	111
MACCUAIG, R. D. The toxicity of some insecticidal sprays to adult locusts ( <i>illustrated</i> )	597
MANSER, P. D. & BENNETT, F. D. Possible effects of the application of malathion on the small moth borer, <i>Diatraea saccharalis</i> (F.), and its parasite <i>Lixophaga dia-</i> <i>tracae</i> (Tns.) in Jamaica .. .. .	75
MUKERJEA, T. D. New acaricides for control of the red spider mite, <i>Oligonychus</i> <i>coffae</i> (Nietner), on tea .. .. .	59
PAGE, R. (see LAURENCE, B. R.)	
PARR, H. C. M. Studies on <i>Stomoxys calcitrans</i> (L.) in Uganda, East Africa. II.— Notes on life-history and behaviour .. .. .	437
PAYNE, D. W. (see DUDLEY, B.)	

CONTENTS.

	PAGE
PILSON, R. D. & LEGGATE, B. M. A diurnal and seasonal study of the feeding activity of <i>Glossina pallidipes</i> Aust. (illustrated) .. .. .	541
PILSON, R. D. & LEGGATE, B. M. A diurnal and seasonal study of the resting behaviour of <i>Glossina pallidipes</i> Aust. (illustrated) .. .. .	551
PLEASANCE, H. J. (see SOUTHWOOD, T. R. E.)	
PROCTOR, J. H. The biology and control of the Sudan bollworm, <i>Diparopsis watersii</i> (Roths.), in the Abyan Delta, West Aden Protectorate .. .. .	311
REID, J. A. The <i>Anopheles barbirostris</i> group (Diptera, Culicidae) (illustrated)	1
SANDS, W. A. The evaluation of insecticides as soil and mound poisons against termites in agriculture and forestry in West Africa (illustrated) ..	179
SAUNDERS, D. S. Age determination for female tsetse flies and the age compositions of samples of <i>Glossina pallidipes</i> Aust., <i>G. palpalis fuscipes</i> Newst. and <i>G. brevipalpis</i> Newst. (illustrated) .. .. .	579
SMITH, S. A. (see LAURENCE, B. R.)	
SOUTHWOOD, T. R. E. & JEPSON, W. F. The productivity of grasslands in England for <i>Oscinella frit</i> (L.) (Chloropidae) and other stem-boring Diptera (illustrated) .. ..	395
SOUTHWOOD, T. R. E. & PLEASANCE, H. J. A hand-operated suction apparatus for the extraction of arthropods from grassland and similar habitats, with notes on other models (illustrated) .. .. .	125
SSENKUBUGE, YOVANI (see HADDOW, A. J.)	
STERNBERG, S. & TAHORI, A. S. Control of <i>Aleuroglyphus ovatus</i> (Troupeau) in flea cultures ..	257
STONE, B. F. & HAYDOCK, K. P. A method for measuring the acaricide-susceptibility of the cattle tick <i>Boophilus microplus</i> (Can.) (illustrated) .. .. .	563
TAHORI, A. S. (see STERNBERG, S.)	
TOWNSEND, M. G. (see BUSVINE, J. R.)	
WARD, J. (see HEATHCOTE, G. D.)	
WELCH, J. R. (see GLASGOW, J. P.)	
WICKRAMASINGHE, N. & FERNANDO, H. E. Investigations on insecticidal seed dressings, soil treatments and foliar sprays for the control of <i>Melanagromyza phaseoli</i> (Tryon) in Ceylon (illustrated) .. .. .	223
WILKINSON, W. Dispersal of alates and establishment of new colonies in <i>Cryptotermes havilandi</i> (Sjöstedt) (Isoptera, Kalotermitidae) (illustrated) .. ..	265
WOOD, R. J. Oviposition in DDT-resistant and susceptible strains of <i>Aedes aegypti</i> (L.): time from blood-meal to oviposition (illustrated) .. .. .	287

CONTENTS.

	PAGE
WOOD, R. J.	
Oviposition in DDT-resistant and susceptible strains of <i>Aedes aegypti</i> (L.): egg-laying on open-water surfaces .. .. .	785
WOODROFFE, G. E.	
The status of the foreign grain beetle, <i>Ahasverus advena</i> (Waltl) (Col., Silvanidae), as a pest of stored products .. .. .	537

DATES OF PUBLICATION IN PARTS

Part I pp. 1–213 ..	2 May 1962
Part II pp. 215–443 ..	31 July 1962
Part III pp. 445–608 ..	25 October 1962
Part IV pp. 609–790 ..	17 January 1963

ERRATA

Vol. 52

Page 536, Table IV, column 5, for “0·0050–0·0077” read “0·00050–0·00077”

Page 602, Table I, line 2, for “I + II” read “III + IV” and *vice versa*

Vol. 53

Page 86, footnote to Table I, for “Dielmoth = 25 per cent. dieldrin” read “Dielmoth = 20 per cent. dieldrin”

Page 88, paragraph 4, line 2, for “Dielmoth (25 per cent. dieldrin)” read “Dielmoth (20 per cent. dieldrin)”

Page 145, fig. 3, for “*S. botanephaga*” read “*S. n. botanephaga*”

Page 191, paragraph 4, line 3, for “*Eucalyptus camaldunensis*” read “*Eucalyptus camaldulensis*”

Page 242, Table I, 1st column, for “*Helomyia ateralis* (Mg.)” read “*Helomyia lateralis* (Mg.)”

Page 298, line 3, for “West Africa (2) and Haiti” read “West Africa (2) and U.S.A.”

Page 334, line 12, for “1958–59” read “1957–58”