

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

ISSUED BY THE IMPERIAL  
INSTITUTE OF ENTOMOLOGY.

EDITOR : THE DIRECTOR.

---

**VOL. XXIII.**

---

LONDON :  
THE IMPERIAL INSTITUTE OF ENTOMOLOGY,  
41, QUEEN'S GATE, S.W.7.  
1932.

# IMPERIAL INSTITUTE OF ENTOMOLOGY.

## HONORARY COMMITTEE OF MANAGEMENT.

### THE EARL BUXTON, P.C., G.C.M.G., *Chairman.*

- Dr. W. HORNER ANDREWS, M.R.C.V.S., Director, Veterinary Laboratory, Ministry of Agriculture and Fisheries.
- Major E. E. AUSTEN, D.S.O., late Keeper, Entomological Department, British Museum (Natural History).
- Dr. A. G. BAGSHAWE, C.M.G., Director, Bureau of Hygiene and Tropical Diseases.
- Mr. C. E. BAINES, India Office.
- The Hon. Sir HENRY BARWELL, K.C.M.G., Agent-General for South Australia.
- Dr. P. A. BUXTON, University Reader in Medical Entomology, London School of Hygiene and Tropical Medicine.
- Mr. J. C. F. FRYER, O.B.E., Director, Pathological Laboratory, Ministry of Agriculture and Fisheries.
- Sir SIDNEY F. HARMER, K.B.E., F.R.S.
- Dr. A. D. IMMS, F.R.S., Reader in Entomology, Cambridge.
- Sir DANIEL MORRIS, K.C.M.G., late Adviser to the Colonial Office in Tropical Agriculture.
- Emeritus Professor R. NEWSTEAD, F.R.S., The University of Liverpool.
- Professor G. H. F. NUTTALL, F.R.S., late Quick Professor of Protozoology, Cambridge.
- Mr. M. D. PETERSON, Foreign Office.
- Professor E. B. POULTON, F.R.S., Hope Professor of Zoology, Oxford.
- Lieutenant-Colonel Sir DAVID PRAIN, C.M.G., C.I.E., F.R.S.
- Sir HERBERT J. READ, K.C.M.G., C.B., late Assistant Under Secretary of State, Colonial Office.
- Mr. G. F. SEEL, Colonial Office.
- Dr. A. T. STANTON, C.M.G., Chief Medical Adviser to the Secretary of State for the Colonies.
- Mr. F. A. STOCKDALE, C.M.G. C.B.E., Agricultural Adviser to the Secretary of State for the Colonies.
- Mr. C. WARBURTON, Zoologist to the Royal Agricultural Society of England.

The Chief Entomologist in each of the Self-governing Dominions is *ex officio* a member of the Committee.

### SECRETARY.

Mr. S. CAINE (Colonial Office).

### DIRECTOR.

Sir GUY A. K. MARSHALL, C.M.G., F.R.S.

### ASSISTANT DIRECTOR.

Dr. S. A. NEAVE, O.B.E.

### SUPERINTENDENT OF FARNHAM HOUSE LABORATORY.

Dr. W. R. THOMPSON.

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

*Publication Office.*—41, Queen's Gate, London, S.W.7.

# CONTENTS.

## ORIGINAL ARTICLES.

|  | PAGE |
|--|------|
| BEATTIE, M. V. F.<br>The Physico-chemical Factors of Water in Relation to Mosquito Breeding in Trinidad ( <i>illustrated</i> ) ... ..                                | 477  |
| BONNE-WEPSTER, J.<br>A Mosquito with larval Habits like <i>Taeniorhynchus</i> ( <i>illustrated</i> ) ...   | 69   |
| A remarkable Malformation in the Male Hypopygium of <i>Aedes</i> ( <i>Stegomyia</i> ) <i>albopictus</i> , Skuse ( <i>illustrated</i> ) ... ..                        | 233  |
| BRUG, S. L.<br>Notes on Dutch East Indian Mosquitos ( <i>illustrated</i> ) ... ..  | 73   |
| Chitinisisation of Parasites in Mosquitos ( <i>illustrated</i> ) ... ..  | 229  |
| CURRIE, G. A.<br>Oviposition Stimuli of the Burr-seed Fly, <i>Euaresia aequalis</i> , Loew (Dipt. Trypetidae) ( <i>illustrated</i> ) ... ..                          | 191  |
| DAVIES, W. MALDWYN.<br>Ecological Studies on Aphides infesting the Potato Crop ( <i>illustrated</i> )  | 535  |
| EDWARDS, F. W.<br>Mosquito Notes. XI ( <i>illustrated</i> ) ... ..   | 559  |
| FAURE, J. C.<br>The Phases of Locusts in South Africa ( <i>illustrated</i> ) ... ..  | 293  |
| GOLDING, F. D.<br>Sodium Fluosilicate as a Poison against the Hoppers of <i>Locusta migratoria migratorioides</i> , R. & F., in Nigeria ... ..                       | 449  |
| HARDY, G. H.<br>Notes on the <i>Sarcophaga peregrina</i> Group (Dipt.) ... ..  | 45   |
| Some Australian Species of <i>Calliphora</i> (Subgenera <i>Neopollenia</i> and <i>Proekon</i> ) ( <i>illustrated</i> ) ... ..  | 549  |
| HODSON, W. E. H.<br>A Comparison of the Larvae of <i>Eumerus strigatus</i> , Fln., and <i>Eumerus tuberculatus</i> , Rond. (Syrphidae) ( <i>illustrated</i> ) ... .. | 247  |
| The Large Narcissus Fly, <i>Merodon equestris</i> , Fab. (Syrphidae) ( <i>illustrated</i> ) ... ..   | 429  |
| JOHNSTON, H. B.<br>Notes on two Locusts of minor economic Importance in the Sudan  | 49   |
| JOLLES, P.<br>A Study of the Life-history and Control of <i>Cerambyx dux</i> , Fald., a Pest of certain Stone-fruit Trees in Palestine ( <i>illustrated</i> ) ...    | 251  |
| KING, H. H., & RUTTLEDGE, W.<br>On Experiments in the Use of Poison Dusts against Adult <i>Locusta migratorioides</i> , Rch. & Frm., in the Sudan ... ..             | 65   |
| LEESON, H. S.<br>Methods of Rearing and Maintaining large Stocks of Fleas and Mosquitos for Experimental Purposes ( <i>illustrated</i> ) ... ..                      | 25   |

CONTENTS.

|  | PAGE     |
|--|----------|
| LE PELLEY, R. H.   |          |
| <i>Lygus simonyi</i> , Reut. (Hem. Capsid.), a Pest of Coffee in Kenya Colony ( <i>illustrated</i> ) ... ..  | 85       |
| On the Control of <i>Antestia lineaticollis</i> , Stål (Hem., Pentatom.) on Coffee in Kenya Colony ( <i>illustrated</i> ) ... ..   | 217      |
| MACGILL, E. I.   |          |
| The Biology of <i>Erythroneura (Zygina) pallidifrons</i> , Edwards ( <i>illustrated</i> ) ... ..   | 33       |
| MACLAGAN, D. S.  |          |
| An ecological Study of the "Lucerne Flea" ( <i>Smynturus viridis</i> , Linn.) I & II ( <i>illustrated</i> ) ... ..   | 101, 151 |
| MER, D.  |          |
| The Determination of the Age of <i>Anopheles</i> by Differences in the Size of the Common Oviduct ( <i>illustrated</i> ) ... ..  | 563      |
| MILES, H. W.   |          |
| Biological Studies of Sawflies infesting <i>Ribes</i> ( <i>illustrated</i> ) ... ..  | 1        |
| MILLER, D.   |          |
| The Biology and economic Status of New Zealand Muscidae and Calliphoridae.—Part I. Historical Review ... ..  | 469      |
| MILLER, N. C. E.   |          |
| Observations on <i>Melamphaus faber</i> , F. (Hem., Pyrrhocoridae) and Descriptions of early Stages ( <i>illustrated</i> ) ... ..  | 195      |
| MYERS, J. G.   |          |
| The original Habitat and Hosts of three major Sugar-cane Pests of Tropical America ( <i>Diatraea</i> , <i>Castnia</i> and <i>Tomaspis</i> ) ( <i>illustrated</i> )                               | 257      |
| PICKLES, A.  |          |
| Notes on the natural Enemies of the Sugar-cane Froghopper ( <i>Tomaspis saccharina</i> , Dist.) in Trinidad, with Descriptions of new Species ( <i>illustrated</i> ) ... ..                      | 203      |
| POMEROY, A. W. J., & MORRIS, K. R. S.  |          |
| The Tsetse Problem on the Eastern Cattle Route in the Gold Coast (With an Appendix by K. R. S. Morris on an Ecological Study and Experimental Clearing at Makongo) ( <i>illustrated</i> ) ... .. | 501      |
| SALT, G.   |          |
| Superparasitism by <i>Collyria calcitrator</i> , Grav. (With an Appendix by R. H. Stoy) ... ..   | 211      |
| The natural control of the Sheep Blowfly, <i>Lucilia sericata</i> , Meigen   | 235      |
| TAYLOR, A. W.  |          |
| Pupal Parasitism in <i>Glossina morsitans</i> and <i>G. tachinoides</i> at Gadau, Northern Nigeria ( <i>illustrated</i> ) ... ..   | 463      |
| THEODOR, O.  |          |
| On the Structure of the Buccal Cavity, Pharynx and Spermatheca in South American <i>Phlebotomus</i> ( <i>illustrated</i> ) ... ..  | 17       |
| UVAROV, B. P.  |          |
| Ecological Studies on the Moroccan Locust in Western Anatolia ( <i>illustrated</i> ) ... ..  | 273      |

---

MISCELLANEOUS.

|                              |                    |
|------------------------------|--------------------|
| Collections received .. .. . | 147, 289, 425, 567 |
|------------------------------|--------------------|

## ERRATA.

---

- Page 82, legend to fig. 11, *d* should read " scale of 8th segment of larva of *C. castrensis* " and *e* " scale on 8th segment of larva of *C. castrensis* var. *foliatus*, n., according to Senior-White "
- „ 83, line 5, for " broader " read " narrower "
  - „ 224, line 11, and page 226, line 31, for " *Toxopterum* " read " *Toxoptera* "
  - „ 255, line 5, for " 15 cm." read " 15 mm."
  - „ 255, line 42, for " 17 cm." read " 17 mm."

DATES OF PUBLICATION IN PARTS.

|          |             |     |                    |
|----------|-------------|-----|--------------------|
| Part I   | pp. 1-150   | ... | 31 March 1932.     |
| Part II  | pp. 151-292 | ... | 14 July 1932.      |
| Part III | pp. 293-428 | ... | 27 September 1932. |
| Part IV  | pp. 429-570 | ... | 30 December 1932.  |