

**THE AGRICULTURAL PESTS OF
INDIA, AND OF EASTERN AND
SOUTHERN ASIA, VEGETABLE
AND ANIMAL, INJURIOUS TO
MAN AND HIS PRODUCTS**

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The Agricultural Pests of India, and of Eastern and Southern Asia, Vegetable and Animal,
Injurious to Man and His Products by Edward Balfour

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EDWARD BALFOUR

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THE
AGRICULTURAL PESTS OF INDIA,
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EASTERN AND SOUTHERN ASIA,
VEGETABLE AND ANIMAL,
INJURIOUS TO MAN AND HIS PRODUCTS.

BY

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'THE TIMBER TREES OF INDIA AND OF EASTERN AND SOUTHERN ASIA,' ETC.;

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ENTOMOLICRY

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ENTOMOLOGY

PREFATORY REMARKS.

THE blights and murrains of India have hitherto had their only record in the pages of journals and newspapers, or occasionally in official reports; but, as the correspondence below will show, effect has now been given to my recommendation to have periodical reports on occurring pests, reports are coming to hand, and the need for a more accessible registry has suggested this book.

The expediency of having the text illustrated by plates and wood engravings is under consideration.

EDWARD BALFOUR.

31st March 1867.

From Surgeon General Edward Balfour to the Under Secretary of State for India.

2 OXFORD SQUARE, HYDE PARK, LONDON,
8th August 1865.

SIR,—The article 'Insects' in the 3rd edition of the *Cyclopædia of India and of Eastern and Southern Asia*, is, I think, the first attempt to give a general view of the entomology of that wide region. This is, in many ways, a very difficult branch of natural history; but this article was prepared and printed by me under the care of two

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scientific men, one of them ranking among the most learned of living entomologists, and I was favoured also with counsel from Miss Ormerod, who, in this country, annually reports on the insects injurious to food crops, forest trees, and fruits, and the prevention of insect ravages.

The like of Miss Ormerod's form of reporting has never been done for India, although every year to some extent, and from time to time largely, losses occur there from the pests which attack agricultural produce. India has hitherto been remiss in this matter, contenting itself with references as to individual insects or blights to such persons as were thought likely to be able to give information. But the subject is of far too great importance to agricultural India to be left to be treated in so casual a manner, and the special knowledge now available might be utilized to describe the insects which injure the agricultural, horticultural, and forest produce of India, suggesting means of preventing, and remedies for same.

The reports should be restricted rigidly to the injurious insects, and should be half-yearly, to fit in with the two great agricultural seasons.—I have, etc.,

EDWARD BALFOUR, *Surgeon General.*

*To Surgeon General Edward Balfour, 2 Oxford Square,
Hyde Park, W.*

INDIA OFFICE,
24th September 1885.

SIR,—I am directed by the Secretary of State for India in Council to acknowledge with thanks your letter of the 8th ultimo, with reference to the preparation of

official annual reports on the insects destructive to crops and forests in India; and to inform you in reply that a copy of it has been forwarded to the Government of India.—I am, etc.,

HORACE WALPOLE

To Horace Walpole, Esq., C.B.

2 OXFORD SQUARE, HYDE PARK, W.,
28th September 1835.

DEAR SIR,—I sent to Miss Ormerod copy of my letter of the 8th August, and copy of the Secretary of State's letter of 24th instant in reply.

I enclose now copy of the acknowledgment of these which Miss Ormerod has written to me.

I beg the favour of your submitting to Her Majesty's Secretary of State that if this correspondence could be printed and circulated from here, all the entomologists and their entomological societies in all Europe could aid in this very important investigation. There are only a very few in India. I have no doubt but that I could distribute usefully 200 copies.—I am, etc.,

EDWARD BALFOUR.

To Surgeon General Edward Balfour, 2 Oxford Square, W.

DUNSTER LODGE, SPRING GROVE, ISLEWORTH,
25th September 1835.

DEAR MR. BALFOUR,—I am very much obliged to you for favouring me with a copy of your letter to the Under Secretary of State for India relative to the importance of

acquiring serviceable information regarding the injurious crop insects of India, and also kindly giving me a copy of the official reply.

I do not see that you could do better, as a commencement, than thus bring the subject shortly and clearly forward; and, as far as I can form an opinion, I think that the course you suggest would be the constant means of saving thousands of pounds yearly—occasionally (perhaps more than occasionally) of saving millions. I found this opinion, of course, on consideration of the unremunerative outlay so often occurring on some of the great crops, notably (as coming specially under my notice) the loss by ravage of coffee-plant grubs.

The information that is needed could be given by plain and simple jotting down by various persons of what they themselves have observed.

One man notices, perhaps, how deep the grubs go; another, how long they live; and so, by collating the points, we get to know the whole history of habits, which is what is needed to work on. It may take a few years to get the whole life history of the insects, but we soon get in the way mentioned above (on which plan my own reports are formed) to learn the main points, and then all observers are requested to find the missing part of the history.

If reports were formed in this way, there would very shortly be a great increase of useful knowledge throughout the Indian empire.

I present my reports yearly to the contributors, thus they take a personal interest in the work, and, what is immensely important in things of this kind, the book comes to them on publication; they have not the trouble of ordering it. The expense would be a mere

nothing to Government, seeing that I, a private individual, have now for eight years, without the slightest assistance, carried on the work in England.

The great mistake is in waiting until attack is unusually destructive, and then consulting those who, though eminently skilled in classification of insects, have no idea or well-founded knowledge of the points of agricultural treatment or forestry which must be brought to bear on the insects in some special stage of their life. Likewise (as occurred not long ago) to advise reliance on the insectivorous animals of England for help in India or Ceylon is a decided mistake.

If, from the long experience which I have now had of gaining information on insect attacks and forming it into readable shape, you think any suggestions on my part would be of service, I should be most happy to give any attention in my power to the subject. But, meanwhile, I may most truly say that if the crop, or timber, or fruit growers of India were furnished with plain and comprehensive accounts of the history and habits of the common insect pests, accompanied by woodcut figures, so as to convey the appearance of the pests without wearisome description of details, that all this would be a national benefit, soon paying the outlay hundreds of times over. — With renewed thanks, I am, dear Mr. Balfour, yours very truly,

ELEANOR A. ORMEROD.

P.S.—Pray make any use you may think fit of this; it will give me pleasure for it to be of any service.

E. A. O.