

ILLUSTRATIONS OF
AFRICAN
BLOOD-SUCKING FLIES
OTHER THAN MOSQUITOES
AND TSETSE-FLIES

BY
ERNEST EDWARD AUSTEN,
ASSISTANT IN THE DEPARTMENT OF ZOOLOGY,
BRITISH MUSEUM (NATURAL HISTORY),
WITH COLOURED FIGURES BY GRACE EDWARDS.



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PREFACE.

THE belief that Insects act as the carriers of certain diseases has only of late years been scientifically established. There is, however, at the present time no disposition to underrate the practical importance of an accurate knowledge of the blood-sucking forms. It is hoped that the "Illustrations" now published may be of service to some of those who are engaged in the conflict with disease in Africa, as well as to others who are interested in the study of the Diptera.

A scheme for the preparation of a Monograph dealing with blood-sucking Insects in general was made by Sir E. Ray Lankester, K.C.B., when Director of the Natural History Departments of the British Museum. To wait until the Monograph could have been completed would have been to delay unduly the publication of the information which can now be given. The Diptera, or Two-winged Flies, are not only wanting in the attractiveness of form and colour so noticeable in the Lepidoptera for instance, but they are even regarded with dislike by the majority of people. These considerations will account for some of the deficiencies in the collections contained in our Museums; and the preparation of a satisfactory Monograph must accordingly be preceded by the accumulation of a large amount of material for study.

The Trustees therefore decided, on the suggestion of Mr. Charles O. Waterhouse, Assistant Keeper in charge of the Insect Section, to issue a series of volumes, from time to time, dealing with the blood-sucking Diptera in the way that is found possible and desirable at the moment. Four volumes of a Monograph of Mosquitoes, by Mr. F. V. Theobald, have been issued, from 1901 to 1907; and a fifth volume of the same Monograph is in course of preparation. The Tsetse-flies were described by Mr. E. E. Austen

in a work issued in 1903. The present volume deals with the Diptera, other than Mosquitoes and Tsetse-flies, which inhabit the parts of Africa indicated in the Author's Introduction. It is hoped that it will be followed in due course by other volumes of the same nature, and that these will collectively form material which will be of service in the compilation of a larger Monograph.

The cordial thanks of the Museum are due to successive Secretaries of State for the Colonies for the encouragement that has been officially given to the Colonial Medical officers to make collections, and to send information to the Museum, as well as to those whose practical efforts in the field have proved so essential to the accomplishment of the present undertaking.

SIDNEY F. HARMER,

Keeper of Zoology.

BRITISH MUSEUM (Natural History),

LONDON, S.W.

July, 1909.

INTRODUCTION.

THE epoch-making discoveries, made within the last fourteen years as to the etiology and mode of dissemination of some of the most formidable diseases threatening human life and progress in the Tropics, have naturally produced widespread interest in the proved or potential living carriers of pathogenic micro-organisms. As regards Blood-sucking Flies, at any rate, nowhere is this interest keener than in Tropical Africa, in the sanitation and development of which the greater number of European nations are more or less concerned. It was therefore thought that "African Blood-sucking Flies (other than Mosquitoes and Tsetse-Flies)" might well be selected as the subject of what is intended to be one of a series of volumes, dealing in a similar manner with the blood-sucking Diptera. In the present work no attempt has been made to provide detailed technical descriptions of species, since experience has shown that such descriptions are of little use to any but specialists. No pains have, however, been spared in order to make the illustrations as accurate as possible, and although it cannot be claimed that they are perfect, it is nevertheless hoped that the standard of accuracy attained in the figures is such as to render detailed descriptions unnecessary.

For the purposes of this book, "African" has been taken as signifying "Ethiopian," except that Egyptian species, owing to their close affinity to or identity with those found in the Anglo-Egyptian Sudan, have also been included; in other words, with the exception of Egypt, the countries lying to the north of the Tropic of Cancer, and therefore zoo-geographically beyond the northern limit of the Ethiopian Region, have been regarded as outside the scope of the work, so that species found in Tripoli, Tunis, Algeria, and Morocco have been left out of account. The concluding chapter has been devoted to lists of African Blood-