esis of mimicry or the like. There are some very quotable bits in the letters. In a letter of April, 1868, Darwin writes:

Many thanks for your Photograph, and I send mine, but it is a hideous affair—merely a modified, hardly an improved, Gorilla.

Mr. Trimen's first meeting, or rather first seeing, of Darwin, as described by him in a letter to Professor Poulton, is an interesting reminder of the reality of the heresy of the "Origin" in its first days.

It was in the Insect Room of the Zoological Department of the British Museum that I had my first glimpse of the illustrious Darwin. Towards the close of 1859, after my return from the Cape, I spent much time in the Insect Room identifying and comparing the insects collected with those in the National Collection. One day I was at work in the next compartment to that in which Adam White sat, and heard some one come in and a cheery, mellow voice say, "Good morning, Mr. White; I'm afraid you won't speak to me any more!" While I was conjecturing who the visitor could be, I was electrified by hearing White reply, in the most solemn and earnest way, "Ah, Sir! if ye had only stopped with the 'Voyage of the Beagle'!" There was a real lament in his voice, pathetic to any one who knew how to this kindly Scot, in his rigid orthodoxy and limited scientific view, the epoch-making "Origin," then just published, was more than a stumbling block—it was a grievous and painful lapse into error of the most pernicious kind. Mr. Darwin came almost directly into the compartment where I was working, and White was most warmly thanked by him for pointing out the insects he wished to see. Though I was longing for White to introduce me, I knew perfectly well that he would not do so; and after Mr. Darwin's departure White gave me many warnings against being lured into acceptance of the dangerous doctrines so seductively set forth by this most eminent but mistaken naturalist.

A little while afterwards, on the same day, I again saw Darwin in the Bird Galleries, where it was, I think, G. R. Gray who was showing him some mounted birds. A clerical friend with me, also a naturalist, curiously enough echoed White's warning by indicating Darwin as "the most dangerous man in England."

The most interesting of Professor Poulton's personal contributions to his volume are two papers treating the special subject of his studies, namely, the addresses on "The Value of Color in the Struggle for Life" and "Mimicry in the Butterflies of North America." One is a suggestive general treatment of the use-of-color subject, the other a detailed special consideration of a suggestive set of illustrations of one phase of this subject. As an entomologist acquainted somewhat with the alleged mimicry case from the Pacific Coast which to Professor Poulton seems to be, if really proved, "one of the most interesting and instructive examples of mimicry in the world," viz., the resemblances between *Limenitis californica* and *L. lorquini,* I can only say that much more evidence than at present has been collated is necessary before this case can receive general acceptance. But this Professor Poulton also recognizes fairly, so any present hesitancy to see the pertinence of this example of mimicry can not be misconstrued by its sponsor. What is needed in this case is exactly stated by Professor Poulton, viz., "extensive investigations in America."

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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 colored figures by Grace Edwards. London. 1909. Pp. 221, 13 colored plates.

Repeated demonstration of the agency of blood-sucking insects in the transmission of certain diseases invests with the greatest practical importance an accurate knowledge of the genera and species of these forms. Warfare against such diseases is now being carried on with great vigor in Africa and the volume under consideration has been prepared with a view to aiding in this contest.

In the preface the author mentions the plan of a general monograph on the blood-sucking insects which was originated by Sir E. Ray Lankester, when director of the natural history departments of the British Museum. Four volumes on mosquitoes, by F. V. Theobald,

were issued between 1901 and 1907, one, in which tsetse flies were treated by E. E. Austen, in 1903, and now this volume by the same author covers the remainder of the Diptera.

With the exception of Egypt the territory covered in this work falls within the limits of the zoogeographic province ordinarily called the Ethiopian region. The record is confessedly incomplete, even for the region indicated, as the material available was at best scanty, so that data concerning detailed distribution which are given in the last chapter of the book are of relatively little value. This defect, which is commented upon briefly only in the preface, is of a serious character, since many of the medical and military men who will be called upon to use the book are likely to draw unwarranted, though none the less unfortunate, inferences from the brevity of the records, but even more serious difficulties arise from the omission of any reference to those species not illustrated here.

As natural in a work dealing with forms that have so recently attracted particular attention, museum material from different countries is sure to be variable in amount and the records compiled therefrom of very unequal value. Cape Colony naturally leads in number of species recorded and Uganda is a close second, but some states have only three or four species listed, *i. e.*, are represented by very little material in the museum collections and yet the text of this chapter conveys no hints as to the proper method of interpreting its lists.

Of the Chironomidæ the work describes and figures one genus including three species; of the Simuliidæ, one genus with four species; of the Psychodidæ, one genus with a single species; of the Tabanidæ, seven genera with eighty-four species; of the Muscidæ two genera with five species, and of the Hippoboscidæ one genus with three species. These represent less than one half of the African species already known. The illustrations are very successful and in practical work will be of immense value. Synoptic keys as well as specific and generic descriptions are entirely omitted and reliance placed rightly upon the accuracy of the figures which are admirably done. The habitus and coloration of the species figured are vividly represented, even though few structural features are distinguishable in the plates.

The author handles the bionomics of the group treated in the broadest possible manner, always from the point of view of disease dissemination, and the records of work done by other investigators are particularly full and well digested. In fact, the text is a mine of information concerning the breeding, feeding habits, appearance and relation to disease of the individual families, genera and species. The work is evidently well done and bears the earmarks of accuracy. It also stands the test as regards completeness of data concerning the species treated.

The book is certainly popular—in the best sense of the word—rather than scientific, and is sure to prove very valuable to investigators experimenting on suspected species in the field. It is also an important reference work for those interested in this group either as students of Diptera, of medical zoology, or of disease transmission through insects.

HENRY B. WARD

Aposporie et Sexualité chez les Mousses, II. Par EL. et EM. MARCHAL. Bull. de l'Acad. roy. de Belgique (Classe de sciences), No. 12, pp. 1249–1288. 1909.

In previous papers on mosses the Marchals have shown that the differentiation of sex in certain diœcious species takes place in the formation of spores in the sporangia, a single sporangium containing both male and female spores; further, that a regeneration obtained from the cells of the sporophyte of a diœcious species before the formation of spores will develop into an hermaphroditic growth and produce both archegonia and antheridia.

The present paper deals with the sexual character of the products of apospory or these sporophytic regenerations. As might be expected, the aposporic outgrowth induced from a mutilated young sporangium is found to agree with the sporophyte in the number of chromosomes in its cells, and with $2n$ chromo-