

learn that she proposes to commence a new series with the next volume, with a slight alteration of plan, and to continue the work as long as her health will permit, which all entomologists will hope may be for many years yet. She is also about to issue a general index to the contents of the twenty-two parts of the first series.

Thirty-seven insects of various orders are mentioned in the present report, among the most interesting being fleas, which have been met with in some places in extraordinary abundance; the forest fly, which has latterly been very troublesome in various parts of Wales; and the "murrain worm," or the larva of the elephant hawk moth (*Choerocampa elpenor*), which is said to be the cause of disease among cattle in various parts of Ireland. As this larva is frequently found in plants growing near water, Miss Ormerod suggests that the mischief may perhaps be caused by some poisonous plant, such as water dropwort or water hemlock (*Oenanthe crocata*), growing in the neighbourhood of the plants on which the caterpillars feed.

*Notes from a Diary: kept chiefly in Southern India, 1881-1886.* By the Right Hon. Sir M. E. Grant Duff, G.C.S.I. In Two Volumes. Vol. i., pp. xii + 373; vol. ii., pp. 373. (London: John Murray, 1899.)

THESE books are the fifth and sixth volumes of notes from the diary kept during the half-century now almost complete, by Sir M. E. Grant Duff. These pages, dealing with the years during which the author was Governor of Madras, are largely filled with extracts from the letters received from friends in Europe and elsewhere, interspersed with interesting information concerning the flora of Southern India.

Many of the items afford evidence of the interest which the author has always taken in botany.

Sir W. T. Thiselton-Dyer and Prof. Asa Gray, amongst others, reaped some of the fruits of this enthusiasm. On February 23, 1884, it is recorded that the former wrote: "Seeds have descended upon us in a perennial shower. The fountain was mostly sealed to us till your vigorous wand smote the rock of seclusion. We have distributed the residue punctually, as you wished." On July 19 of the same year was entered: "By last mail came several pamphlets from Asa Gray, to whom I have been sending Nilgiri and other seeds." Not the least interesting feature of these pleasantly-written experiences are the references to several men of science with whom Sir M. E. Grant Duff has come into contact. One of the most marked characteristics of both volumes is the collection of good stories; some are old friends, it is true, but many are new.

*Fertilisers: the Source, Character and Composition of Natural, Home-made, and Manufactured Fertilisers; and Suggestions as to their use for different Crops and Conditions.* By E. B. Voorhees. Pp. xiv + 335. (New York: The Macmillan Company. London: Macmillan and Co., Ltd., 1898.)

PROBABLY more popular text-books have been issued on the use of manures than on any other part of the subject of agriculture. The present book is carefully written. It gives the reader a good general view of the reasons which make it advisable to apply artificial manures to the land, it describes the principal American fertilisers, and offers prescriptions for all American crops. The recommendations have the appearance of being generally theoretical. There is a great lack of examples showing the actual effects under known conditions of different applications of manure. The important subject of the effectiveness of the residues of previous manuring is scarcely touched.

R. W.

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#### LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

#### Further Notes on Recent Volcanic Islands in the Pacific.

IN NATURE (vol. xli. p. 276, and in vol. xlvi. p. 611) I gave notes on an island in the Tonga Group, called Falcon Island, which had risen from the sea as the result of an eruption in 1885, when it was about two miles long and 250 feet high, and which had in 1892 been greatly diminished in size by the wash of the sea.

The site was again examined in 1898 by Captain Field in H.M.S. *Penguin*, and the island has now wholly disappeared leaving a breaking shoal in its place.

It will be very interesting to watch this shoal in the future and observe to what depth the sea is able to cut it down, if a fresh eruption does not again reinstate it as an island. I have stated my belief that the sea in this part of the ocean is able to cut such a protuberance down to over twenty fathoms. This island will afford an opportunity of testing the facts.

Metis Island, 75 miles N.N.E. from Falcon Island, also a volcanic product, first seen in 1875, has likewise been reduced to a shallow bank, under water, and will furnish another illustration of the erosive powers of the sea.

Metis Island was reported as a rock 29 feet high in 1875, subsequent eruptions raising it to 150 feet; but, from the fact of its total disappearance in twenty-four years, it would seem that it was, like Falcon Island, all ash, with no solid plug or lava.

W. J. L. WHARTON.

April 15.

#### Mosquitoes and Malaria.—The Manner in which Mosquitoes intended for Determination should be Collected and Preserved.

THE widespread interest now being taken by English medical men and others in all parts of the world, in the dissemination of malaria parasites by means of mosquitoes, which would seem to have been placed beyond dispute by the recent researches of Major Ross, I.M.S., in India, and of the Italian school represented by Drs. Grassi, Bignami, and Bastianelli at Rome—an interest due to the fact that, as a price of world-wide empire, the English race suffers more than any other from the malaria scourge—renders it highly desirable that there should be in the British Museum in London a collection of carefully preserved and accurately determined Culicidæ of the world. Such a collection, when once worked out, would be invaluable for settling the identity of any species that might become an object of suspicion, and the specimens composing it would be at all times available for comparison. Most of the existing descriptions of Culicidæ leave much to be desired (having been based too often upon insufficient material), and are but rarely accompanied by figures of any kind. A collection such as is suggested would, however, enable us to amend or amplify existing descriptions; or, if these should be found altogether unrecognisable, to prepare new ones based upon types in satisfactory preservation; it would also be possible to publish coloured or other plates of the more important species. For all these purposes it is absolutely necessary to have specimens in the best possible condition. Like a large number of other Diptera, mosquitoes from various quarters of the globe differ but little in outward appearance, and even to the eye of a Dipterist a *Culex* or *Anopheles* from Calcutta may look remarkably like a specimen from Chelsea. But when it is found that the hæmatozoa of malaria, while capable of development in one or more species of a genus, are not so in others, although closely allied—in view of the hoped-for practical outcome of the present investigations, the necessity for the accurate and trustworthy determination of the species of mosquitoes becomes doubly manifest. Unfortunately (from the present point of view, which is scientific as well as practical), a mosquito is among the most delicate of Diptera, with its wing-veins and legs clothed with scales, which inevitably come off if rubbed, while the legs themselves part company with the body on the slightest provocation. Since it is upon the scaly covering of the mosquito