

whole, the book is singularly interesting, and well worth reading. We may be able hereafter to notice more in detail, and discuss more fully, some of the themes which Sir Henry Maine has made so attractive.

REPORT OF THE UNITED STATES ENTOMOLOGIST.

Report of the entomologist (of the department of agriculture) for the fiscal year ending June 30, 1882.

By C. V. Riley. Washington, Government printing-office, 1882. 167 p., 20 pl. 8°.

THE report before us, which is extracted from the annual report of the department of agriculture, is not only the most voluminous contribution to economic entomology of the year just closed, but it presents the results of the most extensive investigations in this field during that period. The author, an entomologist of unusual ability and experience, was aided by a corps of very efficient assistants, and had at his disposal a large appropriation. This combination could not fail to produce important results.

It is to be regretted that the report reflects the character of too many other public documents, in that much is printed which has not the slightest permanent value; letters, for instance, from correspondents, often in full, which could have been advantageously reduced to half their extent; or accounts like that of the invasion of the army-worm in New Jersey, which is pleasant reading enough, and well suited to a popular journal, but out of place here in the form in which it is cast. Very different from these are the portions written by the entomologist and the members of his staff: these are direct, and to the point.

As the volume containing this report may be had for the asking, it will be in the possession of all who are especially interested in economic entomology. On this account, it is not worth while to refer, in this place, to each of the many topics discussed. A few of them are of general interest.

The circular which accompanied the seeds of *Pyrethrum*, that were distributed by the commissioner of agriculture, is reprinted, and is illustrated by two excellent colored plates representing the flowers and leaves of *P. roseum* and *P. cinerariaefolium*. The circular gives a *résumé* of what is known respecting the history of *Pyrethrum*, the method of preparing the powder, and the modes of using it. Dr. Riley adds reports from persons to whom seeds were distributed. Only a few persons succeeded in raising good plants. These were

chiefly in the north. The failures were probably largely due to drought and bad seed. A report of experiments with the powder, by Miss Murtfeldt, is also given.

Acting under the direction of Dr. Riley, Mr. Hubbard experimented upon scale-insects with various insecticides, and especially with emulsions of kerosene and milk. These emulsions were the most efficient of the substances used.

Several insects infesting the rice-plant are described. The rice-grub is the larva of a beetle (*Chalepus trachypygus*). This insect feeds upon the roots of rice, and has done considerable damage to rice-plantations. Howard states that the larvae and adults are both destroyed by the 'harvest-water'; and consequently the breeding-places must be those fields which are not flooded, and the patches of volunteer rice. Therefore the insect can be easily kept in check, except where upland rice is grown. The rice-stalk borer (*Chilo oryzaeellus*) is a new lepidopterous insect described by Riley. The habits of the larva, which are indicated by the popular name, are reported by Howard.

Economic entomologists will note with especial interest the discovery of the larva of the 'corn bill-bug' (*Sphenophorus robustus*). This larva infests the stalks of corn at or near the surface of the ground. If, as is now supposed, the adult beetle hibernates in the stalk, ploughing up the stubble, and burning it, will be a simple remedy.

'The smaller corn-stalk borer' (*Pempelia lignosella*) is a new corn-pest which is very destructive in the Carolinas and Georgia.

In an article on the cotton-worm, a machine for spraying the cotton-plant from below is described, and illustrated by a full-page figure.

Embodied in this report is a part of a report on miscellaneous insects, made by Prof. J. H. Comstock to the commissioner of agriculture; the most interesting portion relates to lac insects, of which two species are described from Mexico and the adjoining portion of the United States.

MACGREGOR'S BALUTCHISTAN.

Wanderings in Balochistan. By Sir C. M. MACGREGOR. London, Allen & Co., 1882. 315 p., illustr. 8°.

THIS is a rather loosely written narrative — with a tendency to slang expressions, such as 'green funk,' 'make tracks,' — of a reconnaissance expedition undertaken in 1876-77, in company with Capt. R. B. Lockwood, who,