

THE MEDITERRANEAN FLOUR-MOTH.

(Ephestia kuhniella. Zeller.)

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Probably the most interesting occurrence, from an entomological standpoint, which has taken place during the past year, was the discovery that a mill in the heart of one of our large milling centres had been infested to such an extent by a vast colony of insects as to necessitate the closing of the mill and the cessation of all business. This insect proved to be a new pest to America, but one which, during the last decade, has received much attention in Europe, where it is described as "the scourge of the Mediterranean ports." Immediately upon its recognition the attention of the government was officially drawn to it, and prompt and radical measures were adopted to ensure its extermination. The matter was placed by the Hon. Minister of Agriculture for Ontario in the hands of Dr. P. H. Bryce, the secretary of the Provincial Board of Health, who subsequently published the results of his enquiries and investigations in pamphlet form as Bulletin I. of the Board of Health. This publication is plainly expressed and treats the subject in a practical manner. The importance of the matter is shown and the history of the attack is told. The insect in its various stages is shown by figures, and as much of its life-history in Europe and in this country as was known is detailed. At the time of the first appearance of this new pest in Canada, there was very little available literature upon the subject, the only article of a practical nature being that by Miss Eleanor A. Ormerod, Entomologist of the Royal Agricultural Society of England, in her Twelfth Report.

Since the publication of Dr. Bryce's pamphlet a very complete article giving a summary of the known history of the insect has appeared in the pages of "Insect Life," vol. ii., p. 166.

This article gives much valuable information and describes the larva of another closely allied species, *Ephestia interpunctella*, (= *zeæ*, Fitch) which might be confounded with the Mediterranean Flour-moth. The beautiful illustrations, Fig. 49 and 50, used herewith, were drawn specially for that article, and have been kindly lent to our society by Prof. Riley. Although this insect has attracted much attention during the last ten or twelve years it does not appear to have been known until the year 1877, when specimens of the moths and larvæ were placed in the hands of Prof. P. C. Zeller, of Grunhof, Germany, by Dr. Kühn, Director of the Agricultural Institute of the University of Halle. They were stated to have been very troublesome in the bolting cloths of a flour mill. Prof. Zeller found that they belonged to a previously undescribed species, and in the *Stettiner Entomologische Zeitung* for 1879, pp. 466-71, he described it under the name *kuhniella*, after the gentleman who sent him the first specimens. In Prof. Riley's article above mentioned the following records of injuries are given.

Preudhomme de Borre, in 1884, gave an account of injury done by this insect in Belgium. In May of the same year Dr. F. Karsch records the appearance of the moth at several places along the Lower Rhine. In the same month M. Maurice Gerard read a note before the Entomological Society of France on the ravages of this moth, which had appeared in enormous numbers in a flour mill at Lodelinsarte, Belgium. In an editorial note in the *Entomologische Nachrichten*, for 1885, mention is made of reports of the appearance of the insect in mills near Bremworde, and in the same publication a review is given of a com-