

material may be used by the same species to construct their "cow-sheds" or tents.

As we concluded in our memoir, "There is no doubt that this habit of building detritus and carton tents has developed for no other purpose than that of protecting the various species of aphides which are kept by the ants for the sake of their honey-like secretions. By the construction of such "cow-sheds" the aphides are able to continue sucking the juices of the plant and at the same time they are not only protected from their enemies, but also from alien ants. The protection from cold is also important, as Brandes (in 'Die Blattlaus und der Honigbau,' *Zeitschrift f. Natur wiss*, vol. 66, 1894), has found that aphides are most active during the warmer part of the day, so that in keeping these warm the ants would also be obtaining a large supply of the secretion from them. In addition to these explanations of the tent-building habits of ants, Wheeler also suggests that the tents may be to prevent the escape of the aphides to other plants or other parts of the same plant.

"The evolution of the forms of the tents which are found in the different genera of tent-building ants may have started with the small earthen cell covering a few aphides; this may have been constructed either on the stem or by filling the space formed by the inrolling of certain of the leaves. Further enlargement and elaboration would lead to the formation of a spherical or cylindrical tent having the stem as axis, and finally, to secure for themselves the greatest comfort and convenience, the ants would connect these tents either with the earth or with their subterranean nests by means of covered passages."

This great adaptability to its environment, the usage of the means at hand and variability of constructive power in a single species of insect such as *Lasius niger*, is of very great interest to the entomologist who becomes so accustomed to the fact of a certain species of insect making nests or structures of a particular and more or less fixed type, such as we find in the other social and solitary hymenoptera as the bees and wasps, and also in other orders of insects.

BOOK REVIEW.

FARM WEEDS OF CANADA.—By George H. Clark, B.S.A., and James Fletcher, LL.D., F.R.S.C., F.L.S., with illustrations by Norman Criddle: Second Edition. Revised and En-

larged by George H. Clark. For sale, by single copies only, at the office of the Superintendent of Stationery Government Printing Bureau, Ottawa. Price \$1.00.

We were particularly pleased to receive recently the second edition of this most useful publication. There are a number of splendid new features which are at once seen in a hasty glance through the book. In the first place it is of a more convenient size and the Table of Contents at the beginning is a useful addition. The general make up of the work is an improvement on the first edition, the type is better and the arrangement of the subject matter all that could be desired. Twenty full page additional coloured plates are included, the work of Mr. Criddle. As Mr. Clark says, considerable re-arrangement of the matter was made necessary in this second edition in order that the various plant families, genera and species might be adjusted to conform with the recommendations of the International Botanical Congress at Vienna and now generally adopted by botanists. In revising the descriptions of plants and seeds technical terms have been avoided wherever possible. Many most interesting quotations apropos of the subject are used throughout the book to complete pages. In the Preface it is stated that "Farm Weeds of Canada was one of the last of the many contributions to agriculture from the late Dr. James Fletcher. It is desired that this second edition of the book will further perpetuate to his memory that large measure of appreciation of his unselfish personality and zeal for useful service which he so richly deserved." This new edition of Farm Weeds is a particularly valuable work and is without doubt one of the best, if not the best, Government publication which has yet appeared in any country. The Dominion Department of Agriculture is fully alive to the enormous annual losses caused in Canada by Weeds. The first edition of Farm Weeds was eagerly sought after by farmers and others throughout Canada, and has already been of inestimable value to the country. The second edition revised and enlarged will doubtless too soon be exhausted. The nominal price fixed for its sale will restrict its distribution to those who will preserve and make good use of it. The Ottawa Field-Naturalists' Club is specially interested in this book, in that Mr. George H. Clark, Seed Commissioner of the federal Department of Agriculture, and Mr. Norman Criddle who made the drawings, are both members. Other members of the Club too, who assisted and whose names we notice in the Preface are Mr. George Michaud, Prof. John Macoun, Mr. T. G. Raynor, Mr. J. H. Grisdale, Mr. T. N. Willing, and Mr. James Murray.

A. G.



Gibson, Arthur. 1909. "Farm Weeds of Canada, by George H. Clark and James Fletcher [Review]." *The Ottawa naturalist* 23(9), 170–171.

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