

TENT-BUILDING HABITS OF ANTS.

BY C. GORDON HEWITT, D.Sc.

(Dominion Entomologist, Ottawa).

The short and interesting article in the November number of THE OTTAWA NATURALIST on "Ant Roads," by Mr. Charles Macnamara, induced me to believe that an account of some further habits of ants might be of interest, and this is my apology for giving a *résumé* of some observations which my friend, Dr. Marie Stopes made during a recent sojourn in Japan, and an account of which she published with my collaboration in the "*Memoirs of the Manchester Library and Philosophical Society*," Vol. 53, (Memoir No. 20, 1909), under the title "On the Tent-building Habits of the Ant, *Lasius niger*, Linn., in Japan."

Lasius niger is the common brown or black garden ant and has a world-wide distribution. It usually constructs underground galleries and passages, and frequently keeps or cultivates aphides for the sake of the "honey-dew" which is an excretory product of the alimentary canal and is much sought after by the ants for food. It is not, as is frequently supposed, secreted by the small horn-like posterior appendages of the ants known as the syphons. The ants, as it has been stated, sometimes take the aphid eggs into their nests to protect them from the frost. *L. niger*, to my mind, is rather like man in the development of its agricultural methods. In some regions they are in these respects less advanced than in other places. Some are mere savages and leave their "cows," the aphides, out in the open to take care of themselves, others take great pains to keep their live-stock under such conditions as to be free from all danger and to ensure a maximum amount of "honey dew" production—they are the up-to-date farmers, so to speak. I do not intend to enter the arena of the vexed question of whether these actions are due to intelligence or instinct on the part of the ants: that is not my object. I am simply giving facts; let those who will analyse the motive power of these activities.

So that we find that whereas certain ants are content to wander along their well-worn paths to the pasture fields where their aphid stock is herded, others more advanced in their agricultural development make shelters or "tents," as they have been called, for their insect herds; we have called them "cow-sheds."

As early as 1810 Huber described these structures which *L. niger* was accustomed to make. He found small spherical