

Insect Collecting in Zero Weather in Illinois.

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(Presented at meeting of March 3, 1921.)

The week before Christmas, December, 1920, I spent at a farm house near Rockford, Ill. It was hardly a favorable time for collecting insects, as for a part of the time the temperature dropped as low as zero. However, a few interesting captures were made, which are now exhibited.

In a cavity in the center of a block of wood, recently brought in from the forest, was found a colony of the large black wood ant, *Camponotus pennsylvanicus* (Deg.), of which a series of specimens was secured. Among these ants some queer brown insects were noticed, and sixteen of them were collected. These proved to be a species of Staphylinid beetle, *Xenodusa cava* (Lec.), which is an inquiline in ants' nests. I had never before seen any of these insects. The ants feed the beetles and their larvae, and they in turn lick the clusters of hairs on the sides of some of the abdominal segments of the beetles. An account of this is given in Wheeler's Ant Book.

In another cavity, which was an old channel of some wood borer, opening out to the exterior, was a mud nest of some wasp, containing several cells in a mass. From this mud nest, four pretty, white-marked Ichneumonids* issued the latter part of February; also 143 small *Tetrastichus* issued during the middle of the same month. The latter were determined as *Tetrastichus johnsoni* Ashmead, by Mr. Timberlake.† One wasp, *Ceropales fraterna* Smith, issued March 3. From what has been previously observed of this wasp, it may have been a parasite on the wasp which was the builder of the nest. If so, the true builder of the nest was not learned, for the total emergences are given above. On examination of the eight cells of the nest, one cell contained the cocoon of the *Ceropales fraterna*; four cells contained the cocoons of the Ichneumonids; two cells contained cocoons of the Ichneumonid from which

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* *Mesostenus discoidalis* Cresson, as determined later by R. A. Cushman.

† Identification confirmed by Mr. A. B. Gahan by comparison with types in the U. S. National Museum.

the *Tetrastichus johnsoni* had issued, thus proving the host of this parasite; the remaining cell contained a cocoon of the Ichneumonid with a dried-up larva.

It was not possible to determine the host of this Ichneumonid. But it must have been either the *Ceropales fraterna*, or if this wasp was a parasite on some other wasp (possibly an *Agenia*) that may have built the nest, the Ichneumonid might have been a parasite on the *Agenia*.

In similar blocks of wood were found many larvae of two or three Longicorn beetles, and possibly of Buprestids as well. None were collected, nor were any adults found, or remains of any adult beetles that might be a help to the identification of the larvae. Beneath the bark where beetle larvae had been working, three cocoons were collected, from which one Braconid[‡] issued. It probably was a parasite on some one of the beetle larvae.

[‡] *Atanycolus* sp., as determined later by S. A. Rohwer.