

as above described, I have noticed that the *Leptothorax* after mounting a *Myrmica* sometimes turns about and licks the metathorax or even the abdomen of its host, as if, like *Myrmecophila* (see Wheeler, '00), it found the surface covered with some agreeable secretion. It seems, therefore, not improbable that the *Myrmicas* may derive some slight benefit from guests which, like many tonsors, combine the occupation of the barber and bather. It is perhaps unnecessary to add that the *Myrmica* does not always pay for the shampooing it receives. But the *Leptothorax* is not discouraged; it merely dismounts and runs about in the galleries till it falls in with another *Myrmica*.

The *Leptothorax* workers were never seen to approach the male *Myrmicas*, and only once did I see one shampooing one of the queens. So conspicuous was this neglect of the two fertile sexes of their hosts and their predilection for the workers, that I was convinced that they habitually ignore the queens and males, because these insects, like themselves, depend on the *Myrmica* workers for their sustenance and are probably on that account not in the habit of regurgitating.

On the evening of the day on which the ants moved into the Lubbock nest and during a portion of the following day, August 26, the queen *Leptothorax* wandered about outside the nest as if seeking a more favorable retreat. By 4 P.M., however, she had entered the nest and, with eight of her workers gathered about her and her two mature larvæ, was found occupying a small earthen chamber under the very middle of the roof-pane. This chamber, which had evidently been dug by the *Leptothorax*, was surrounded on all sides by the large galleries of the *Myrmicas*. Seen from above, the *Leptothorax* nest had the appearance of Fig. 4 *a*. The queen, workers, and larvæ, nearly filled the small cavity, *a*, which communicated with a wide *Myrmica* gallery, *c*, by means of a passage, *o*, too small to admit a *Myrmica*. Through this narrow passage a few *Leptothorax* workers entered or passed out from time to time, but several always remained in the nest with their queen. Usually from one to six workers were to be seen soliciting food among the *Myrmicas*.