

The Ants.

In a recent book on the Origin of Species, Mr. Darwin, an eminent English naturalist, gives some account of two species of ants, whose custom it is to make slaves of other species. Of these slave-making ants there are two species, which differ in some respects in their treatment of and dependence on their slaves. One is the red ant, *formica rubeicens*, which inhabits Switzerland, and whose habits were observed by Huber, a son of the celebrated observer of bees. "This ant," says Darwin, "is absolutely dependent on its slaves; without their aid the species would certainly become extinct in a single year. The males and fertile females do no work. The workers, or sterile females, though most energetic and courageous in capturing slaves, do no other work. They are incapable of making their own nests or of feeding their own larvæ. When the old nest is found inconvenient, and they have to migrate, it is the slaves which determine the migration and actually carry their masters in their jaws.

So utterly helpless are the masters, that when Huber shut up thirty of them without a slave, but with plenty of the food they like best, and with their larvæ, on purpose to stimulate them to work, they did nothing. They could not feed themselves, and many perished of hunger. Huber then introduced a single slave, and she instantly set to work, fed the survivors, made some cells, and tended the larvæ, and put all to rights."

The other species, the bloody ant, *formica sanguinea*, is found also in England, and was observed by Darwin himself as well as by Huber. Says Darwin, "males and fertile females of the slave species are found only in their proper communities, and have never been observed in the nests of *F. Sanguinea*.—*The slaves are black*, and not above half the size of their red masters, so that the contrast in their appearance is very great.

When the nest is slightly disturbed, the slaves occasionally come out, and like their masters, are much agitated and defend the nest; when the the nest is much agitated, the slaves work energetically with their masters in carrying them away to a place of safety. They are considered by observers as "strictly household slaves." This species differs from the other, in doing something to get their own living and in protecting the nests. "The masters," says Darwin, "may be constantly seen bringing in materials for the nest, and food of all kinds."

Sometimes the slave communities resist the filibuster attacks of the masters. Darwin saw a body of the latter, who approached a nest of the former, vigorously repelled by an independent community of the slave species. Many of the latter were killed and carried away as food, but the attempt to get any of the pupæ, to rear as slaves, failed.

There is another species, the yellow ant, which, though small, is very courageous, and attacks courageously its big neighbors. The latter have learned to distinguish the pupæ of the yellow ants, and appeared much terrified when they came across it, or even the earth from the nest of the yellow ant, and quickly ran away; but after the yellow ants had crawled away, they took heart and carried off the pupæ.