

species. The latter method of colony formation appears under three aspects:

First, the queen may seek adoption in a moribund or queenless colony of another species and there have her young fed and reared by the alien workers. Later these die off and leave a pure colony of the parasitic species, which has now waxed sufficiently strong and independent, both in number and pugnacity, to hold its own in the struggle for existence. In the former note in the JOURNAL attention was first called to this type of temporary social parasitism in a Connecticut ant (*Formica difficilis* var. *consocians*) which, till its colony is established, lives with the common *F. schaufussi* var. *incerta*. During the past July the author was able to confirm and extend his observations on these insects. It was learned that queens of *F. consocians* were readily adopted by *incerta* workers, even when the latter had been isolated as pupæ and could not, therefore, have had any previous experience with the parasites. It was also discovered that workers of our common black ant (*Formica fusca* var. *subsericea*) could be induced to adopt solitary queens of the mound-building ant (*F. exsectoides*) and the fallow ant (*Formica rufa* subsp. *integra*). Hence it is probable that these species, which, of all our ants, develop the largest and most formidable colonies, start as humble temporary parasites in the nests of another species. Very recently Wasmann has shown that the author's conclusions are in all probability applicable also to the European ants of the *rufa* and *exsecta* groups.

The parasitic instincts of the queen ants belonging to the *rufa* and *exsecta* groups, which include *F. consocians*, *integra*, *exsectoides* and all the different forms of fallow ant (*F. rufa*) both of Europe and America, are probably traceable to a peculiarity of the adult colonies of these insects. It is known that these colonies sometimes consist of dozens of different nests, which have all been founded by young fertilized queens, accompanied by a number of workers of their own species, as offshoots from the original nest, that is, the one first established through temporary social parasitism. This habit of propagating a colony over several nests often many feet apart, has probably been the means of depriving the queens of the *rufa*