

biologically, from the *fusca* group, that is, from a *fusca*-like ancestor. In *fusca*, the habit of two or more queens jointly forming a colony—"pleometrosis" of Wasmann—sometimes occurs, but with this ant it is merely an occasional method of colony-formation. The typical method, according to which the individual female after the marriage flight starts her colony unaided, is most general. In *F. pratensis* and *F. rufa* pleometrosis is more fully developed, and is of use in splitting up the colony into branches, and by means of these extending the colony in the near vicinity. Brun considers that the great success of *rufa* as a species is accounted for by this habit of colony splitting. The origin of this branch-forming habit has been explained by Wasmann as an adaptation to special methods of life. *Rufa* and *pratensis* have become adapted to life in certain ecological situations, in which they are sporadically very abundant, in contrast to other more widely adaptable ants such as *Lasius*, *Tetramorium*, etc., which occur in nearly all kinds of localities. The special vegetative conditions to which *rufa* and *pratensis* are adapted are exhausted after the long-residence of an ant colony in one place, and then it is beneficial to be able to split the colony, and enable it to spread in the immediate vicinity where the conditions are the same, rather than to send off swarms to less favorable localities. This branching can be accomplished by the raising of reserve queens, which produce branch nests for the excess workers. Each season, during the time of flight, large numbers of sexual forms are held back in the nest. This habit has gradually modified the normal instinct of the female, the mneme of which has thus been weakened ("böszt an Frische ein"). After the marriage flight the normal instinct of an ant queen is to dig a hidden chamber, but in *rufa*, whose ancestors were continually surrounded by workers, because of the inherited engrammes, there is developed a strong "social desire," which drives it to seek worker society. Here there are three possibilities. The female may return to one of the peripheral nests of the mother colony, becoming in reality parasitic on the members of her own colony, which is the first stage in social parasitism. Many do not reach their own colonies, but find other nests of the same species, or of another race and take up with them, while a comparatively small number, reaching *rufa*-free ground, enter the nests of strange species. This latter is the