

tion in a colony of another species of ant, called the "host ant." This may be accomplished in several ways: (1) By entering a queenless colony of the host species, (2) by killing the queen of the host species herself, or (3) by inducing the workers of the host species to kill their own queen. In every case the end result, if successful, is the same; the queenless colony of the host ant accepts the alien or invading queen. Such temporary parasites include *Lasius umbratus* (Nylander) and probably some of the species of *Acanthomyops*. Their hosts are usually common species of *Lasius* (*Lasius*) such as *alienus* (Foerster) and *neoniger* Emery. One of the most common methods of establishing a new colony is for the fertilized queen (after losing her wings, forcibly or otherwise) to construct, or enter a preformed cell or cavity in wood or under the bark of a stump or log, close the chamber, and rear her first brood (unaided by workers) from the nourishment supplied by her salivary glands. The small, undernourished workers, which compose the first brood, then open up the nest and bring in food from the outside for the queen, her brood, themselves, and for future broods. As the colony becomes older and the amount of food greatly increases, more and larger workers are successively produced, and soldiers, females, and males appear. To attain this state of maturity, in which a colony may contain several thousand workers, many males and females, and innumerable brood, requires a long time—perhaps 3 to 5 years or more. After attaining this state of maturity, a colony may continue to produce these castes and immature stages for a number of successive years; just how long, we do not know. The method herein described is typical of many species of ants, especially the species of *Camponotus*, including our common black carpenter ant *C. pennsylvanicus*.

Economic Importance

Ants are among the most common and abundant of all our insects. The probable reason for their success is that they are highly adaptable to different environments, foods, and nesting sites, and possess great reproductive ability, hardiness, and alertness. These attributes cause ants to be one of man's chief insect competitors, and inimical to him in numerous ways. Ants may affect man adversely by infesting his house or buildings, where they may cause annoyance by feeding on human foods, or cause structural damage by their nesting activities. They mar the appearance of lawns, golf courses, and parks with their numerous and unsightly nests, steal seeds from seed beds, feed on seeds whether the seeds are germinating or not, defoliate plants, and gnaw into various parts of plants, especially roots and buds. They foster and spread other injurious insects such as plant lice and mealybugs, which in turn may injure the plant directly by their feeding activities or may spread a plant disease from an infected to a healthy plant. They may gnaw holes in various types of cloth, fabrics, and certain rubber goods, or remove the rubber insulation from telephone and electric wires, or damage the wiring of other electrical equipment. Ants sometimes kill young poultry or other birds, and small mammals, and occasionally may act as intermediate hosts for parasites of birds and small mammals. They are especially annoying because of their biting