

jackets" and "white-faced hornets" whose stings are so much feared by marauding youngsters bent on destroying their colonies. They are the original pulp and paper-makers, and the nests of some species are very large and conspicuous objects attached to trees or buildings. Some of the species construct their homes in hollow trees or in holes in the ground. No matter how large a nest may be, it results from the initiative energy of one individual and is the work of one season, at the close of which it is deserted. The founder is a fertilized female which, after passing our long cold winter, say November to April inclusive, in a rotten log or other suitable retreat, emerges with the return of revivifying spring and at once starts the foundation of a colony. Gnawing off a little bundle of fibres from the nearest old fence, telegraph pole, or other convenient dead wood, she masticates and works them into a pulp with which a cell is commenced. As soon as a few cells are completed an egg is placed in each, and daily the nest grows larger by the constant addition of cells and protective covering. After a few days the eggs commence to hatch and the mother wasp has to toil more assiduously than ever to keep her establishment going. As the days lengthen and grow warmer so are her labours prolonged and intensified. In addition to paper-making and house-building, she has now to provide suitable nutrition for a constantly increasing family of voracious larvæ. The food for these consists chiefly of macerated insects and each grub, hanging head downward in its cell has to be separately fed. Flies form the chief prey of the wasp and, fortunately for her, these are now abundant. As so many of the diptera are obnoxious, the labours of the wasp tend to benefit us indirectly. Juices of fruits, especially of over-ripe or injured ones, are attractive to the yellow-jackets, but any loss which they may inflict in gathering the sugary secretions is abundantly compensated for by the destruction of innumerable flies attacking plants and animals. At the end of four weeks from oviposition the young wasps have passed through their various stages and are able henceforth to assist in the various duties of the establishment. They are all sterile, or imperfectly developed females, which are known as workers, and which are smaller than the queen mother. The latter is gradually relieved from the gathering of building and food supplies, and remains chiefly in the nest, placing her eggs in the cells as they are built or emptied. The continuance of the colony is now more assured than when the queen was exposed to the dangers which daily beset her when flying abroad. Workers are now constantly maturing and the nest increases in size, until it may be as large as a football, and contain several discs of comb suspended one below the other,