

A few gall-forming species occur in Australia. The young mitelike females at first have the power of locomotion. The perfect male has only one pair of wings, like flies. Sexual reproduction is the normal method, while parthenogenesis and viviparous reproduction, so common in the aphids, is a rare method among the Coccidæ. Almost complete histolysis may occur in the female, lasting for several years. The young of both sexes sink the rostrum into plants, suck the sap, and secrete a waxy coating or shield of some sort, under which they undergo subsequent development. Coccidæ occur on bark, leaves, and fruits of various trees, and as they are sap suckers they may greatly impoverish or kill the plant. The black or brown scalelike spots on oranges and lemons are really scale insects, and by the transportation of the fruit gain world-wide distribution. Honeydew is secreted by the Coccidæ, but usually not so plentifully as by the Aphidæ. The "man" still used by the Arabs for food is probably the manna of Exodus and is secreted by a coccus. White wax is secreted by a species in India, and another produces in China the wax commercially known as China wax. The shelly resinous scale produced by another form is the lac or shellac of commerce, while the body of the lac-producing insect affords the red dye known as lake. Other Asiatic and European species furnish dyes. The tropical American *Coccus cacti* yields cochineal (q.v.). Axin and axinic acid are produced by another Mexican coccus. Consult Newstead, *Monograph of the Coccidæ of the British Isles* (London, 1900), and the references to subdivisions of this group in Banks, "List of Works on North American Entomology," *Department of Agriculture, Bulletin 81* (Washington, 1910). See LAC INSECT; SCALE INSECT.

COC'CIDÆ (Neo-Lat. nom. pl., from Lat. *coccum*, Gk. κόκκος, *kokkos*, berry). A family of bugs, including the scale bugs or bark lice, the mealy bugs, and others without popular names. This family not only departs the most widely from the Hemiptera, but in it the most anomalous forms among insects are found; and the most extraordinary diversities occur, even in the two sexes of the same species. The habit of secreting a shell or covering of some sort is common to all the Coccidæ, most frequently in the form of a scale made up of cast skins and excreted matter. Sometimes, as in the case of the mealy bugs, the covering is white and powdery; and in the "ground pearls" it is glassy or shell-like and may entirely incase the insect.