

group of the *Bees*, or *Skin-winged Flies* (Hymenoptera), is closely allied to the four orders of biting Flies. Among them are those Flies which have risen to such an astonishing degree of mental development, of intellectual perfection, and strength of character, by their extensive division of labour, formation of communities and states, and surpass in this not merely most invertebrate animals, but even most animals in general. This may be said especially of all ants and bees, also of wasps, leaf-wasps, wood-wasps, gall-wasps, etc. They are first met with in a fossil state in the oolites, but they do not appear in greater numbers until the tertiary period. Probably these insects developed either out of a branch of the primæval Flies or the gauze-winged Flies.

Of the two orders of *Pricking Flies* (Hemiptera and Diptera), that containing the *Half-winged Flies* (Hemiptera), also called Beaked Flies (Rhynchota), is the older of the two. It includes three sub-orders, viz., the leaf-lice (Homoptera), the bugs (Heteroptera), and lice (Pediculina). Fossil remains of the first two classes are found in the oolites; but an ancient Fly (Eugereon) is found in the Permian system, and seems to indicate the derivation of the Hemiptera from the Neuroptera. Probably the most ancient of the three sub-orders of the Hemiptera are the Homoptera, among which, besides the actual leaf-lice, are the shield-lice, leaf-fleas, and leaf-cricket, or Cicadæ. Lice have probably developed out of two different branches of Homoptera, by continued degeneration (especially by the loss of wings); bugs, on the other hand, by the perfecting and differentiation of the two pairs of wings.