

of Gauze-winged Flies (Neuroptera), probably developed directly out of the primæval Flies, which differ from them only by their perfect series of transformations. Among them are the gauze-flies (Planipennia), caddis-flies (Phryganida), and fan-flies (Strepsiptera). Fossil Flies, which form the transition from the primæval Flies (Libellula) to the gauze-winged (Sialidæ), are found even in coal (Dictyophylebia).

The order of *Straight-winged Flies* (Orthoptera) developed at an early period out of another branch of the primæval Flies by differentiation of the two pairs of wings. This division is composed of one group with a great variety of forms—cockroaches, grasshoppers, crickets, etc. (Ulonata)—and of a smaller group consisting only of the well-known earwigs (Labiidura), which are characterised by nippers at the hinder end of their bodies. Fossil remains of cockroaches, as well as of crickets and grasshoppers, have been found in coal.

Fossil remains of the fourth order of Biting Flies, *beetles* (Coleoptera) likewise occur in coal. This extremely comprehensive order—the favourite one of amateurs and collectors—shows more clearly than any other what infinite variety of forms can be developed externally by adaptation to different conditions of life, without the internal structure and the original form of the body being in any way essentially changed. Beetles have probably developed out of a branch of the straight-winged Flies, from which they differ only in their transformations (larva, pupa, etc.)

The one order of *Licking Flies*, namely, the interesting