

# INTRODUCTION.

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THE three Families of which this, the Seventh Volume of the Coleoptera, treats—the Erotylidæ, the Endomychidæ, and the Coccinellidæ—form a not unnatural assemblage of genera, though at first sight, and indeed on closer examination, they present considerable divergence in points which have been usually regarded as of great importance in Classification. Such is the tarsal structure, which in the first of these families is pentamerous, but very much modified, becoming in the less specialized genera tetramerous. In the second family—the Endomychidæ—the foot is tetramerous, but again modified; it is the basal joint which becomes obsolete, the fourth joint of the tarsi being, as in the Erotylidæ, a mere node at the base of the fifth or claw-joint. In the Coccinellidæ this nodal joint disappears.

Notwithstanding this very important difference, which is without doubt correlated with the habits of these insects, there are too many points of agreement to be passed over. One of these is the presence of certain impressed lines on the metasternum and on the basal abdominal segment, which are clearly in the higher groups, as the Languriides and the Erotylides, the rudiments of original fossettes or broad depressions for enabling the femora to lie closely retracted, with the tarsi and tibiæ shut up like a pocket-knife. These fossettes are retained and developed in the great majority of the Coccinellidæ, or become rudimentary in the Languriides and Erotylides, which have the legs less retractile, and are quite lost in the Endomychidæ and some genera of the other two groups.

The sole of the foot, like that of the Phytophagous section of Coleoptera, is broad and spongiose in the great majority of genera, two joints (Coccinellidæ), or three (Erotylidæ), being bilobed, flattened beneath, and furnished with papillæ, which are adapted for obtaining a firm hold on plants; this character, through the phytophagous Coccinellidæ, affords a clue to the phylogenetic connection of these families with the true Phytophaga. The Aphid-devouring instinct of the more highly developed Coccinellidæ would easily be explained on the view that certain phytophagous beetles obtained and preferred this food while pursuing their original habit of life, and possibly when the Aphides or Coccidæ were so abundant that they could not be avoided.