tures of the egg and first-stage maggot are, on the whole, of prime taxonomic rank in the Muscoidae. They are therefore available for family definition in the case of large groups or pronounced types where other characters fail us. We may also justly conclude that the reproductive system and general egg and maggot structures furnish characters of inferior rank but of great service in the definition of such taxonomic categories as genera, group-units, subtribes, tribes and subfamilies, and even at times of families if they are supported by other important characters.

A comparative study of plant and animal taxonomy suggests (1) that the eggs, embryos, early and adolescent stages of animals will always furnish us the main key to their affinities whether such is present or lacking in the adult; (2) that the characters of the reproductive system, while of less rank, will enable us to fix definitely the limits of the lower taxonomic categories when their definition is obscured in the adult; and finally (3) that the more a structure becomes specialized, the more the taxonomic value of its characters contracts. The first point justifies the erection of the eleven families outlined and recognized in this paper. The last point emphasizes again the extreme taxonomic difficulties that exist in the muscoid flies, which are undoubtedly not only among highly specialized but also among the most recently specialized of all arthropods and hence the most difficult to classify in a convenient system. However much the values of certain characters may contract, in other words however obscured may become the group relationships in the structures exhibiting these characters, we are nevertheless often compelled, in the absence of others more distinctive, to use them if we wish to define certain of the higher taxonomic categories. Thus, in order to attain the greatest degree of clearness and practicability, we should in actual practice limit our main group-definitions to the fundamental group-categories or lowest groups of genera in these flies, which have been called group-units. Each group-unit consists of the *typic genus* together with those *atypic genera* which are found to be more closely related to it than to any other typic genus. For definition of typic and atypic genera, see Tax. Musc. Flies, p. II.; and for many pertinent considerations, pp. 7–13. As an example, *Exorista* may be taken as a typic genus, and *Euphorocera* as an atypic genus belonging