

workers, without distinct mesonotal and metanotal sclerites and without ocelli. The first specimen is therefore of the subapterous mesonotal type, the second is apterous and stenonotal, the third and fourth are ergatogynes. Thus the three species, *M. rothsteini*, *subapterum* and *rubriceps* together represent all the principal stages from the perfect female to the worker.

My study of the large genus *Monomorium* shows that in some species the only females are stenonotal and apterous (*M. floricola*, *carbonarium*, etc.), whereas in others they are ergatogynes (*M. venustum*, *schurri*, etc.). In still other species both winged and ergatogynic forms occur (*leae*, *dichroum*, etc.). This "morphological restlessness" of the female is evidently a survival of a condition which was once common to all ants but which has disappeared in most genera through a survival of the two extremes of the graduated series of forms, the macronotal, winged form (female proper) and the micronotal, apterous form (worker), and the suppression of all the intermediate phases. That the species of *Monomorium* should retain so complete a picture of the various stages that have led up to the development of the worker caste is not surprising when we stop to consider that the genus is one of the most primitive in the subfamily Myrmicinae. This is shown by its simple morphological characters, the present cosmopolitan distribution of its species, their dominance in the ant-faunas of regions noted for the archaic character of their biota (Africa, Southern Asia, Australia and New Zealand), and the known geological age of the genus, which is represented in the Baltic amber by two species differing but slightly from existing forms. Space forbids a discussion of a few other Formicid genera in which a similar diversity of females is known to occur. Among the ants as a family we may conveniently recognize the following female types which at the same time represent stages in the phylogenetic development of the worker:

1. The macronotal, winged female.—Most ants.
2. The mesonotal, subapterous female.—*Monomorium subapterum* and *rubriceps* var. *cinctum*.
3. The stenonotal apterous female.—Some species of *Monomorium*, *Anochetus*, *Myrmecia*, *Odontomachus hastatus*, etc.
4. The micronotal female, or ergatogyne.—Some species of *Monomorium* and *Crematogaster*, *Polyergus rufescens*.
5. The ergatoid female.—*Leptogenys*, *Acanthostichus*, *Sphinctomyrmex*, *Onychomyrmex*, *Paranomopone*. These forms grade into the 'dichthadiigynes' of the Dorylinae.