

senting two additional tribes might well have been placed there in recent years if the classification had been done on either the old basis or by numerical taxonomy (Brown and Wilson, 1957, 1959).

One might also point to the subfamily Dorylinae, the army ants, the different tribes of which share an impressive number of characters, both morphological and behavioral, in worker, female and male castes, in larval morphology, in the behavior, physiology and ecology of the colony taken as a whole, and in the taxa ofinquilines they harbor. In spite of these detailed resemblances, all of which are no doubt adaptively correlated with the specialized army-ant way of life, I suspect that three and possibly four completely independent lineages make up the Dorylinae as the subfamily now stands in the books. This suspicion is based on major differences noted in internal characters and on other considerations too complicated to consider here; the case is currently under study. The literature of zoology, especially in recent times, is full of cases in which formerly "solid" higher taxa turn out to be polyphyletic after careful study.

The fact is that evolution into specialized adaptive zones commonly affects whole complexes of characters more inclusively than the numerical taxonomists seem to realize. I could most comfortably discuss several more interesting cases of convergence that have caused trouble in ant taxonomy, but I have chosen instead to make my point in more detail by comparing two lineages of degenerate parasitic beetles. I refer to the family Rhipiphoridae and the superfamily Stylopoidea, or Strepsiptera, both of which are regarded in the prevailing interpretations as coleopterous stocks (Crowson, 1955).

The Rhipiphoridae are an entomophagous offshoot of the primarily phytophagous (occasionally entomophagous) family Mordellidae, a major group of heteromorous beetles. The rhipiphorids reach the peak of their parasitic specialization in subfamily Rhipidiinae, which is composed of internal parasitoids of cockroaches (*Blattaria*). Figures 1 to 10, 13 and 16 show *Rhipidius quadriiceps*. Characters especially worthy of note here are the small, narrow, hairy elytra of the male, the coarsely faceted "raspberry" eyes, the broad fan-like male hind wings with radiate venation, the uniflabellate male

TABLE 1.—A COMPARISON OF TWENTY OBVIOUS CHARACTERS OF THE ABERRANT BEETLE FAMILIES RHIPIPHORIDAE (SUBFAMILY RHIPIDIINAE) AND MENGEIDAE.

Character	Rhipiphoridae (Rhipidiinae)	Stylopoidea (Mengeidae)
Spiracle on Abdom. VIII (cucujoid base char.)	0	0
Adult trochanters	+ (all legs)	0 in legs 1, 2?
♂ tarsal segments	5-5-4 or less	5-5-5
Wing shape fan-like, vannal area developed	+	+
Venation radiating	+	+
♀ wingless, modified for endoparasitism	+	+
♀ with legs	+	+
Adult raspberry eyes	+	+
Pronotum reduced	+	+
Internal parasites of:		
Hypermetamorphosis	<i>Blattaria</i>	<i>Thysanura</i>
"Triungulin" primary larva (several chars.)	+	+
Larvae: trochanters	+	0?
Elytra reduced, narrow	+	+
Elytra soft	+	+
Elytra hairy	+	+
Gonoforceps of ♂ genitalia	+	0
Antennal segments ♂	6-11	4-7
Antennal segments ♀	6-11	4-5
♂ antennae flabellate	+	+