

Species-groups and Phylogeny

The species of *Odontomachus* can be assigned among 12 more or less arbitrary groups. These groups can be arranged in a series in which the putatively more primitive ones come early, and the more advanced ones fall toward the end. Of course, any given species may exhibit a mixture of primitive and advanced character states, and the judgement about relative primitiveness of a taxon really boils down to a character-by-character assessment and correlations found among the states of the different characters. The main characters considered in a study of phylogeny within *Odontomachus* are the following:

1. **Mandibular form and armament (female).** It is difficult to separate mandibular characters into separate components. In general, I see the evolutionary progression as moving from long, slender mandibles with 3 slender, acute teeth in the apical trio, and a preapical series of large and sharp teeth diminishing in size basad along the mandibular shaft; toward a shorter, broad kind of mandible with the apical trio of teeth much shorter and thicker, quickly wearing to truncate or rounded, hammer- or bludgeon-like opposable surfaces, while the preapical masticatory border suffers the evolutionary reduction and eventual loss of at least the more distal tooth units as the border is transformed into a crenulate or cultrate shearing edge.

It is assumed that prey capture in the more primitive groups is mainly a matter of striking and puncturing the prey with the long, sharp teeth at the ends of the jaws (including the largest, most distal teeth of the preapical series). Thus, the primitive groups may have to depend more in prey with softer integument. We have no useful information on the prey or details of prey capture in the long-toothed groups, but by analogy with the sharp-toothed *Strumigenys* of subfamily Myrmicinae (Brown and Wilson, 1960) one might predict that they will be found to use the sting liberally against prey that have been struck and punctured, and sooner or later held impaled between the tips of the closed jaws (Ledoux, 1952). The longer jaws in the primitive groups may well be adaptive in holding protective allomones released by the prey away from the captor.

In the higher groups of *Odontomachus*, the bludgeon-and-shears jaws can be used against small, soft prey simply to crush them with one or two strikes by the blunt tips, while the shearing action of the sharp preapical masticatory border is effectively