

presence of paraglossae or paraglossal pegs in both the ponerines (including the ectatommines) and the myrmicines. Paraglossal lobes are found in only 1 species of those examined outside of these 2 subfamilies. It is striking that these structures should be totally lacking in the Cerapachyinae and Dorylinae, both considered phylogenetically close to the Ponerinae. The sensory pegs are identical in both subfamilies, and the paraglossae are quite similar, as can be seen in *Odontomachus rixosus* (fig. 333) and *Vollenhovia* n. sp. (fig. 341).

Though Brown (1954) maintained the Cerapachyinae as a distinct subfamily separated from the Ponerinae in his arrangement of the subfamilies into complexes, he and Nutting (1950) earlier indicated that this group is probably not deserving of subfamily rank. Reid has indicated that the Cerapachyinae are of one type of thorax and that they are close to the ponerine tribe Proceratiini. Kusnezov (1952) presented evidence that the cerapachyines were not ponerines, but his observations were based almost exclusively upon the genus *Acanthostichus*, doubtfully a cerapachyine. In mouthpart morphology, the cerapachyines superficially appear as a cohesive group. All possess a well developed transverse stipital groove, and all (except *Sphinctomyrmex*) have a similarly shaped 2-segmented maxillary palpus. But although the labra of *Cerapachys* (figs. 104, 107); and *Sphinctomyrmex* (fig. 118) are similar, those of *Acanthostichus* (fig. 102) and *Cylindromyrmex* (fig. 115) are quite different. Also, the transverse groove is not an exclusive character of the cerapachyines, but in only 1 ponerine species, *Amblyopone* sp., is it as well developed. In only one character, the unfused state of the sclerites of gastral segment 2, do the Cerapachyinae differ as a group from all the remaining Ponerinae (an intermediate condition with respect to fusion exists in *Cerapachys* sp. and *Sphinctomyrmex steinheili*). While their morphological similarities might be convergent responses to comparable raiding and foraging habits, forming an unrelated group of species, I would hesitate to place them back in the Ponerinae until more is known about their morphology and ethology.

Much attention has been given to the probable relationships between the Ponerinae, Dorylinae, and Cerapachyinae. Wheeler (1928) suggested that the Cerapachyinae served as an evolutionary link between the ponerines and dorylines, and Ashmead (1905) had earlier placed the genus *Acanthostichus* with the Dorylinae. Reid (1941) indicated that the development of the thorax did not support the view that the Cerapachyinae served as such a link, particularly since the thorax of *Dorylus* is less specialized than that of the Cerapachyinae. Brown and Nutting (1950), in examining wing venation, supported Reid's view. The proventriculus of the ponerines and cerapachyines is similar in construction, while that of the Dorylinae is reduced to the point where it consists of only the stomodaeal valve (Eisner, 1957).

Among the mouthpart characteristics, the galeal comb and the transverse stipital groove are most commonly shared by the Ponerinae, Cera-