

Emery's fascicle covering the subfamily in the Genera Insectorum in 1911. Emery's treatment was really a refinement of his earlier reclassification of the ponerines published in 1901. In his well-known key to the genera of ants, Wheeler (1922) followed Emery's classification of the Ponerini for the most part, but worked in the additional genera described up to 1922.

The Emery classification employed a number of characters of worker and female in distinguishing his genera of tribe Ponerini, but the two most stressed were (1) the number of segments in the maxillary and labial palpi, and (2) the number of tibial spurs on the middle and hind legs.

Unfortunately, the palpal character saw extensive use only during some of the early years of ant systematics. Emery, Mayr, and even Frederick Smith often gave the count of segments in their descriptions, but curiously, after Emery used the palpal counts as a foundation stone of his 1901 classification, these appendages were almost completely ignored by most later describers of ponerine species, probably due to the fact that the smaller mouthparts are so small and difficult of access. Later authors seem to have relied more on habitus than on truly diagnostic characters when they placed new (or supposed new) species to genus. As a result, some species have been described as new over and over again in different genera and subgenera (consult the case of "*Trachymesopus*" *brunoi* and its synonyms, discussed below). The primitive number of worker-female palpal segments appears to be 4, 4 (4 maxillary, 4 labial — the formula always stated in that order); in the male it is 6, 4, the basic number for all ants. In many Ponerini, especially the smaller or cryptobiotic species and their derivatives, the number is much reduced, and reaches as low as 0, 1 in the worker, while less consistent reduction occurs in the male. Palpal segmentation is undoubtedly important in generic classification and in the analysis of phyletic trends, but due to its neglect in species descriptions, it remains unknown for a majority of forms. Work is now going forward to correct this deficiency, and some results are incorporated in the present paper.

The other major character in question is the number and state of development of the tibial spurs. The trait is an ambiguous one, as can be seen from its employment in keys. Wheeler's 1922 key to the genera of the Ponerini states it this way in the very first couplet:

- Middle and hind tibiae with two spurs.....2.
 Middle and hind tibiae with a single, well-developed spur, which is always pectinate; the lateral spur is rudimentary or absent.....19.