the paraglossae of other insects. The function of these collections of setae has not been investigated, but they are probably active in both feeding and grooming. The subglossal brushes are present in all castes of all ants and are situated at the base of the glossa. One curiosity that these setae do present is their variety of shape, even within a single brush. The brushes generally point back toward the labial groove.

The glossa is always a prominent feature of the labium; it is always covered distally by a series of transverse ridges and nearly always surrounded at its base by a series of pores, called by Forel (1874) the *gustatory papillae*. The transverse ridges of the glossa seem to consist of series of scales that may possibly comprise highly modified setae. Weight is lent to this possibility by the presence on tiphiid glossae of what appear to be large numbers of setae.

For *Atta sexdens,* Bugnion (1930) described a pair of structures, inserted near the base of the glossa, which he described as cylindrical, transparent pegs (*bâtonnets*). In this investigation, such transparent structures were found in every myrmicine species examined (except *Metapone truki* and the queen of *Melissotarsus beccarii*) and, in addition, in some ponerines and one formicine (see figs. 333–341). These were called, for the lack of a better term, the paraglossae, but whether they are actually homologues of other insect paraglossae is not known. They are so transparent and delicate that they first escaped detection. They are generally situated diagonally in front of the subglossal brushes toward the labial palpi. In the myrmicines each is fitted terminally with a prominent sensory peg which may or may not be protected by a series of setae. Bugnion (1930) did not detect the sensory peg, if present in *Atta,* and suggested that these transparent structures were probably tactile sensory receptors. Present knowledge of complex ant chemosensory behavior patterns would suggest that they probably are chemoreceptors. Such structures also appear in several ponerines and are most highly developed in *Odontomachus rixosus* (fig. 333), which possesses 2 sensory pegs per paraglossa instead of 1. Sensory pegs are absent from the paraglossae of some ponerines [e.g. *Amblyopone* (fig. 29)], and in some species pegs are present without the development of the paraglossae, ranging in number from 1 to 3 on each side. A pair of paraglossae without pegs is also present in the formicine *Acropyga* sp. (fig. 358). Sensory pegs of the type found on the paraglossae sometimes occur also on the anterior tip of the glossa. These were noted by Forel (1874) and called *gustatory papillae.*

In viewing the mouthparts as a whole, one overriding factor becomes evident: the ants rely heavily on the presence and placement of setae in mouthpart function. Devising methods for testing the functions of various setal groups will be extremely difficult but well worth the effort. These setae no doubt combine to supply sensory information, both tactile and chemical, about the environment, including food materials and other ants, and perform passive mechanical operations in grooming and passing food along the labial groove toward the digestive tract.