

depression, also on the dorsal surface, which runs near the parallel to the articulatory border (fig. 6). The distal-most tooth on the masticatory margin is the apical; the remaining teeth are called the subapicals.

### *Maxillae*

The first maxilla is divided into the cardo, stipes, lacinia, galea, and maxillary palpus (figs. 2, 3, 7, 8, 12, 13).

Snodgrass (1928) calls the cardo a secondary subdivision of the base of the first maxilla. Crampton (1923) says that when the cardo is long, as in many of the higher Hymenoptera, it is usually directed outward or toward the lateral region of the body, and that a maxilla with such a cardo should be characterized as being exocardine. The cardo in the ants is relatively uniform throughout the family (fig. 7).

The stipes is broadly elongated and heavily sclerotized on its external surface (figs. 7, 8). It is broadly joined to the galea and lacinia on its internal surface by membrane, musculature, and by a supporting sclerite, which Bugnion (1930) called the epistipes (fig. 8). The distal end of the stipes bears the maxillary palpus; the proximal end bears a chitinized projection, originating on the dorsal surface, which provides an articulatory surface for the cardo. The lateral margin of the stipes is often sharply angled in its distal half. This angle, the *lateral shoulder*, is often provided with stout setae of unknown function (figs. 7, 8). The stipes sometimes bears a diagonal groove across the middle of its external surface, dividing it into two parts—the *distal external face* and the *proximal external face*. This *transverse stipital groove* accommodates the distal margin of the labrum when the maxillo-labial apparatus is withdrawn and the labrum pulled against it (figs. 2, 7, 8). The ventral and dorsal surfaces are both provided with setae. The maxillary palpi have a primitive number of 6 segments in the ants, but lesser numbers are common. The variation in palpal segmentation has been examined in detail by Borgmeier (1957) and Kusnezov (1951, 1954a, 1954b).

The galea and lacinia are so broadly joined as to seem almost like a continuous structure. Although the galea is larger than the lacinia, the latter structure is quite conspicuous in the ants. In many of the other higher Hymenoptera, the lacinia is greatly reduced (Crampton, 1923). Several terms are introduced here, since the galea and lacinia have rarely been examined in detail. The spatulate galea bears at its distal end a verrucose ridge, the *galeal crown*, which is provided with numerous long setae (fig. 7). Sometimes appearing near the free margin of the galea is a uniform row of large peglike setae called the *galeal comb* (fig. 7). On the internal surface of the galea is the maxillary comb, a series of regularly spaced, rigid setae (fig. 7). Forel (1874) illustrated the location of this comb on the galea, and Janet (1904) studied it in detail, describing the setae as being thick-walled and rigid and fixed in cylindrical fossae. He postulated that they were mechanoreceptors. This comb is basically uniform through-