

4 BENSLEY: HOMOLOGIES OF THE STYLAR CUSPS

supial" rather than as "primitive," or "marsupioplacental" has been finally abandoned.

GENERAL CHARACTER AND DISTRIBUTION OF STYLAR CUSPS IN THE EXISTING MARSUPIALS

The styler elements are accessory structures in the molar crown. They are serially arranged and represent processes of an external ridge or cingulum which passes along the outer faces of the paracone and metacone. They are particularly characteristic of the Didelphyidae, but are found among the Australian marsupials in the Dasyuridae, Peramelidae, and in the phascolarctine division of the Phalangeridae. It is apparent from their associations that they are primitive and more or less conservative elements belonging to the insectivorous stage of evolution. Although reduced in number they are retained in the carnivorous development of the Dasyuridae, two of them being associated with the paracone and metacone in the production of a double shearing edge. In the incipient omnivorous development, as indicated in the Peramelidae, they are retained as in more primitive forms. This is true also, although to a less extent, of the herbivorous and selenodont development as seen in the Phascolarctinae. In the omnivorous and herbivorous developments of the Phalangerinae, in which there is a bunodont modification of the molars, the styler elements disappear and even in the primitive forms the cingulum is barely indicated. Their function in the insectivorous stage is apparently that of preventing the food from slipping off the smooth concave outer faces of the paracone and metacone, although they are doubtless accessory piercing agents as well. They are associated particularly with the paracone and with the piercing tip of the metacone. The trenchant spur of the metacone tends to be free of these elements on its outer side apparently in order that the shearing action may not be hampered.

THE RELATIONSHIPS OF THE EXISTING DIDELPHYIDAE

In considering the arrangement of the styler elements in the Didelphyidae it is advisable to bear in mind the probable