

Mandible. (Figures 3 and 20.) The mandible of *Edmontosaurus* is extremely long. The converging rami meet in a short horizontal symphysis and are embraced in front by the unpaired prementary bone. The rami are deepest at their midlength, and attain their maximum breadth at about two-thirds of their length from the front where the conspicuously high coronoid process is developed. In lateral aspect they have a nearly straight or slightly undulating inferior outline. As seen from above they are bow-shaped with an inward bend at midlength, and an incurve at either end abrupt in front where they meet, and less so behind where they are some distance apart. Each ramus consists of a dentary, which is edentulous for about three-eighths of its length in front, a surangular, an angular, a splenial, an articular, and possibly a prearticular, but whether this element is certainly present had not been ascertained. The dentary forms the greater part of the

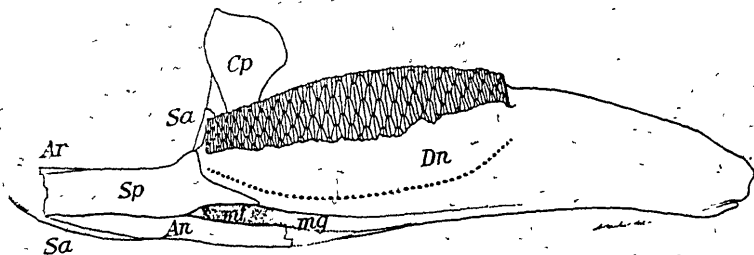


Figure 20. Left mandibular ramus of *Edmontosaurus*, Cat. No. 2289, viewed from the inner side; $\frac{1}{2}$ natural size. *An*, angular; *Ar*, articular; *Cp*, coronoid process; *Dn*, dentary; *mf*, mandibular fossa; *mg*, Meckelian groove; *Sa*, surangular; *Sp*, splenial.

ramus. Of the other comparatively small elements, composing the hinder end of the ramus, the surangular is robust and much the largest, the angular is long and slender, and the articular the smallest. The splenial and the angular together make up the greater part of the inner surface of the ramus posteriorly. The surangular supplies the lower and outer surfaces at the hinder end. The articular lies above the surangular between it and the splenial and to a limited extent is exposed externally above the surangular. The dental magazine is nearer the posterior than the anterior end of the ramus, and is for the most part in the dentary's posterior half-length. The edentulous portion of the dentary is only slightly less than one-third of the length of the ramus.

The cotylus by means of which the mandible articulates with the quadrate is far back at a very short distance in advance of the angle of the jaw. It is provided principally by the surangular, but the articular also, to a small extent, enters interno-superiorly into its formation. The mandibular fossa is of large size and is confluent in front with the Meckelian groove which latter extends forward inferiorly on the inner surface of the dentary. The fossa is enclosed externally by the coronoid process of the dentary and the surangular, inferiorly by the dentary and the surangular, and internally by the dentary, splenial and angular. Antero-internally it opens inward through a long, narrow vacuity (internal mandibular foramen) occurring between the angular below, and the splenial and dentary above.