

postfrontal and jugal, and inferiorly by the jugal. The relative sizes of the orbits, narial opening, infratemporal fossæ, and supratemporal fossæ, may be expressed by the numbers 86, 56, 25, and 24 respectively.

Post-temporal Fossæ. In the occiput a deep transverse indentation or groove runs outward on either side from beneath the backward extension of the parietals under the lower border of the squamosal. This groove for some distance beneath the squamosal (Figure 6) represents the post-temporal fossæ reduced vertically to such an extent as to be virtually closed. In its more external part the lower border of the squamosal has an arched curve above the groove. Inferiorly the groove is bounded by the proötic and supra-occipital. A somewhat similar condition of these fossæ is found in *Iguanodon*.¹

Narial Opening. This opening has the form in lateral outline roughly of a lengthened oval, somewhat flattened below, and more rounded in front than behind, with a length nearly five times the height. The anterior and posterior ends are within the premaxillary and the nasal respectively. The superior margin is formed almost wholly by the nasal, and the inferior one principally by the premaxillary. The size of the opening is proportionate to the great anterior development of the premaxillaries.

Foramen Magnum. This opening is large in comparison with the size of the brain-cavity. Its width is equal to half that of the cavity at the cerebrum and about equal to that across the medulla. It is nearly oval in outline, higher than wide, and narrowed slightly below. The vertical diameter is 50 mm. and the horizontal one at midheight about 40 mm. It is bounded below by the basi-occipital, laterally by the exoccipitals, and above apparently by the supra-occipital. Its upper outline is sharply defined by the transverse angulation formed by the junction of the descending roof of the brain-cavity and the lower surface of the supra-occipital. Laterally and inferiorly its exact boundary is not so clearly marked—being carried backward over the basi-occipital and between the condylar protrusions of the exoccipitals. Viewing the cranium from behind the opening is set deeply in the occiput with the supra-occipital extending nearly horizontally backward for a distance of fully 115 mm. from its upper rim.

Cranial Foramina. Figures 26 and 27. The openings in the brain-case for the exit of the various nerves are well preserved in the paratype of *Edmontosaurus*. Their size and position are as depicted in Figure 26 giving an external view from the right of the cranium proper. In Figure 27 showing the cast of the brain-cavity in three aspects, lateral (A), superior (B), and inferior (C), the length of the foramina and their direction through the cranial walls are indicated.

The olfactory nerve opening (I) is bounded inferiorly and externally by the presphenoid. Whether the opening is roofed over by the frontals, or by the presphenoid, or by both, has not been determined as no sutures giving the desired information are preserved. The side walls of the presphenoid seem to curve inward over the opening, in which case the frontals would contribute to the formation of the roof only along the longitudinal midline. The opening is more than twice as wide as high.

¹Quatrième note sur les dinosaures de Bernissart, par M. L. Dollo, Bull. Musée Royal d'Histoire Naturelle de Belgique, tome II, 1883, pp. 224-248, pls. IX and X.