

Tarsus. The ossified elements of the tarsus are five in number, viz., the astragalus and calcaneum forming a proximal row, and three flattened bones in a distal row.

The construction of the tarsus seems to be very similar in all essential particulars to that of the smaller and relatively slender *Ornithomimus altus* Lambe, from the Belly River formation of Red Deer river, Alberta,¹ in which there are three tarsalia forming a distal transverse row.

Astragalus. The astragalus (Figure 42) is very large in comparison with the other bones of the tarsus and consists of a main portion curving from beneath to the front of the distal end of the tibia, and a broad ascending process applied to the anterior face of that bone. It is higher than broad, thin below in comparison with its breadth, and much thinner in the ascending process. The main lower portion is tumid anteriorly and inferiorly on either side of a wide constriction so as to have somewhat the shape of an hour glass when viewed from the front. The constriction is most pronounced nearer the fibular than the inner side in consequence of which the inner tumidity is broader and less steeply sloped than the other. Its upper surface, on which the distal end of the tibia rests, is concave in an antero-posterior direction, and concavely excavated transversely on either side of the midbreadth where it is evenly and broadly convex. Its posterior border is overhung by the tibia. The surface against which the calcaneum fits is concave and larger than the free inner surface which is flat or only slightly concave.

The ascending process is nearly as broad at the base as the main portion from which it springs. It is triangular in outline in anterior aspect, narrowing rapidly upward, mainly from the inner side, and becoming very thin above. Its outer edge is rugose and flattened for the close approximation of the fibula in continuation downward of the fibular contact surface on the shaft of the tibia. The anterior face is set back from the rotund lower portion of the bone, is conspicuously excavated at the middle below, and is further defined by a well marked groove traversing its base from side to side.

That the main portion of the astragalus became co-ossified with the tibia is probable. In *Ornithomimus altus* the union of these two bones is well illustrated by the distal end of a left tibia, from the Belly River formation (Geological Survey, Cat. No. 199), to which the astragalus is attached by partial fusion. In this specimen there appears, however, to have been no co-ossification between the ascending process of the astragalus and the tibia.

Calcaneum. This bone (Figure 42) is closely applied to the outer side of the lower portion of the astragalus in advance of the tibia. It is narrow transversely and longer than high. In lateral aspect it is flattened

¹ Geol. Surv., Can., Cont. to Can. Pal., vol. III, quarto, pt. II, 1902, p. 50, fig. 11..