

Dorsal and intermediate layers (Pl. VIII. fig. 8, f^2 to f^5 and d^2 to d^6).—It is in the dorsal and intermediate layers that we find the greatest deviation from our type. The flexores breves (f^2 to f^7), and the dorsal interossei have undergone a partial or complete amalgamation; still there are usually traces left of a character sufficiently patent to enable the dissector to determine the complex character of the muscles with which he has to deal. As a rule, the fusion is complete towards the middle of the metatarsal bone, whilst towards the origin and insertion a partial separation can be effected. But even in cases where no true and natural separation can be made out, a close examination will usually show tendinous intersections running through the muscles, and these afford a clue to their composite character.

The mode of insertion cannot be regarded as giving a sure means by which these fused muscles can be distinguished from each other. The dorsal interossei, it is true, are almost invariably inserted into the extensor tendon; but, on the other hand, the flexores breves are not in all cases inserted into the sesamoid bones alone. One of the two slips is frequently inserted into the extensor tendon as well.

The fused flexores breves and dorsal interossei constitute a series of muscles which are frequently described as bicipital, whilst in reality they are tricipital, and, in the case of the medius, quadricipital.

The dorsal interossei are disposed so as to abduct the toes from a line drawn through the medius. In no case do they arise from the shafts of the metatarsal bones.

It is interesting to note the different dispositions of the abducting apparatus of the little toe in these animals. A tendency is exhibited to its disappearance by fusion with the outer head of the flexor brevis minimi digiti.

In the Leopard it is the most strongly developed. Here we find (1) a well-marked abductor ossis metatarsi minimi digiti (fig. 8, *a.o.*), (2) an abductor minimi digiti (d^6), and (3) a small slip which seems to belong to this apparatus. The abductor of the metatarsal bone, and the abductor of the little toe, have a common origin from the proximal and outer aspect of the os calcis. Separating from each other, the former is inserted into the projecting base of the fifth metatarsal bone, whilst the latter is inserted by a long narrow tendon upon the outer face of the base of the first phalanx of the minimus. The small fleshy slip referred to above springs from the base of the fifth metatarsal, at a higher level than the flexor brevis of the little toe, and after a short independent course it fuses with the outer head of that muscle. Is this not the third abductor of the minimus which we have seen present in some of the Marsupials? Against this view, however, is the fact that the tendon of the abductor minimi digiti is inserted both into the sesamoid bone, and into the extensor tendon, on the dorsum of the first phalanx.

In the Puma the arrangement is similar in every respect, except that no trace of the third small supernumerary slip can be detected, and that the slender tendon of the abductor minimi digiti is inserted into the extensor tendon alone.