

The adductor indicis ( $p^2$ ) and adductor annularis ( $p^4$ ) arise from the deep surface of the greater part of the fibrous raphe under cover of the preceding muscles. They are inserted one into the outer aspect of the base of the proximal phalanx of the index, and the other into the inner side of the corresponding phalanx of the annularis.

In this group of muscles we have another striking illustration of the tendency of the marginal adductors to usurp the middle line by thrusting back the central adductors, and coalescing in the middle line superficial to them. It is a further stage of what we observed in *Dasyurus*, in which the adductors of the hallux, index, and minimus are upon the same plane, and the adductor annularis upon a deeper plane. Here the adductors of the hallux and minimus have come to lie superficial to the adductors of the index and annularis.

Ruge in his article upon the short muscles of the foot<sup>1</sup> figures and describes the muscular and nervous anatomy of the pes of *Didelphys cancrivora*. In this case the adductor annularis as in *Dasyurus* is the only member of the adducting group which lies under cover of the others. The adductor indicis is a weak muscle which springs from the inner margin of a small portion of the lower end of the median raphe, and therefore lies upon the same plane as the adductors of the hallux and minimus.

*Intermediate layer* ( $f^1$  to  $f^5$ ).—Each digit is provided with a flexor brevis, and each of these five muscles is composed of two slips. The two heads of the flexor brevis hallucis are much more strongly developed than those of the other members of this series.

Meckel in the sixth volume of his work upon Comparative Anatomy (p. 466) states that in *Sarigues* (*i.e.* Opossums) the short flexor of the hallux is absent. He adds however, "the adductor is of medium size and divided into two heads which spring very close to each other. . . . They go solely to the base of the first phalanx." Clearly he looks upon the outer head of the flexor brevis as the caput obliquum of the adductor hallucis and the muscle which Dr. Young has named the adductor hallucis as being the caput transversum, or in other words the transversalis pedis. Ruge in his description of the foot of *Didelphys cancrivora* agrees with Meckel, and supports this view by asserting that the muscle in question is supplied by the deep division of the external plantar nerve. He says:—"The muscle for the first toe is already in *Didelphys* separated into two heads. The part arising in common with the fifth contrahens (*i.e.*, adductor minimi digiti) represents the transverse head and the part from the base of the second metatarsal represents the oblique head. Both heads are like the other contrahentes (*i.e.*, adductors) supplied by the external plantar nerve." The presence of the inner head of the flexor brevis hallucis as a muscle distinct from the abductor hallucis is denied by Ruge as well as by Meckel.

<sup>1</sup> *Loc. cit.*, p. 54.