

plates also are devoted to the osteology of *Thylacinus cynocephalus*. Owing to the prevalent belief that the genus, of which this animal is the sole member, is rapidly becoming extinct, special care has been taken in recording its anatomical peculiarities.

The chief interest of the Report, however, is centred in the fact that it contains the results of an investigation into the comparative anatomy and homologies of the intrinsic muscles and nerves of the Mammalian foot. The author was induced to engage in this research from conditions which he found in the Marsupial foot, and special opportunities were afforded him for carrying on the work by the many valuable specimens of Mammalia collected during the voyage, which were also placed at his disposal.

The conclusions arrived at may be briefly stated to be the following:—That the typical arrangement of the intrinsic muscles of the Mammalian pes is seen to best advantage in the feet of certain of the Marsupialia. In these animals the muscles are disposed in

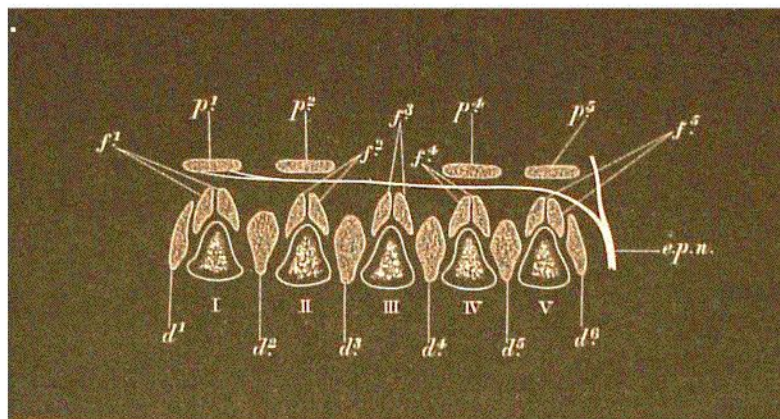


FIG. 171.—Schematic view of a section through the metatarsus of a typical mammalian foot.

I.-V. Metatarsals;  $p^1$ - $p^5$ , adductores;  $f^1$ - $f^5$ , flexores breves;  $d^1$ - $d^6$ , abductores; *e.p.n.*, external plantar nerve.

three layers, viz., (1) a plantar layer of adductores, (2) an intermediate layer of flexores breves, and (3) a dorsal layer of abductores.

Deviations from this typical trilaminar disposition may take place—(a) by subdivision of certain of the members of one or other of the layers, (b) by fusion of certain of the elements of the different strata, or (c) by suppression or non-development of some of the muscles.

The first of these deviations is to be found in a few Marsupial animals (*e.g.*, *Cuscus*) in which a tendency is exhibited to the development of a fourth layer by the splitting of the dorsal interossei. Fusion of the constituents of the intermediate and dorsal layers is extremely common, whilst fusion between the plantar and intermediate muscles is a very rare occurrence. Suppression of certain of the muscles may take place in two ways; it may either be complete—not a trace of the lost muscle being left—or partial, in which case the place of the missing muscular belly is taken by a ligamentous structure, having