

twigs to both sides of all the toes, with the exception of the hallux and the outer margin of the minimus (Pl. VI. fig. 8, 2).

The anterior tibial (Pl. V. fig. 3, 2) in the *Cuscus* is a purely motor nerve, and differs from that in the *Thylacine* by ending on the dorsum of the foot and supplying the extensor brevis of the index and medius, which in this animal has wandered downwards so as to lie upon the dorsum of the foot.¹ In the front of the leg the nerve lies between the extensor longus hallucis and the tibialis anticus.

The comparative anatomy of the external popliteal nerve has recently received special attention from Dr. Georg Ruge in his elaborate memoir upon the extensor muscles of the leg and foot in Mammalia. He examined three marsupials, viz., the *Didelyphys virginiana*, the *Didelyphys cancrivora*, and the *Dasyurus hallucinatus*. In all these the general arrangement of the nerve was very similar to that which I have described as existing in the *Thylacine* and *Cuscus*. There seems to be, however, a great variation in the relative distribution of the musculo-cutaneous and anterior tibial to the skin on the dorsum of the foot. In *Dasyurus* as in *Cuscus* the anterior tibial is purely motor, and although it reaches the dorsum of the foot it gives no branches to the integument. In *Didelyphys*, as in the *Thylacine*, the anterior tibial combines a large proportion of sensory fibres with its motor fibres. Thus in *Didelyphys virginiana* it supplies the adjacent sides of the index and medius, and also the fibular side of the hallux, whilst in *Didelyphys cancrivora* it sends twigs to both sides of the index and the tibial side of the medius. This combination of fibres in the anterior tibial, as Ruge shows, seems to be the more usual disposition throughout Mammalia generally. In some animals, indeed (as for instance the *Ateles*), the anterior tibial appears almost to supplant the musculo-cutaneous as the nerve of supply to the dorsal aspect of the digits.

Ruge is a firm believer in the invariable and immutable relationship between "nerve-supply" and "muscle-homology."

Perhaps, however, the strongest evidence of any against the immutability of nerve-supply is provided by Dr. Ruge himself.² Thus in the *Ornithorhynchus* he finds the tibialis anticus and the inner portion of the extensor longus hallucis supplied by a branch from the anterior crural, which is prolonged downwards to its destination over the external condyle of the femur. To account for this, he assumes that "the internal part of the extensor longus hallucis and the tibialis anticus are not homologous to the similarly named muscles" in other animals, but "belong rather to the extensor group of the thigh." He believes that the fibres which are supplied by the anterior crural nerve are gradually abolished, and that their place is taken by the external muscles of the leg.

¹ In the *Vulpine phalanger* the anterior tibial on the dorsum of the foot is not expended entirely upon the extensor brevis, but is continued onwards to supply the skin upon the inner side of the index. It likewise sends many twigs to the integument in the interval between this digit and the hallux, and it communicates with the musculo-cutaneous.

² *Loc. cit.*