

THE NERVES OF THE HIND-LIMB OF THE *Thylacine* AND *Cuscus*.

So much stress is now laid upon "nerve supply" in the determination of "muscle homology," that it becomes a matter of importance to add in every way possible to our knowledge of the comparative anatomy of the nervous system. With this end in view I have examined with great care the arrangement of the nerves in the hind-limb of the *Thylacine* and *Cuscus*.

*Lumbar plexus*.—In both the *Thylacine* and *Cuscus* the anterior primary divisions of the lumbar nerves are six in number, but the part which these play in the formation of the lumbar plexus differs in the two animals. In *Thylacinus* (Pl. V. fig. 5), the plexus is formed by the first four nerves, whilst the fifth and sixth lumbar nerves join to constitute the lumbo-sacral cord. In *Cuscus* (Pl. V. fig. 6) the first lumbar nerve is quite independent of the plexus, and is expended like the last dorsal in the abdominal wall, whilst the plexus is formed by the union of the 2nd, 3rd, and 4th nerves, and the greater part of the fifth nerve. The lumbo-sacral cord in this case is composed of the remaining part of the fifth and the whole of the sixth nerve. In both animals the plexus has the usual looped arrangement.

*Branches*.—In *Thylacinus* (Pl. V. fig. 5) the branches of the plexus come off in the following manner:—(1) from the 1st lumbar nerve a large branch to the abdominal parietes; (2) from the loop between the 1st and 2nd, two twigs to the abdominal parietes; (3) from the loop between the 2nd and 3rd, the genito-crural nerve (*g.c.*); (4) from the loop between the 3rd and 4th, the external cutaneous nerve (*e.c.*); (5) from the 3rd and 4th, the anterior crural (*a.c.*), and obturator nerves (*o.*); (6) from the 2nd, 3rd, and 4th, twigs to the psoas.

In the *Cuscus* (Pl. V. fig. 6) the branches have the following origin:—(1) From the 2nd, a branch to the abdominal parietes; (2) from the 3rd, a long nerve to the abdominal wall, and a small twig to the psoas (*p.*); (3) from the loop between the 3rd and 4th, the genito-crural (*g.c.*); (4) from the 3rd and 4th, the external cutaneous (*e.c.*); (5) from the 3rd, 4th, and 5th, the anterior crural (*a.c.*); (6) from the 4th and 5th, the obturator (*o.*).

If we exclude the 1st lumbar nerve and enumerate the others from the second backwards, there is a striking resemblance between the lumbar plexus in the *Cuscus* and that in Man, both in its mode of formation and in the manner in which the branches take origin

The three branches which are given off both in *Thylacinus* and *Cuscus* to the abdominal parietes correspond to the ilio-inguinal and ilio-hypogastric in man, and they are distributed to the muscles and skin upon the same plan.

The genito-crural (Pl. V. figs. 5 and 6, *g.c.* and Pl. IV. figs. 1 and 4, *g.c.n.*) proceeds downwards through the psoas parvus to reach the large cremaster, into the deep surface