

surface of the radius, to the outer side of the extensors of the pollex, at the junction of the epiphysis with the shaft. In *Trichechus* it is single, and *arises* from the deltoid ridge and shaft of the humerus. In *Otaria* it is double headed; the external head comes from the upper end of the external condyloid ridge and the internal from the deltoid ridge and joins the external head.

Vrolik, under Section 23, describes the *Extensor ossis metacarpi pollicis* as the supinator longus. Humphry describes it as inserted into the projecting margin of the radius and Lucae the same; Dr. Murie in *Otaria* into the outer side of the styloid process, and in *Trichechus* to the styloid process. It appears to me that these authors have not sufficiently defined the exact place of attachment to the radius. In the Phocinæ and *Arctocephalus* there is only one groove for the tendons to the thumb. In the former it is placed obliquely downwards and inwards across the anterior border of the radius; in the latter it runs down on the outer side of the anterior border; one-quarter of the groove in both is on the epiphysis. In the Phocinæ the supinator is inserted into the anterior border of the radius above the groove, and the same in *Arctocephalus*. It flexes the forearm, and supinates it when prone. It is supplied by the musculo-spiral nerve.

The *Extensor carpi radialis* *arises* from the external supracondyloid ridge, lies to the outer side of the supinator longus, and passes along the anterior border of the radius; above the wrist it passes below the tendon of the extensor ossis metacarpi pollicis, and then through the second division of the annular ligament; above the carpus it divides into three tendons. The outermost is *inserted* into the base of the radial side of the 1st metacarpal bone, the middle into the dorsal surface of the radial side of the scapholunar, and the innermost into the radial side of the base of the 2nd metacarpal bone.

In *Phoca barbata* there is a variation; half an inch above the extensor ossis metacarpi pollicis it divides into two tendons. The outer is *inserted* into the base of the 2nd metacarpal bone. The inner gives off from its outer side a slip, which goes to the dorsum of the trapezium, and then is *inserted* into the outer side of the 2nd metacarpal bone.

In *Arctocephalus* it lies to the outer side of the supinator longus above the elbow. It *arises* from the external condyle as in the Phocinæ, below where the musculo-spiral nerve turns round the external border of the humerus, slightly from the anterior surface of the capsule of the joint over the head of the radius, and from the external condyle. In the forearm it has the same relations as in the Phocinæ. Before passing beneath the extensors of the pollex, it divides into two tendons of equal size. The anterior or outer tendon is *inserted* into the ulnar side of the base of the 1st metacarpal. The posterior or inner into the upper third of the radial side of the base of the 2nd metacarpal. Vrolik, under Section 24, says of the extensor carpi radialis longus and brevis that both rise from the upper part of the outer margin of the humerus. The brevis is inserted into the lower part of the radius, and the longus into the outer face of the os navicularis. From the insertions the short one is the supinator and the long the extensor carpi radialis.

Humphry and Lucae describe two metacarpal insertions. *Otaria* has the longus and brevis as a common mass with two tendons. The insertions are similar to those in *Arctocephalus*. In *Trichechus* they are so united that they cannot be distinguished. The insertion is by a single tendon attached equally to the 1st and 2nd metacarpals. In *Phoca barbata* the muscle forms two tendons about the middle of the radius, in the other Phocinæ it is divided equally in the region of the carpus into three, and in *Arctocephalus* into two as in *Phoca barbata*. There is therefore an attempt to form two muscles in *Phoca barbata* and *Arctocephalus*, but as the origins in all the Phocinæ are from the