

latter do not, strictly speaking, lie upon a plane posterior to the palmar and intermediate muscles. They are palmar in their origin, but they cross the margins of the hand obliquely, and they are clearly dorsal in their insertion. Their palmar origin is for the purpose of giving them a more powerful action upon their respective fingers. But it is their abducting action more than the position which they occupy in the hand which indicates their association with the dorsal interossei. The intermediate group of muscles is a series of paired muscles, which includes the flexor brevis pollicis and the flexor brevis minimi digiti. They are placed upon the palmar aspect of each metacarpal bone, and they act chiefly as flexors of the fingers at the metacarpo-phalangeal joints.

The manus of each of the three animals presents distinctive peculiarities in the arrangement of these muscles, and it is therefore necessary to study each in turn. As the *Phascogale* exhibits the simplest arrangement, we will begin with it.

### *Phascogale.*

The hand of this animal is very minute. It measures only one inch in length and a quarter of an inch in breadth, and consequently the intrinsic muscles are extremely delicate.

*Dorsal group.*—The abductor pollicis is a very distinct muscle, which stretches over the radial margin of the palm. It arises from the annular ligament, and from the scaphoid and trapezium, and is inserted into the radial aspect of the base of the first phalanx of the thumb, on the same plane as the insertions of the dorsal interossei.

The abductor minimi digiti is about the same size as the preceding muscle. It arises from the unciform bone and the annular ligament, and is inserted into the ulnar side of the first phalanx of the little finger, on the same plane as the dorsal interossei.

The dorsal interossei are four in number, and occupy the intermetacarpal spaces. They have the same connections as the corresponding muscles in man. The dorsal group of muscles, therefore, abduct the fingers from a line drawn through the middle finger.

*The palmar group.*—This group is composed entirely of adductors. They are four in number, and are arranged so that they antagonise the abductors. They all arise close to each other, from the palmar aspect of the carpus, and from this point they radiate to their insertions. The first is inserted into the ulnar side of the first phalanx of the thumb, and is the representative of the adductor pollicis in man; the second goes to the ulnar side of the index; the third goes to the radial side of the ring finger, and the fourth is inserted into the radial side of the little finger.

In this way, then, the abductor minimi digiti, the abductor pollicis, and the first and fourth dorsal interossei, are antagonised by four special adductors, whilst the second and third dorsal interossei act alternately as adductors and abductors of the middle finger, as in the human hand.