The primary office of intrinsic pedal muscles is to act upon the digits at the metatarso-phalangeal joints. In the Sloth, owing to the ankylosis of the first phalanges to the metatarsal bones, this function is abolished. Consequently, in the dissection of the sole not a vestige of an intrinsic muscle is to be found. The dorsal interossei, however, from their very common connection with the extensor tendons on the dorsal aspects of the digits, act secondarily (as Duchenne has pointed out) as extensors of the toes at the joints between the phalanges. In the Sloth these muscles are therefore retained upon the merits of this action. They have no action as abductors; they merely constitute accessory parts of the weak extensor apparatus on the dorsum of the foot, and must be studied in connection with the extensor brevis digitorum.

The extensor brevis digitorum (fig. 2, *fl br.d*) arises by two heads—one from the outer surface of the astragalus and os calcis, and the other from the dorsal aspect of the cuboid. These unite to form a flat ribbon-like muscle which ends in two tendons for the ungual phalanges of the index and medius respectively.

The dorsal interossei (fig. 2, d^2, d^3, d^4, d^5) are four in number, and constitute the only intrinsic muscles in this foot. The second (d^3) and third (d^4) are the most strongly developed, and they lie in the second and third inter-digital spaces. There they arise not only from the adjacent surfaces of the metatarsal bones but also from the sides of the proximal phalanges. The second, moreover, passes backwards for a considerable distance upon the dorsum of the tarsus. They both extend forwards as fleshy masses to the bases of the ungual phalanges, and here each divides into two portions. Two of these portions (viz., one from each muscle) are inserted into the dorsal aspect of the base of the third phalanx of the medius under cover of, and closely connected with, the tendon of the extensor brevis to this digit. An expansion is thus formed over the second phalangeal joint, which is fleshy at the margins where it is composed of fibres derived from the second and third dorsal interossei and tendinous in the centre where it is formed by the tendon of the extensor brevis. The inner part of the second dorsal interosseus is inserted in like manner, with the corresponding tendon of the extensor brevis into the dorsal aspect of the base of the ungual phalanx of the index. In this case, however, the expansion formed is fleshy only at its outer margin, and tendinous along its inner margin. The outer portion of the third dorsal interosseus is inserted in a similar manner into the ungual phalanx of the annularis. It is joined by the tendon of the fourth dorsal interosseous muscle.

The first dorsal interosseous muscle (d^1) is poorly developed in comparison with the preceding. It springs from the inner aspect of the rudimentary first metatarsal, and also from the dorsal surface of the base of the second metatarsal bone. It soon ends in a long narrow tendon which runs along the inner margin of the foot, to join the tendon of the extensor brevis for the index at the point where it merges into the dorsal expansion.