

## LOWER LIMB.

## SOLE OF FOOT—No. 3.

## SECOND LAYER.

The muscles of the first layer have been reflected, to show the second layer, and the blood-vessels and nerves.

The second layer includes the musculus accessorius, the lumbricals, and the long flexor tendons.

The **musculus accessorius** arises by two heads, from the inner and outer aspects of the os calcis, and from the long plantar ligament between them, and is inserted into the tendon of the flexor longus digitorum.

The tendon of the **flexor longus digitorum** widens out in the sole into a flat fibrous band from which four tendons pass to the four outer toes, and are inserted, in the same way as the tendons of the flexor profundus digitorum in the upper limb, into the base of the terminal phalanges.

The tendon of the **flexor longus hallucis** passes under cover of this tendon, and sends a slip to it, and passes on the surface of the flexor brevis hallucis to the base of the terminal phalanx of the great toe.

**Nerves and vessels.** The **external plantar artery**, which is larger than the internal, passes obliquely across the sole, with the corresponding nerve, on the surface of the musculus accessorius, to the interval between the flexor brevis digitorum and the abductor minimi digiti. Here it dips down into the sole, and forms the plantar arch. In this part, it gives off only some branches to the adjacent muscles and superficial tissues.

The **external plantar nerve** resembles the ulnar nerve in the hand as regards its cutaneous distribution. It supplies the musculus accessorius and the abductor minimi digiti, and at the base of the fifth metatarsal it divides into a superficial and a deep branch, the superficial branch dividing into two others, which supply (1) the outer side of the little toe, and the flexor brevis minimi digiti and muscles of the fourth interosseous space, and (2) the adjacent sides of the fourth and fifth toes, respectively.

The inner branch communicates with an adjacent branch from the internal plantar nerve. The deep division accompanies the plantar arch.

The **internal plantar artery** is usually very small, and often ends, as here, on the inner side of the great toe, though it is usually described as giving three digital branches, which accompany the branches of the internal plantar nerve to the toes, as well as branches to the skin and muscles near it and on the inner side of the sole.

The **internal plantar nerve** runs forwards with the artery, and gives off four large digital branches, as seen. It gives muscular branches to the abductor hallucis and flexor brevis digitorum, while the inner digital branch supplies the flexor brevis hallucis, and the adjacent branch the first lumbrical muscle.

*The figures indicate—*

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| Muscles. 1. Tuberosity of os calcis.                    | Muscles. 8. Flexor longus hallucis.                     |
| 2. Abductor minimi digiti.                              | 9. Flexor brevis hallucis.                              |
| 3. Tendon of flexor brevis and flexor longus digitorum. | Nerves. 10. External plantar.                           |
| 4. Abductor hallucis.                                   | Vessels. 11. N. to abductor minimi digiti.              |
| 5. Musculus accessorius outer head.                     | etc. 12. Internal plantar nerve.                        |
| 6. Musculus accessorius inner head.                     | 13. Internal plantar artery.                            |
| 7. Flexor longus digitorum and lumbricals.              | 14. Abductor ossis metatarsi quinti digiti (insertion). |

