

into the sacral portion of the multifidus. In the sacral region they *arise* by a tendinous slip from the zygapophysis of the 4th sacral vertebra, from the zygapophysis of the 3rd sacral by a very short tendinous slip, from the dorsal surface of the sacrum between the neural spines and the zygapophyses, and from the fascia covering it. The mass thus formed and strengthened by the caudal slip joins anteriorly the lumbar portion, and is *inserted* by muscular fibres into the neural spines and the contiguous dorsal surfaces of the sacral laminae, and by tendinous slips into the neural spines of the 4th and 5th lumbar vertebrae. In the lumbar region the fibres *arise* by broad tendinous slips from the anterior zygapophyses of the 1st sacral and all the lumbar vertebrae, from the posterior zygapophyses and dorsal surfaces of the laminae of all the lumbar vertebrae, and from the fibrous covering above the muscles. These fibrous slips from the anterior zygapophyses join the muscle on the under surface of its outer border. They are *inserted* by tendinous slips along its inner border into the posterior aspect of the dorsal tips of the neural spines of the 12th to the 15th dorsal vertebrae, into the corresponding part of the 1st, 2nd, and 3rd lumbar vertebrae, and by muscular fibres into the sides of the neural spines of the same vertebrae. In the dorsal region the fibres *arise* from the metapophyses of the 8th to the 15th dorsal vertebrae, from the dorsal surfaces of the laminae as far forwards as the 8th or 9th dorsal vertebra, and are *inserted* in the same way as the lumbar portion, into the 1st to the 11th dorsal vertebrae. From the 10th to the 15th dorsal spines the fibres of the superficial layer are intimately connected with the longissimus dorsi, and have origin from the under surface of the dorso-lumbar fascia, as far forwards as the 14th dorsal vertebra. The tendons of origin from the 6th to the 15th vertebrae are shared between the longissimus and the multifidus; the cervical portion is an offshoot from the dorsal about the level of the 8th rib, and forms long slips which are *inserted* into the neural spines of the 3rd to the 7th cervical vertebrae.

The *deep layer* of fibres of the oblique rotator in *Phoca vitulina*. The first muscle *arises* from the 3rd to the 5th cervical vertebrae from the posterior zygapophyses, and is *inserted* into the posterior zygapophysis of the axis. The second *arises* from the posterior zygapophyses of the 4th to the 6th cervical vertebrae to the inner side of the 7th, and is *inserted* into the posterior border of the lamina of the 3rd cervical vertebra. The third *arises* from the same parts of the 5th to the 7th, and is *inserted* into the corresponding part of the 4th cervical vertebra. The fourth *arises* from the laminae of the 6th and 7th cervical and the 1st dorsal vertebrae, and is *inserted* into the dorsal surface of the same portion of the 5th cervical vertebra. The fifth *arises* from the posterior zygapophysis of the 1st dorsal vertebra, from the dorsal surface of its lamina, and from the dorsal surface of the lamina of the 7th cervical, and is *inserted* into the dorsal side of the spine of the 6th cervical vertebra. The sixth *arises* from the transverse process of the 2nd dorsal, from the posterior zygapophysis of the 1st dorsal, and is *inserted* into the spine of the 7th cervical. In the dorsal region they are not so oblique as in the cervical region. One *arises* from the zygapophyses of the 2nd to the 4th dorsal vertebrae, and is *inserted* into the spine and lamina of the 2nd dorsal vertebra, and so on to the 10th dorsal vertebra, the last muscle only having origin from one vertebra. The cervical muscles are all oblique, the dorsal are oblique and transverse, and all are imbricated.

The superficial layer of the oblique rotator muscles in *Arctocephalus* is well developed. The cervical muscles are much longer than the dorsal, the first and most anterior *arises* by three slips, from the dorsal surface of the lamina and the posterior zygapophysis of the 3rd cervical vertebra, from the hyperapophysis of the 4th cervical, and from the same part of the 5th cervical