

Action.—This muscle is a powerful extensor of the head and neck. Its arrangement is such as absolutely to prevent the entire elimination of the well-marked curve forwards of the lower portion of the cervical vertebral column, without rupture of the fibres which compose the muscle.

Relations.—The muscle in the dorsal region is concealed by the trapezius and rhomboid, and lies in a groove formed by the subjacent vertebral muscles. In the neck it is not in contact with the vertebral column, but forms a chord to the curve of the lower cervical vertebræ.

Nerve supply.—Numerous branches from the posterior divisions of the dorsal and cervical spinal nerves.

Remarks.—The description of this muscle just given applies to every species of Penguin which I have examined. The attachment of the biventer cervicis so low down as the iliac crest, and the remarkable relation above referred to, which the muscle bears to the lower cervical vertebræ, are doubtless related to the upright position which these birds invariably assume when on land.

2. *Complexus.*

Complexus, Vicq d'Azyr, 1773, p. 581, No. 5.

Der Kopfdreher, Merrem.

Grand complexus, Cuvier, vol. i. p. 237.

Der durchflochtene Muskel, Tiedemann, p. 284, No. 5.

Complexus, Owen (Todd's Cyclopædia, vol. i. p. 291).

Muscle No. 2, Meckel, vol. vi. p. 12.

Complexus, Selenka, vol. vi. p. 98, No. 14.

Grand complexus, Gervais and Alix, p. 15.

Attachments.—The complexus arises by means of three distinct slips from the tips of the bony spines of the posterior articular processes (hyperapophyses of Mivart¹) of the third, fourth, and fifth cervical vertebræ. The fibres pass forwards and are attached above the insertion of the biventer cervicis to the upper end of the transverse crest of the occipital bone.

Action.—The muscles of opposite sides acting together extend the skull upon the vertebral column.

Relations.—The complexus is concealed by the cutaneous muscle of the neck, and rests upon the splenius capitis. The tip of the hyoid cornu lies between the outer side of this and the posterior border of the digastric muscle.

Nerve supply.—A branch from the posterior division of the second cervical nerve.

Variations.—In *Spheniscus mendiculus* the origin of the muscle is confined to the fourth and fifth cervical vertebræ.

¹ Trans. Zool. Soc., vol. viii., pt. 7, 1874.