

*Nerve supply.*—Branches from the cervical spinal nerves.

*Remarks.*—The cutaneous muscular system of the Penguin includes the constrictor colli, the panniculus carnosus, the dorsal cutaneous muscle, and the “muscle des parures.” This system is developed to a greater extent in the Penguins than in any other bird, with the exception of the Apteryx, and is probably related to their aquatic habits, and to the necessity of an arrangement whereby the water may be readily expelled from the interstices of their fur-like plumage.

#### 4. *Subcutaneous abdominalis.*

*Subcutaneus abdominalis*, Wiedemann.

*Der Bauchhautmuskel*, Tiedemann, vol. i. p. 134

*Attachments.*—This muscle, which in reality forms a portion of the “muscle des parures,” arises from the free cartilaginous extremity of the pubic bone, and passes obliquely forwards and downwards to the posterior border of the sternum. Here a few of the lower fibres terminate in the subcutaneous fascia covering the border of the sternum, but by far the largest portion of the muscle is directly continuous with the “muscle des parures,” of which, indeed, it may be considered as constituting the pubic origin.

*Action.*—The action of this muscle is doubtful.

*Relations.*—This muscle separates the abdominal origin of the semi-membranosus from the superficial surface of the obliquus externus abdominis.

*Nerve supply.*—Branches from the last intercostal nerve.

*Remarks.*—This muscle is present in every species of Penguin which I have examined. It appears to be simply a backward prolongation of the “muscle des parures.” At the same time the distinct insertion of the lower fibres into the subcutaneous fascia of the abdomen, and the fact that it is supplied by nerves from a totally different source, sufficiently justify its description as a muscle distinct from, although actually connected with, the “muscle des parures.” Strange to say, this muscle seems to have escaped the notice of Gervais and Alix when drawing up their extremely accurate account of the myology of *Eudyptes chrysolophus*.

### (b) MUSCLES OF THE VERTEBRAL COLUMN.

#### 1. *Sacro-lumbalis.*

*Costo-cervical*, Vicq d'Azyr, 1774, p. 580, No. 2.

*Der äussere Rückgrats-Strecker*, Tiedemann, p. 289, No. 6.

*Der Rückenmuskel*, Merrem.