

another. The greater portion of this muscle is concealed by the sphincter laryngis. The action of this muscle is apparently that of a dilator of the laryngeal aperture. This is accomplished by the muscle taking its fixed point externally, and acting upon the readily moveable arytenoid cartilages.

The upper larynx in every species of Penguin agrees, except in size, with that above described in *Eudyptes chrysocome* from Tristan d'Acunha.

THE TRACHEA.

The trachea of *Eudyptes chrysocome* from Tristan d'Acunha (Pl. VIII.) measures 7 inches in length. In its course along the neck it lies at first in front of the vertebral column, but like the œsophagus, becomes displaced, so as to lie to the right of the posterior cervical vertebræ. This displacement is due to the fact that the posterior cervical vertebræ project forwards to such an extent that they come into contact with the furcular angle, and consequently the trachea and œsophagus are displaced to the right before passing into the thorax. After entering the thorax, the trachea regains the middle line, and almost at once divides into the two bronchial tubes. The thoracic portion of the trachea lies in front of the œsophagus, and occupies the fork formed by the two innominate arteries. The tube is flattened from above downwards, and presents externally a slight trace of a longitudinal mesial groove, which indicates the position of a septum, which in the majority of the Penguins divides the tracheal tube more or less completely into two distinct compartments. The structure of the trachea in the Penguins does not differ from that of other birds. The tracheal rings, which in birds in general are cartilaginous, are prone to ossify in the Penguins. In *Eudyptes chrysocome* from Tristan, these rings are 107 in number. They are freely moveable upon one another in the region of the neck, and accommodate the trachea to the varying flexures of that portion of the vertebral column. In the thorax, on the other hand, they are much less mobile, and give to the thoracic portion of the tube a rigidity which is wanting in the cervical segment of the tube. The thoracic portion of the trachea as a whole is much less flexible than the cervical, still a certain amount of movement is permitted between the rings composing it, with the exception of the last nine, which, although not actually soldered together, are so arranged as to prevent the possibility of any bending of that portion of the trachea of which they are component elements.

The most striking peculiarity of the trachea in the Penguins lies in the presence of a mesial tracheal septum, which extends from the point of bifurcation forwards, to a greater or less extent in different species. This septum divides the lumen of the trachea more or less completely into two lateral channels. In *Eudyptes chrysocome* from Tristan, it is more limited in extent than in any other species which I have examined. Indeed in one specimen, the trachea presented not the slightest trace of a septum, while in