

pared with that of *Spheniscus* or of *Aptenodytes*; in the triangular or crescentic form of the proventricular gland; in the length of the small intestine, which varies from nine to eighteen times that of the vertebral column; in the fusion of a certain number of tracheal rings, which are always ossified, to form the framework of the lower larynx; in the parallelism of the pessulus of the last tracheal ring with the long axis of the trachea; in the close approximation of the vibrating membrane of the syrinx to the point of bifurcation of the trachea; and in the presence of a tracheal septum, which never exceeds in length one-half of that of the trachea, and usually falls considerably short of it.

If now it be asked whether any of the generic features of *Eudyptes* above enumerated are of themselves sufficient to distinguish the members of that genus from those which constitute the genus *Aptenodytes* on the one hand, or the genus *Spheniscus* on the other, the question may at once be answered in the affirmative. Two of the characters above enumerated are quite distinctive. *Firstly*, the form of the skull as a whole, and more particularly the small development of the transverse temporal crest, together with the lozenge-like form of the rami of the lower jaw bone, at once distinguish *Eudyptes* from *Spheniscus*, while the relative shortness of the upper and lower mandibles similarly distinguish *Eudyptes* from *Aptenodytes*. *Secondly*, the parallelism of the pessulus of the last tracheal ring with the long axis of the trachea at once distinguishes *Eudyptes* from *Spheniscus*, while the ossification of the rings which compose the framework of the syrinx, and their immobility upon one another, strikingly contrast with the cartilaginous nature and mobility of the syringeal rings upon one another in *Aptenodytes*.

Coming now to the consideration of the species which compose the genus *Eudyptes*, the question arises, How many of the birds which I have had an opportunity of examining constitute clearly defined species?

I am aware that even ornithologists are not now disposed to admit that the three varieties of *Eudyptes chrysocome* which inhabit Tristan d'Acunha, the Falkland Isles, and Kerguelen Island, ought to be elevated to the rank of distinct species. Mr. Sclater, the most recent writer on the subject, in his monograph on the birds obtained by the Challenger expedition,¹ groups these three varieties together, with the remark that "on comparison of the series from these three localities, we cannot satisfactorily recognise more than one species of Rock-hopper. The bird from Inaccessible Island has the elongated superciliary plumes more produced; those of the Falklands and Kerguelen have them rather shorter." In this conclusion I agree with Mr. Sclater, who, basing his conclusions upon an examination of skins, has arrived at the same conclusion as I have after an exhaustive anatomical examination of one and all of these varieties. I am strongly of opinion, however, that these three birds constitute well-marked varieties of the same species.

A reference to the preceding pages shows that in *Eudyptes chrysocome* from Tristan

¹ Challenger Reports, Zoology, vol. ii. p. 129.