

*culus* of *contractores* which do not reach the syrinx, although undoubtedly on other grounds that species must be grouped along with others as members of the genus *Spheniscus*.

With regard to the second point—the number of rings forming the syrinx—it is necessary to state that I experienced considerable difficulty in determining the exact number of these in different species. This difficulty arose from the fact that in some genera, for instance *Eudypetes* and *Spheniscus*, the lower tracheal and upper bronchial rings are so closely welded together as to render it almost impossible to estimate the number of rings forming the syrinx, while in others, such as *Pygosceles* and *Aptenodytes*, the rings forming the syrinx are scarcely more closely approximated than those which enter into the formation of the trachea and bronchi, and are scarcely less moveable upon one another than these. Hence in the last-named genera it is difficult to determine where the syringeal rings terminate and the tracheal or bronchial rings proper begin. I have therefore been compelled to estimate the number of syringeal rings in these genera solely in accordance with the fact that certain of them in the region of the lower larynx are relatively less moveable upon one another than in the region either above or below, but do not profess to have estimated their number with absolute certainty. The succeeding table (pp. 211–213) gives the results of my observations, whatever their value may be.

In respect of the position of the interbronchial segment or pessulus of the last tracheal ring, I have noticed what I consider to be a generic characteristic. In the genus *Eudypetes* the position of the interbronchial segment of that ring nearly corresponds to, or in other words is parallel with, the long axis of the trachea, while in *Spheniscus* it forms an angle with the axis of that tube. In *Pygosceles*, again, the pessulus maintains an intermediate position between that of *Eudypetes* and of *Spheniscus*, while in *Aptenodytes* the interbronchial segment of the last ring of the trachea more closely resembles that of *Spheniscus* than of *Eudypetes*. It may farther be observed, that while in *Eudypetes* and *Spheniscus* all the tracheal rings are to a greater or less extent ossified, and form rigid structures, in *Aptenodytes* and *Pygosceles*, on the other hand, none of the tracheal or bronchial rings ever undergo ossification, and hence in these genera the windpipe is much more flattened and compressible than in the others above referred to.

With reference to the third point, the extent of the septum tracheæ, the table on pp. 211–213 shows *firstly*, that in the genus *Aptenodytes* the septum tracheæ relatively to the trachea is of larger size than in the other genera, with the exception of *Spheniscus*; *secondly*, that in *Pygosceles* the septum relatively to the trachea is of smaller size than in *Aptenodytes*; and *thirdly*, that *Eudypetes* as a genus possesses the smallest septum. The genus *Spheniscus* differs from the others, in as much as the species composing it vary to a greater extent, in so far as the tracheal septum is concerned, than do the species of other genera. In *Spheniscus demersus* the tracheal septum relatively to the trachea is of nearly the same magnitude as in *Aptenodytes*, in *Spheniscus mendiculus* the tracheal