

form, as in *Spheniscus demersus* and *Spheniscus mendiculus*, or zonular, as in *Spheniscus magellanicus* and *Spheniscus minor*; in the length of the small intestine, which varies in length from seven times that of the vertebral column in *Spheniscus minor*, to nineteen times in *Spheniscus magellanicus*; in the ossification of the syringeal rings, and their immobility upon one another; in the obliquity of the pessulus with reference to the long axis of the trachea; and in the presence of a tracheal septum which may nearly equal the length of the trachea as in *Spheniscus magellanicus*, or may be entirely absent as in *Spheniscus minor*.

If now we consider the different species of the genus *Spheniscus* which I have had an opportunity of examining, it appears that ornithologists hold different views with regard to the specific distinctness of *Spheniscus magellanicus* as compared with *Spheniscus demersus*. On the one hand, Sclater¹ and others regard these two as perfectly distinct species, while, on the other hand, Coues² is of opinion that *Spheniscus magellanicus* is "simply a collared variety of *Spheniscus demersus*."

A careful examination of the entire anatomy of several specimens of each of these birds leads me to the conclusion that the view of the last-named author is the correct one, and that these two birds are simply varieties of one and the same species. The skulls of both (Pl. II. figs. 1-8) are in every respect similar, and the same remark holds good of every bone in the skeleton of each, with this exception, that the bones of *Spheniscus magellanicus* are slightly larger than those of *Spheniscus demersus*. It is true, as observed by Hyatt,³ that "*Spheniscus magellanicus* is much the larger bird" of the two, but in view of the difference in size already noticed of different varieties of *Eudypetes chrysocome*, this feature of itself must be deemed of but little value in attempting to decide as to the specific distinctness of different birds. More reliable conclusions may be founded on the consideration of their entire anatomy. With regard to this I found that in two specimens of *Spheniscus demersus*, the proventricular gland presented the form of a crescentic or triangular patch, which was limited to the left wall of the stomach. In every specimen of *Spheniscus magellanicus*, again, which I dissected, the proventricular gland presented the form of a complete belt, which completely surrounded the gastric cavity. This difference would apparently justify us in concluding that these two birds are specifically distinct. On the other hand, it is to be noted that in a third specimen of *Spheniscus demersus* the proventricular gland was zonular in character, and although the separate glandules composing the belt were more sparsely distributed on the right than on the left wall of the stomach, yet at no point were these glandules entirely absent, as was the case on the right wall of the stomach in both the other specimens which I examined. In this third specimen of *Spheniscus demersus*, therefore, there was a manifest

¹ Challenger Reports, Zoology, part viii. p. 125.

² Proc. Acad. Nat. Sci. Philad., 1872, p. 173.

³ Proc. Boston Soc. Nat. Hist., vol. xiv. p. 249.