

tendency to the formation of a glandular zone, similar in form to that of *Spheniscus magellanicus*. In *Spheniscus magellanicus*, moreover, the separate glandules are more distinctly isolated and more sparsely distributed on the right than on the left wall of the stomach, and do not form a uniform belt, as they do, for instance, in *Pygosceles*. I find therefore that, so far as the separation of *Spheniscus magellanicus* as a distinct species from *Spheniscus demersus* is concerned, the form of the proventricular gland does not afford a specific characteristic, seeing that these two so-called species insensibly shade into one another, and that while in one bird the glandular patch may be crescentic, in another it is zonular in form. That these remarks regarding the variability in form of the proventricular gland are applicable to species of genera other than *Spheniscus*, is shown by the fact that while in three specimens of *Aptenodytes longirostris* the gland patch was triangular in form, in the fourth it was completely zonular.

Turning now to the length of the small intestine in *Spheniscus demersus* and *Spheniscus magellanicus*, we find that in two specimens of *Spheniscus demersus* the small intestine measures 24 feet 6 inches, and 20 feet 8 inches respectively, while in *Spheniscus magellanicus* it measured in two specimens 30 feet 6 inches and 27 feet 5 inches respectively. In the latter, therefore, the length of the gut relatively to that of the vertebral column is greater than in the former, but the difference between these birds in this respect is not greater than that which obtains between undoubted varieties of other species, for example, between the different varieties of *Eudyptes chrysocome*. The examination, again, of the trachea of each of these birds shows that they are not specifically distinct. In *Spheniscus demersus* the septum tracheæ is relatively longer than in *Spheniscus magellanicus*, but the difference in length relatively to the trachea is much less pronounced in these two forms of *Spheniscus* than in different varieties of *Eudyptes chrysocome*. Nay more, the difference in length of the tracheal septum of *Spheniscus demersus*, as compared with that of *Spheniscus magellanicus*, is less than obtains between different individuals of even the same variety of *Eudyptes chrysocome*.

Taking these various facts into consideration, I am compelled to conclude that inasmuch as we look in vain for any distinctive features which are of specific value in the anatomy of these two birds, *Spheniscus magellanicus* and *Spheniscus demersus* must, in accordance with the opinion of Coues, be regarded simply as two varieties of one and the same species, for which the title of *Spheniscus demersus* should be retained. I would, moreover, add that these two varieties of *Spheniscus demersus* seem to me to be much more nearly related to one another than are the different varieties of *Eudyptes chrysocome*.

I have unfortunately had no opportunity of examining a recent specimen of the so-called *Spheniscus humboldti*.<sup>1</sup> This was first described as a distinct species by Meyen,<sup>1</sup> since which time it has been examined by Coues,<sup>2</sup> who considers it to be identical with

<sup>1</sup> Nova Acta Acad. Cæs.-Leo-Car., xvi. supp. i. 110, pl. xxi.

<sup>2</sup> Proc. Acad. Nat. Sci. Philad., 1872, p. 175.