

The fact that the Challenger officers seldom noticed these birds more than 40 or 50 miles from land¹ or ice, seems to show that having once adopted a residence they are very far from being addicted to those migratory habits which their peculiar structure and mode of life seem so well adapted to encourage.

With regard to the distribution in time of the Spheniscidæ, we at present know almost nothing, our knowledge of fossil forms being limited to a humerus, coracoid, and tarso-metatarsal bone, which were discovered in the Eocene formation of New Zealand.² The metatarsal bone has been described by Prof. Huxley,³ who established the genus *Palæudyptes* for the reception of the bird of whose skeleton it formed a part. It apparently belonged to the skeleton of a bird closely allied to the genus *Eudyptes* of the present day, but evidently of much larger size than any living species of that genus. If the nature of the deposit from which this fragment was excavated has been correctly interpreted, it shows that the family of Spheniscidæ is one of great antiquity, and that it had even at that time deviated so far from the primitive avian stem as to present those modifications in structure which have remained unaltered down to the present time. This fact goes far to explain the difficulty which every one must acknowledge in attempting to allot to the Spheniscidæ their proper place in any classification of recent birds, a difficulty which will only disappear as the geological record is more fully deciphered, and the intermediate forms which at one time undoubtedly connected the Penguins with the primitive avian stem have been brought to light.

Passing now to the subdivision of the Spheniscidæ, it appears from the foregoing pages that the various species which I have examined may be grouped together into the three genera, *Spheniscus*, *Eudyptes*, and *Aptenodytes*, as shown in the table.

Family.	Genus.	Species.	Variety.
SPHENISCIDÆ, . . .	{ <i>Spheniscus</i>	{ <i>demersus</i>	{ <i>magellanicus</i> .
		{ <i>mendiculus</i>	
		{ <i>minor</i>	
	{ <i>Eudyptes</i>	{ <i>chrysocome</i>	{ <i>Eudyptes chrysocome</i> , from Tristan. <i>Eudyptes chrysocome</i> , from Falklands. <i>Eudyptes chrysocome</i> , from Kerguelen.
		{ <i>chrysolophus?</i>	
		{ <i>longirostris</i>	
	{ <i>Aptenodytes</i>	{ <i>tæniatus</i>	

Of the various members enumerated above of the genus *Spheniscus*, it appears to me that *Spheniscus demersus* and *Spheniscus magellanicus* ought to be regarded as two varieties of one and the same species, while *Spheniscus mendiculus* and *Spheniscus minor* are undoubtedly distinct species. *Spheniscus minor* is moreover possessed of several cranial characters which approximate it to *Eudyptes*.

¹ Sciator, Challenger Reports, Zoology, part viii. p. 132.

² Hector, J., Trans. New Zealand Inst., vol. v. p. 438, 1872.

³ Quart. Jour. Geol. Soc., vol. xv. p. 670.