

The accompanying table shows the length of the lumbo-sacral portion of the vertebral column of different species in inches.

LENGTH OF LUMBO-SACRAL SEGMENT OF VERTEBRAL COLUMN.¹

<i>Eudyptes chrysocome</i> , from Tristan,	$2\frac{3}{4}$
<i>Eudyptes chrysocome</i> , from the Falklands,	$2\frac{3}{4}$
<i>Eudyptes chrysocome</i> , from Kerguelen,	$2\frac{5}{8}$
<i>Eudyptes chrysolophus</i> ,	3
<i>Spheniscus demersus</i> ,	3
<i>Spheniscus magellanicus</i> ,	$3\frac{1}{4}$
<i>Spheniscus mendiculus</i> ,	$2\frac{1}{2}$
<i>Spheniscus minor</i> ,	$2\frac{1}{4}$
<i>Pygosceles tæniatus</i> ,	4
<i>Aptenodytes longirostris</i> ,	$4\frac{1}{2}$

Coccygeal Vertebrae.

The caudal vertebrae, including the pygostyle, are eight in number. Each, with the exception of the pygostyle, possesses a body, transverse and spinous processes. The bodies are cylindrical in form, and their articular surfaces are concave. Each, with the exceptions of the first and second, develops a rough nodular hypapophysis. These processes are larger in the case of the last two or three vertebrae (including the pygostyle) than in the others, and are mostly bifid at their extremities.

The length of the *transverse processes* is equal to that of the bodies of the vertebrae from which they spring. They are quadrilateral in form, and much flattened from above downwards. As a rule the transverse processes of the first, and sometimes of the second caudal vertebra, abut against the pelvic bones.

The *spinous processes* are of large size. Those of the first, second, third, and fourth vertebrae are bifid at their extremities, while those of the remaining three are simply tubercular. They diminish in size from the first to the last. The pygostyle in *Eudyptes chrysocome* measures one and a-half inches in length, and is triangular in section. The lateral surfaces are convex from above downwards, while the lower is deeply grooved longitudinally. According to Gervais and Alix,² it consists in the embryo of nine separate vertebrae. These authors enumerate only seven coccygeal vertebrae, but in *Eudyptes chrysocome*, on which these observations were made, I found eight. This number also agrees with Reid's³ observations on the Patagonian Penguin. It is possible, although nowhere stated, that MM. Gervais and Alix include the first caudal vertebra of the

¹ In this table the breadth of the spine of the last dorsal, although fused with those of the lumbo-sacral vertebrae, is not included in the measurements.

² *Ostéologie et Myologie des Manchots.*

³ *Proc. Zool. Soc.*, 1835, p. 134.