

this point the anterior border of the bone is almost straight. The posterior border of the bone is slightly concave. Its inner surface is flat and uniformly smooth, while the outer surface presents two well-defined grooves. Of these one extends along the whole length of, and lies close to the anterior margin of the bone. It accommodates the tendon of the extensor metacarpi radialis muscle. The second groove passes from behind obliquely downwards and forwards, and is situated close to the lower end of the bone. It indicates the course of the extensor proprius indicis muscle. The lower extremity of the radius is provided with a surface of irregular form for articulation with the radial carpal bone. The radius articulates with the ulna by means of two small articular facets, one at the upper and the other at the lower end of the bone, in such a manner that it lies directly in front of and parallel with the ulna. The movement permissible between the two bones of the forearm is extremely limited, an arrangement which confers greater rigidity on the wing as a whole, and increases its power as a flexible paddle.

The radius presents precisely the same configuration in every species of Penguin. The table shows the dimensions of the radius of the various species examined, in inches.

SPECIES.	Length of anterior border of radius.	Length of posterior border of radius.	Greatest breadth of radius.
<i>Eudyptes chrysocome</i> , from Tristan,	$1\frac{1}{2}$	$1\frac{3}{4}$	$\frac{1}{2}$
<i>Eudyptes chrysocome</i> , from the Falklands,	$1\frac{5}{8}$	$1\frac{3}{4}$	$\frac{1}{2}$
<i>Eudyptes chrysocome</i> , from Kerguelen,	$1\frac{1}{2}$	$1\frac{3}{4}$	$\frac{1}{2}$
<i>Eudyptes chrysolophus</i> ,	$1\frac{7}{8}$	2	$\frac{1}{2}$
<i>Spheniscus demersus</i> ,	$1\frac{5}{8}$	2	$\frac{1}{2}$
<i>Spheniscus magellanicus</i> ,	$1\frac{3}{4}$	$1\frac{7}{8}$	$\frac{1}{2}$
<i>Spheniscus mendiculus</i> ,	$1\frac{1}{4}$	$1\frac{1}{2}$	$\frac{3}{8}$
<i>Spheniscus minor</i> ,	1	$1\frac{1}{4}$	$\frac{1}{4}$
<i>Pygosceles tæniatus</i> ,	$2\frac{1}{4}$	$2\frac{3}{8}$	$\frac{5}{8}$
<i>Aptenodytes longirostris</i> ,	$2\frac{7}{8}$	$3\frac{1}{8}$	$\frac{3}{4}$

The Carpal Bones.

The carpal bones in the adult Penguin, as in other birds, are two in number. They differ, however, in form and mode of articulation from those of other birds, in accordance with the altered form of the wing and its adaptation as a paddle to the peculiar requirements of the Penguins.

The *radial carpal* bone is the smaller of the two, and consists of a small osseous cube, interposed between the lower end of the radius and the upper extremity of the