The dental formula in all the crania of *Arctocephalus australis* was as follows:—

$$\text{incisors } \frac{3-3}{2-2}, \text{ canines } \frac{1-1}{1-1}, \text{ post-canines } \frac{6-6}{5-5} = 36.$$

In the younger male the left upper canine had not erupted. The two last upper post-canines were two-fanged, the 5th lower post-canine was also two-fanged. The 6th upper post-canine, though smaller than the 5th, yet did not differ much from it in size. In addition to the cingulum and large cusp the lower post-canines possessed a faint anterior cusp, and the last two also a faint posterior cusp, but in the upper post-canines, whilst the rudimentary anterior cusp was present, it was the exception to find a rudimentary posterior cusp, though the last one or two frequently had one.

The zygomatic arches had generally the same form as in *Arctocephalus gazella*. The proportion of the antero-posterior diameter of the orbit to the distance from the cranial box to the antorbital process was in two adult males about $\frac{3}{4}$ths, in the young male about $\frac{5}{6}$ths, and in the adult female about $1\frac{2}{3}$ths. The orbital process of the malar was pointed, and the zygomatic process of the temporal only reached its base.

In one Desolation Island skull the nasal bones were ankylosed with each other and with the frontal; in the remaining crania they were separated behind and received between them a mesial prolongation of the frontal. The anterior edge of the mesethmoid did not extend as far forwards as the anterior border of the nasals. The premaxilla articulated by its ascending process with the anterior half of the outer side of the nasal. The superior maxilla articulated with the same bone immediately behind the premaxilla, but in one specimen allowed a slender process of the frontal to be intercalated between it and the nasal, whilst the superior maxilla itself superiorly and posteriorly was received into a recess in the anterior border of the frontal. The upper surface of the horizontal part of the premaxilla was deeply grooved, and the ridges bounding this groove laterally met in front to form a *premaxillary tubercle*, stronger than in *Arctocephalus gazella*, which projected forwards in front of the plane of the incisor teeth. The postorbital processes were stronger than the antorbital and in the male skulls were bent backwards at the tip. The anterior nares sloped downwards and forwards to the premaxillæ and were well in front of both the antorbital process and the relatively large infraorbital foramen.

The hard palate was only slightly concave. Its posterior margin in most of the specimens was truncated, but in two it was slightly emarginate. This margin was in a line almost midway between the glenoid fossa and the posterior border of the malar process of the superior maxilla, and almost opposite the orbital process of the malar bone; in the adult males it was from 25 to 30 mm. behind the last molar tooth, and about the same distance in front of the hamular pterygoids. The hamular processes were distinct and curved backwards, downwards, and outwards. In the female skull a strong fibrous membrane had been preserved, prolonging the palate as far back as the hamular pterygoids, and it is probable that in all seals in which the hard palate is not itself continued