

only with a single vertebra. The osseous part of the 1st rib was about the same length as its costal cartilage, but in the other ribs the bony part considerably exceeded the cartilaginous. The 10th and succeeding pairs had more slender cartilages than those which were anterior to them. In *Arctocephalus gazella* the arrangement was the same, but the bones were more slender.

*Sternum*.—This bone consisted of eight segments, capable of being separated from each other. The 1st was 125 mm. long, and 29 mm. in its widest part; it was formed of bone in its whole length, and consisted apparently of the præsternal segment fused with the most anterior segment of the meso-sternum, for it projected forwards to the neck, and the 1st pair of ribs was articulated to it 90 mm. behind its anterior end. It was an elongated bar of bone, and possessed three surfaces and a ventral keel. The cartilages of the 2nd to the 7th ribs, both inclusive, were articulated at the junctions of the segments of the meso-sternum. The 8th pair of cartilages were articulated to the sides of the 7th segment, and the 9th pair at the junction of the 7th and xiphisternal segments. The segments of the meso-sternum were all elongated, and the 7th was expanded in the plane of articulation of the 8th costal cartilages. The xiphisternum projected behind the 9th pair of costal cartilages, it was bone in its more anterior two-thirds, but the posterior third was a leaf-like plate of cartilage. The sternum of *Arctocephalus gazella* closely resembled *Arctocephalus australis*.

*Anterior Extremity*.—The *scapula* in the Messier Channel adult male measured 205 mm. from glenoid fossa to vertebral border, and 253 mm. from the pointed posterior to the rounded anterior angle. The spine was more distinct than in *Macrorhinus* and *Leptonychotes*, especially than in the latter, and it ended below in a very feeble acromion. The præspinous fossa was more than twice as large as the postspinous, and was imperfectly divided into two almost equal areas by a ridge almost parallel to the spine, and situated about halfway between the spine and the rounded anterior angle. A strong ridge behind the spine, which was much more projecting than in *Macrorhinus* and *Leptonychotes*, was for the origin of the third and fourth heads of the triceps muscle. The axillary border was falciform and the coracoid process was very feeble. The ventral surface was concave, but marked by ridges for the tendons of origin of the subscapularis. In *Arctocephalus gazella* and the younger animals from the Messier Channel a portion of the suprascapular cartilage was still unossified.

The *humerus* had an extreme length of 185 mm. The deltoid ridge was strong and rough, with its outer border everted, and terminated above in a strong external tuberosity, which was separated from the inner tuberosity by a deep bicipital groove. The outer condyloid ridge projected much more than the inner, but the inner condyloid eminence was more prominent than the outer. The capitellum and trochlea formed a continuous articular surface, and both the radial and olecranoid fossæ were shallow. The musculo-spiral groove was not very strongly marked, but the shaft was concave