exceptional arrangement of these arteries obtains also, as I am informed by Mr. Forbes, in certain other genera, but in none that can be supposed to be in any way allied to the Penguins.

The sciatic artery gives off two branches—the posterior tibial and the anterior tibial.

(a) *The Posterior Tibial Artery* extends from the back of the knee joint downwards to below the ankle. In this course the artery is quite superficially placed, being covered only by the skin, and resting against the inner head of the gastrocnemius. It terminates as a small vessel which extends as far down as the middle in length of the metatarsal bone. As the posterior tibial artery passes downwards it gives off numerous small branches to the outer and inner heads of the gastrocnemius muscle.

(b) *The Anterior Tibial Artery* extends from the termination of the sciatic artery behind the knee joint forwards between the inner and outer heads of the gastrocnemius, to reach the posterior surface of the tibia above the popliteus muscle. Here it comes into contact with the posterior surface of the interosseous membrane, and passing downwards under cover of the flexor perforans, as far as the middle in length of the tibia, pierces that membrane and gains its anterior surface. Here the artery lies, along with the anterior tibial nerve, between the tibialis anticus and the peroneus longus, and coursing as far as the annular ligament above the ankle joint, terminates by dividing into the external and internal digital arteries.

The anterior tibial artery gives off the following branches.

(a) *The Articular Artery* comes off from the anterior tibial at the upper border of the popliteus. It passes forwards and upwards to supply the structures surrounding the knee joint.

(b) *Muscular Arteries.*—These are three in number, and arise from the parent trunk under cover of the popliteus muscle. They pass transversely forwards in the interval between the tibia and fibula, and gaining the front of the leg, are distributed to the muscles of that region, and more especially to the tibialis anticus and extensor digitorum. One of these branches inosculates with the anterior tibial after the latter has pierced the interosseous membrane.

In one specimen of *Aptenodytes* one of these muscular arteries was of large size, and extended as far as the cleft between the two outer toes, where it took the place of the external digital artery. In others the arrangement was similar to that described in *Eudyptes chrysocome*.

(c) *The Internal Digital Artery*, after separating from the anterior tibial, passes together with the anterior tibial nerve and the tendon of the tibialis anticus beneath the anterior annular ligament of the ankle, and having passed to the upper end of the metatarsus, divides into two branches. Of these one, which may be named the perforating artery, passes from front to back of the leg by means of a foramen between the middle and inner metatarsal bones, while the other continues along the front of the metatarsus, as far as the base of the toes, where it divides into two branches for the supply of the contiguous sides of the middle and inner toes.

(d) *The External Digital Artery* passes downwards in front of the metatarsus, lying to the outer side of the anterior annular ligament, and opposite the head of that bone divides, like the internal digital artery, into two branches. Of these one (the perforating) passes