ception of those of the eleventh and twelfth, are fused with one another, as well as with those of the last dorsal vertebra, to form an osseous margin for articulation with the innominate bone. The intervertebral foramina, with the exception of those between the eleventh and twelfth vertebræ, are completed by the vertebræ themselves. Those between the eleventh and twelfth lumbo-sacral vertebræ are of larger size than the others, and are completed externally by the pelvic bone. The renal fossæ are deep and oval in form. They are separated from one another by the median ridge formed by the fusion of the vertebral bodies.

The articular processes, spinous processes and arches of the lumbo-sacral vertebræ, together with those of the last dorsal vertebra, unite to form a single osseous mass. The spinous processes form a single continuous osseous ridge, on either side of which lies the portion of bone formed by the union of the arches of the lumbo-sacral vertebræ. This portion is oval in form, its widest part being situated immediately in front of the acetabulum. It is perforated at regular intervals by small foramina, by means of which the dorsal branches of the lumbo-sacral nerves escape from the vertebral canal.

The distinction between the lumbo-sacral and coccygeal vertebræ is by no means well-defined. In several specimens of different species I found that the first coccygeal was immovably anchylosed with the last lumbo-sacral vertebra, and that the apices of its transverse processes came into contact with the pelvic bone. In every specimen, however, there was a distinct want of anchylosis between the arches and spinous processes of the last lumbo-sacral and those of the first coccygeal vertebra, and this, coupled with the fact that in the majority there was also a certain degree of mobility between the bodies of these vertebræ, while those of the other lumbo-sacral vertebræ were immovably fused together, and that the total number of lumbo-sacral and coccygeal vertebræ together was the same in every species, seems to me to justify the separation of the two segments on the grounds above mentioned.

The only variation in respect of the lumbo-sacral vertebræ from the arrangement above described in *Eudyptes chrysocome*, appears in *Pygoscelis tæniatus*. In every other species the spinous processes of the anchylosed vertebræ form a sharp prominent keel, which extends along the whole length of the lumbo-sacral region. In *Pygoscelis*, on the other hand, this keel presents a flattened appearance, as if the spinous processes had been compressed from above downwards, and appears as a flattened and but slightly prominent surface of bone of an elliptical form, which presents its greatest breadth opposite the sixth lumbo-sacral vertebra, and narrows to a point at either end.

Comparative Remarks.—The lumbo-sacral portion of the vertebral column in the Penguins differs, as is well known, from that of other birds, inasmuch as it never becomes completely anchylosed with the pelvic bones. Even in the adult the original separation is indicated by the presence of a well-defined suture.