

border of the lung backwards along the superior abdominal wall, where it lies in relation with the ventral surface of the corresponding kidney as far as the cloaca. It is bounded below and internally by the hepatic lobe of the same side, by the mesentery, and by the coils of the intestine, while externally, it is in contact in front with the hepatic air sac, and behind with the transversalis abdominis muscle, which here intervenes between the hepatic and abdominal air sacs. This sac receives its air directly from the lung by means of an aperture which is situated on the posterior border of the lung.

The fourth or cervical sac is of an elongated oval form, and extends forwards to the root of the neck. It lies above and to the outer side of the inter-clavicular sac, with the posterior wall of which it is united. To its inner side are the trachea and œsophagus. Above it is bounded by the vertebral column, and below it is crossed from without inwards by the carotid artery. It extends from the cavity of the thorax forwards for 3 inches into the root of the neck. The cervical sac communicates directly with the lung by means of an aperture which is situated on the inner surface of the latter, half an inch in front of the point of entrance of the bronchial tube.

The fifth, or inter-clavicular air sac, differs from those above described in being single. It is situated between the limbs of the clavicle, and extends forwards to the root of the neck and backwards to the cavity of the thorax. It is bounded below by the clavicle and by the inner surface of the strong coraco-clavicular membrane, to which it is closely adherent. Opposite the bases of the coracoid bones, the inter-clavicular sac divides into two parts, which are symmetrically disposed on either side of the middle line. Each of them extends as far back as the incomplete septum which is met with in the interior of the hepatic air sac. Externally the inter-clavicular sac reaches the axilla in front, and comes into contact with the hepatic sac behind. Above it touches the trachea, œsophagus, and carotid arteries, while below and in front it is bounded by the great skin muscle of the neck, and behind by the thoracic surface of the sternum. This sac communicates directly with the lung by means of an aperture situated on the inner surface of the latter, behind the point of entrance of the bronchial tube. It therefore receives its air directly from the intra-pulmonic bronchial tubes.

As is well known,¹ the bones of the Penguins do not admit of the passage of air into their interior, as do those of the majority of birds.

URINARY ORGANS.

The kidneys of *Eudyptes chrysocome* from Tristan d'Acunha (Pl. XVII. figs. 7, 8) occupy the usual position, being wedged into the hollowed irregular surface of the lower aspect of the lumbo-sacral portion of the vertebral column. In the male, the testicle of either side is

¹ Jaquemin, Nova Acta Acad. Nat. Curios, tom. xix. p. 318; and Owen, Art. "Aves," Cyclopædia of Anatomy and Physiology, tom. i. p. 343