In the Procellariidæ, except *Pelecanoïdes*, the two most anterior air-cells, which lie between the rami of the furcula at the entrance to the thorax, are not, as is usually the case in birds, fused together to form an interclavicular air-cell, but—at least in all the species in which I have examined into this point—remain partially distinct, being separated for the greater part of their length by a median septum formed by the coalescence of their internal walls—and double in consequence—but imperfect behind in the middle line, so that there is here a free communication between the two cells over the trachea. In the Oceanitidæ and *Pelecanoïdes* the ordinary structure prevails.[1]

There are always large supra-orbital glands, which occupy depressions excavated for them in the top of the skull (*vide* Pl. VI. fig. 3), and open by a small duct into the nasal cavities. Similar glands occur in many birds, notably the Penguins, Colymbidæ, Auks, Gulls, and many others.[2]

As in all other Ciconiiform birds, there is no true penis developed.

5. Trachea and Vocal Organs.

The trachea in all Tubinares is a straight, simple tube, never convoluted in any way, and with the normal structure of this organ in birds. In some of the genera—*Fulmarus*, *Thalassœca*, *Aeipetes*, and *Ossifraga*—it is divided, as will be described in detail further on, to a greater or less extent by a median longitudinal septum, as in the Penguins alone of other birds so far as I know. The trachea has the ordinary long lateral muscle on each side, as well as a pair of well-developed sterno-tracheales, these arising from the costal processes of the sternum, as in so very many birds.

The constitution of the syrinx, or lower larynx, differs very considerably in the different genera and groups of the Tubinares as regards the number and modifications of form of the various tracheal or bronchial rings that enter into its composition. When as, *e.g.*, in the Gallinæ, the syrinx has no intrinsic muscles, the only guides for determination of the exact rings forming the syrinx are the variations in form of the rings themselves, according as to whether they are tracheal or bronchial, and the facts elucidated by a comparative study of these parts in a series of genera. Such a study of the syrinx in the Tubinares has made it evident to me that in this group at least the attachment of the intrinsic syringeal muscles (of which of course there are only a pair) to a particular bronchial semi-ring is constant, thereby affording a landmark by which the contiguous rings on both sides can at once be assigned to their proper position. The semi-ring that bears the muscle in the Tubinares is the fifth, the four bronchial rings (or semi-rings) above it, as well as a less or greater number of the

[1] In one of the three specimens of *Oceanites* examined, there appeared to be a division of the interclavicular air-cell into two, as in the Procellariidæ.

[2] *Cf.* Nitzsch's article, "Ueber die Nasendrüse der Vögel," Meckel's Archiv, 1820, pp. 234–269.