

The lateral position of the nostrils.¹ The presence of a distinct *gluteus quintus* muscle. The formation of the *biceps humeri* muscle, which gives off a patagial slip from its coracoidal head. The characteristic sternum. The absence of hæmapophyses on the dorsal vertebræ. The pneumatic *os humeri*. The generally pneumatic condition of the skeleton. The proportion of the manus to the humerus and ulna.

The tongue and palate are also more or less peculiar, and in all the genera there are uncinatæ bones, no basipterygoid facets, and two large distinct accessory wing-ossicles; the right liver-lobe is also distinctly the larger of the two.

There are apparently three good genera of Albatrosses which may be distinguished, independently of external characters, as follows:—

Diomedea. Tongue very short; uncinatæ bones more or less styliform. (*Diomedea exulans* and *brachyura*.)

Thalassiarche. Tongue intermediate; uncinatæ bones styliform. (*Thalassiarche culminata*.)

Phœbetria. Tongue much longer; uncinatæ bones flattened; hallux better developed than in the other genera, and with an external claw. (*Phœbetria fuliginosa*.)

Neglecting for the present the peculiar diving *Pelecanoïdes*, the remainder of the Procellariidæ forms a natural group distinguished by the following characters from the Albatrosses (Diomedeinæ):—

The more or less dorsal position of the nostrils, the form of which however varies, as has already been described, though they are never lateral. The absence of a *gluteus quintus*. The peculiar form of the *biceps brachii* muscle, which is in two separate parts, the humeral head forming a patagial slip. The presence of hæmapophyses on the dorsal vertebræ, the centre of which are marked by more or less developed pneumatic depressions. The non-pneumatic humerus. The different pterylosis, and the nearly equal size of the lobes of the liver. The greater size of the hallux, which always has a distinct nail externally. (Quite absent in *Pelecanoïdes*.)

Pelecanoïdes is, in some respects, as much specialised as the Albatrosses, though many of its modifications are distinctly traceable to its diving habits, as, *e.g.*, the compressed form of the wing bones, the great development of the hypapophyses of the dorsal vertebræ, the elongated sternum and pectoral muscles, the peculiar ribs. But it stands alone (amongst the Procellariidæ) in the absence of the *ambiens* muscle; the peculiar disposition of the femoral vein; the absence of a hallux; and the single interclavicular air-cell. Moreover, as in *Bulweria* only of other Tubinares, its myological formula is A.X., there being no accessory head to the femoro-caudal muscle.

¹ This feature, in which the Albatrosses are apparently more primitive than are either the Oceanitidæ or the other Procellariidæ, can hardly, if my views about the relationships of these groups to each other be correct, be considered to have been a character of the common Petrel-ancestor. It may be more probably explained as due to arrested development during embryonic life, as a study of the development of the nostrils of other Petrels would probably show that these are actually, at some time, lateral, and subsequently coalesce.