that of the cervical ones is always fifteen, as may be seen from the table appended (p. 47). In the Oceanitidæ, it will be observed, the number of cervico-dorsal vertebræ is twenty-one, in the Procellariidæ, it is twenty-two, with two exceptions, where there are as many as twenty-three.

The articular cup of the atlas is always incomplete superiorly, the odontoid process of the axis filling up the gap, and so completing the joint. The fifteenth cervical vertebræ has a well developed free rib, which may have an uncinate process, and one or more of the preceding vertebræ—usually two, but sometimes as many as four (*Oceanites*)—have short V-shaped ribs, which do not anchylose with the vertebræ. Sometimes (*Oceanites*, *Prion*) the fourteenth cervical rib is longer, resembling in shape that of the fifteenth, but with no uncinate process.

The dorsal vertebræ[1] are all free, except the last, or occasionally two last, which are anchylosed to those forming the sacrum. They usually have well-developed hypapophyses, especially anteriorly. These are particularly strong and well-developed in *Pelecanoïdes* as in other diving birds (*e.g.*, *Uria*, *Alca*, *Podiceps*), extending there to quite the last dorsal vertebra. In the Diomedeinæ, on the other hand, they are quite absent, or merely represented, on the most anterior ones, by short expanded processes like those of the few last cervical vertebræ.

In nearly all the Tubinares, each of the dorsal vertebral centra has on its sides a distinct oval expression, of varying depth, at the bottom of which, in the largest species, open one or more small pneumatic foramina, to admit air to the interior of the bones. In the Albatrosses, however, these pneumatic depressions are absent, though air is admitted to the bones—which are highly pneumatic here—by a distinct, but small, aperture in each centrum. The transverse processes, too, are in these latter birds very much hollowed out for air cavities.

The ribs in the Oceanitidæ are peculiarly broad, and flattened out dorsally, to an extent not seen in any Procellarian.

In *Pelecanoïdes* the ribs are very long, and oblique in position, the more posterior ones most so, with the angles formed by their vertebral and sternal moities very acute. Thus the whole trunk almost becomes completely surrounded by a bony box, in a way well calculated to resist the pressure of the water when these birds dive. The same modification may be seen well-developed in the diving Alcidæ (*Uria*, *Alca*, &c.).

The uncinate processes are well-developed and nearly straight. They are firmly anchylosed to the ribs.

As may be seen from the table, the number of ribs and uncinate processes varies slightly, and the same is true for the sacral and caudal vertebræ. The latter have well-

[1] I count all those vertebræ which bear ribs, whether true or false, behind the first dorsal—defined as such by its rib being the first to articulate with the sternum—as "dorsal." The succeeding rib-less vertebræ which are anchylosed together are "sacral," the remaining free ones "caudal."