

we might expect to see exhibited throughout the animal kingdom. It is only by the more modern systematists that families and sub-families have been interposed between the order and the genera. Cuvier and Vander Hoeven each admit *four* great families of *Natatores*, *Palmipedes* or *Anseres*, as the order has been named by different writers. Cuvier gives them as the Divers (*Brachypteres*); the Gulls and their allies including the Petrels (*Longipennes*); our *Pelecanidae*, called by Cuvier *Totipalmati*; and the Ducks and Geese (*Lamellirostres*.)

Vander Hoeven, with a slight difference in the order of the series and in the naming, gives: 1. *Brevipennes* or *Urinatores*; 2. Ducks (*Lamelloso-dentati*); 3. *Steganopodes* (Illiger's name for the *Totipalmati* of Cuvier), the Pelicans; and, 4. *Longipennes*, the Gulls, Terns, and Petrels.

Dr. George Gray, following Vigors, Swainson, and others, separates the Auks and Penguins (his family *Alcidae*) from the Divers, *Colymbidae*. Prince Bonaparte considers the Penguins, *Spheniscidae*, as being also distinct; and he, as well as Gray, separates the *Procellariidae* from the Gulls and Sea Swallows. Thus Prince Bonaparte receives seven, Dr. Gray six, Swainson five, and other great authorities only four principal families of *Natatores*. In my view of the subject, the difference between *Alcidae* and *Colymbidae* is well established; but *Spheniscidae* (the Auks of the southern hemisphere) are to be accounted only as a sub-family; whilst I think both the Petrels and Terns only sub-families of *Laridae*.

It appears to me, in short, that, putting his theory out of view, Mr. Swainson has here exercised a wise discretion, recognizing a manifest distinction of structure and habits, but refusing, where there are very strong points of general resemblance, to make minor differences a pretence for multiplying families. Let us now ask whether we can perceive among the families of *Natatores* or swimming birds, any thing like representation of the several tendencies of development which have been pointed out as occurring in the various divisions of the animal kingdom.

The character of power and of the highest development suited to the type is in the outer circle of birds exhibited by the order of *Raptores*, the birds of prey. We have then to observe whether any of our *Natatorial* families displays characteristics analogous with these birds. We might look especially to strength of wing, rapidity of