

The Bill or Beak of Birds

1. The bill or beak of birds consists of 2 parts, generally called the upper and lower mandibles, but more properly 'Maxilla' and 'Mandible'.
2. The externally visible part of each is an epidermic sheath of horny, or sometimes leathery, consistence, which covers the anterior bony prolongation of the cranium in the one case (the premaxillary bone), and of the lower jaw in the other (the dentary bone).
3. In most birds the sheath (rhamphotheca) of each jaw is entire (as the storks), but in some (as the Petrels) it is "pieced," or divided into distinct parts by various lines of slight connection.
4. The different parts of the bill have received names useful for descriptive purposes. Of these the following are the most important:—
 5. The whole length of the middle line of the upper surface, from the tip or apex to where the feathers commence on the forehead, is called the 'Culmen'.
 6. The lateral sharp edge of the horny covering of either maxilla or mandible is the 'Tomicum'.
 7. The point at which the edges of the jaws meet behind is the 'Commissure', or angle of the mouth (sometimes called the 'Gape').
 8. The mandible is composed of two lateral halves, called 'rami' or branches, separate behind, but united the front; the space between them when they are separate is the 'inter-ramal space' the lower ~~no~~ median edge of the mandible, from the point at which the rami unite to the tip, is called the 'Gonyx'.

9. the nostrils are two in number, situated usually near the base of the maxilla. their form and exact position vary considerably in different birds. they often open into a depression or groove (the nasal fossa or sulcus). In the Petrels the borders of the nostrils are prolonged forwards in a tubular form. In some birds (as Hawks & Parrots) they open in a soft-waxy-looking covering of the base of the maxilla, called the 'cere'. In the Apteryx alone of existing birds the nostrils open near the tip of the bill.

10. the horny sheath of the bill grows continuously from the base, but in consequence of the wear to which the edges and the tip are subjected it usually maintains its definite size & form throughout life. of how many cause the natural wear does not take place, the continuing growth produces a prolongation of the upper mandible in either straight, curved, or spiral form. &

