

Classification of Birds

Degree-I

Classification of Birds

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Birds are warm-blooded vertebrates having characteristic feature of feathers.

GENERAL CHARACTERS

1. Fore-limbs modified into wings
2. Fore limbs have 3 clawless digits and feathers for flight
3. Hind-limbs adapted for walking, perching or swimming and bear 4 toes
4. Only skin gland present is oil glands on the tail
5. Bones light in weight and contain air cavities
6. Skull monocondylic, having only one occipital condyle
7. Lower jaw is composed 5 or 6 bones
8. Modern birds have teethless
9. A horny beak is present
10. Cervical and free thoracic vertebrae usually heterocoelous but may be procoelous or amphicoelous
11. Sacral vertebrae fused with other vertebrae to form a synsacrum
12. Posterior caudal vertebrae usually fused to form a pygostyle
13. Vertebral ribs are bicephalous, with unciniate process
14. Sternum broad, commonly with a longitudinal ventral keel
15. Coracoid is more or less pillar-like, scapula is sabre-shaped
16. Clavicles and interclavicle join to form a V-shaped furcula
17. Distal carpals and metacarpals unite to form carpo-metacarpus
18. Proximal tarsals are fused with the tibia to form tibio-tarsus
19. Metatarsals fused with distal tarsal to form the tarso-metatarsus
20. Ankle joint is inter-tarsal
21. Gullet is dilated into a crop
22. Stomach has 2 parts a glandular proventriculus and a muscular gizzard
23. Cloaca is 3-chambered
24. Lungs spongy and non-distensible, Air sacs present and some of them communicate with air cavities in the bones
25. Voice producing organ is syrinx
26. Larynx has no vocal cords
27. Heart is 4-chambered
28. Only right aortic arch is present in adult
29. R. B. C. oval, nucleated and biconvex
30. Renal portal system vestigial
31. Kidneys metaaephric, 3-lobed

32. Cerebellum large and optic lobes are displaced laterally
33. Sexual dimorphism well marked
34. Left ovary present only
35. Right ovary is more or less completely atrophied
36. Fertilization internal
37. Oviparous; Large ovum cleidoic
38. Embryo has amnion, allantois and yolk sac
39. Parental care is well-developed

The classification of birds is adopted from Storer and Usinger (1957).

Subclass I—ARCHAEORNITHES

1. Extinct Jurassic birds
2. Belong to Mesozoic age
3. Tail with more than 13 caudal vertebrae that bear rectrices
4. Rectrices arranged in 2-lateral rows
5. No pygostyle
6. Amphiecolous vertebrae
7. 3-fingers; metacarpals free, each with a claw
8. Tooth in sockets in both jaws

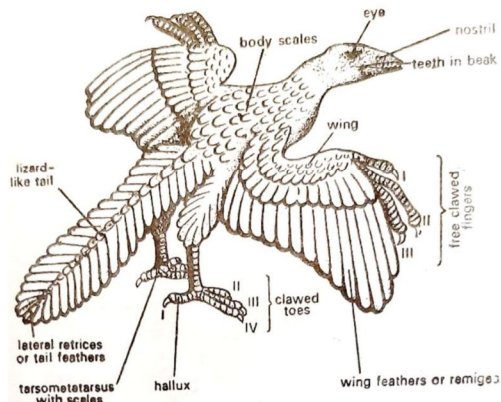


Fig. 18-2. *Archaeopteryx*. Restoration showing detailed structure.

Figure 1 Archaeopteryx Restoration with detailed structure

Examples: *Archaeopteryx*, *Archaeornis*