

Characteristics of Birds

- 1] Homeotherms / Endotherms / warm blooded
- 2] Body divided into head, neck, trunk and a short tail.
- 3] Body boat shaped & streamlined
- 4] Forelimbs modified into wings and hind limbs bear body weight -
- 5] Adapted for walking, running, flying, swimming & perching.
- 6] Skin is dry - only gland is preen / uropygeal gland at the base of the tail.
- 7] Exoskeletons are - Epidermal feathers, scales on legs, claws on toes and Rhamphotheca on beak. Rhamphotheca are thin horny sheath of keratin present on the outer surface of the beak.
- 8] Endoskeleton are - Pneumatic bones - bones with air spaces, monocondylic skull (only one occipital condyle), Synsacrum formed by last-thoracic, lumbar, sacral and few caudal vertebrae - fused with pelvic girdle for support to hind limb.
Pygostyle formed by posterior most-caudal vertebrae fused to support tail feathers.
Skull - most-bones are fused and much lighter than reptile or mammalian brain
Sternum - keel / carina for attachment of flight muscles
Ribs double headed
Furcula - clavicle, interclavicle unite to form V shaped wish bone.

9] Flight muscles - are powerful.

Pectoralis major - are large, red, connected to lower side of head of humerus bone and keel of sternum. These are depressor muscle causing downstroke.

Pectoralis minor - arise from sternum connected to dorsal side of humerus bone.

These are elevator muscles causing upstroke.

Coracobrachialis - connects coracoid to lower side of humerus head. These are depressor muscles.

10] Digestive system - Edentate (no teeth)

Crop - for food storage

Stomach - Proventriculus - It is the narrow glandular first region of the bird's stomach b/w the crop and the Gizzard.

Gizzard is a muscular thick walled part of a bird's stomach for grinding food.

Cloaca - Coprodeum - most anterior division of cloaca. It is continuation of colon where faeces is stored. Urodeum is the middle part of cloaca, it has ureteric opening in the dorso-lateral wall above the papilla of the oviduct/deferent duct opening.

Proctodeum is the posterior segment. It is short and ends at the vent. The opening in the dorsal wall leads to the cloacal bursa of Fabricius which is a specialized organ & part of immune system. It develops as a dorsal diverticulum of the proctodeal region of the cloaca. Bursa is active in young birds but atrophies after about 6 months.

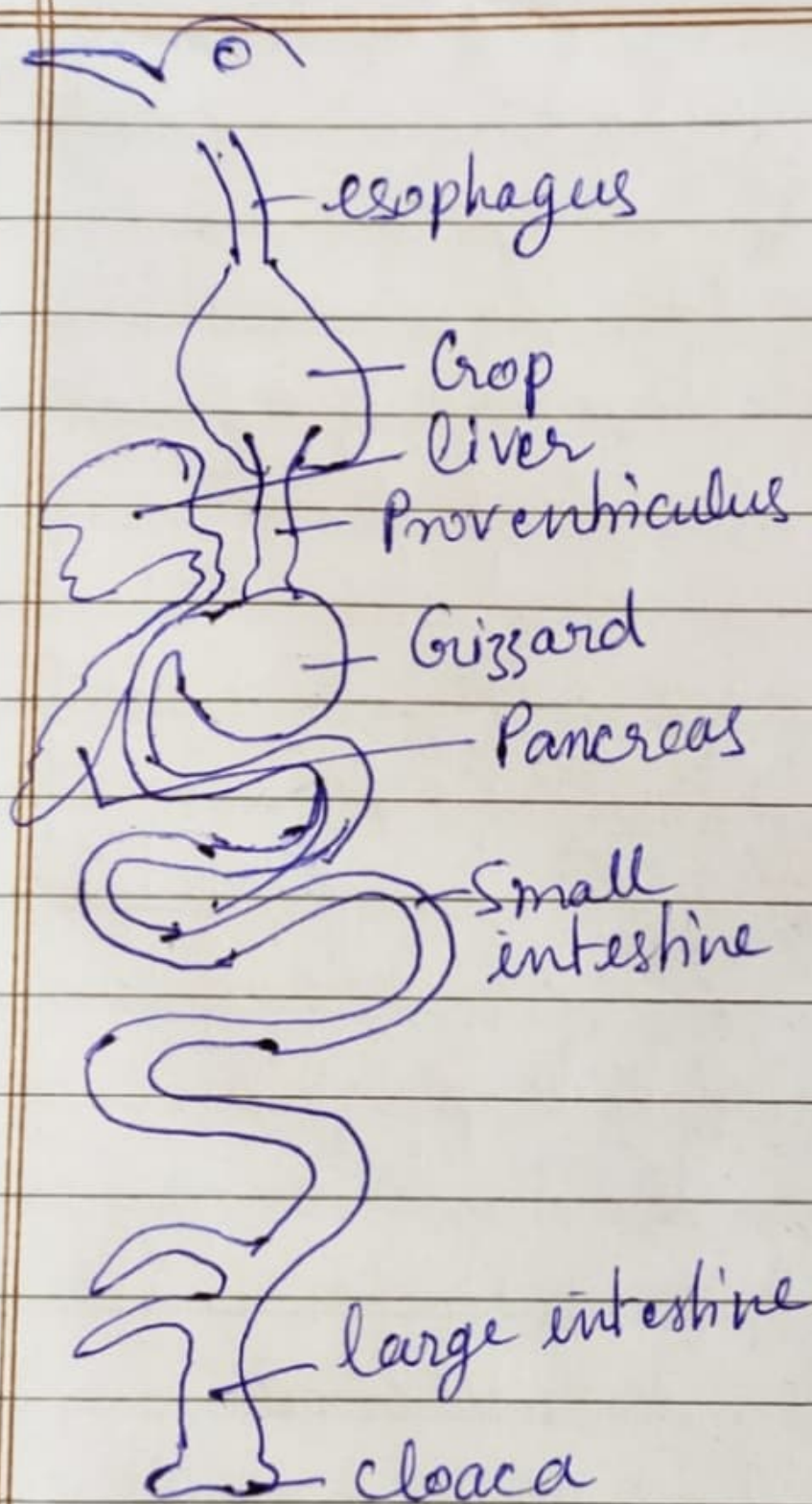


Fig - Digestive system in birds .