

AVIAN ANATOMY

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Domestic birds

- *Gallus domesticus* - Chicken
- *Meleagris gallopova* - Turkey
- *Anser domesticus* - Goose
- *Anas domestica* - Duck
- *Columba domestica* - Pigeon
- *Coturnix coturnix* - Quail
- *Struthio camelus* - Ostrich

Adaptations of Flying in Birds

- They have wings
- The body is covered by feather
- They have air sacs and pneumatic (air filled) bones (Pneumatisation)
- They have no teeth, lips and cheek.
- They have no urinary bladder
- Lay an egg
- They have Carina on the sternum
- They have pygostyl in the tail

OSTEOLOGIA

- Characteristic features of the Avian bones are lightness and strength

OSTEOLOGIA

Cranium

□ Neurocranium

Os occipitale, os parietale, os temporale, os frontale, os sphenoidale.

□ Splanchnocranium

Os lacrimale, os nasale, os maxillare, **os premaxillare**, os zygomaticum, os palatina, os pterygoideum, os vomer, **os quadratum**, mandibula, os hyoideum.

OSTEOLOGIA

Cranium

- Orbita is too large.

OSTEOLOGIA

Cranium

- Mandibula consists of 11 bone pieces.

OSTEOLOGIA

Columna vertebralis

□ Number of Vertebra

	Chicken	Duck	Goose	Pigeon
Cervical	14	14	17	12
Thoracal	7	9	9	7
Lumbal	4	4	4	4
Sacral	10	10	10	10
Caudal	7	7	7	7

OSTEOLOGIA

Columna vertebralis

- os lumbosacrale-synsacrum

OSTEOLOGIA

Sternum

- Sternum : crista sterni-carina on the ventral surface
- Proc.lateralis cranialis, proc.lateralis caudalis, proc.thoracicus

OSTEOLOGIA

Ossa membri thoracici

- Cingulum membri thoracici
 - Scapula,
 - os coracoides,
 - clavicula : furcula in «V» shape
- Ossa alae
 - Humerus
 - Antebrachium
 - Ossa carpi
 - Ossa carpometacarpalia
 - Ossa digiti manus

OSTEOLOGIA

Ossa membri pelvini

- Pelvis = Synsacrum + Os coxae
- Pelvis is the largest bone in the body and it has no symphysis pelvina

ARTHROLOGIA

- ❑ Sutures between the skull bones are totally fused
- ❑ Articulatio quadromandibulare
- ❑ Vertebral discs are circular shape because of the absence of nucleus pulposus
- ❑ Art.humeri is diarthrosal joint.
- ❑ Art.tarsi : tibiotarsus and tarsometatarsus bones

MYOLOGIA

- ❑ According to the presence of the myoglobin, the color of the muscles can be red or white
- ❑ They have no lips, cheek, nose and ear muscles.
- ❑ Neck and tail muscles are well developed
- ❑ They have well developed pectoral muscles in order to flight long distance

SYSTEMA DIGESTORIUM

- They have a large body cavity.
- Omentum is absent
- They have four peritoneal sacs :

Cavum hepaticum ventrale peritonei - Covers the liver

Cavum hepaticum dorsale peritonei - Covers the liver

Cavum intestinale peritonei - Covers the intestines and urogenital organs

SYSTEMA RESPIRATORIUM

□ Larynx is double.

Larynx cranialis - for respiration

Larynx caudalis (syrinx) - for the voice forming

SYSTEMA RESPIRATORIUM

- Sacci pneumatici
- Functions:
 - Increase the body volume
 - Pneumatisation
 - Termoregulation
 - Increase the voice volume
- They have 8 air sacs
- Saccus cervicalis
- Saccus clavicularis
- Saccus thoracicus cranialis
- Saccus thoracicus caudalis
- Saccus abdominalis

SYSTEMA URINARIA

- Kidneys are embedded to bottom of os lumbosacrale.
- They have no Papilla renalis, pelvis renalis, calix renalis and urethra.
- They have no urinary bladder (except ostrich).

SYSTEMA GENITALIA

Organa Genitalia Masculina

- Testicles are located in the body cavity and they are larger than mammals'

SYSTEMA GENITALIA

Organa Genitalia Masculina

- They have no funiculus spermaticus and accessory glands
- Ductus deferens drains to urodeum
- Penis : Phallus

SYSTEMA GENITALIA

Organa Genitalia Feminina

- Right ovary and salpinx are regressed.

SYSTEMA GENITALIA

Organa Genitalia Feminina

□ Tuba uterina drains to urodeum. It has 5 main parts :

Infundibulum

Magnum

Isthmus

Uterus

Vagina

SYSTEMA VASORUM

- ❑ They have no auricula.
- ❑ Valvula tricuspidalis like a muscle sheet
- ❑ They have no chorda tendinea and m.papillaris in right ventricle

SYSTEMA VASORUM

- Vena cava cranialis are double
- Two arteries are originated from Arcus aortae
: Tr.brachiocephalicus dextra et sinistra
- Vena azygos is absent
- Double tr.thoracoabdominalis is the largest lymphathic vessels.

SYSTEMA NERVOSUM

- sulci and gyri are absent

SYSTEMA NERVOSUM

- ❑ Pons, septum pellucidum and adhesio interthalamica are absent.
- ❑ Tectum mesencephali : corpora bigemina "optical lobe".
- ❑ Cauda equina is absent.