

Dr. Prabhat-Rajya  
Dept. Zoology  
Raja Jishu College,  
Sivas, J.P. Chhabra

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Sem - II  
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## Mammalia (Characters)

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### General Characters:

- Mostly terrestrial, air breathing, warm blooded, tetrapod tetrapod vertebrates.
- Its body is hair clad. (Except Aquatic mammals)
- Body divisible in to Head, Neck, Torso & tail.
- Limbs two parts, pentadactyle, each with 5 or fewer digits & variously adapted for walking, running, climbing, burrowing, swimming or flying. Hind limbs absent in Cetaceans & Sirenians.
- Exoskeleton includes lifeless, horny, epidermal hairs, spines, scales, claws, hoofs, horns, bony dorsal plates.
- Skin richly glandular containing sweat, sebaceous (oil) and sometimes scent gland in both sexes.
- Females also have mammary gland, with teats/ nipples producing milk for suckling the young.
- A muscular partition called diaphragm separates the anterior thoracic cavity from the posterior abdominal cavity.
- Endoskeleton thoroughly ossified. Skull dicondylic, having two occipital condyles formed exclusively by the occipitals. Cranium large.
- Cervical vertebrae usually 7 (seven), 2 ribs bicapularous, Coracoid vestigial.
- Alimentary canal terminates by anus, there being no cloaca. Buccal cavity separated from nasal passage by a hard palate.
- Teeth are of several type (heterodont), borne in sockets, (thecodont) & represented by two sets. (diphyodont)



- Respiration by Lungs (Pulmonary) -
  - Larynx contains vocal cords.
  - Heart - 4. Chambered, with double circulation -
  - Only left Aortic Arch present -
  - Renal portal system absent.
  - R.B.C. small, circular & non-nucleated,
  - Body temp. regulated (Homeiothermous)
  - Kidney Metanephric. Ureters open into a muscular urinary bladder, Excretion is Ureotelic. Excretory fluid is Urine.
- Brain highly evolved. Both Cerebrum & Cerebellum large & convoluted. optic lobes small & 4 in number called Corpora Quadrigemina. Corpus Callosum present connecting both cerebral hemisphere.
- Cranial Nerves 12 pairs.
- Senses are developed. Eyes protected by lids, the upper eyelid is movable. External ear opening protected by a large fleshy & cartilaginous flap called pinna or concha. Middle ear cavity with 3 ear ossicles - Malleus, Incus & Stapes. Cochlea of internal ear specially coiled.
- Sexes separate Sexual dimorphism generally well marked. Male has an erectile copulatory organ, or penis. Testes commonly placed in a bag or scrotum. outside abdomen. Eggs are small with little yolk & no shells.
- Fertilization internal, preceded by copulation.
- Except - Egg-laying monotremes, mammals & viviparous giving birth to living young ones.
- Development viviparous
- Parental care well developed.
- Mammals show greatest intelligence among all animals