Rat Externals

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Classification

Kingdom : Animalia

Phylum : Chordata

Subphylum ; Vertebrata

Class : Mammalia

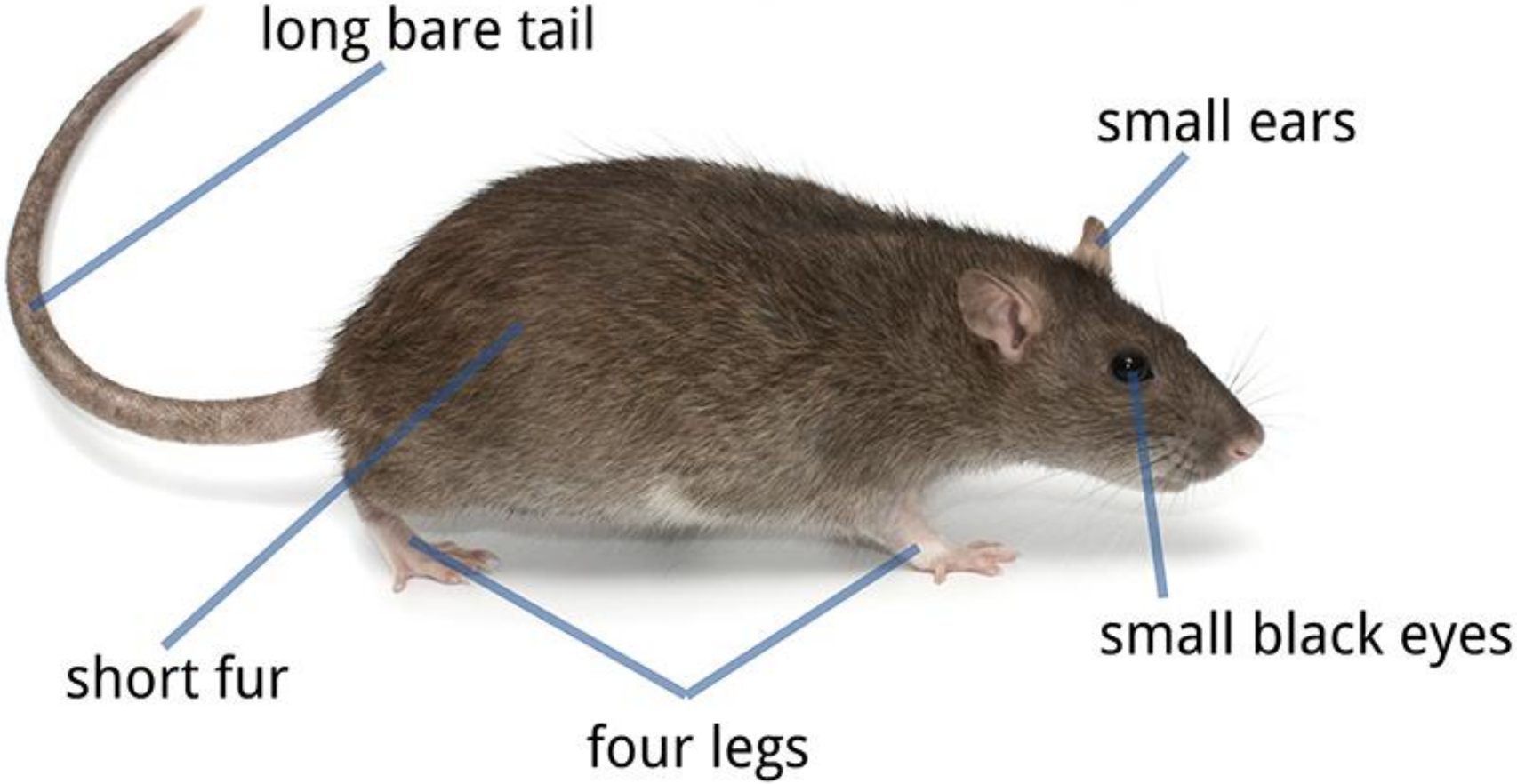
Order : Rodentia

Family : Muridae

Genus : *Rattus*

Species : *norvegicus*

RAT ANATOMY


long bare tail
small ears
short fur
small black eyes
four legs

Norway Rat - Rattus norvegicus	Roof Rat - Rattus rattus	House Mouse - Mus musculus
		
Tail - Shorter than head & body Body - Heavy, thick Ear - Small Eye - Small Nose - Blunt (Also known as Wharf, Sewer, Brown Common)	Tail - Longer than head & body Body - Slender Ear - Large Eye - Large Nose - Pointed (Also known as Black, Fruit, Ship)	Feet - Small Head - Small
 Droppings Blunt 1.9 cm Long	 Droppings Pointed 1.3 cm Long	 Droppings Pointed 63 mm Long

The two species have many comparable and different qualities. The key to telling the difference can be narrowed down to easily to five features the nose, eyes, ears, body, and tail.

Nose:

Thin and pointed in the Roof rat

Thick and blunt in the Norway rat

Eyes:

Large eyes for the Roof rat

Small eyes for the Norway rat

Ears:

Large ears on the Roof rat

Small ears on the Norway rat

Body:

Thin and slender in the Roof rat

Thick and bulky in the Norway rat

Tail:

Longer than the head & body in Roof rats

Shorter than the head & body in Norway rats

Roof Rat or Norway Rat?

Roof Rat

Up To 1/2 lb and 12" Long
Large Ears
Tail Longer Than Body
Small Pointed Droppings

Norway Rat

Up To 1 lb and 18" Long
Small Ears
Tail Shorter Than Body
Large Rounded Droppings

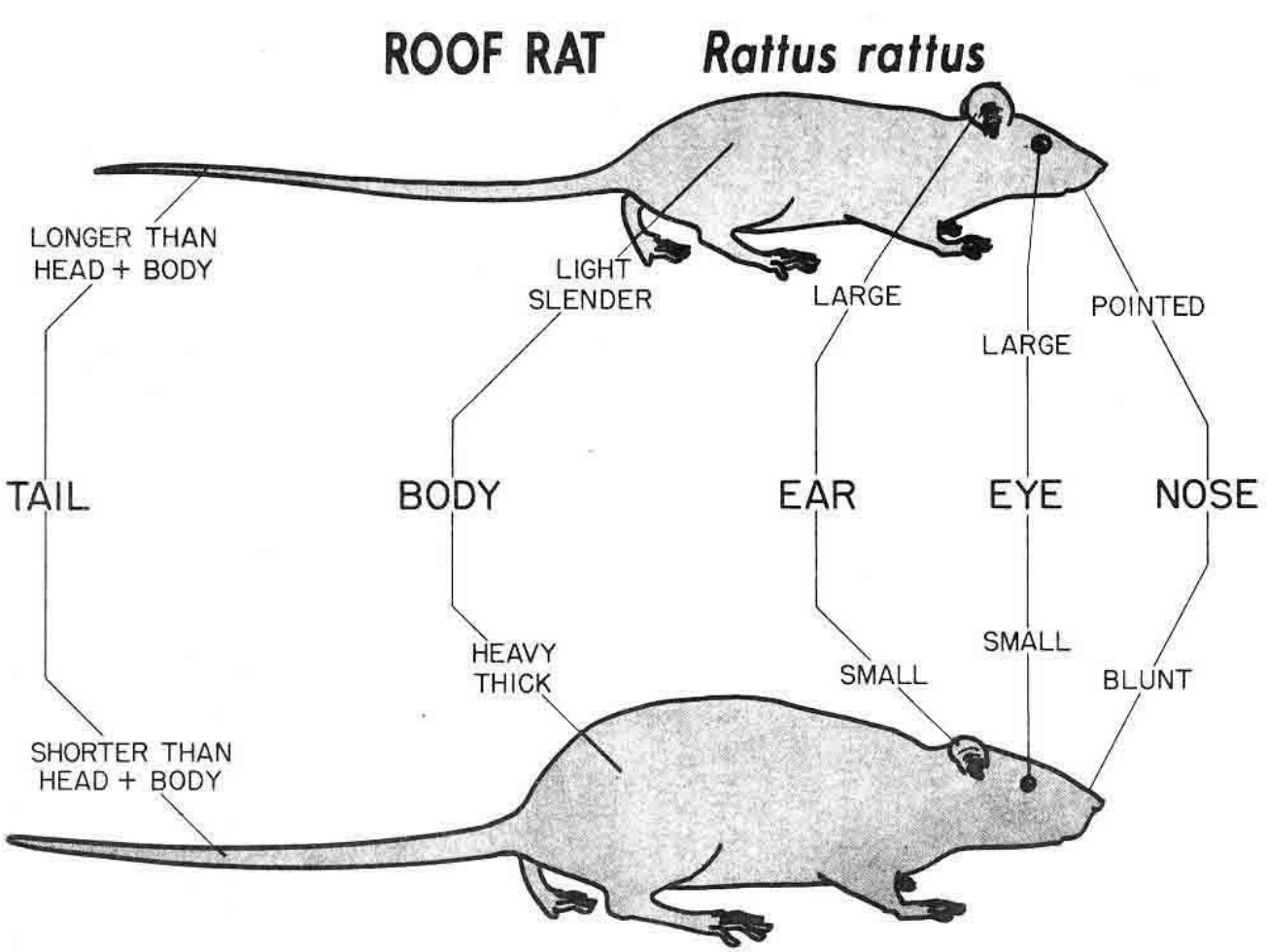
Norway Rat (*Rattus norvegieus*)

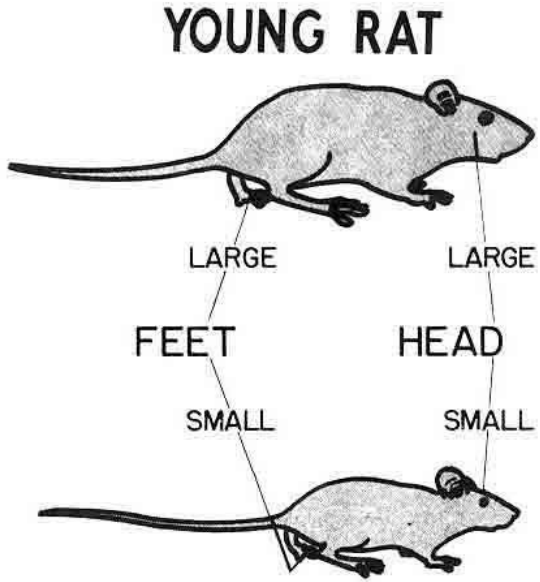
- AKA: The Brown Rat
- Life span is commonly 2-4 years in captivity is longer.
- Brown or mixed dark grey color, and the underside a lighter brown to light gray
- Range in sizes 4-10 inches or longer
- The tail matches the length of the body
- Full grown males are capable of weighing in at around 10-18 ounces
- Females are usually around 8-12 ounces
- Blunt nose
- Ears are small and cannot reach eyes
- Nocturnal dweller and great swimmer not to be confused with the muskrat.
- They are also known for being a burrowing species, and have elaborately made tunnel systems.
- 12 teats on female

Roof Rat (*Rattus rattus*)

- AKA: The House Rat, Ship Rat, or Black Rat
- 5-10 ounces in weight
- Body color can be black, light brown, dark brown, and mixed
- Belly can be all white, all gray, or all off white/light tan brown
- Ears are large enough to cover eyes
- Pointed nose
- Tail same length as body
- 10 teats on female

FIELD IDENTIFICATION OF DOMESTIC RODENTS





SCALE IN INCHES
0 1 2 3

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U.S. Department of
HEALTH, EDUCATION, AND WELFARE
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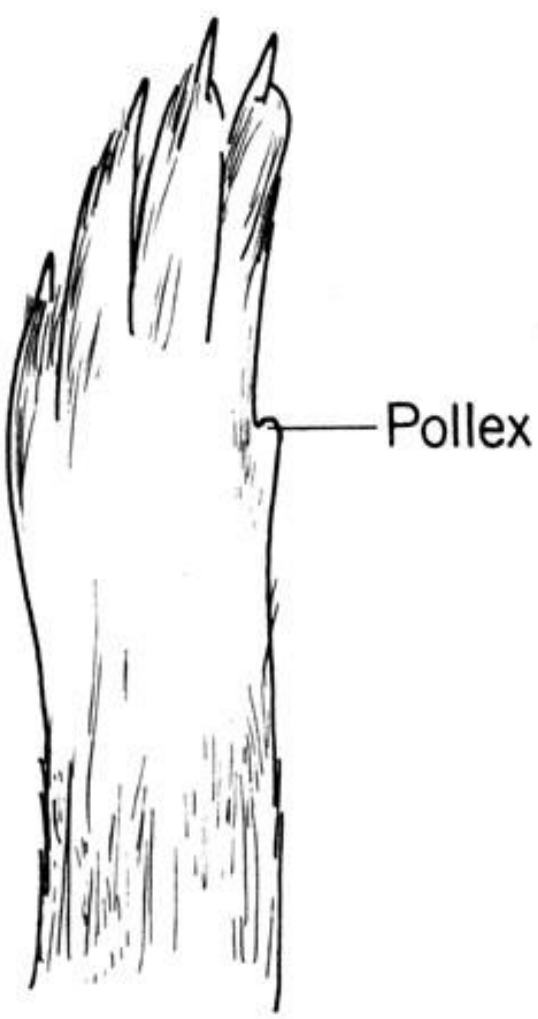
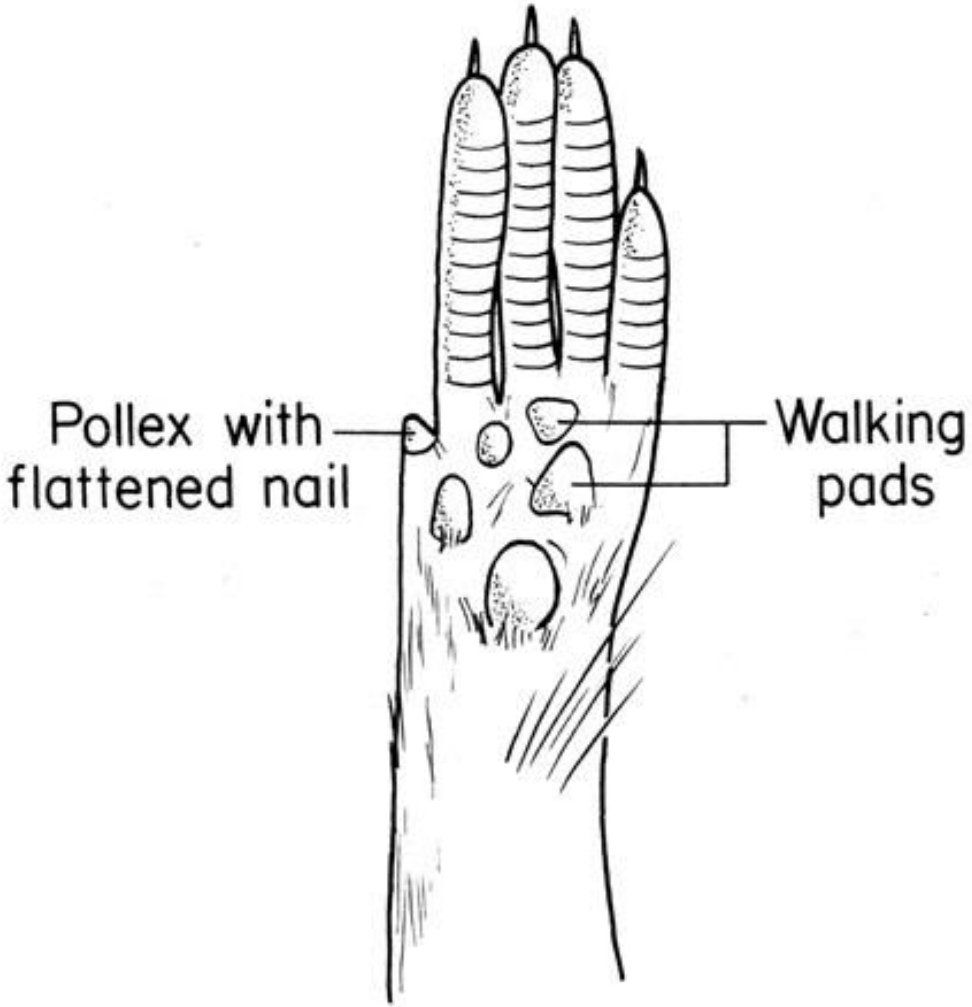
Communicable Disease Center
Atlanta, Georgia

Fore Limb



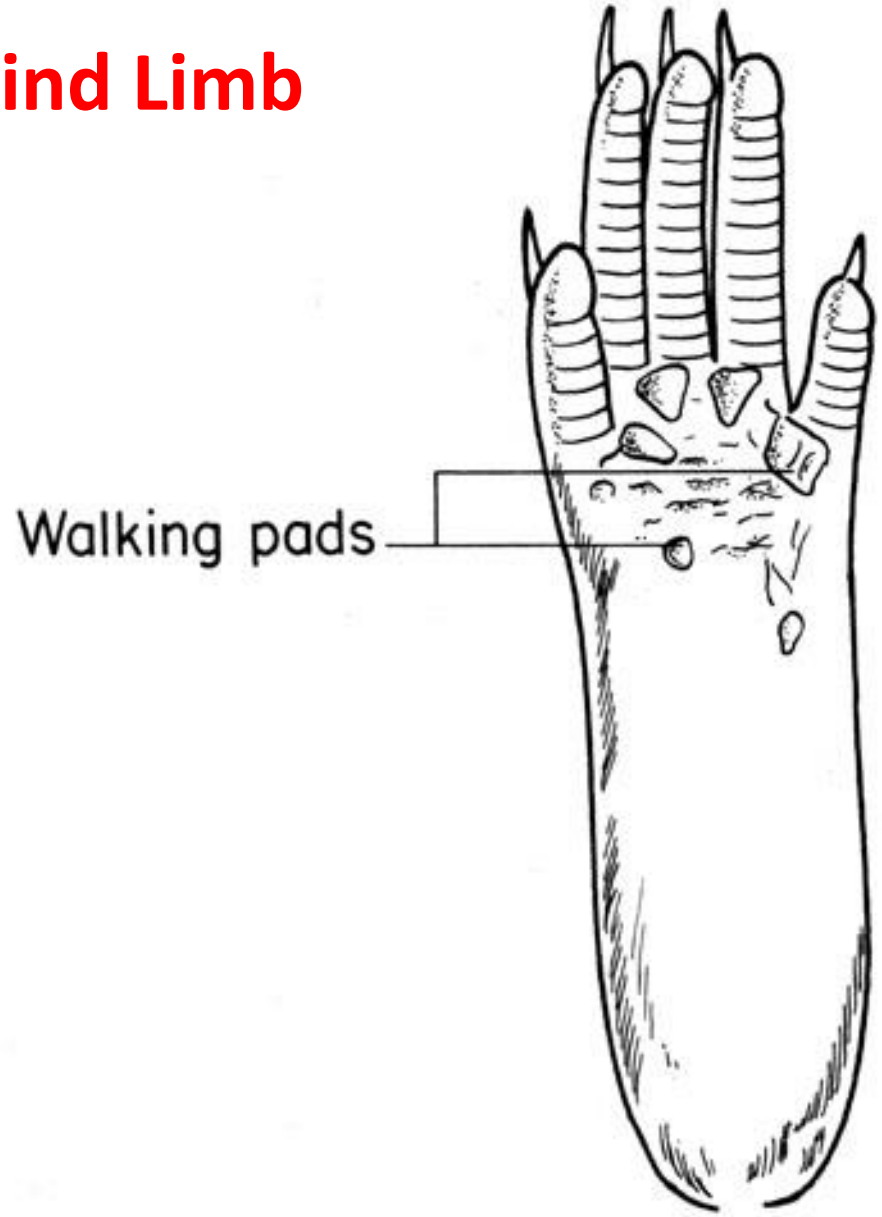
Dorsal aspect



Ventral aspect

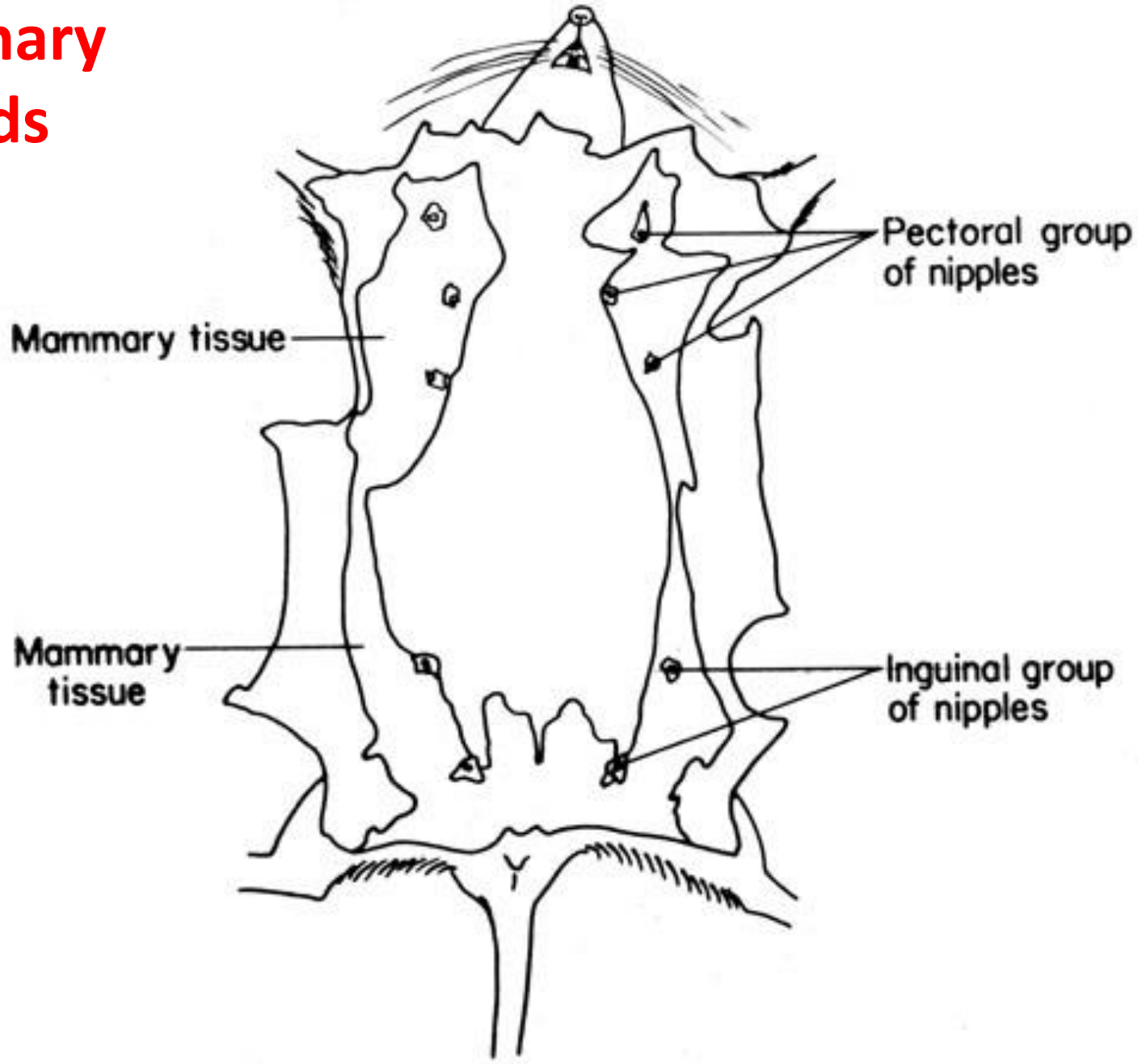
Hind Limb

Dorsal aspect



Ventral aspect

Mammary glands

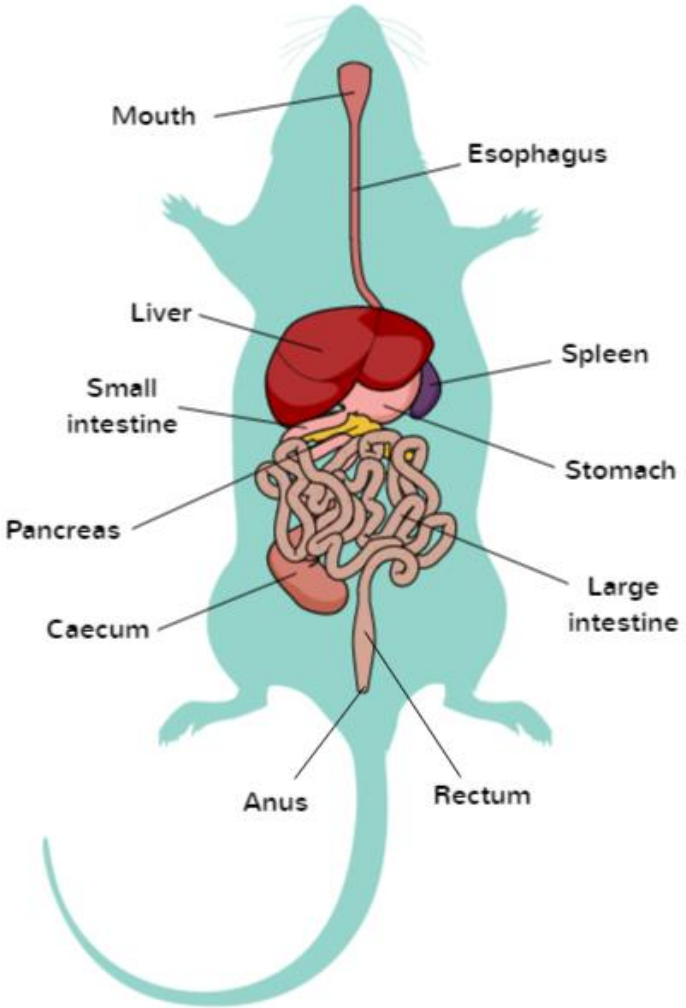


Digestive system

- **Digestion is the physiological process where chemical breakdown of complex food molecules into simple molecules takes place**
- **Mechanical**
- **Chemical**

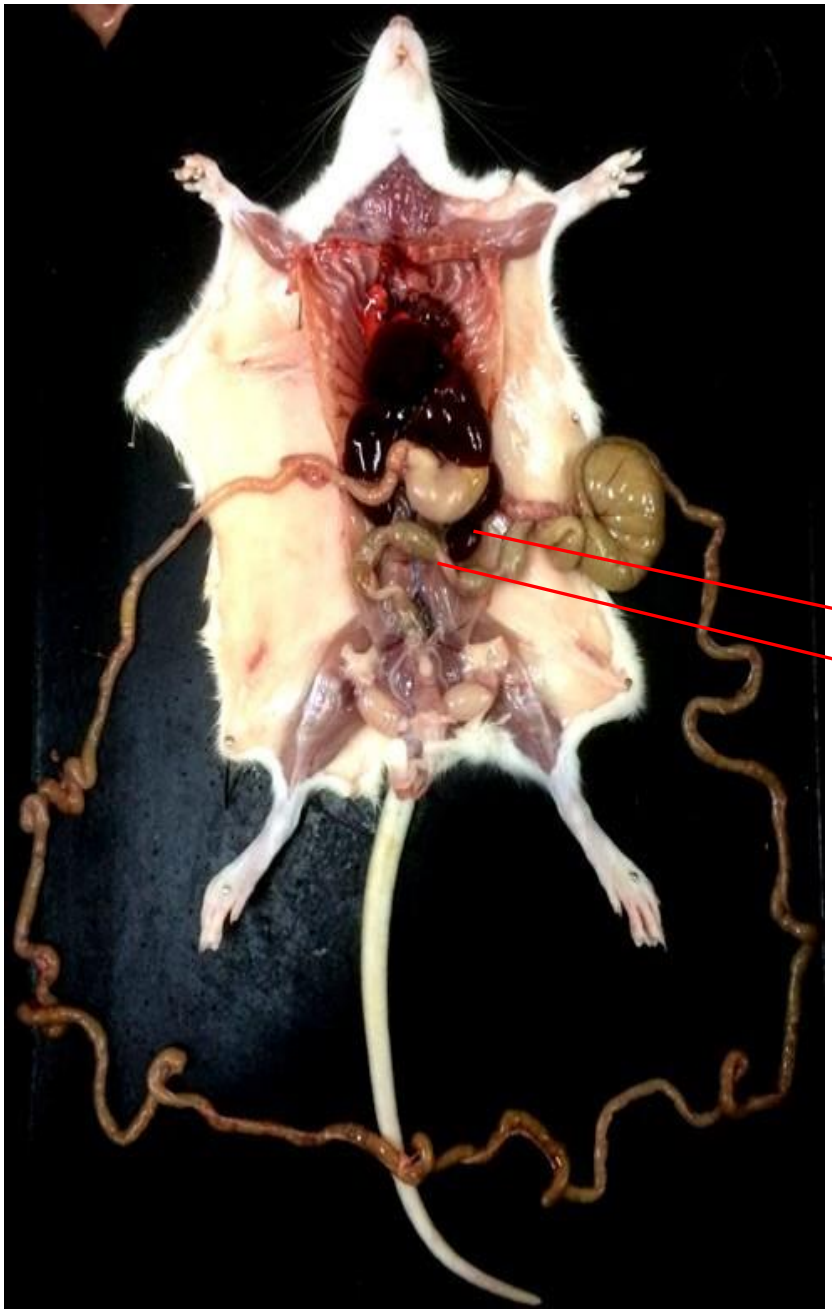
Digestyve System

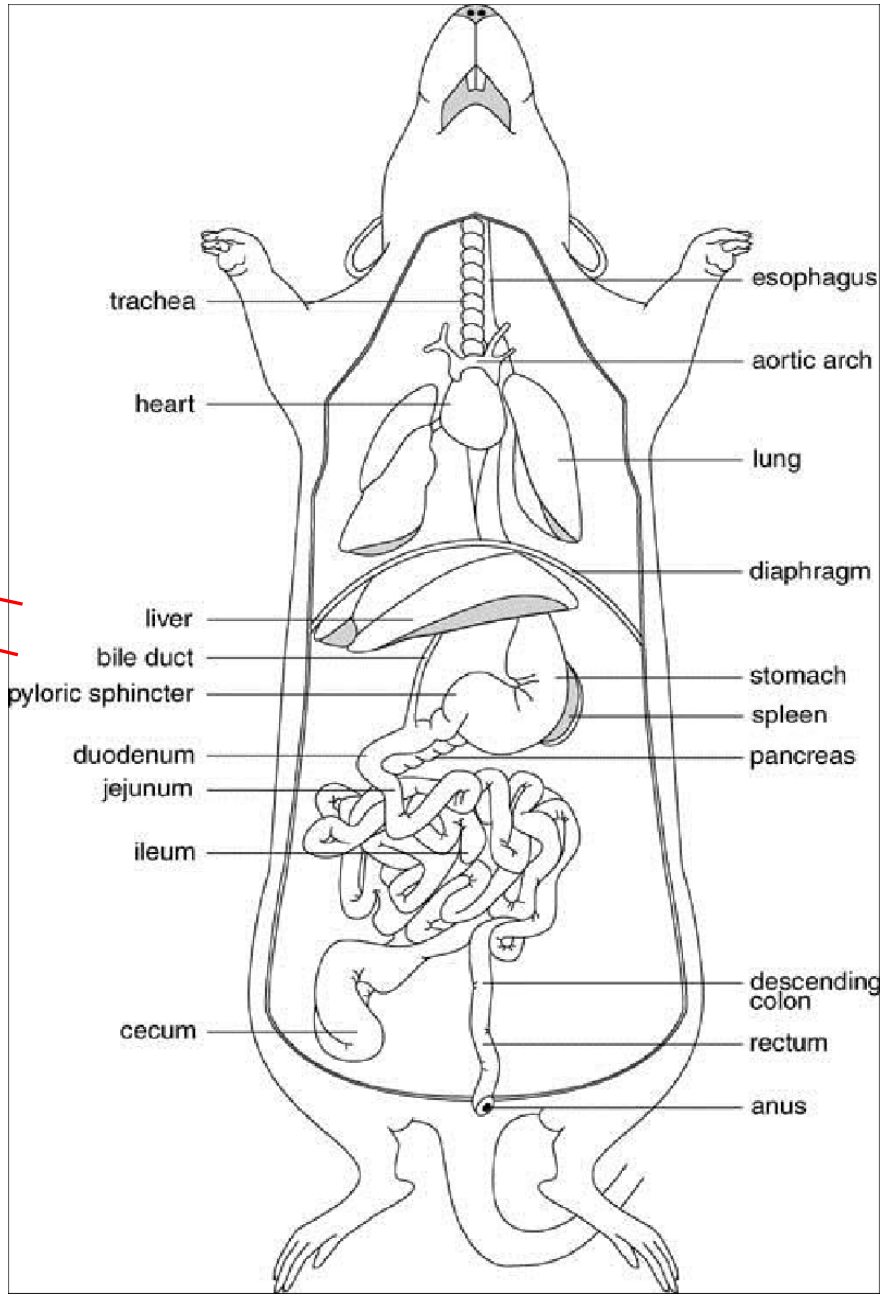
of the rat



The digestive system of rat is falls under three distinct divisions:

- **Digestion in mouth**
- **Digestion in stomach and**
- **Digestion in Intestine**




trachea
esophagus
aortic arch
heart
lung
diaphragm
liver
bile duct
pyloric sphincter
stomach
spleen
duodenum
pancreas
jejunum
ileum
descending colon
cecum
rectum
anus

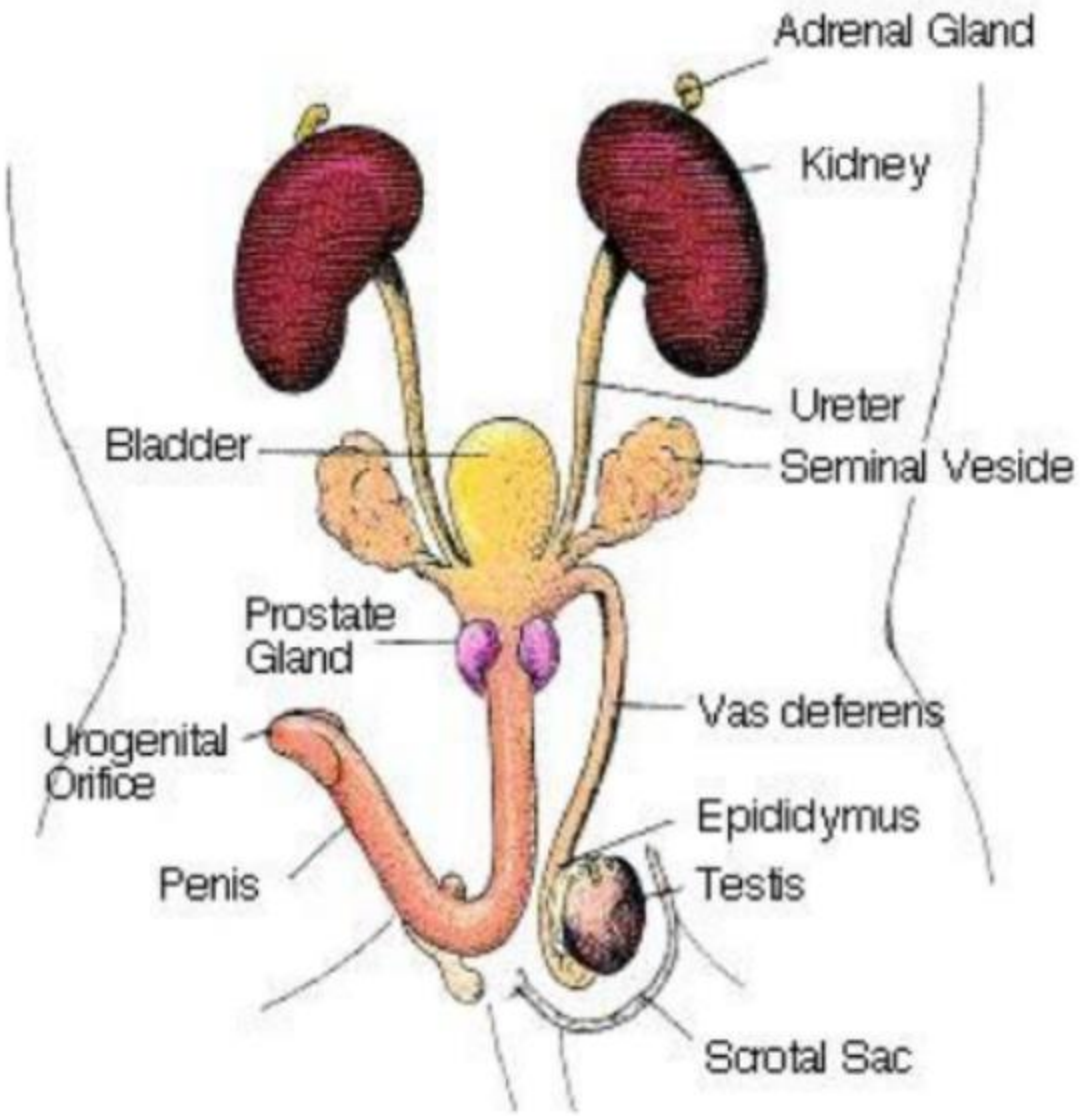
Major structures of the digestive system listed in sequence.

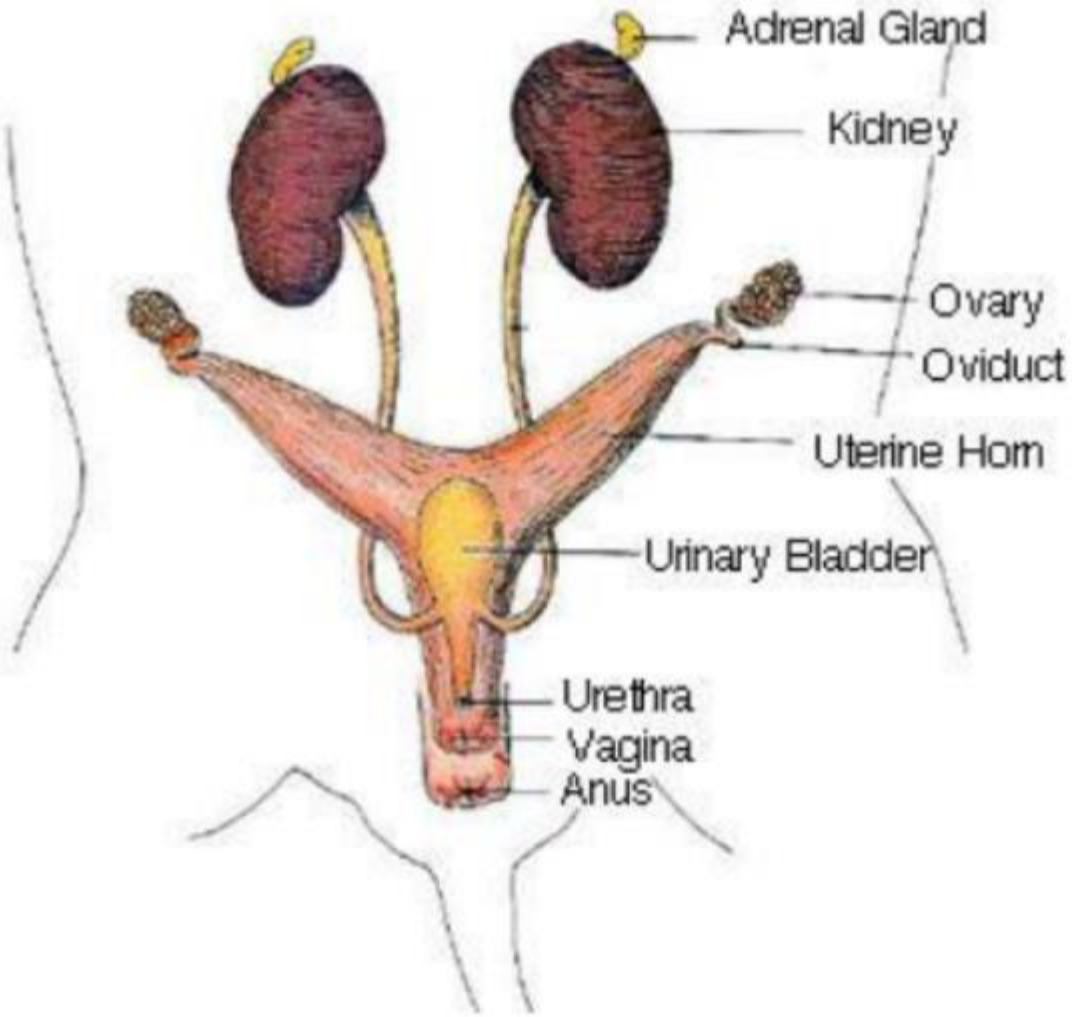
STRUCTURE	FUNCTION
Mouth(oral cavity)	Initial processing of food.
Pharynx **Nasopharynx** **Oropharynx** **Laryngopharynx**	Pathway for only air Pathway for air and food Point where food meets air that has entered through the nose
Esophagus	Connects the pharynx and stomach.
Stomach	Produces mucus, hydrochloric acid, and pepsin (a protease). Together they initiate the breakdown of proteins. The highly acid stomach deactivates the salivary enzymes that were initiating the breakdown of carbohydrates.
Pyloric valve	Regulates movement of material out of the stomach
Small intestine (duodenum jejunum , ileum)	Receives ducts from gall bladder and pancreas. Breakdown of fats, carbohydrates and proteins is completed in this organ.

Structure	Function
Caecum	A large blind pouch located between the small intestine and the colon. It contains bacteria that produce cellulase, which facilitates the breakdown of the cellulose found in plant material. Breakdown products are then absorbed into the bloodstream. Since rat mainly eat food that has source from plant, therefore their caecum is bigger
Colon	(ascending, transverse, descending) Reabsorption of ions and water and production of mucus to lubricate material as it passes towards the rectum.
Rectum	A muscular portion of the digestive tract that completes water reabsorption.
Anus	Controls the removal of feces

Structures accessory to the digestive tract

Structure	Function
Liver	Processes glucose and stores it as glycogen, detoxifies other products delivered by the circulatory system, and produces bile.
Bile Duct	Transports bile from ducts in the liver to the deuodenum. Bile helps neutralize the partially digested material entering the deuodenum and the bile salts help to emulsify fats. In humans the bile is stored in the gal bladder before transport to the deuodenum.
Pancreas	Lies in the mesentary near the deuodenum and stomach. This gland produces enzymes responsible for protein digestion. It is also an endocrine organ that releases insulin and glucagon into the circulatory system to regulate blood glucose levels.
Spleen	This organ is responsible for the production of lymphocytes and the breakdown of old red and white blood cells.


Adrenal Gland
Kidney
Ureter
Bladder
Seminal Veside
Prostate Gland
Vas deferens
Urogenital Orifice
Epididymus
Penis
Testis
Scrotal Sac


Adrenal Gland
Kidney
Ovary
Oviduct
Uterine Horn
Urinary Bladder
Urethra
Vagina
Anus