

DENTITION IN MAMMALS

Degree-1

Dentition in Mammals

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Dentition may be defined as an arrangement of teeth. Teeth are also found in some fishes, amphibians and reptiles, and ancestral birds, but they are highly specialized in mammals.

Toothless mammals

In spiny anteaters (*Tachyglossus*), no teeth are found at any stage. A secondary toothless condition occurs in some mammals.

In platypus (*Ornithorhynchus*), embryonic teeth are replaced the adult by horny epidermal plates for crushing molluscs. The true or great ant (*Myrmecophaga*) also has no teeth. In whaleone whales foetal teeth are replaced before or after birth by baleen plates for straining planktonic food.

[I] Differentiation (shape) of teeth

1. Homodont

Teeth present are similar in shape and size. Secondary homodont is found in some mammals such as toothed whale, dolphins, porpoises and armadillos.

2. Heterodont

Teeth are dissimilar shape and size. They are of many types —incisors, canine premolars and molars.

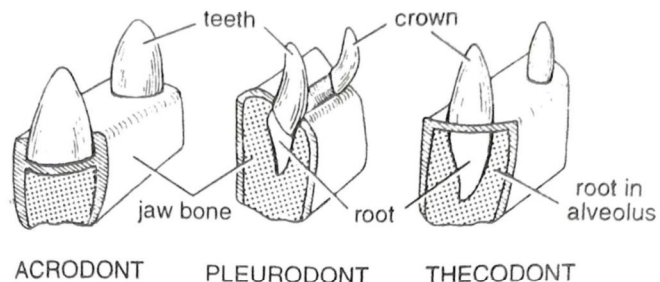
[II] Attachment of teeth

1. Acrodont:

teeth are attached to the surface or summit of the jaw bone. Examples: Teeth in shark or frog

2. Pleurodont:

Teeth are attached to the inner side of jawbone by their base as well as on one side. Acrodont and pleurodont teeth are rootless. Examples: most common in urodeles and lizards



3. Thecodont:

Teeth have well developed roots that are fixed in deep socketes called alveoli or theca. It is found in crocodilans, fossil toothed birds, and some fishes. They are characteristic of mammals.

[III] Succession of teeth

1. **Monophyodont:** only one set of teeth present. It is found in platypus, marsupials, sirenians, toothless whales. etc.,
2. **Diphyodont:** Teeth develop in two successive sets during life. first set teeth are called deciduous or milk teeth. Second set of teeth are permanent. They are non-replaceable. Found in most mammals.
3. **Polyphyodont:** Teeth can be replaced an indefinite number of times during life. This condition is not found in mammals.

[IV] Kinds of teeth

4 types of teeth occur in mammals —incisors, canines, premolars and molars

1. **Incisors:** These are the front teeth borne by the premaxillac in upper jaw and tips of dentarics in lower jaw. They are single-rooted and sharp-edged. They are used for seizing, cutting and biting.

Open-rooted incisor is found in rodents and lagomorphs. Lemurs have denticulate incisors serving for cleaning fur. Elephant tusks are modified upper incisors with open roots.

2. **Canines.** They are found just outside the incisors. Only one canine tooth occurs in each half of each jaw. They are normally elongated, single rooted and with a conical sharp monocuspid crown. Function: piercing, tearing and offence and defence. Canines are absent in some herbivores such as rodents (rats), lagomorphs (rabbits, etc).

3. **Cheek teeth.** Premolars and molars are collectively called the cheek teeth. Their crowns have broad surfaces with ridges and tubercles meant for crushing, grinding and chewing.

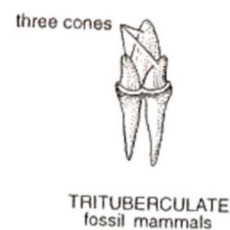
Premolars usually have two roots and two cusps. Molars generally have more than two roots and several cusps. In carnivores, last premolars in upper jaw and first molars in lower are called carnassial teeth. In higher primates (man), last molar is called wisdom tooth.

Types of Cheek Teeth

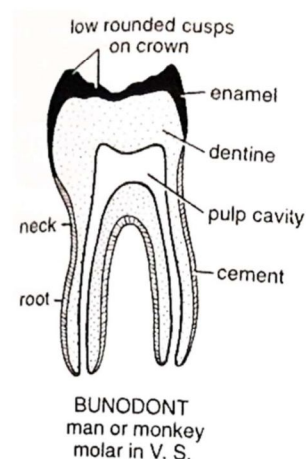
(a) **Triconodont:** Found in fossil Mesozoic mammals. 3 cones are arranged in a straight line.



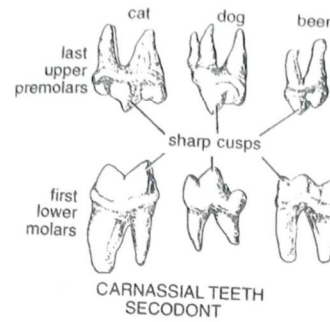
(b) **Trituberculate:** Found in fossil mammals. 3 cones or tubercles are arranged as triangle.



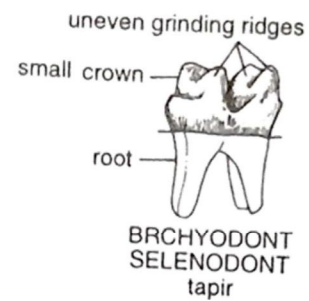
(c) **Bunodont:** Their crowns bear small, separate blunt rounded tubercles meant for crushing. Found in man with a mixed diet such as man, monkey, pig, etc.



(d) **Secodont:** Found in carnivores. They are used for tearing and cutting flesh.



(e) **Selenodont:** Crown bears vertical crescentic cusps of enamel that encloses dentine. Found in herbivore grazing mammals and used for grinding.



(f) **Lophodont:** There is an intricate folding of enamel and dentine. A single large lophodont molar, 30 cm by 10 cm, is present at one time in each half of each jaw. These are adapted to grind all sorts of plant including grasses. It is found in elephants.

