

EVOLUTION OF TEETH IN MAMMALS

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Mammals have a heterodont dentition, which has evolved from the homodont dentition of reptiles. The most primitive type of dentition is Incisor (I) 3/3 Canine (C) 1/1 Pre Molar (PM) 4/4, and Molar (M) 3/3, per quadrant seen in insectivores. All the other groups of mammals have a modified condition. The dentition of man is I 2/2 C 1/1 PM 2/2 and M 3/3. Moreover, mammals are diphyodont, with a much simpler deciduous dentition & a more complex permanent dentition. In most mammals teeth replacement is vertical. However, in elephants, the replacement of incisors (tusks and tuches) is vertical, but that of premolars & molars is horizontal. Different dentitions of different groups of mammals have arisen mainly because of their different food habits. In certain animals, some teeth are highly specialized for particular functions, such as carnassial teeth in carnivores.

During the evolution of man, significant changes have occurred in the morphology of teeth but the dentition of apes remained unchanged through human evolution. The important changes that took place in the jaws and teeth during evolution from the primitive ape (Dryopithecines) stage through man-ape (Australopithecines) stage to man (Homo) included, (1) the change of U- shaped mandible of the apes to parabolic mandible in australopithecines, (2) disappearance of the diastema between maxillary lateral incisor and canine of apes by the australopithecine stage, (3) the size reduction of the canines, and (4) the development of the primitive unicuspid 1st mandibular premolar of apes into the bicuspid condition in australopithecine stage onwards.