

Earth Processes Mystery Text



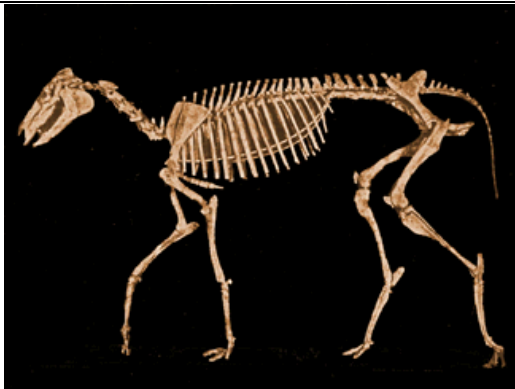
Hyracotherium. This small dog-sized animal is the oldest found _____ ancestor that lived about **55 million years** ago. It had a primitive short face, with eye sockets in the middle and a short diastema (the space between the front teeth and the cheek teeth). Although it has low-crowned teeth, we see the beginnings of the characteristic _____-like ridges on the molars. It lived in forests and ate leaves and fruits.



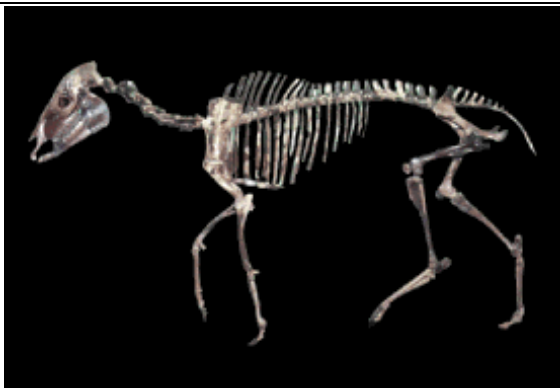
Orohippus. The earliest evidence of this "little _____" is found in the middle Eocene of Wyoming, about 2 million years after the first appearance of *Hyracotherium*. The two genera coexisted during the Eocene, although *Orohippus* fossils are not as numerous or as geographically widespread as those of *Hyracotherium*. Fossils of *Orohippus* have been found in Eocene sediments in Wyoming and Oregon, dating from about **52-45 million years** ago.



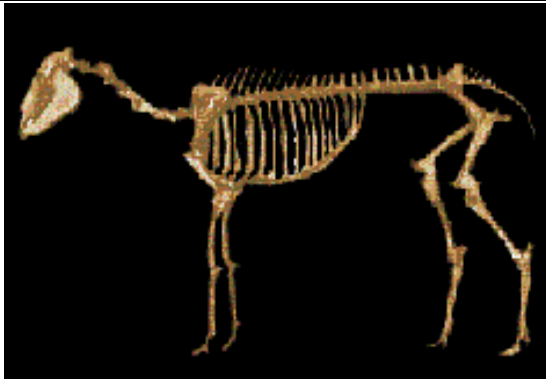
Meshippus. The "middle _____" earned its name. *Meshippus* is intermediate between the eohippus-like _____ of the Eocene, (which don't look much like our familiar "_____") and more "modern" _____. Fossils of *Meshippus* are found at many Oligocene localities in Colorado and the Great Plains of the US (like Nebraska and the Dakotas) and Canada. This genus lived about **37-32 million years** ago.



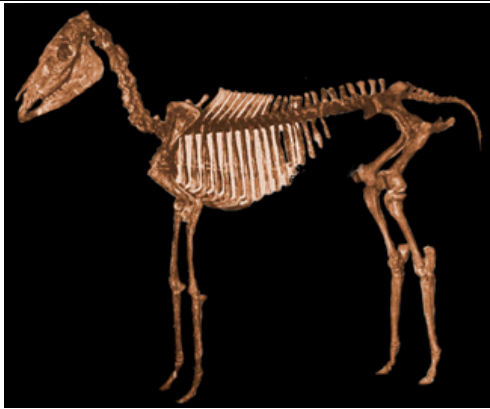
Miohippus. Species of *Miohippus* gave rise to the first burst of diversity in the _____ family. Until *Miohippus*, there were few side branches, but the descendants of *Miohippus* were numerous and distinct. During the Miocene, over a dozen genera existed. Fossils of *Miohippus* are found at many Oligocene localities in the Great Plains, the western US and a few places in Florida. Species in this genus lived from about **32-25 million years** ago.



Parahippus appears to be the evolutionary "link" between the old forest-dwelling _____ and the modern plains-dwelling grazers. It has 3 toes, like primitive _____, but the side toes are smaller. They are "_____-faced," or long-headed with the eye socket well back from the middle of the skull. Fossils of *Parahippus* are found at many early Miocene localities in the Great Plains and Florida. Species in this genus lived from **24-17 million years** ago.



Merychippus represents a milestone in the evolution of _____. Though it retained the primitive character of 3 toes, it looked like a modern _____. *Merychippus* had a long face. Its long legs allowed it to escape from predators and migrate long distances to feed. It had high-crowned cheek teeth, making it the first known grazing _____ and the ancestor of all later _____ lineages. Fossils of *Merychippus* are found at many late Miocene localities throughout the United States. Species in this genus lived from **17-11 million years ago**.



"Grandfather" to the modern _____, *Pliohippus* appears to be the source of the latest radiation in the _____ family. It is believed to have given rise to *Hippidion* and *Onohippidion*, genera that thrived for a time in South America, and to *Dinohippus* which in turn led to *Equus*. Fossils of *Pliohippus* are found at many late Miocene localities in Colorado, the Great Plains of the US (Nebraska and the Dakotas) and Canada. Species in this genus lived from **12-6 million years ago**.



Dinohippus is believed to be the closest relative to *Equus*, the genus that includes the living _____, donkeys and zebras. *Dinohippus* fossils are found in the Upper Miocene of North America and date from **13 - 5 million years ago**.



Equus is the only surviving genus in the once diverse family of _____. Domesticated about 3,000 years ago, the _____ had a profound impact on human history in areas such as migration, farming, warfare, sport, communication, and travel. Species of _____ lived from **5 million years ago until the present**. Living species include _____, donkeys, and zebras. Fossils of *Equus* are found on every continent except Australia and Antarctica.