## **Evolution**in the Horse Family

Horses evolved in North America, and fossils in Oregon reveal how natural selection shaped them.

The horse family survived ancient climate change by evolving to eat grass. The earliest horses were small animals that ate a variety of plants in tropical forests. When that habitat disappeared, horses that added grass to their diet were most successful.

Most later horses ate only grass, but dependence on one food source made these grazers vulnerable to extinction. Today, only one group of horses survives. As grazers, their fate now depends on stable grasslands.

How have horse body types changed over time?

What kind of plant habitat supported the widest diversity of horses?



This diagram illustrates most North American horse evolution in Oregon over the last 55 million years.

Haplohippus

Orohippus

**Eohippus** 

Toes

Teeth
as wide
as tall

Xenicohippus

HORSES

ARTWORK, UNIVERSITY OF OREGON
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## EARLY HORSES

The earliest horses belong to the *Eohippus*-grade group and were smaller than today's miniature ponies. They had low crowned teeth for eating forest plants, and four hooved toes on each front foot and three hooved toes on each back foot.

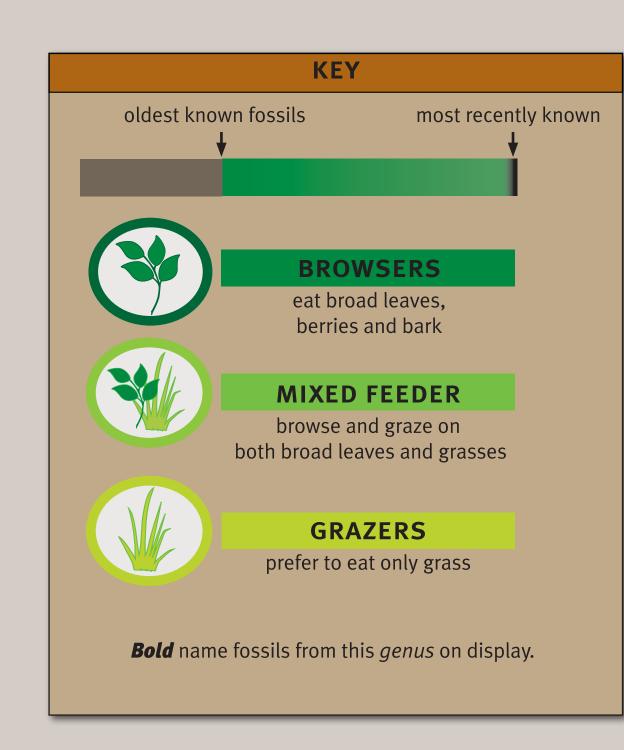
Teeth wider than tall

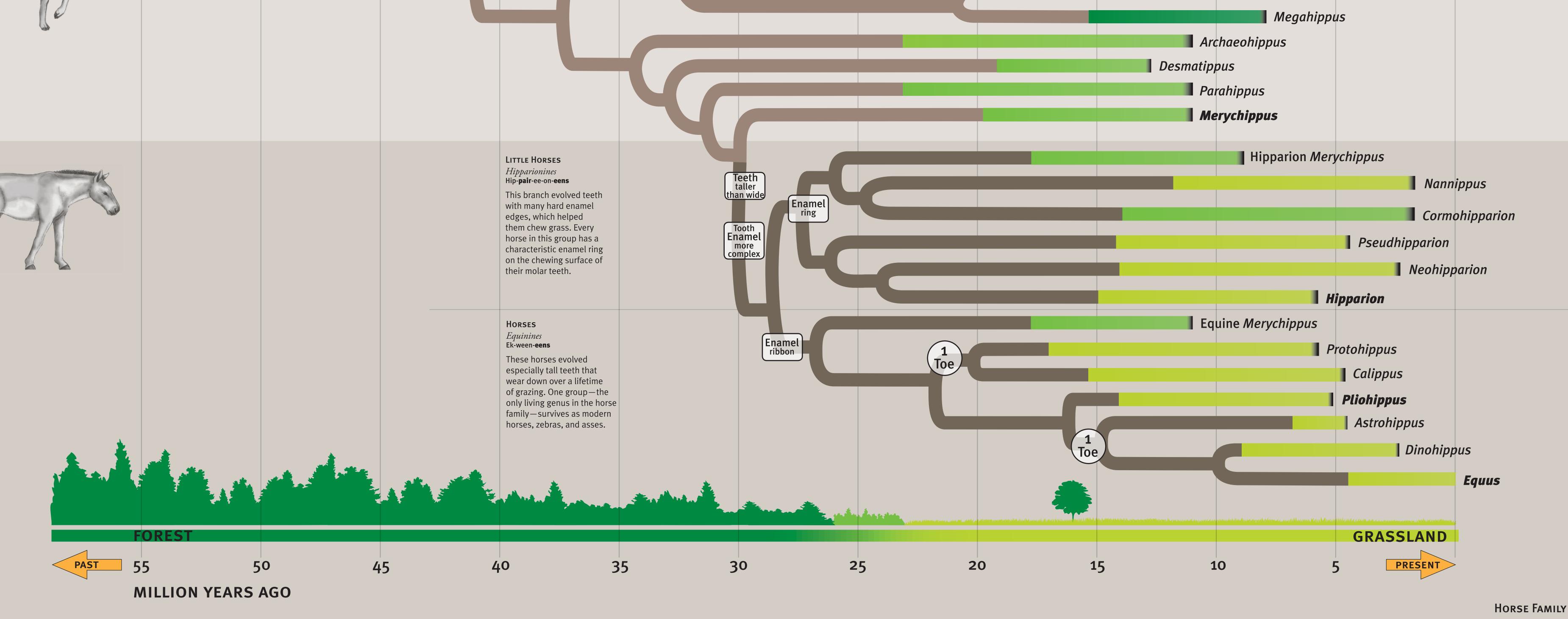
## MIDDLE HORSES

As the landscape changed and the ground became harder, horses adapted by walking on fewer toes. Some members of this second group of horses, the *Anchitheriines*, added grass to their diets. The members of this group were diverse in size—some small like early horses and others very large like modern horses.

## LATE HORSES

Equines are the third group of horses. They evolved taller teeth with complicated folds of enamel, and adapted to eating a lot of gritty grass. They branched into two sets, which took different directions in specializing for grassland life.





Miohippus

Anchitherium

Kalobatippus

Hypohippus

HORSE FAMILY TREE

ILLUSTRATION

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