
Horses

The earliest horse fossils date back the Early Eocene Epoch, around 55 million years ago. Early horses were smaller, had many toes and ate more leaves today than modern horses (most horses today feed primarily on grasses). Since then, there have been a variety of horse species suited for woodland, grassland and a mix of habitats. The reduction of toes allowed horses to run faster which was especially important in open habitats like grasslands where there is not a lot of cover to hide from predators. Arguably horses were most diverse in the Miocene Epoch (23-5 million years ago) where they varied greatly in size and diet. Most horse species, including the ancestor to modern horses, evolved in North America. In fact the state fossil of Idaho is a horse, *Equus simplicidens*, that lived about 3.5 million years ago. They eventually went extinct in North America about 10,000 years ago until they were reintroduced by the conquistadors in the 1500's. Today there are seven species of horses including domestic horses which includes wild horses of Europe, Africa and Asia as well as zebras.

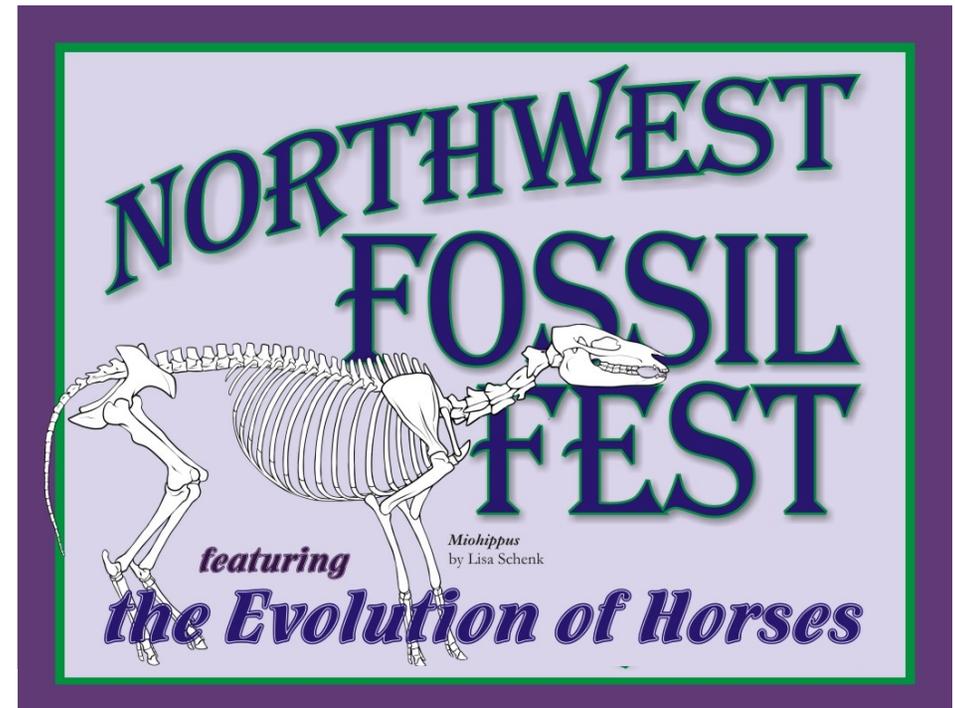
If at any point you are stuck, find someone with the NARG logo (below) and ask him or her. For more information on the North America Research Group visit the front desk. Family memberships are available.



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An Epoch Journey

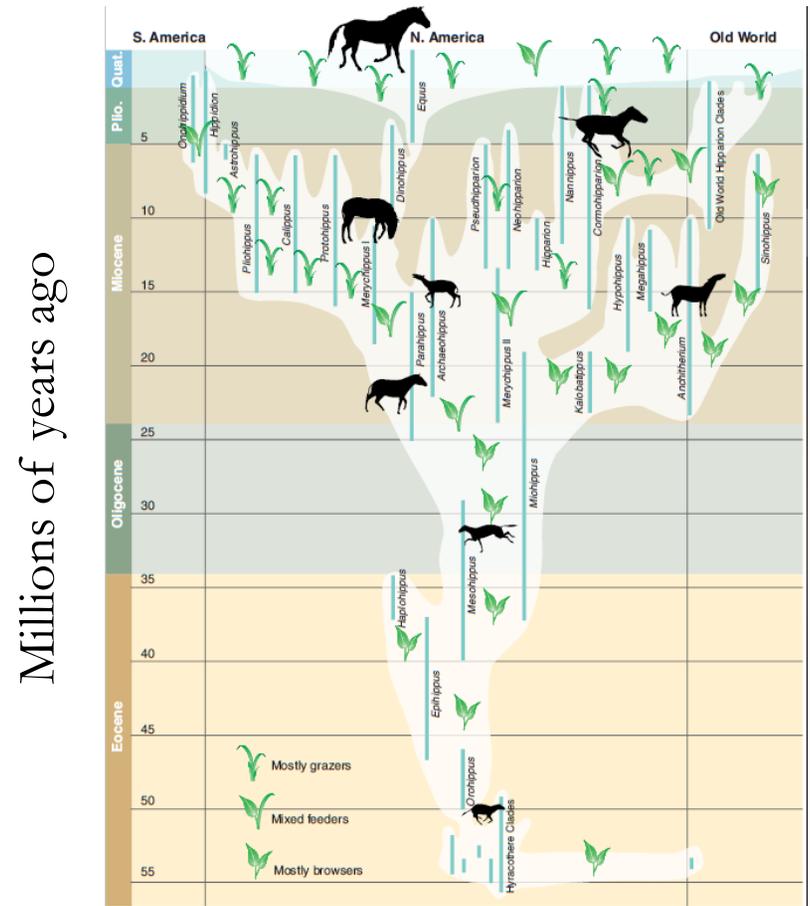
The State Fossil

In 2005 Oregon adopted a state fossil. This is a symbol for the State just like the beaver or Douglas Fir. So what is the state fossil? Draw a picture of it below and write its name.



Hint: Go to the table handing out seeds.

Horse Evolution



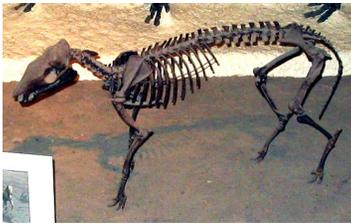
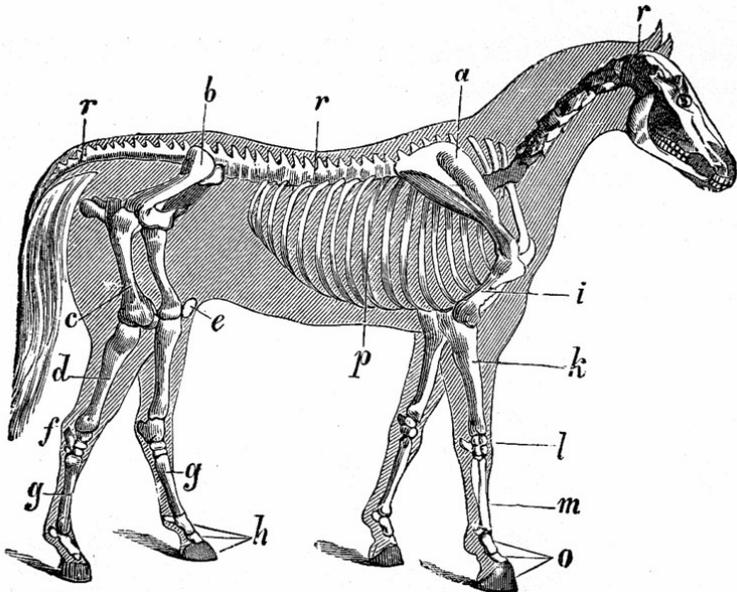
From MacFadden 2005

Based on this tree do you see one group of horses or many?

Why don't all of the blue lines go to the top?

Horses then and now

Name three differences between the modern horse (top) and ancient horse (*Orohippus sp.*) (bottom). What might these differences say about how they lived? (Horses approximate scale to each other. Teeth next to horses.)

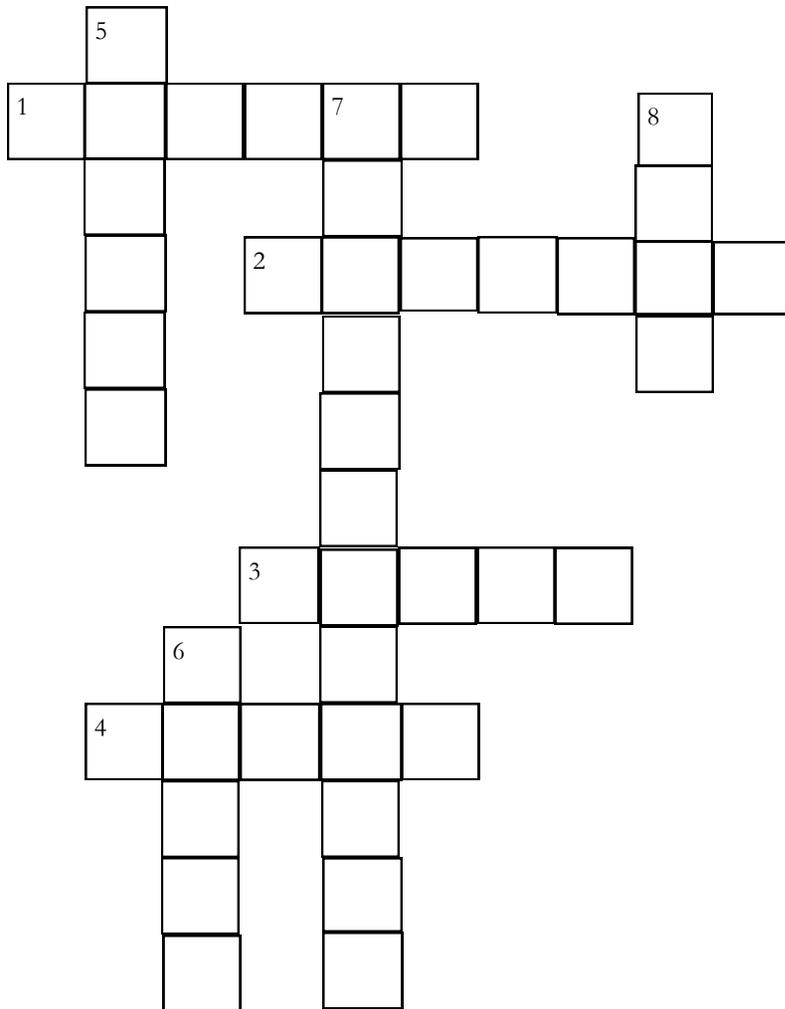


Shark and Ray Teeth

Sharks and rays are related and both have teeth. Go to the shark tooth screening table and find a shark's tooth and a ray tooth. Draw both of them. Why are they different shapes?



Crossword



Hint: The back of the book contains most of the words.

Clues

Across

1. The epoch that the first horses in (55-33 million years ago)
2. What modern horses primarily eat
3. Early horses weren't large but rather _____.
4. Modern horses include species from the striped animal group from Africa

Down

5. The theme of this FossilFest
6. Parts used to bite and chew and can be useful for identification and inferring diet
7. The continent that horses evolved on
8. There was a reduction of these horse foot parts through time which helped them run faster