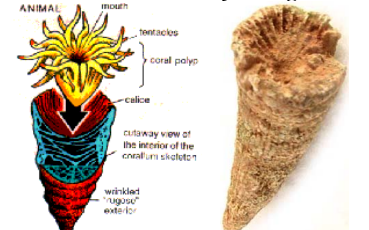

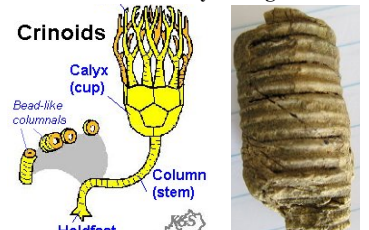
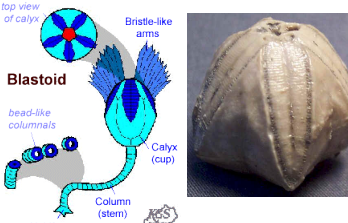



Dr. Rider's Prehistoric Bestiary (Part 1)


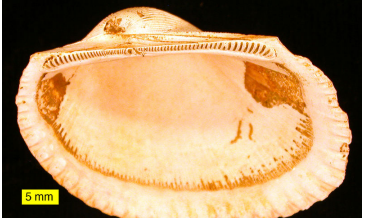


Plants:

<p>Algae (Stromatolite) Single algae cells piled up to form stromatolite mounds in the ocean Look like swirls/rings in rock 3 billion years ago to present</p> 	<p>Coal Ferns Compressed dead ferns formed coal 360-300 million years ago</p> 	<p>Leaves Leaves from trees/bushes left impressions in mud that hardened 360 million years ago to present</p> 	<p>Petrified Wood Tree trunks or branches that have been replaced by minerals 300 million years ago to present</p> 	<p>Amber Hardened tree sap (like maple syrup) May contain insects, leaves, etc. 40 million years ago to present</p> 
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Simple stationary sea animals that looked like plants:

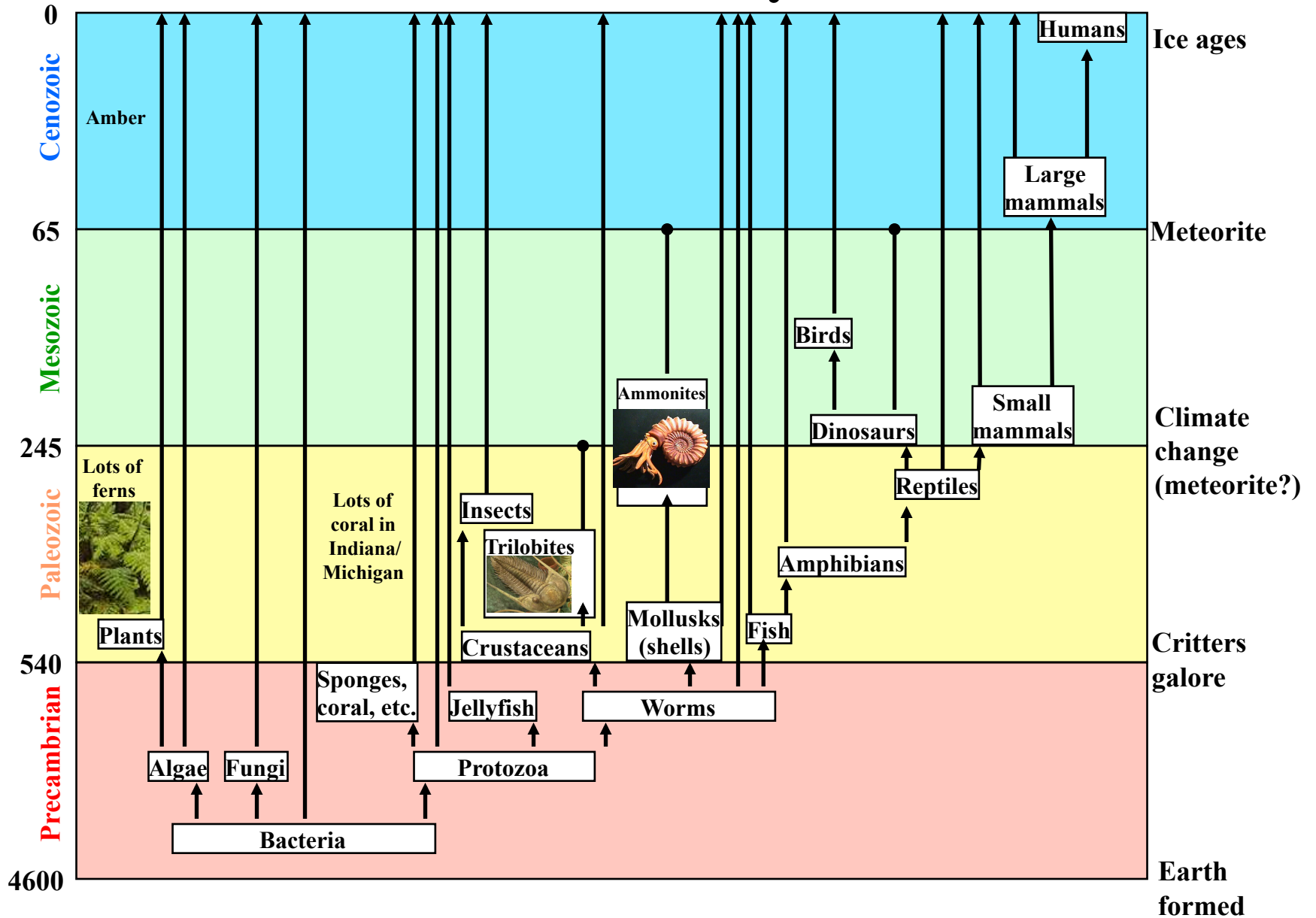
<p>Horn (Rugose) Coral Simple animal; mouth at large end Often mistaken for a horn or tooth 488-251 million years ago</p> 	<p>Colonial Coral Cluster of coral animals that lived together 542 million years ago to present</p> 	<p>Crinoid Flower-like sea animal Often only the stem is found 488-251 million years ago</p> 	<p>Blastoid Flower-like sea animal Often only the 5-sided bud is found 488-251 million years ago</p> 	<p>Bryzoan Stems/spirals made of millions of microscopic sea animals 488 million years ago to present</p> 
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Animals that lived in shells:

<p>Brachiopod Clam-like animal Left & right sides of shell look same 542 million years ago to present</p> 	<p>Pelecypod Clam-like animal Left/right sides of shell look different 542 million years ago to present</p> 	<p>Gastropod Snail that lived in shell Shell is usually cone-shaped spiral 542 million years ago to present</p> 	<p>Orthoceras Squid-like animal Lived in cone-shaped shell 488-200 million years ago</p> 	<p>Ammonite Squid-like animal Lived in spiral shell 425-65 million years ago</p> 
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Millions of years ago

Dr. Rider's Family Tree



Dr. Rider's Prehistoric Bestiary (Part 2)

Arthropods:

Fish:

Trilobite

Underwater crustacean related to horseshoe crabs and lobsters
542-251 million years ago



Crawling insect

Beetles, etc.--Related to underwater crustaceans like trilobites, but evolved to live on land
~416 million years ago to present



Flying insect

Many species from small flies to giant dragonflies
Usually preserved in amber, or in mud that hardened to shale
~320 million years ago to present



Shark tooth

Teeth were harder and preserved much better than other shark parts
~420 million years ago to present



Complete fish

Dead fish sank into mud at bottom of lake/ocean; mud hardened to shale
~510 million years ago to present



Dinosaurs:

Dinosaur bone

May look like petrified wood, but dinosaur bone is porous inside
251-65 million years ago



Dinosaur tooth

Meat-eating dinosaurs had sharp pointed teeth; plant-eating dinosaurs had dull flat teeth
251-65 million years ago



Dinosaur gastrolith

"Gizzard stone" swallowed by dinosaur to grind up food in stomach
Round and smooth from grinding
251-65 million years ago



Dinosaur eggshell

Eggshell pieces of hatched eggs, or whole unhatched eggs, could become fossilized
251-65 million years ago



Dinosaur coprolite

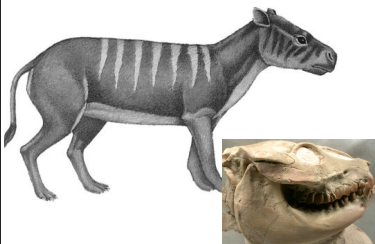
Dino doo-doo, or Jurassic poop
251-65 million years ago



Mammals:

Oreodont

Pig-like plant-eating mammal
Lived in North America
48-4 million years ago



Mammoth

Sometimes frozen/preserved in ice
Hair & tusk pieces widely available
5 million - 10,000 years ago



Horse

Horses evolved in North America, gradually getting bigger
Horse teeth are easy to recognize
40-50 million years ago to present



Whale

Gradually evolved from land animals
Whale ear bones easy to recognize
~45 million years ago to present



Humans

Left fossil skeletons, as well as stone tools and arrowheads
~2.5 million years ago to present





How Most Fossils Are Formed

Dead animal decays, leaving only hard parts (bones, shell, etc.)



Remains are buried under layers of dirt

Minerals gradually seep in and replace the remains



Folks dig up the fossilized remains

Learn More...

Rhodes, Zim, & Shaffer, *Fossils*
(St. Martin's Press Golden Guide, 2001)

Cyril Walker & David Ward, *Fossils* (DK, 2002)

Barry Cox, *Simon & Schuster Encyclopedia of Dinosaurs & Prehistoric Creatures* (1999)

Prehistoric Earth DVD set (includes *Walking with Monsters*, *Walking with Dinosaurs*, *Walking with Prehistoric Beasts*, *Walking with Cavemen*)
See also *Chased by Dinosaurs* DVD

Wanna Play with Fossils?



[www.twoguysfossils2.com/
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50 fossils for \$67
(including shipping)

Most are 1-3" long but good quality, including:
Dinosaur bone and eggshell
Mammoth bone and ivory
K-T boundary layer material
Trilobites, fish, ammonites, etc.

See also:

www.rocksandminerals.com
www.djminerals.com
www.geod1.com

Harvard Museum of Natural History (Harvard Square, Cambridge)
<http://hmn.harvard.edu> Dinosaurs!

Museum gift shop sells trilobites, ammonites, etc.

Dinosaur tracks:

Nash Dinosaur Tracks \$3.00 to see the dinosaur track quarry
Rt. 116 – Amherst Road Buy 4"-18" dinosaur tracks for \$50-900
South Hadley, MA 01075 Many other fossils for sale
(413) 467-9566 11-4 daily except Wed. (Call in advance)
www.nashdinosaurtracks.com

A2Z Science Store is in the same general area as Nash and carries many fossils & other fun stuff: a2zscience.com

Meteorites (competitive prices, no fakes): www.meteoritemarket.com