Evolution Examples in Nature

1. Peppered moth - This moth had a light coloring darkened after the Industrial Revolution, due to the pollution of the time. This mutation came about because the light colored moths were seen by birds more readily, so with natural selection, the dark colored moths survived to reproduce.
2. Live Birth in Three-toed Skinks - This lizard can either lay eggs or have live birth. Skinks that line in a coastal area usually lay eggs and those in cooler climates tend to give birth. Females secrete calcium for the live birth to make up for not having a shell.
3. Interaction between Crabs and Mussels - Blue mussels in New England have been observed thickening their shells when they spot Asian shore crabs. This behavior only happens in mussels from a region where Asian shore crabs are endemic.
4. Italian Wall Lizards - These lizards were taken to an island and left there to see any changes that occurred. They shifted their diet and ate more vegetation, causing a change to their head size, giving them a stronger bite. They also developed cecal valves in their intestine which gives bacteria more time to break down the vegetation.
5. Cane Toads - There are an invasive species in Australia. When they were studied, they had developed longer legs, were more active and were bigger and hardier.
6. Darwin’s Finches - The finches on the Galapagos Islands have all developed different beaks. Originally, the finches had large beaks for cracking large nuts.
7. A group of finches came from another island who were larger and drove those away and ate their nuts. Over time, the finches developed beaks to eat smaller nuts that the other finches did not eat.
8. Butterflies and Parasites - The Blue Moon Butterfly on the Samoan islands was attacked by a parasite, which destroyed male embryos. This changed the balance of male and female but that was remedied within 10 generations. This is because the few male moths that were immune lived to breed.
9. Rat Snake - The coloration of rat snakes have changed according to their location. They can be found with yellow, black, orange and green colorations, and live all over the eastern half of the United States.
10. Pesticide-resistant Insects - Whenever a pesticide is used, certain insects will develop immunity to it and those insects will reproduce. This happens very quickly, within a few generations, since the generation length for insects is short.
11. Peacocks - Females always choose the male with the brightest colored feathers. A few thousand years ago, not all males were brightly colored, and now these are rare.
12. Warrior Ants - These ants have a chemical signal that identifies their colony. Some ants learned to imitate this signal from another colony, so they can attack a colony and take over. The worker ants will not even realize there has been an invasion and continue to work.
13. Deer Mouse - These were normally dark colored and found living in the woods. The ones found in the sand hills are lighter, having evolved over about 8000 years.
14. Nylon-eating Bacteria - The bacterium Pseudomonas has enzymes that allows it to eat nylon. Experiments took other bacteria and placed them where the only food was nylon. Every time, the bacteria changed and was able to consume the nylon.
15. Regressive Evolution - This refers to traits disappearing that are no longer useful. Mexican cavefish once had eyes, but in the caves, eyes were no longer necessary. They have also lost their pigmentation, because they no longer need camouflage from predators.
16. Lizards - An experiment took natural predators out of an environment. Larger lizards flourished because they had better access to food, not because the natural predators were removed.
17. Lactose intolerance in humans - Scientists say that nine percent of our genes are undergoing evolution at the present time. This would be genes in the immune system, sensory perception, and sexual reproduction. One example of natural selection is the fact that humans are the only species that does not become lactose intolerant as we mature.
18. Sickle hemoglobin gene - This was a gene mutation due to malaria in certain areas of Africa. The gene makes people more resistant and the mutation happened over generations because of the ongoing exposure to malaria.
19. Whales - With fossil records, it was discovered that whales evolved on land. Their last land ancestor was Indohyus which had bones, teeth and ears that resemble whales.
20. Guppies - When the color variation of wild guppies was adjusted, it was found that the survival rate was higher for those with unusual variants. So selection favored the rare colorations.
21. Dinosaurs with feathers - In northern China, evidence was found of feathered dinosaurs that did not fly. The feathers may have been for insulation or looks, but not for flying.