

Upcoming events

**National Honey Bee Day**  
August 18



**ORANGUTANS**  
ONE OF OUR CLOSEST RELATIVES IS ALMOST EXTINCT BECAUSE OF HUMANS



**BIOLUMINESCENCE**  
NATURAL LIGHT PRODUCED BY ANIMALS



**DINOSAUR OF THE ISSUE**  
PREHISTORIC FILTER FEEDER:  
PTERODAUSTRO

# NEWS FOR THE DEDICATED ZOOLOGIST

## Save the Orangutans

Orangutans really are fascinating animals. They make their own medicine to cure aches, they are the largest mammal in all the world to live in trees, they are social animals, they make tools, and are total foodies, eating over 400 different types of food! They are also one of the most critically endangered primates.

Primates are a group of animals that include monkeys, apes, and prosimians. We humans are primates too! Primates have cool adaptations to help them survive, these include arms that can rotate around its shoulder joints, able to see far distances, and nails instead of claws. Primates are then further distinguished



into three groups: apes, monkeys, and prosimians. Orangutans are apes, more specifically, greater apes.

There are two species of orangutan, bornean and sumatran. Both species are at very high risk of going extinct. There are an estimated 50,000 to 65,000 orangutans left in the wild and it is critical that we protect them. Every year, 2,000 to 3,000 orangutans are killed each year. At this rate, orangutans could go extinct within the next 25 years! There are some major threats on the line for our fellow cousins. Humans are responsible for this devastating situation.

During the past 20 years, orangutans have lost over 80% of their habitat through deforestation. Borneo and Sumatra are major palm oil plantations and unfortunately, in order to make space for the plantations, habitats belonging to orangutans, elephants, tigers, and rhinos must be cut down. This leaves Borneo and Sumatra in a hazy and smokey situation.

Illegal hunting or poaching is also a major threat to orangutans. Every year, 750 to 1,790 orangutans are killed because of poaching each year. Orangutans are hunted for food due to an increase in human population. As humans destroy more orangutan habitat, the orangutans are tempted to come down to people's homes and eat fruit in their gardens and farms. Angry people kill the orangutans for this reason too. What is more, when adult female orangutans are killed, their babies must be orphaned, but most often, they are captured, sold, and abused. Also, skulls of dead orangutans may be illegally used to make souvenirs throughout Kalimantan.

Illegal pet trade is also a major problem in this battle. Babies are captured from the wild and may be auctioned off for pets after poachers kill the mother orangutan. Even though baby orangutans are cute, it is extremely important to respect and protect them. As sad as it is for some people to say, baby orangutans grow up and do not make good pets as adult orangutans are immensely strong.

Conservation efforts to save orangutans have been put in place and dedicated zoologists and conservationists are doing their best to protect orangutans. For example, orangutans brought into the illegal pet trade are being rescued, rehabilitated, and brought back to the wild to live a happy life. National parks for orangutans to live in are now being established. With these parks, no one can harm any orangutan living there and is protected by law. To help save orangutans, you can stay away from any non-responsibly sourced palm oil products, donate to conservation efforts such as <http://www.orangutan.com/threats-to-orangutans/> and the World Wildlife Fund, and spread awareness.

To learn more about orangutans and Biruté Galdikas, visit <https://orangutan.org/about/dr-birute-mary-galdikas/>

## *Bioluminescence*

### The natural glow



Bioluminescence is a light that is produced by organisms such as animals that live deep in the ocean, fire flies, some bacteria and fungi, and more! Bioluminescence is made through a chemical reaction which creates light. The process all starts when a molecule called luciferin reacts with oxygen, this produces light. Bioluminescence can be used for communication, prey attraction, self defense and more. Most organisms produce blue or green light, but some even produce red!

## Upcoming Events

Mark these events on your calendar and spread awareness to celebrate them!

June 3- National Animal Rights Day

June 4- Hug Your Cat Day

June 14- World Sea Turtle Day

June 20- American Eagle Day

July- Wild About Wildlife Month

July 1- American Zoo Day

July 15- Shark Awareness Day

July 16- World Snake Day

July 21- National Monkey Day

July 29- International Tiger Day

August 12- World Elephant Day

August 14- World Lizard Day

August 18- National Honey Bee Day

August 19- World Orangutan Day

August 30- International Whale Shark Day



## Cool Crafts that are eco- friendly

### Plant in a reused bottle

- 1.) Take the label of a reused plastic bottle and wash with soap and water
- 2.) Ask an adult to cut the top part of the bottle off
- 3.) Get a plant such as a cactus or succulent and take it out of its pot
- 4.) Put some dirt into the bottle and push it up against the sides, leaving a well for the plant to go in
- 5.) Crumble the dirt of the plant into the bottle and put the plant inside
- 6.) Add more dirt as necessary to secure the plant in the bottle
- 7.) Give the plant about 1/4 cup of water and put in a sunny spot

#### Further Care

Water the plant once every week or a little spray every day.

## Your Questions, Answered!

*Remy, age 9 asks: Why are there different breeds of cats?*

Answer: All domestic cats are in the species *Felis catus*, they are all related. Through domestication, humans were able to breed cats with certain traits together to get new traits. All this breeding led to the different cat breeds you see today, such as siamese, Russian blue, tabbies, shorthairs, and more!

*Leslie, age 12 asks: How do bees help humans?*

Answer: Bees are a vital part to the ecosystem because they are major pollinators. Pollinators are animals that spread pollen from flower to flower. This allows flowers to reproduce and increase the population. Bees also help humans. Without bees, humans would have no food, or honey for that matter. Without bees to pollinate flowers, no fruit or vegetable would be able to grow. Without fruits or vegetables, no herbivore or omnivore would be able to eat, and without herbivores, there would be no carnivores.

# Scientist Spotlight

## Dr. Jane Goodall, primatologist

Dr. Jane Goodall (1934-) is a dedicated primatologist and ethologist. She traveled to Gombe, Africa in 1960 to study one of our closest living relatives, chimpanzees. Jane Goodall proved to the world that chimpanzees are very similar to humans. She started Roots and Shoots, a club for kids that teaches them about animals and how to protect them. Jane Goodall also began programs such as TACARE and ChimpanZoo.



Jane Goodall was born in London, England on April 3, 1934. As a kid, Jane liked being outdoors and exploring everything nature had to offer. Even as a child Jane loved wildlife and dreamed of one day studying chimpanzees in the wild. Jane Goodall even has a chimpanzee stuffed animal named Jubilee which she takes with her everywhere. When Jane turned ten years old, she decided that when she was older, she was going to travel to Africa and study animals. That is exactly what she did. Jane could not attend college yet, not with so little money to afford it. Without a college degree, finding a job as a scientist was hard, especially because women at the time were limited to what job they wanted. This didn't stop Jane Goodall from achieving her dream though, she was going to find a way to study animals in Africa.

One day in 1956, Jane received a letter from a school friend who was living in Kenya, Africa.

The friend wanted Jane to come visit. This was a chance to finally do what Jane always wanted to do, so she took a job as a waitress to get enough money for the trip. Finally on March 13, 1957, Jane Goodall arrived in Africa and was thrilled that she could study chimps in their natural habitat.



Jane Goodall met with a famous paleoanthropologist named Louis Leaky to discuss Jane becoming a primatologist. Louis Leaky was searching for animal loving and curious women to hire to study primates. Jane Goodall was selected to study chimpanzees, while Diane Fossey got gorillas and Biruté Galdikas got orangutans. At first, it was hard for Jane Goodall to get close to the chimps, but eventually, they got used to seeing Jane Goodall watching them. The chimpanzees accepted Jane into their troop and she could finally start some real observations. The first chimp to accept Jane was an



old chimpanzee that she called David Graybeard, after the grey fur around his chin. Jane Goodall was the first zoologist to give animals names instead of numbers. Jane Goodall named many more chimps and befriended most of them. Some of her favorites were Flo, Flint, David Graybeard, and Fi Fi. One day, Jane Goodall was watching David Graybeard breaking off parts of a blade of grass and inserting it into a termite mound to catch as many insects as possible. This discovery was huge! Before that, it was thought that humans were the only animals that make tools. Jane Goodall had proved them wrong with sketches and video footage of the scene.

In 1965 Jane Goodall went to college and earned a doctorate. Right after she graduated, Jane returned to Gombe to study the chimpanzees. In 1986, Jane Goodall attended a meeting with other scientists who studied chimpanzees regarding the fact that wild chimps may soon become extinct because of habitat loss. Jane Goodall decided to start a program called TACARE which has people plant trees to restore chimpanzee habitat. ChimpanZoo was a program that Jane Goodall started to improve captive chimpanzees' lives at zoos. This allowed chimps to get larger living spaces similar to their wild habitat. Jane Goodall rose awareness about chimps being used in labs and how they were mistreated. Jane Goodall also started a global club called Roots and Shoots, a program in over 120 countries that teaches kids about animals and how to protect them. Today, Jane Goodall travels 300 days a year giving public speakings around the world. Jane Goodall is a hero to humans and a friend to chimpanzees.

Jane Goodall's Roots & Shoots Organization: <http://rootsandshoots.org>

Sign up and take action now!

## How Life on Earth Started

About 3.5 billion years ago, the first single celled (prokaryotic) bacteria lived on Earth. Why is this so important? Well, these unicellular bacteria were the first organism to live on Earth! They were also the cause for the approximate 8.7 million species living today, and the thousands of species that are now extinct. So how did the species of today come to be? Evolution is the answer!

Some time 600 million years ago, the prokaryotes evolved into eukaryotes, or multi cellular organisms. Evolution is a process described by Charles Darwin in the 1850s. Darwin proposed that animals evolve to better adapt and survive in their environment. Eventually, the eukaryotes evolved into two new categories, plants and animals! Thanks to those first bacteria, millions of species live on Earth today.



# Dinosaur of the Issue: Pterodaustro

## Jump into the prehistoric life of dinosaurs!

105 million years ago, the mighty “southern wings” of Argentina known as pterodaustro dipped their long upward curving beaks into the water. Their long bristle- like teeth strained out the salty water of the lake to reveal a mouth full of plankton and small shrimp. The moon was high in the sky as a couple of other pterodaustro flew in to join the feasting group. The hatchlings cried at the salty lake’s bank. The swampy area was a great place to raise the hatchlings for the next two years.

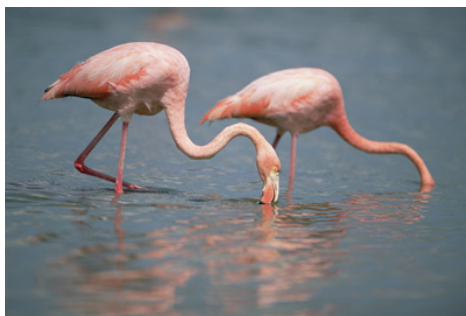


Pterodaustro was an early dinosaur part of the pterosaur family. Pterosaurs were a group of large dinosaurs that had the ability to fly using their strong wings. Pterodaustro had a wingspan of 8 feet! Most pterosaurs were carnivores, eating animals like fish and crabs, but not pterodaustro. Pterodaustro was an omnivore that mostly ate plankton and tiny shrimp. They used their upward curving beak

lined with about 1,000 thin bristle- like teeth to filter feed. Filter feeding is a technique that is still used among animals today. In the process of filter feeding, an animal such as a pterodaustro would open their beak or mouth in the water and then scoop up as much food as possible. Then the animal would close its mouth and their teeth would strain the water out. This process would continue until the animal was full. Present day filter feeders include baleen whales, flamingos, and whale sharks. Some scientists think that flamingos may be related to the prehistoric pterodaustro because it may have been pink in color due to the pink shrimp they ate, but this is just a guess. Similar to flamingos or not, pterodaustro was still a pretty cool dinosaur!



For more about prehistoric dinosaurs, check out the book “Atlas Of Dinosaur Adventures” by Emily Hawkins and Lucy Letherland



Present Day Filter Feeders  
 ← Flamingo  
 Gray Whale→



# Games

## Fast Facts

See how many categories you can fill out based on the letter given? Make sure the word starts with the letter provided.

Challenge: Can you do it in 8 minutes or less?

	A	B	C
Mammals			
Birds			
Reptiles			
Amphibians			
Fish			
Invertebrates			

## Spot the camouflaged animal

Camouflage helps animals blend in with their surrounding to hide from predators or sneak up on prey. How many camouflaged animals can you find in these pictures? Circle the animal when you find it.



## Reptile Of The Issue: Soft Shelled Turtle

**Anatomy-** Soft shell turtles lack a hard, protective shell, instead the shells feel leathery. Soft shell turtles are protected by an impressive rib cage, which makes up for the lack of the hard shell. Soft shell turtles have a tube like snout, that acts as a snorkel when it is swimming in lakes and ponds. They have a flat shell that makes it a very fast swimmer. They even have webbed flippers to help it swim better! Soft shell turtles can breath underwater for a long time.



**Diet and Hunting-** Soft shell turtles are carnivores and eat mainly fish, worms, crickets, crayfish and shrimp. They hide in the lake floor and grab prey as it swims by. Soft shell turtles can also find their food underneath objects such as rocks, along the floor of a lake, and in vegetation.



**Habitat and Location-** Soft shell turtles live in the U.S., India, China, Malaysia, and Egypt. They live in places such as deep rivers, streams, large canals, lakes, and ponds.

**Status-** Fortunately, some species of soft shell turtles are not endangered, yet. These species include the Malayan soft shelled turtle. Other species such as the Ganges soft shelled turtle is vulnerable due to the soft shell turtle trade in East Asia. Not all species are as fortunate as these turtles though, the Swinhoe's soft-shell turtle is already critically endangered with around 4 individuals left. One species known as the black soft shell turtle is already extinct in the wild and are only living in captivity. As habitat loss, illegal pet trade, and poaching increase though, soft shell turtles are at an even higher risk of becoming extinct.

Thank You for reading this month's edition of "News for the Dedicated Zoologist"! I hope you enjoyed it. Please do your part and spread awareness for all those endangered animals out there.

