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# NEWS FOR THE DEDICATED ZOOLOGIST

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## Featured Animal African Pancake Tortoise

The African pancake tortoise (*Malacochersus tornieri*) is called so because of its flat shell, only 1-2 inches thick, which resembles a pancake. With this flat shell comes many adaptations that allow this tortoise to thrive.

An inhabitant of Kenya and Tanzania, the pancake tortoise inhabits Africa's savannas, scrublands, and rocky landscapes. The animal grows to reach some 4-7 inches in length. A pancake tortoise's diet composes mainly of grass, leaves, flowers, and fruit. It can travel at 59 feet per minute, or about 0.67 miles per hour, making it the fastest species of tortoise.

The shell of the pancake tortoise is certainly unique. Made of bone and covered in scutes made of keratin, the tortoise's shell is soft, durable, and flexible. So flexible that it allows the pancake tortoise to wedge itself between rock crevices when threatened. Much as you can mold clay, the tortoise's shell will mold in the rock, allowing the pancake tortoise to hide in a comfortable manner.

However, the shell does have its downsides. Because of the compact design, there is less room for eggs to develop in females. As a result, only 1, occasionally 2, eggs are laid each time, between four to six months apart during the months of June through August. Incubation lasts 4 to 6 months, and hatchlings are completely independent. Similar to most reptiles, there is no parental care involved. Also similar is that the temperature of the nest determines the sex of the hatchlings, called temperature-dependent sex determination, or TSD. Generally, males are produced at cooler temperatures (20-27°C) and females at higher temperatures ( $\geq 30^\circ\text{C}$ ). A mix of the two are produced

in between the ranges, known as the threshold. The African *pancake* tortoise is pretty awesome, and is certainly the sweet treat of the animal kingdom.



# Diadromous Fishes

There are some 34,000 species of fish worldwide. Some are freshwater species, others are saltwater, but some are both! Diadromous fish are those that live their lives in both salt and fresh waters. They undergo a series of migrations between the two water bodies, either making the transition once, or throughout the fishes' lives. It's important to note that there are different terms to describe the different migration patterns of diadromous fish. Let's take a look!

Anadromous fish, such as salmon, smelt, and lamprey, are fish that are born in freshwater, then they migrate to saltwater to become adults, and will then make the journey back to freshwater for spawning purposes. Catadromous fish are the opposite, they live in freshwater and will migrate to saltwater to spawn. Catadromous fish include the common eel and American eel. Potamodromous fish complete frequent migrations in various freshwater systems, and include lake sturgeon and long-whiskered catfish. Amphidromous fish are those that migrate between fresh and salt water regularly, but not for breeding purposes. They include the river goby, torrentfish, and mountain mullet. Oceanodromous fish refer to fish that are born near spawning grounds and will use ocean currents to make it to saltwater. They will then migrate back to the spawning ground as adults. Oceanodromous fish include the black grouper and mutton snapper. These fish have a variety of adaptations that allow them to transition from fresh and salt waters. But you'll have to wait 'till next month to find out because I'm out of room! Stay tuned!

## Backyard Sightings

### Evelyn, Singapore

- Black rat
- Long-tailed macaque
- Fruit bat
- White-breasted waterhen
- Javan mynah
- Black-naped oriole
- Malayan water monitor
- Asian house gecko
- Koi fish
- Common garden snail

### Maylina, California

- Mourning dove
- Band-tailed pigeon
- Acorn woodpecker

Join the adventure at:

<https://forms.gle/qnM8fyGatc6wP8j8A>

## National Park Spotlight

### Death Valley National Park

Death Valley is certainly a land of extremes. It is the hottest, driest, and lowest national park in the United States. Reaching depths below sea level, Death Valley National Park's Badwater Basin is the deepest point in all of North America, at depths of 282 feet below sea level. On July 10, 1913, Death Valley National Park made the record high temperature in the United States, at 134° F. Average yearly rainfall in Death Valley is 2.36 inches. A 40 month period from 1931-1934 brought a rainfall of only 0.64 inches! Death Valley isn't all intense climate, the park is dotted with geologic features such as sand dunes, caves, oases, mountains, and more. It is also home to an array of flora and fauna who have specially adapted to their desert habitat, such as the chuckwalla, kangaroo rat, kit fox, pinnate beetle, and the famous Devil's Hole pupfish.

## Interesting Reads

**Beautiful photos of all 61 U.S. national parks**

<https://www.nationalgeographic.com/travel/destinations/north-america/united-states/61-national-parks-photos/>

**Identifying Juvenile Birds**

<https://wsobirds.org/images/atlas/SATPM4JuvenileBirdID42016.pdf>

**Insect Digestive Systems**

<https://genent.cals.ncsu.edu/bug-bytes/digestive-system/>

## Don't Miss:

**The Nature Conservancy's Everyday Sustainability Guide: 7 Good-for-our-Planet Steps That are Easy to Take**

[https://support.nature.org/images/PageBuilder/supporter/TNC\\_Everyday\\_Sustainability\\_Guide.pdf](https://support.nature.org/images/PageBuilder/supporter/TNC_Everyday_Sustainability_Guide.pdf)

# Games

## Bingo inspired game

Instructions:

Cut out the two charts and find someone else to play with. Get another person and ask them to call out random numbers from 1- 30. The first to call "NFDZ" wins!

N	F	D	Z
2	18	4	24
5	12	7	9
21	25	29	30
15	6	3	14

N	F	D	Z
1	28	15	3
6	9	13	4
2	19	5	26
27	12	8	10

# Nature Trivia

Which of these animals live in America's deserts?

- A. Bobcat
- B. Tarantula hawk
- C. Couch's spadefoot toad
- D. Coyote
- E. All of the above



Find the answer on the bottom of the page!



What animal is this?

See bottom of page for answer.

Get ready for quarantine issue #5 of *News For the Dedicated Zoologist!*

New Podcast Series coming soon!

Stay tuned and stay safe!

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