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Keep Texas Wild

UNDERGROUND CONNECTION

Amazing animal communities inhabit Texas caves.

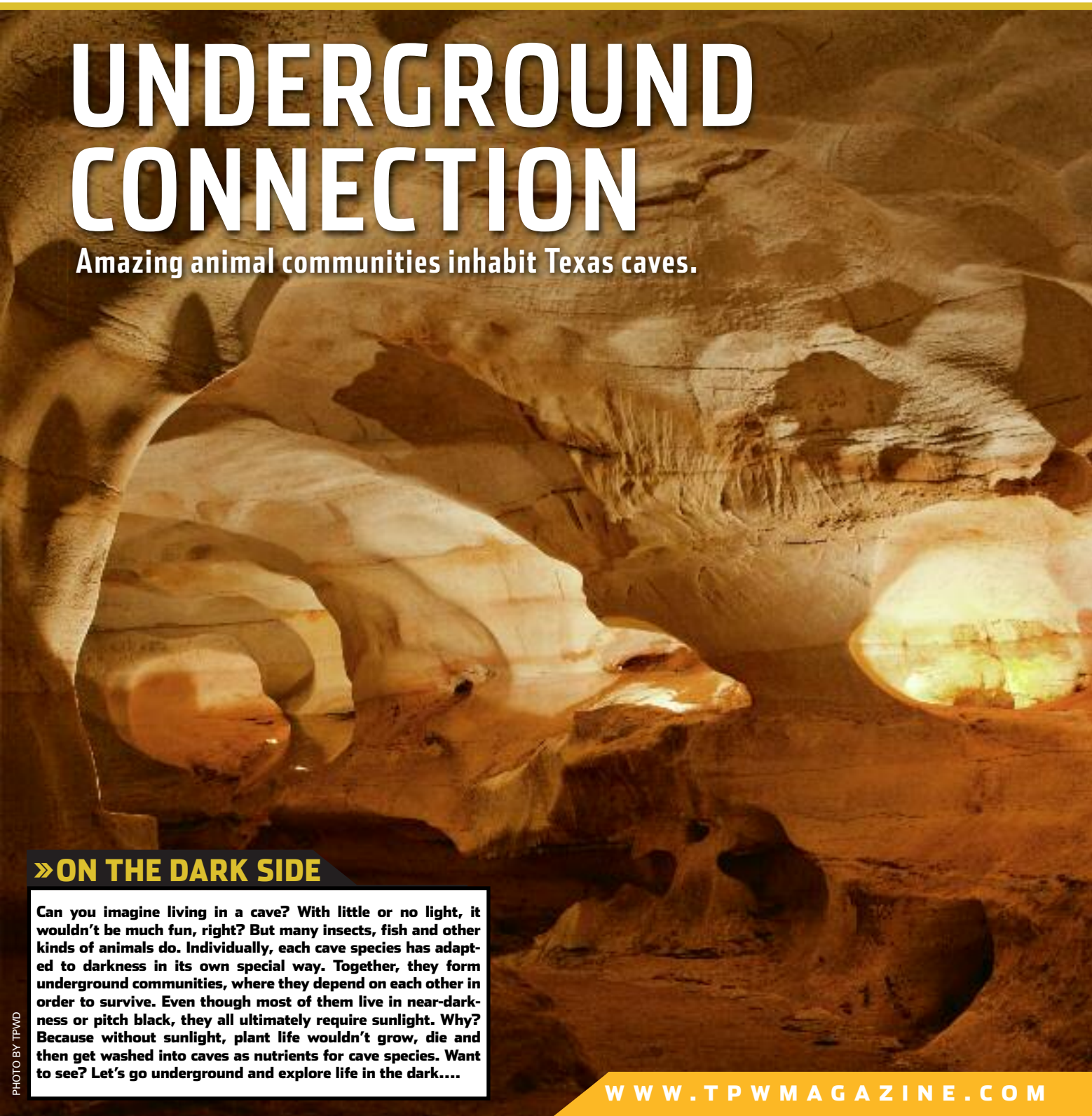
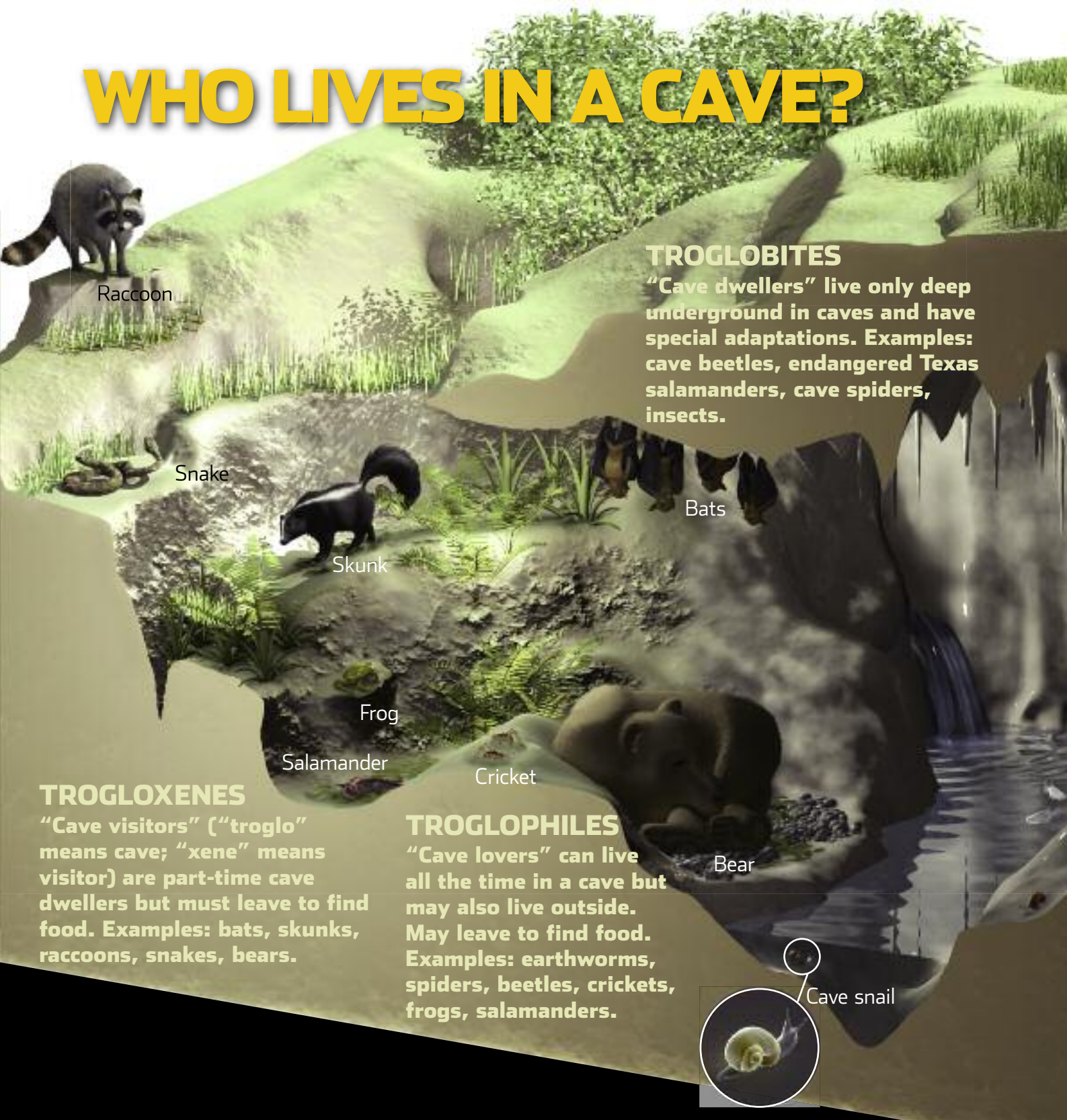


PHOTO BY TPWD

»ON THE DARK SIDE

Can you imagine living in a cave? With little or no light, it wouldn't be much fun, right? But many insects, fish and other kinds of animals do. Individually, each cave species has adapted to darkness in its own special way. Together, they form underground communities, where they depend on each other in order to survive. Even though most of them live in near-darkness or pitch black, they all ultimately require sunlight. Why? Because without sunlight, plant life wouldn't grow, die and then get washed into caves as nutrients for cave species. Want to see? Let's go underground and explore life in the dark....

WHO LIVES IN A CAVE?



TROGLOBITES

"Cave dwellers" live only deep underground in caves and have special adaptations. Examples: cave beetles, endangered Texas salamanders, cave spiders, insects.

TROGLOXENES

"Cave visitors" ("troglo" means cave; "xene" means visitor) are part-time cave dwellers but must leave to find food. Examples: bats, skunks, raccoons, snakes, bears.

TROGLOPHILES

"Cave lovers" can live all the time in a cave but may also live outside. May leave to find food. Examples: earthworms, spiders, beetles, crickets, frogs, salamanders.

ENTRANCE

Similar to above-ground environment with sun-light and green plants.

TWILIGHT

Farther into the cave where atmosphere is cool and damp with some light and no plants.

WATER LIFE

Cave water dwellers come in three types, similar to their terrestrial cave counterparts:

- **Stygoxenes ("stygo" refers to cave water) live in caves part of the time. Example: aquatic isopods, which are similar to pillbugs.**
- **Stygophiles can live in or out of caves. Examples: cave snails, aquatic isopods.**
- **Stygobites live their entire lives in caves. Examples: cave fish, salamanders, cave crayfish.**

Cave fish

Texas salamander

Cave beetle

Cave crayfish

DARK

Deepest part of the cave with no light.

WHAT'S THERE TO EAT?

Food Webs

Groups of plants and animals that provide each other's nutritional needs

FLOOR

Guano / leaf litter

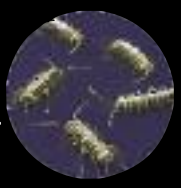
Grows fungi, bacteria (guano beetles also eat guano)

Eaten by millipedes, springtails

Eaten by cave crickets, spiders, pseudoscorpions

Eaten by centipedes, salamanders

WATER



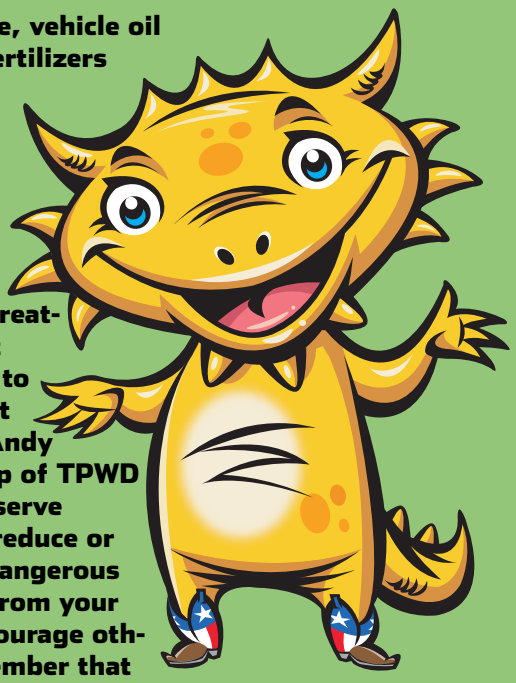
Tiny blind crustaceans

Eaten by aquatic (sometimes eyeless) salamanders

Spike's Activity Page

>> KEEPING IT *WILD*

DID YOU KNOW THAT HOW WE LIVE ABOVE GROUND AFFECTS FRAGILE LIFE IN UNDERGROUND CAVES?



For instance, vehicle oil and lawn fertilizers that wash into caves harm cave species, many of which are endangered or threatened. What can you do to help protect cave life? Andy Glusenkamp of TPWD says: "Conserve water and reduce or eliminate dangerous chemicals from your house. Encourage others to remember that we share this place with other organisms. Learn about which cave species live in your area and what threats they face. Most importantly, share this information with your friends and family!"

>> WILD *SCIENCE*

TROGLOBITES AND STYGOBITES

have special adaptations for living in the dark. Some are white and lack pigment because they don't need to hide. Others are blind or have no eyes. Instead, they may have longer antennae or longer legs so they can feel or sense food or danger coming. For example, the Tooth Cave pseudoscorpion has no eyes and extra long pinchers. Why? Think about your favorite animal, then draw a picture of how it'd look if it lived deep in a cave. What adaptations would your animal need to survive?

Blind cave meshweaver

MESHWEAVER © JEAN KREJCA

>>Up close with Andy Glusenkamp, TPWD biologist who studies cave species

Q: Have you always loved caves and crawly things?

A: As a child, I was fascinated with insects, amphibians, reptiles and other organisms that I found around my house. I grew up in an area without caves, but I always wanted to explore them. As an adult, I got my chance when I moved to Austin and began caving with others who enjoy adventure.

Q: What's the most important thing you've learned about cave life?

A: Caves are like underground islands, each with its own ecosystem. Caves and the organisms that live in them are extremely delicate, and many cave species are only found in a few caves.

Q: If I want to study cave life or work as a biologist, what should I do now?

A: You should begin developing observation skills and ask questions about what you see around you. Cave biologists must be very good at gathering and sharing information, so it's important to learn good note-taking skills as well as language skills. Math can be a big help, too.