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....
**WHAT’S THERE TO EAT?**

**Food Webs**
Groups of plants and animals that provide each other’s nutritional needs

**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.

**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.

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

**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 sunlight and green plants.

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

**DARK**
Deepest part of the cave with no light.
WHAT’S THERE TO EAT?

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

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FLOOR
Guano / leaf litter
Grows fungi, bacteria (guano beetles also eat guano)
Eaten by millipedes, springtails
Eaten by cave crickets, spiders, pseudoscorpions

WATER
Tiny blind crustaceans
Eaten by aquatic (sometimes eye-less) salamanders

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WHO LIVES IN A CAVE?

ENTRANCE
Similar to above-ground environment with sunlight and green plants.

TWILIGHT
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DARK
Deepest part of the cave with no light.
**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 would look if it lived deep in a cave. What adaptations would your animal need to survive?

**DISSONANCE, DIVERSITY AND DANGER**

In underground caves, you have to be careful. Chemicals from your water and reduce or eliminate dangerous chemicals from your house. Encourage others to remember that a home is a house. Encourage others to remember that a home is a house. You can 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!”

**ASK THE EXPERT**

**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.

**NO MORE MR. NICE WATCH**

Forget sleek and subtle, the Stauer Colossus Hybrid is one tough timepiece.

Never underestimate your competition. Just ask Demetrius, the unfortunate Greek general who set out to conquer Rhodes in 305 BC. He assumed that a massive force of 40,000 men, a fleet of Aegaean pirate and an arsenal of wall-smashing war machines would be enough to crush the tiny Greek island. He was wrong. The Rhodians were tougher than he thought. And so is this watch. If you’ve always believed that the biggest, baddest watches had to cost big, bad money, the $79 Stauer Colossus Hybrid Chronograph is here to change your mind.

**A monument to toughness:** The people of Rhodes were ready for Demetrius and repelled his attack. To celebrate, they built the Colossus of Rhodes, a 107-foot bronze and iron giant that towered over the harbor like a ten-story trophy. It warned future invaders that “Rhodes is tougher than you think.” You give the same message when you wear the Stauer Colossus.

**The timepiece that works twice as hard:** In designing the Colossus Hybrid Chronograph, our instructions to the watchmaker were clear: build it as tough as a battleship and fill it with all the bells and whistles. Make it a hybrid, because it should work twice as hard as a regular watch. And make it look like a million bucks, because when you put it on, you should get excited about rolling up your sleeves. Mission accomplished.

**A toolbox on your wrist:** It will keep you on schedule, but the Colossus Hybrid is about much more than time. The imposing case features a rotating gunmetal bezel that frames the silver, black and yellow face. You’ll find a battalion of digital displays on the dial arranged behind a pair of luminous hands and a bold yellow second hand. Powered by a precise quartz movement, the watch is doubly accurate in analog and digital mode. And it’s packed with plenty of handy extras including a bright green EL back-light for enhanced nighttime visibility, a tachymeter along the outer dial and a full complement of alarms and split-second countdown timers. The Colossus Hybrid ensures you have a reliable timepiece that can help you stay ahead of your competition.

**Your Satisfaction is Guaranteed.** Wear the Stauer Colossus Hybrid for 30 days and if you are not 100% thrilled with your purchase, return it for a full refund of your purchase price. But once you get a taste of more watch for less money, it’s likely you’ll be back for more... and we’ll be waiting.

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**— C. FROM COLORADO**

“Great watch... an impressive piece straight out of the box.”

“Colossus Hybrid is one tough timepiece. The people of Rhodes were ready for Demetrius and repelled his attack. To celebrate, they built the Colossus of Rhodes, a 107-foot bronze and iron giant that towered over the harbor like a ten-story trophy. It warned future invaders that ‘Rhodes is tougher than you think.’”

**— V. FROM CALIFORNIA**

“Excellent watch with great style.”

**— J. FROM FLORIDA**

“Stauer Colossus Hybrid Digital/Analog Watch—$395
Now 79"