



October/November 2013

Xplor

adventures in nature



SURVIVAL SKILLS

OUR TIPS WILL PREPARE
YOU FOR ANYTHING ... AND
WE MEAN *ANYTHING*

CONTENTS



Giant robber fly

Red-footed cannibalfly

Xplor

GOVERNOR
Jeremiah W. "Jay" Nixon

CONSERVATION COMMISSION

Don C. Bedell
James T. Blair, IV
Tim E. Dollar
Don R. Johnson

DIRECTOR
Robert L. Ziehmer

XPLOR STAFF

David Besenger
Les Fortenberry
Karen Hudson
Regina Knauer
Noppadol Paothong
Marcy Porter
Mark Raithe
Laura Scheuler
Matt Seek
Tim Smith
David Stonner
Nichole LeClair Terrill
Stephanie Thurber
Cliff White

ON THE COVER



Survival Skills
by David Stonner

6 Missouri's Vampire Hunters
These predators keep vampire-like animals in check.

10 Survive a Zombie Apocalypse
Zombies aren't real ... but it doesn't hurt to be prepared.

DEPARTMENTS

- 1 What Is It?
- 2 You Discover
- 4 Predator vs. Prey
- 5 How To
- 14 Wild Jobs
- 15 Strange But True
- 16 Xplor More



Hellbender

Xplor (ISSN 2151-8351) is published bimonthly. It is a publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to Missouri residents (one per household); out of state \$5 per year; out of country \$8 per year. Please allow 6-8 weeks for first issue. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Mo., and at additional entry offices. **Postmaster:** Send correspondence to *Xplor Circulation*, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-751-4115, ext. 3856 or 3249.

Copyright © 2013 by the Conservation Commission of the State of Missouri. Vol. 4, No.5

Send editorial comments to: **Mailing address:** *Xplor Magazine*, PO Box 180, Jefferson City, MO 65102-0180; **Email:** Xplor@mdc.mo.gov. **Please note:** *Xplor* does not accept unsolicited article queries, manuscripts, photographs, or artwork. Any unsolicited material sent will not be returned.

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age, or disability. Questions should be directed to the Department of Conservation, PO Box 180, Jefferson City, MO 65102, 573-751-4115 (voice) or 800-735-2966 (TTY), or to the U.S. Fish and Wildlife Service Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBSP-4020, Arlington, VA 22203.

We recycle. You can, too!
Share *Xplor* with friends.

ON THE WEB

Visit xplormo.org for cool videos, sounds, photos, fun facts, and more!

WHAT IS IT?

DON'T KNOW?

Jump to the back cover to find out.



- ① I may look blue, but I'm really a fun guy.
- ② Sometimes I get green around the gills.

- ③ Trees need me, and I need trees.
- ④ I'm great with eggs and ham. Try me, try me, Sam-I-am.

YUW discover



Wild turkey

Turkey feather

WRITE WITH A TURKEY

I Xplor

There's no better way to write in your nature journal — you do keep a nature journal, right? — than with a quill pen. To make one, find a turkey wing feather and soak its stem in hot water to soften it. Have an adult cut off the tip of the stem at an angle, dig out the membrane inside, and make a quarter-inch slice up the middle of the stem's tip. Dip the tip of your pen in ink, and you're ready to write.

With birds flying south, leaves changing color, and hunting seasons gearing up, there's plenty to discover in October and November. Here are a few ideas to get you started.

Make WALNUT INK



Black walnuts

Need ink for your quill pen? Here's how to make some. Gather a dozen walnuts. Unless you want stained skin, put on rubber gloves. Remove the nuts from their husks. Place the husks in a pot, cover them with water, and simmer on the stove for several hours. The longer you simmer, the darker the ink will be. Pour the ink through an old t-shirt into a quart jar. Add a tablespoon of rubbing alcohol to preserve the ink, and it's ready to use.

Share YOUR HARVEST



SHARE THE HARVEST

If you have too much deer meat to eat — lucky you — share some with needy folks. Last year, hunters donated more than 300,000 pounds of venison to local food pantries through the Share the Harvest program.

To share your harvest, take your deer to an approved meat processor and tell them how much of it you want to donate. You'll have

to pay the processor, but funds are often available to cover the cost. Learn more about Share the Harvest and find participating processors at mdc.mo.gov/node/2544.



Don't miss the chance to Discover Nature at

Build your own bird buffet at **BIRD FEEDERS.**

Rockwoods Reservation, Wildwood; October 12, 9:30–11 a.m. Register at 636-458-2236.

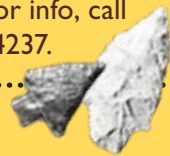
Learn to build bows and flint arrowheads at

PRIMITIVE SKILLS DAY.

Springfield Conservation Nature Center; October 6, 1–5 p.m. For info, call 417-888-4237.

Harvest a deer during **YOUTH DEER SEASON.**

Statewide November 2–3, 2013 For info, visit mdc.mo.gov/node/3861.



Walnuts: Norbert Frank, University of West Hungary, Bugwood.org

GO LEAF PEEPING



The Show-Me State's forests become showiest in mid-October when oaks and hickories are ablaze with fall color. To help plan a leaf-peeping adventure, get your paws on the Conservation Department's "MO Fall Colors" smartphone app. With it you can view leafy photos taken around the state, use your phone's GPS to navigate to the places where the photos were taken, share your own photos, and read weekly fall color forecasts. Download the app at mdc.mo.gov/node/19321.

Gray squirrel



Feed SOME SQUIRRELS

With winter on its way, squirrels are busier than usual gathering food. You can make their bushy-tailed lives easier by building a feeder. Have an adult drill a pilot hole through a 1-inch-thick, 1-foot-long board. Insert a long screw into the hole so about 2 inches sticks out the other side. Twist an ear of dried corn onto the screw, and hang the feeder in a tree you can see from a window. In no time, you'll be entertained by all kinds of corny, squirrely behavior.

GET WILD for HALLOWEEN

This Halloween, instead of dressing up as a princess, superhero, or scary monster, choose a costume that's a bit more wild. How about trick-or-treating as a white-tailed deer? Or a great horned owl? We bet a striped skunk will get plenty of laughs — but maybe not much candy. For costume inspiration and plenty of fascinating facts about hundreds of Missouri's coolest critters, check out the online field guide at mdc.mo.gov/field-guide.



these fun events.

Battle Missouri's least-wanted plants and animals at **ALIEN INVADERS.**

Cape Girardeau Conservation Nature Center;
October 25 and 26, 6:30–9:30 p.m.
For info, call 573-290-5218.



Zebra mussels

Overcome your fear of creepy-crawlies at the **SPOOKTACULAR.**

Anita B. Gorman Conservation Discovery Center; Kansas City
October 5, 10 a.m. to 2:30 p.m.
For details, call 816-759-7300.

Tarantula



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at xplormo.org/node/2616.

PREDATOR VS. PREY

The struggle to survive isn't always a fair fight. Here's what separates nature's winners from its losers.

Illustration by David Besenger

Wide-Angle Eyesight

Not only is a wood duck's eyesight much sharper than a human's, but the duck can also see above, below, forward, and backward at the same time.

Turbo Takeoff

Wood ducks have large wings in relation to their body size. This allows a wood duck to rocket straight up off the water at the drop of a feather.

Armed to the Teeth

An alligator gar's top jaw is spiked with two rows of dagger-sharp teeth. When this toothy trap snaps shut, there's little hope of escape for whatever is inside.

Sneak Attack

An alligator gar's favorite food-catching trick is to float on the surface, pretending to be a log. When prey swims close, the gar lunges with lightning speed.

Air Breather

Gar use gills to breathe, but they also gulp air at the surface. This helps gar live — and hunt — in water that's too low in oxygen for other fish.

AND THE WINNER IS...

Adult wood ducks are usually too sharp-sighted and quick to get gobbled by gar. But occasionally, a gar manages to sneak into striking range. When that happens, the duck's goose is cooked.

Parachute cord is as handy as duct tape when you're outside. Use it for sewing, fishing, or to lash branches together for a lean-to. Make this survival bracelet, and you'll always have cord close at hand.

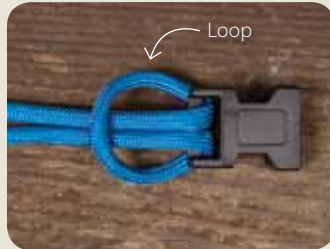
HOW

HERE'S WHAT YOU NEED

- 550 parachute cord (8 feet)
- Side-release buckle
- Scissors
- Matches or lighter

HERE'S WHAT YOU DO

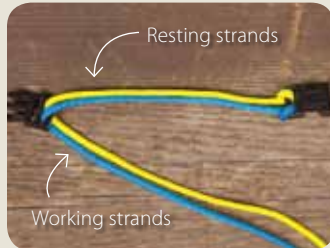
1 Fold the cord in half to make a long loop with equal-sized tails. Stuff the loop through one side of the buckle. Bring the ends of the cord through the loop and pull tight.



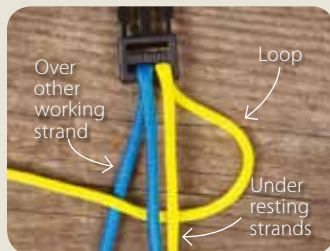
2 Push the ends of the cord through the other side of the buckle to make a closed loop. Slide it over your hand. Adjust the cord until the loop fits your wrist. Unsnap the buckle.



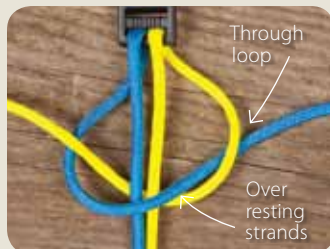
3 Your cord will be one color, but we made ours two so it's easier to follow the steps. The short cords between the buckles are "resting strands." The long cords are "working strands."



4 Pick one of the working strands (we chose yellow). Bring it under the resting strands and over the other working strand to make a loop.

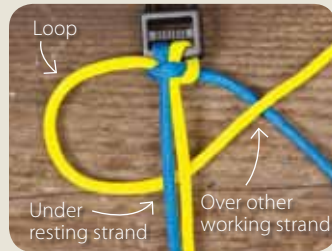


5 Take the other working strand (blue in our example) and bring it over the resting strands and through the loop you made in Step 4. Then pull both strands tight.

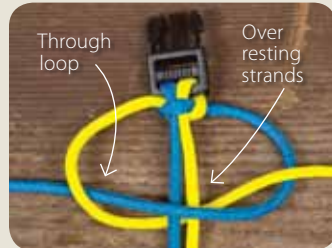


Tie a Survival Bracelet

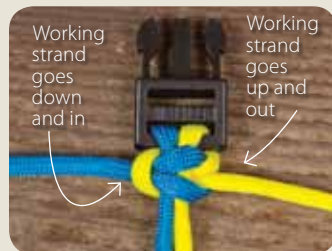
6 Do the same thing again. Pick the strand you started with (it will be on the opposite side this time). Go under the resting strands and over the other working strand to make a loop.



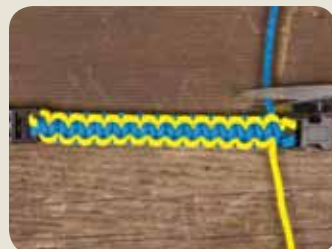
7 Take the other working strand and go over the resting strands and through the loop you made in Step 6. Pull both strands tight.

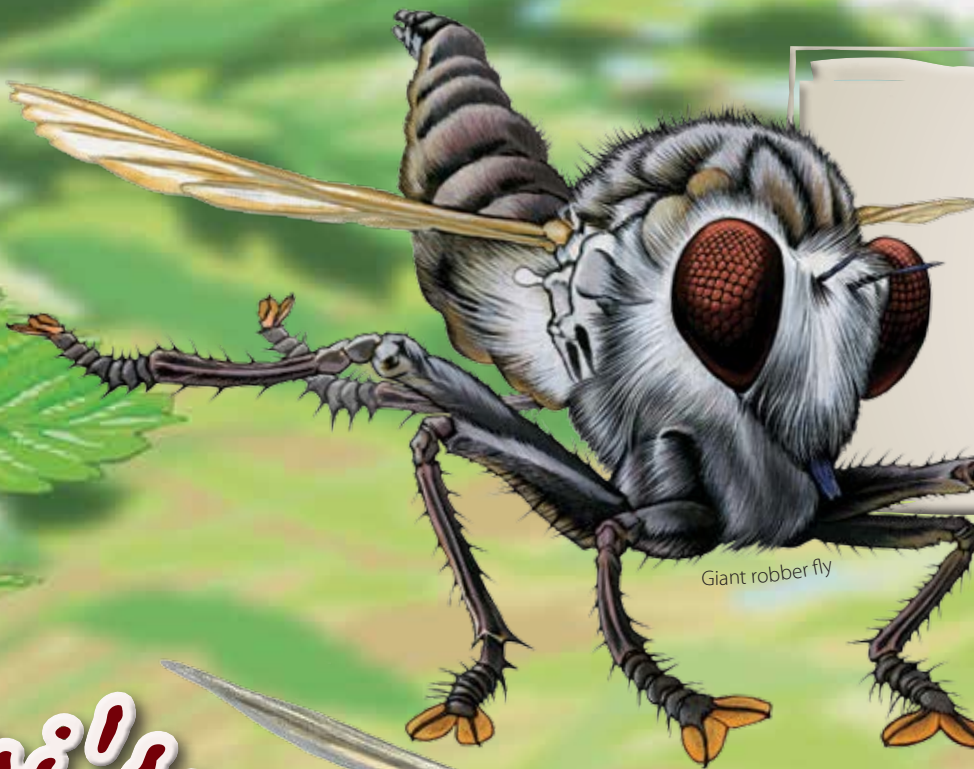


8 Notice that one working strand goes down into a loop and one comes up through a loop. Always start the next braid with the strand that comes up and out.



9 Repeat steps 6 and 7 until you reach the other buckle. Snip off each working strand so only a little sticks out. Have an adult melt the snipped cord with a flame.





Giant robber fly

Missouri's VAMPIRE HUNTERS

by Matt Seek • artwork by David Besenger

This Halloween, you might run into a few vampires while you're out trick-or-treating. But don't worry. These make-believe monsters don't want to suck your blood. They just want candy. Nature, however, isn't so nice.

Animals such as leeches, ticks, and mosquitoes survive by sucking blood. Other animals, such as spiders and robber flies, don't stop with blood — they suck the very life from their prey. Luckily, nature is full of predators that keep these vampire-like animals in check.



Robber versus Robber

Robber flies aren't afraid to waylay prey twice their size, including spiders, dragonflies, and bumblebees. They've even been seen pouncing on hummingbirds. So can any animal take down these fiendish flies? In fact, many giant robber flies hunt down other robber flies. Female robbers are even known to eat their mates when the mood strikes.

A Fly That Steals Lives

There's a bug-eyed burglar buzzing around your backyard. Robber flies have huge eyes, powerful wings, and clawed, lethal legs. More than 100 kinds of robber flies live in Missouri. Many aren't much larger than your pinkie fingernail. Some, such as the **red-footed cannibalfly**, are as big as your thumb. All are more deadly than Dracula — if you're an insect.

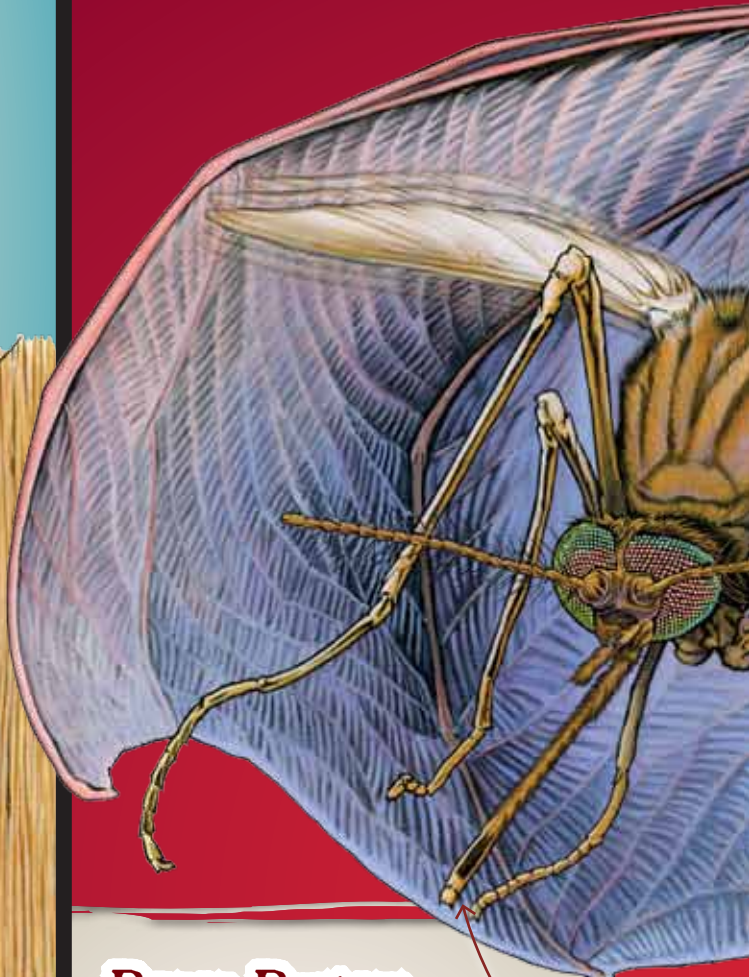
Unlike Hollywood vampires, which prowl at night, robber flies hunt during the hottest part of the day. They perch on the tip of a leaf or a tall blade of grass and scan the sky, waiting for lunch to fly by. When a robber spots another insect, it zips skyward to ambush the unsuspecting bug. Robber flies stab their pointy mouthparts into prey and pump in saliva. The saliva paralyzes the victim and turns its insides to mush, which the robber fly sucks out, Dracula style. When the robber is done guzzling its gruesome gruel, the only thing left of the other insect is its shell.

I Want to Bite your Bark

Emerald ash borer larvae chew through wood like vampires chew through necks. As they eat, the baby borers create loopy tunnels. Eventually the tunnels encircle the tree. This cuts off the tree's water and nutrients, which turns the tree as dead as a coffin.



Hairy woodpecker



Borer Busters

Hollywood heroes kill vampires by driving a stake through the vampire's heart. Woodpeckers kill ash borers the same way, but the birds don't use stakes. Instead, woodpeckers use their long tongues to probe inside hammered-out holes. The tongues are pointy — perfect for skewering ash borers — and barbed so the squiggly insects can't slide off.

Emerald ash borers have killed 20 million ash trees in the Midwest. To learn how you can battle borers and other tree-killing pests, visit dontmovefirewood.org.

Driving Bloodsuckers Batty

Little brown bats can eat up to 1,000 mosquitoes an hour. Large colonies of these flying mammals may eat 15 tons of mosquitoes a year. With that kind of appetite, bats work better than garlic for keeping bloodsuckers away.

Female Blood Fiends

A mosquito can smell the carbon dioxide in your breath from 150 feet away. Once it locks onto your trail of exhaled air, there isn't much to keep it from plunging its pointy **proboscis** (*pro-bos-sis*) into your skin. But things could be much itchier. Only female mosquitoes guzzle blood. Males drink nectar.

Little brown bat

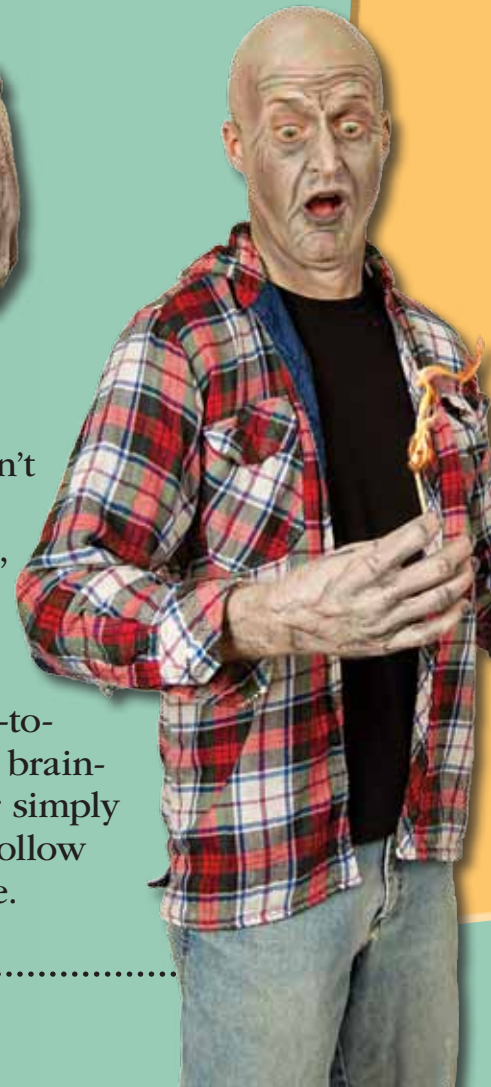
DAVID
BESINGER



SURVIVE

ZOMBIE

Undead humans who hanker for brains? *What a bunch of booeey. Zombies aren't real. Right? Who believes in zombies, anyway? Not us.* But still ... it pays to be prepared. So, whether you're face-to-face with a band of brain-munching freaks or simply lost in the woods, follow these tips to survive.



Not a real zombie — no children were scared in the writing of this article.

A APOCALYPSE

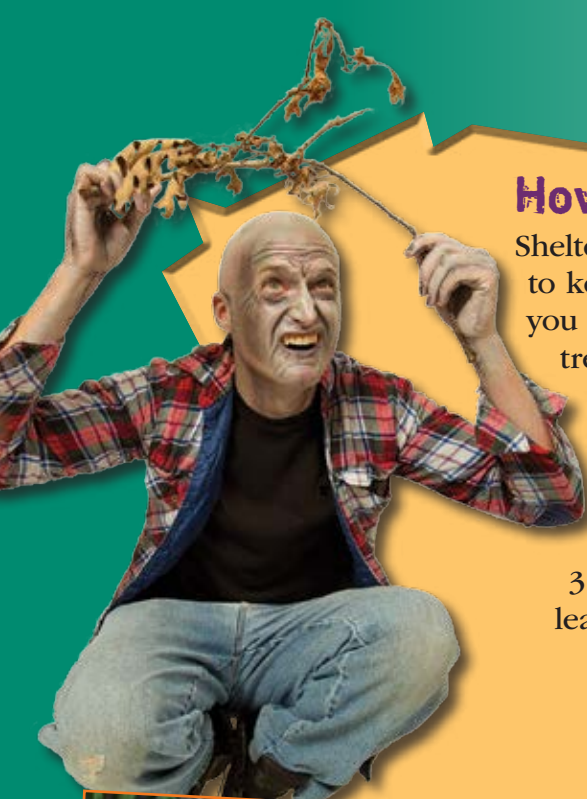
by Matt Seek • photos by David Stonner

How To: Light a Fire

Zombies are scared of fire. Rescuers, however, will spot a bright blaze from miles away.

1. Find tinder. Tinder is fluffy material that easily ignites such as paper, potato chips, pine needles, dead grass, birch bark, cattail fluff, mouse nests, or cedar shavings.
2. Gather kindling and fuel. Kindling is bone-dry, pencil-sized twigs that light quickly but burn long enough to catch bigger branches — the fuel — on fire. Collect kindling and fuel from dead trees and limbs that are still standing. Wood lying on the ground is usually too damp to burn.
3. Pick a spot sheltered from wind and rain, and clear the area of anything that might catch on fire.
4. Start with a fist-sized wad of loose, fluffy tinder. Stack kindling upright around the tinder to form a teepee shape. Place the thinnest twigs closest to the tinder and larger ones farther out.
5. Light the tinder. If you don't have matches, use a magnifying glass or the lens from your glasses, camera, or binoculars to focus sunlight onto the tinder. Move the lens until you see a pinpoint of white-hot light then hold steady. When the tinder begins to glow, blow gently to coax up a flame.
6. Once the kindling is burning, add bigger sticks.





How To: Build a Lean-To

Shelter keeps you hidden from hungry zombies. It also traps heat to keep you warm, provides shade to keep you cool, and shields you from wind and rain. Find a cave, an overhanging bluff, a fallen tree, or a bushy evergreen tree to hunker under. If you can't find natural shelter, build a lean-to.

1. Find a long, sturdy branch and lean it against a low hanging limb.
2. Hang a tarp over the branch and stake it to the ground with heavy rocks or logs.
3. If you don't have a tarp, prop leafy branches against the leaning branch.



How To: Gather Food

A full tummy gives you energy to outwit zombies. If you're short on food, gather nuts or pick wild fruits such as blackberries, persimmons, or pawpaws. Be careful, though! Just because fruit looks tasty, doesn't mean you can eat it. Don't munch anything you're not 100 percent sure is safe to eat. If you crave protein, go fishing.

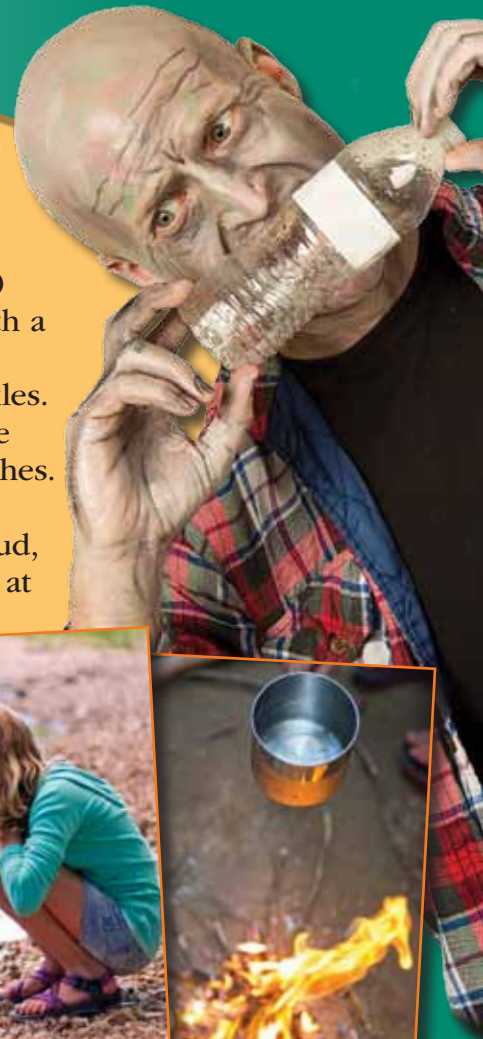
1. Whittle a piece of green wood into a pointy toothpick.
2. Cut a shallow groove in the middle, and tie a piece of cord around the groove.
3. Cover both ends of the toothpick with worms or some other wiggly bait.
4. Toss the "hook" into the water and wait. Fish will swallow the bait, and — if you're lucky — the toothpick will get lodged sideways in the fish's stomach.

Remember: If you're truly starving, do whatever it takes to survive. But during normal circumstances, you must follow hunting and fishing laws.

How To: Find Water

Fleeing from zombies sure can make you thirsty. If you run out of water, here are a few ways to quench your thirst.

- Rain is safe to drink. Use water bottles (or any other clean container) to catch rain as it falls. You can even dig a shallow pit and line it with a raincoat to collect rain.
- Dew is safe to drink. Tie clean clothes or bandanas around your ankles. At sunrise, walk through low-growing vegetation until the clothes are soaked with dew. Wring the dew into a cup or suck it out of the clothes.
- Water from streams, ponds, or any other source contains germs. To make it safe to drink, pour it through a sock or shirt to strain out mud, algae, and insects. Then — and this is essential — boil the water for at least a minute.



WILD JOBS

WHEN SOMEONE SPOTS A BIG CAT, THE **MOUNTAIN LION CSI** (CAT SIGHTING INVESTIGATION) TEAM GOES ON ALERT.

Q: ARE THERE MOUNTAIN LIONS IN MISSOURI?

A: Sure, but not as many as people think. We get dozens of reports every week from folks who think they've seen a mountain lion. But since 1994, only about 40 sightings have provided enough evidence for us to say, "Yep, that's a lion."

Q: WHAT KIND OF EVIDENCE DO YOU NEED?

A: We look for tracks, hair, and poop. Photos are good, too — if they're of an actual mountain lion.

Q: DO PEOPLE SEND PHOTOS OF OTHER ANIMALS?

A: We see lots of bobcats and dogs, especially Labrador retrievers. It's hard to identify a moving animal, especially at a distance. Sometimes even the CSI team has a tough time. Recently, a lady sent us a video of a house cat sneaking across a baseball outfield. She was sure it was a mountain lion.

Q: WHAT MADE YOU SURE IT WAS A HOUSE CAT?

A: We placed life-size cutouts of a mountain lion, bobcat, and house cat in the same outfield. When we compared our cutouts to the animal in the video, it was pretty obvious.

Q: DOES YOUR WORK INVOLVE LOOKING FOR CLUES?

A: Sometimes. A hunter once called and said he'd shot a mountain lion. We searched the scene and found the hunter's arrow. We searched more and found a dead bobcat. At the lab, we matched the bobcat's blood to blood on the arrow.

Q: IF READERS THINK THEY'VE SEEN A MOUNTAIN LION, WHAT SHOULD THEY DO?

A: Email us at mountain.lion@mdc.mo.gov. We'd sure like to know about it.



House cat (not a mountain lion)

Golden retriever (not a mountain lion)

STRANGE but TRUE!

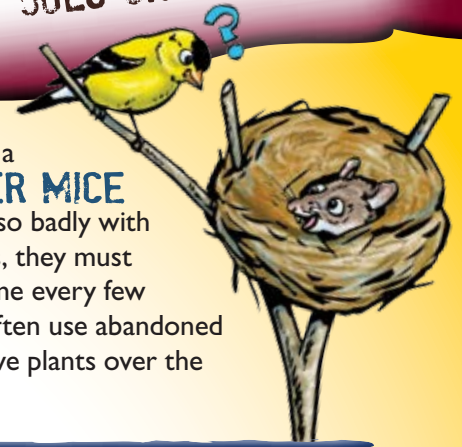
YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE**
STUFF THAT GOES ON IN NATURE

NORTHERN MOCKINGBIRDS

learn new songs throughout their lives. Older birds may have 200 tunes stashed in their song book. With so many to choose from, mockingbirds mix it up and sing a different set of songs in the spring than in the fall.



You think you have a messy room? **DEER MICE** foul up their nests so badly with food and droppings, they must move to a new home every few weeks. The mice often use abandoned bird nests and weave plants over the top for a roof.



THIRTEEN-LINED GROUND SQUIRRELS

usually have 13 stripes — seven light stripes and six dark stripes. But some squirrels have more stripes and some have fewer stripes. The squirrels, however, don't seem to keep count.



EASTERN WOOD RATS

have a hoarding habit. If they find a shiny object, they trade it for what they're carrying and stash the treasures back in their nests. Because of this, campers sometimes find sticks where pocketknives or car keys used to be.



HELLBENDERS are homebodies. Missouri's largest salamanders can live more than 30 years in the wild, but they rarely stray more than a few hundred yards up or downstream from where they were born.



YELLOW-BELLIED SAPSUCKERS

hammer holes in trees to lap up the sweet sap that pours out. The sweet-beaked birds turn sour when other animals try to suck their sap and often chase away hummingbirds, orioles, and other woodpeckers.



Antlers, ahoy! **WHITE-TAILED DEER** can swim 13 miles per hour. That's twice as fast as Michael Phelps, the seemingly superhuman swimmer who has won more Olympic medals than anyone else.



XPLOR MOR

Decisions, Decisions — Oh, Deer!

It's opening day of firearms deer season. You're hiking by headlamp through the woods of a conservation area, trying to reach your deer stand before sunrise. **Walk faster. Go to 1.**



Halfway down the trail, you realize you forgot your hunter-orange hat. It's sitting on the dash of your dad's pickup, half a mile back at the parking lot. **The hunter-orange vest you're wearing is good enough. Go to 4. You need that hat. Turn around and go to 3.**



Oomph! You fall off the ladder onto your back. Air whooshes from your lungs. When you can breathe, you check yourself over. Your body isn't broken, but your rifle is. **The End**



Peering through the scope, you see it isn't a deer. It's a hunter! He yells, "Don't shoot!" Your dad warned never to use your scope as a telescope. Now you know why. The hunter looks angry. You have some explaining to do. **The End**



You watch the figure for a few seconds. It's not a deer. It's another hunter! Good thing you didn't point your gun at him. **Go to 2.**



You climb carefully up to your stand, clip into the safety harness, and use the rope to haul up your rifle. Once you're settled, you load your rifle and start watching for deer. **Go to 9.**



You try to stay alert, but your eyelids grow heavy. Yawn. You sure got up early. **Climb down from your stand for a quick nap. Go to 12. Must. Stay. Awake. Go to 17.**



As soon as you cross the fence, you hear a voice yell: "Get off my land. I've got the game warden on speed dial!" It's too late now to ask for permission. **The End**



The landowner appreciates that you asked. He offers to help you find the deer. Together you walk back to where it jumped the fence. **Go to 19.**

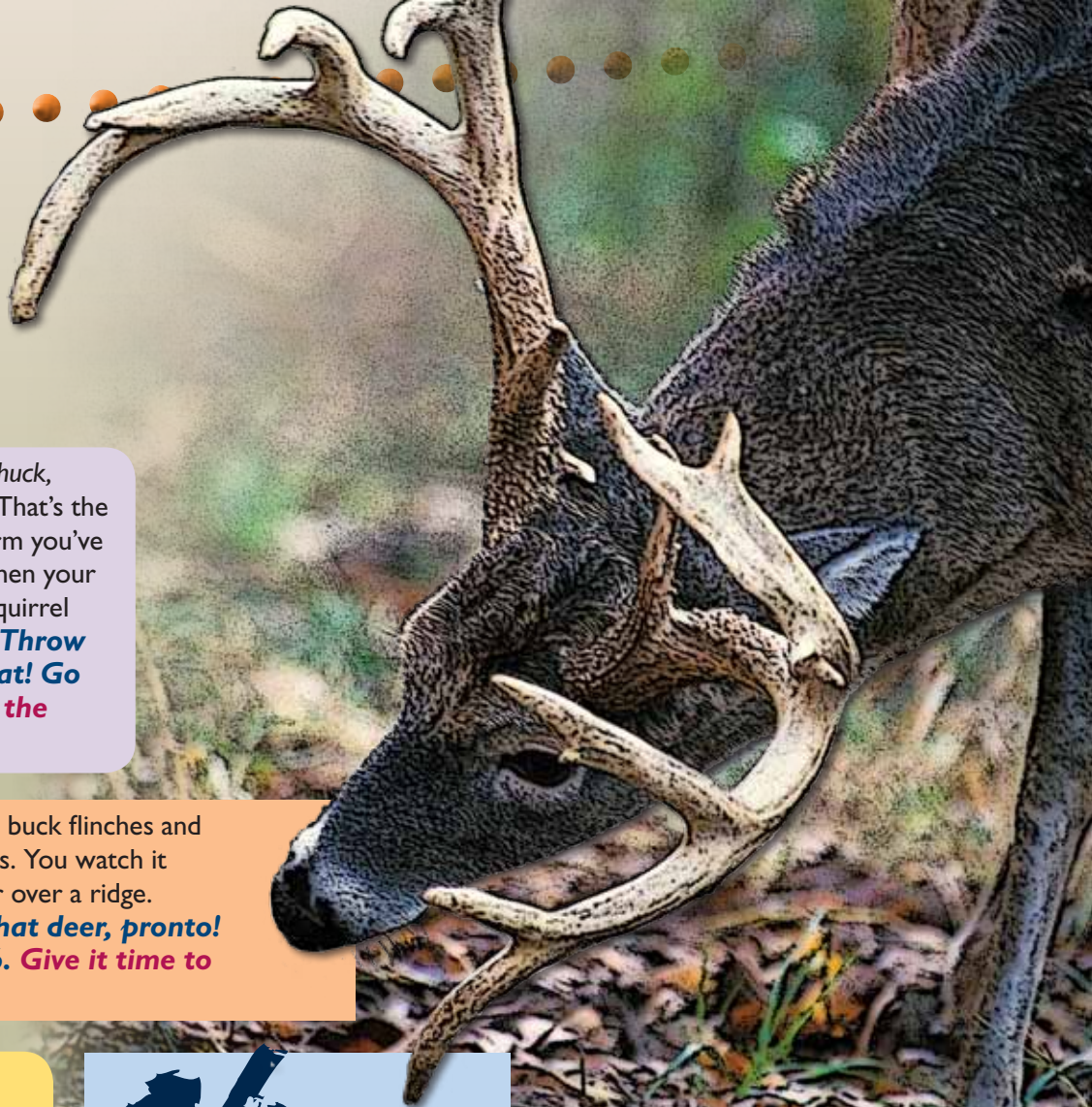


As you're walking back to the truck, you hear leaves crunch. Something is standing in the shadows 100 yards away. It looks like a deer. **Shoulder your gun for a look through the scope. Go to 6. Wait and see what happens. Go to 7.**



Wait just a second. By law — and for safety — firearms deer hunters must wear a hunter-orange hat and a vest, shirt, or coat. Get that hat, and study the hunting laws while you're at it! **Go to 3.**

E



12 Bark! Chuck, chuck, chuck. Bark! That's the strangest alarm you've ever heard. Then your eyes pop open, and you see a squirrel scolding from a nearby branch. **Throw a stick at that pesky tree rat! Go to 14. Sit quietly and hope the squirrel shuts up. Go to 17.**

13 Blam! The buck flinches and then bolts. You watch it disappear over a ridge. **Follow that deer, pronto! Go to 16. Give it time to settle down. Go to 18.**

14 The stick sails over the squirrel and crashes into the woods. A deer snorts. You turn to see its white tail bounding away. Rats! You had no idea it was so close. **Go to 17.**

15 Blam! The instant you shoot, the buck bends to nibble grass, and your shot zips over his head. Sometimes deer freeze when they hear a gunshot. Not this one. Before you can get another shot off, he bolts away as if his tail were on fire. Maybe you'll have better luck tomorrow. **The End**

16 You follow the deer and find it lying in a field. He's wounded, but when he sees you, he staggers up and bounds away. Rats! If you'd waited, you wouldn't have pressured him into running. **Go to 18.**

18 You wait 15 long minutes, then follow the deer. Its trail goes through the woods and ends at a fence. A sign on the fencepost reads: "No Trespassing." The deer has obviously jumped across. **Hop the fence. Go to 10. Find the landowner to ask permission. Go to 11.**

17 Twenty minutes later, an eight-point buck walks into sight. It's a safe shot. You click off the safety and aim: **Right between the deer's eyes. Go to 15. About 6 inches behind the elbow on the buck's front leg. Go to 13.**

19 You find the buck lying in a field. Great job! Bagging a deer takes skill and luck. Today, you had both. **The End**

SUBSCRIBE ONLINE

xplormo.org/node/2618

FREE TO MISSOURI HOUSEHOLDS

WHAT IS IT? FROM PAGE 1



Indigo milky mushrooms are well-named. Their caps, stems, and gills are eye-popping blue, and they ooze a milky liquid that starts off blue but slowly turns green. Milkies tap into tree roots to get food. In return, the milky's rootlike mycelia (*my-sil-ee-ah*) help trees gather water and nutrients. When these edible, blue mushrooms are cooked with yellow eggs and ham it makes — you guessed it — green eggs and ham. Yum!