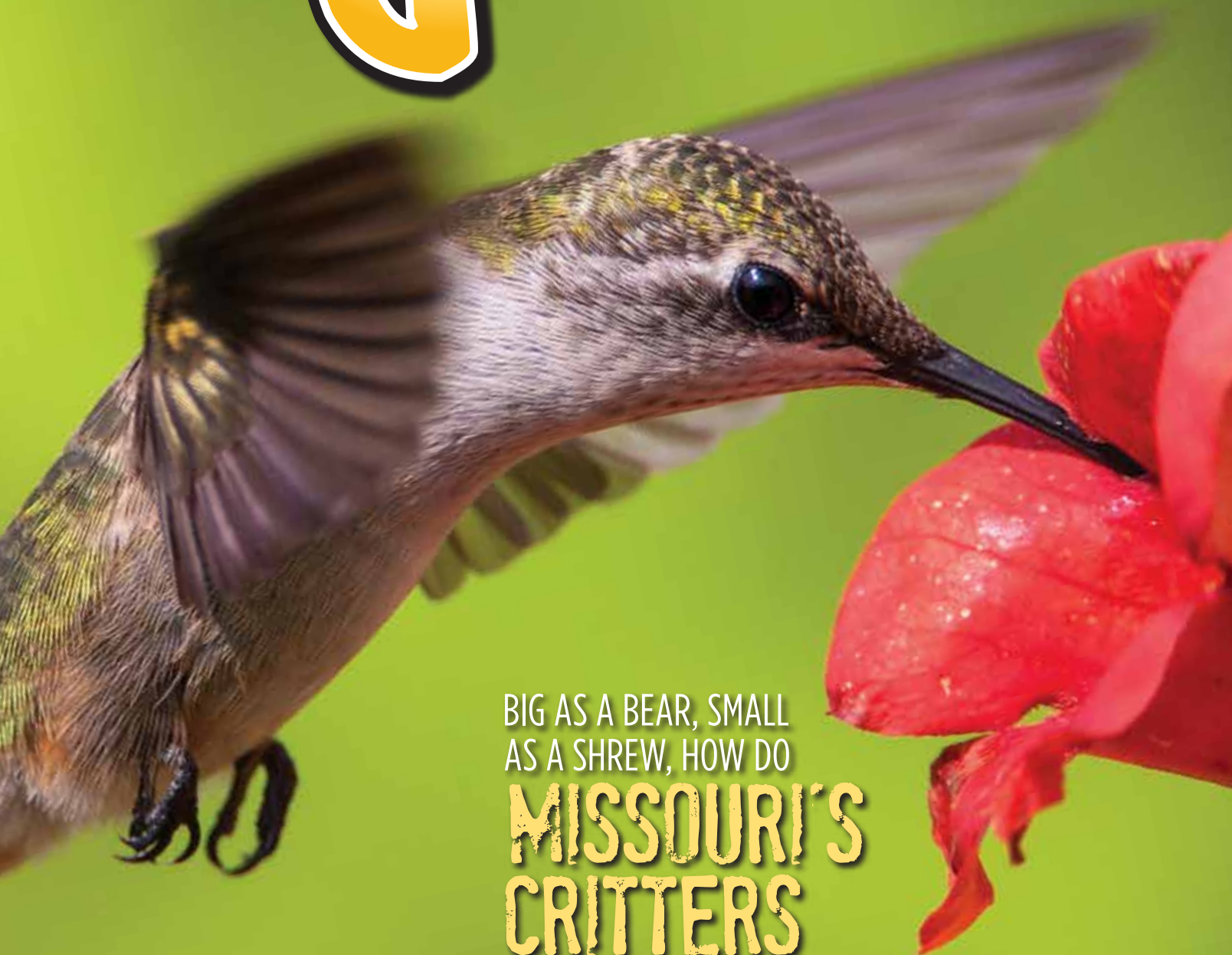


MISSOURI DEPARTMENT OF CONSERVATION



March/April 2016

Xplor



BIG AS A BEAR, SMALL
AS A SHREW, HOW DO

**MISSOURI'S
CRITTERS**

SIZE UP TO YOU?


CONTENTS

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Let's bust some myths about Mother Nature and get straight to the facts.
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A young hunter, a girl with blonde hair, is crouching in a forest. She is wearing a camouflage baseball cap and a camouflage jacket. She is holding a black shotgun with both hands, aiming it towards the left. The background is a dense forest with green leaves and tree trunks.

A young hunter takes careful aim at a turkey gobbler.

by Noppadol Paothong



Xplor

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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, Missouri, 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 © 2016 by the Conservation Commission of the State of Missouri. Vol. 7, No. 2. March/April 2016 issue printed by RR Donnelley in February 2016 in Liberty, Missouri. Printed in the USA.

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.

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ON THE COVER

Ruby-Throated Hummingbird
by Noppadol Paothong

GET OUT!

DON'T MISS THE CHANCE TO DISCOVER NATURE AT THESE FUN EVENTS



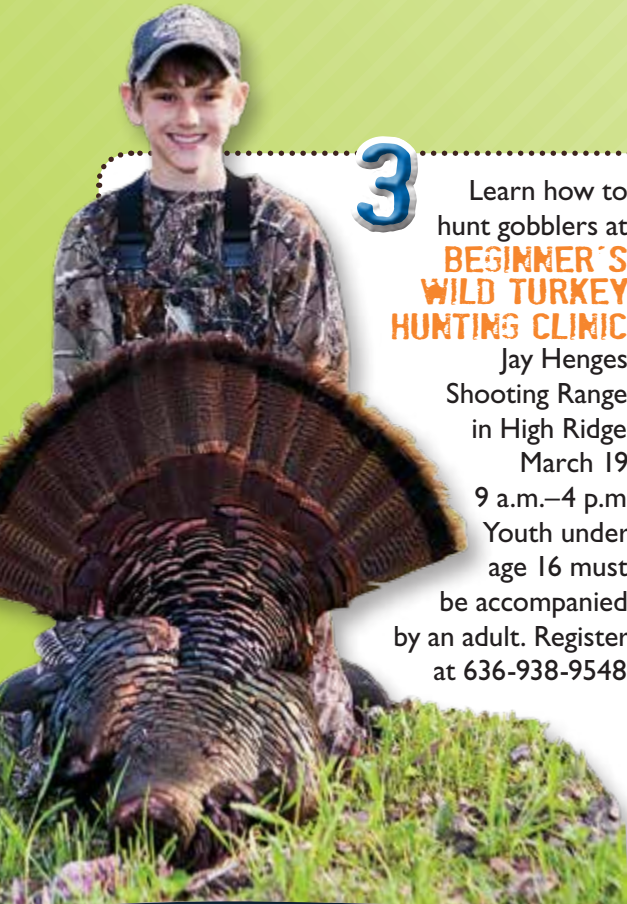
Monarch

1 Do your part to help butterflies thrive at **CONSERVATION KEEPERS: MILKWEED AND MONARCHS**. Northeast Regional Office in Kirksville. March 19, 1–2 p.m. Call 660-785-2420 for information.

2 Arrows fly. Bull's-eye! Shoot a bow at **BEGINNING ARCHERY**. Lake City Range in Buckner. March 5, 9–11:30 a.m. Ages 10–17. Register at 816-249-3194.



3 Learn how to hunt gobblers at **BEGINNER'S WILD TURKEY HUNTING CLINIC**. Jay Henges Shooting Range in High Ridge. March 19, 9 a.m.–4 p.m. Youth under age 16 must be accompanied by an adult. Register at 636-938-9548.



4 Have fun and improve your aim at **YOUTH AIR RIFLE**. August A. Busch Shooting Range and Outdoor Education Center. April 23, 9–11 a.m. Ages 9–15. Youth must be accompanied by an adult. Register at 636-441-4554.



Spotted salamander

5 See what it takes to grow up amphibian at **AMAZING AMPHIBIANS**. Cape Girardeau Conservation Nature Center. April 15, 4–7 p.m. Call 573-290-5218 for information.

With winter almost gone and spring right around the corner, there's plenty to discover outside in March and April. Watch for these natural events around the following dates.

MARCH 17

Purple martins arrive this week.

MARCH 22

Bats are leaving hibernation caves.

MARCH 25

Pileated woodpeckers drum to establish territories.

APRIL 5

White pelicans migrate through Missouri.

APRIL 9

It's time to look for morel mushrooms.

APRIL 11

Ruby-throated hummingbirds arrive.

APRIL 23

Turtles are crossing roads. Watch out!

WHAT IS IT?

DON'T KNOW?

Jump to Page 20 to find out.



- ① I'm always one of the first to celebrate spring.
- ② I've got the wrong kind of bark to be your best friend.
- ③ I'm the Show-Me State's official state _____.
- ④ I like to live in the forest, but I'm branching out.



Into the Wild marsh

Life squishes out of every soggy corner in a marsh. To see it in action, pull on your mud boots and head into the wild.

What Happened Here?

This is the entrance to a crayfish house. Crayfish tunnel down into soggy ground to stay cool and wet. As they dig, the clawful crustaceans use their legs and mouthparts to roll mud into little round blobs. They carry the blobs to the surface and stack them to form a chimney.



Muskrat

LOOK

Scan the shallow waters of a wetland and you'll likely spot 3-foot-tall mounds of mud and vegetation tucked among the cattails. These are muskrat houses. If you watch a mound closely, you may see its furry brown builder swimming nearby.



Dragonfly



Larva



Damselfly

Larva



Mayfly



Larva

Take a Closer Look

Swish a dip net through some murky marsh water and you're likely to find baby dragonflies, damselflies, and mayflies squirming in the mesh when you bring the net up. The young insects, called larva, don't look anything like their parents.

Where to Go

From March to May, Missouri's marshes offer perfect pitstops for thousands of migrating ducks, geese, and shorebirds making their way north. Visit one of these wetlands to witness the migration sensation.

- 1 Fountain Grove Conservation Area
- 2 Eagle Bluffs Conservation Area
- 3 Columbia Bottom Conservation Area
- 4 Four Rivers Conservation Area
- 5 Duck Creek Conservation Area
- 6 Squaw Creek National Wildlife Refuge



Listen

Visit a marsh in March and you'll hear spring in full swing as a chorus of frog love songs overflows each shallow pool.



Spring peeper

Peep, peep, peep
(like the "ping" made by striking the high note on a xylophone)



Chorus frog

Crrreeeeeeep
(similar to the sound made by running your fingernail over the teeth of a comb)



American toad

Brrreeeeeeeee
(a high-pitched, musical, drawn-out trill)

Heads Up!

Mosquitoes love marshes. Keep the bloodsuckers at bay by spraying yourself with insect repellent.



Great blue heron

LOOK

Great blue herons have two ways to catch dinner. Sometimes they wade *sloooooowly* through shallow water, hoping to ambush unwary fish, frogs, and snakes. At other times, they stand motionless and wait for fish to swim within range of their long, flexible necks and dagger-like beaks.

NATURE MYTHS

BUSTED

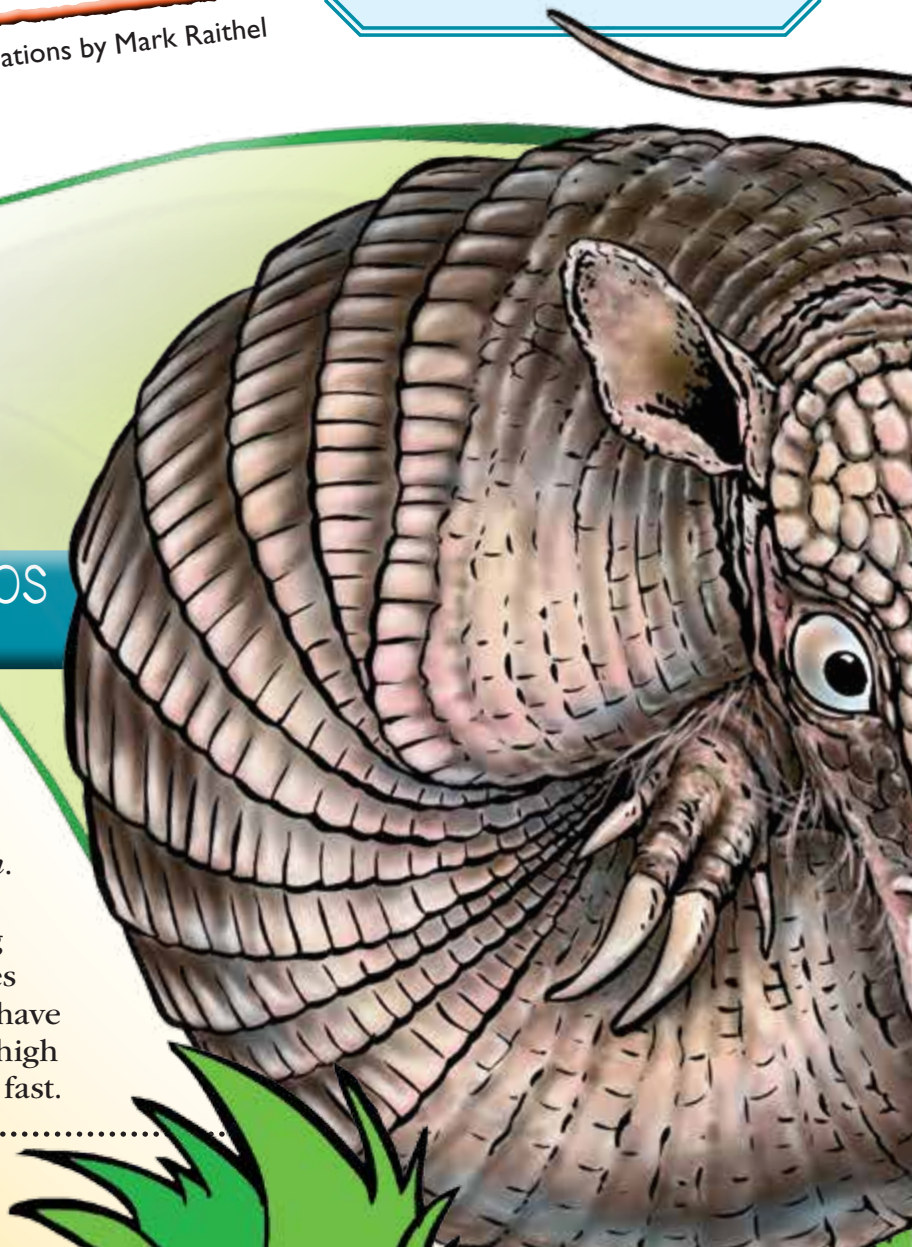
by Brett Dufur | Illustrations by Mark Raithel

April Fools is right around the corner, but that's no reason to get fooled. Let's shed light on some long-lived nature myths. Sometimes an answer can be simple on the surface but more complicated the deeper we dig. Maybe that's how these myths developed. But enough foolin' around, let's get straight to the facts!

MYTH: MISSOURI'S ARMADILLOS CAN ROLL UP INTO A BALL.

MYTH BUSTED.

This myth has a tricky answer. Missouri's nine-banded armadillos *cannot* roll up into a ball. However, other kinds of armadillos in other countries *can*. Those out-of-country armadillos have the unusual ability to roll up into a ball, using their hardened plates to protect themselves like a bowling ball. Missouri's armadillos have other cool tricks, though. They can jump high when frightened and can run surprisingly fast.





MYTH: GROUNDHOGS CAN PREDICT THE END OF WINTER.

MYTH BUSTED.

Are groundhogs our best furry forecasters? No. Supposedly, if they see their shadows on Groundhog Day in early February, we are in for six more weeks of winter. Groundhogs, also called woodchucks and whistle pigs, are among our longest hibernators, settling down as early as October and remaining in their burrows as late as April. No matter what a groundhog may appear to tell us on Groundhog Day, it's a safe bet the groggy weather watcher just wants to go back to sleep.

MYTH: A FROZEN FROG IS A DEAD FROG.

MYTH BUSTED.

Brrr! Some frogs, such as Cope's gray treefrogs and spring peepers, can freeze and survive. But a frog doesn't just turn into a block of ice. The frog's liver releases chemicals that keep cells from drying out and shrinking. Then the frog's heart stops, and the frog appears to be dead. Scientists aren't sure what tells the heart to start beating again once the frog thaws out. A frog can survive all winter like this, freezing then thawing out. But if it gets too cold for too long, it'll croak.





MYTH: BIRDS CAN'T SMELL.

MYTH BUSTED.

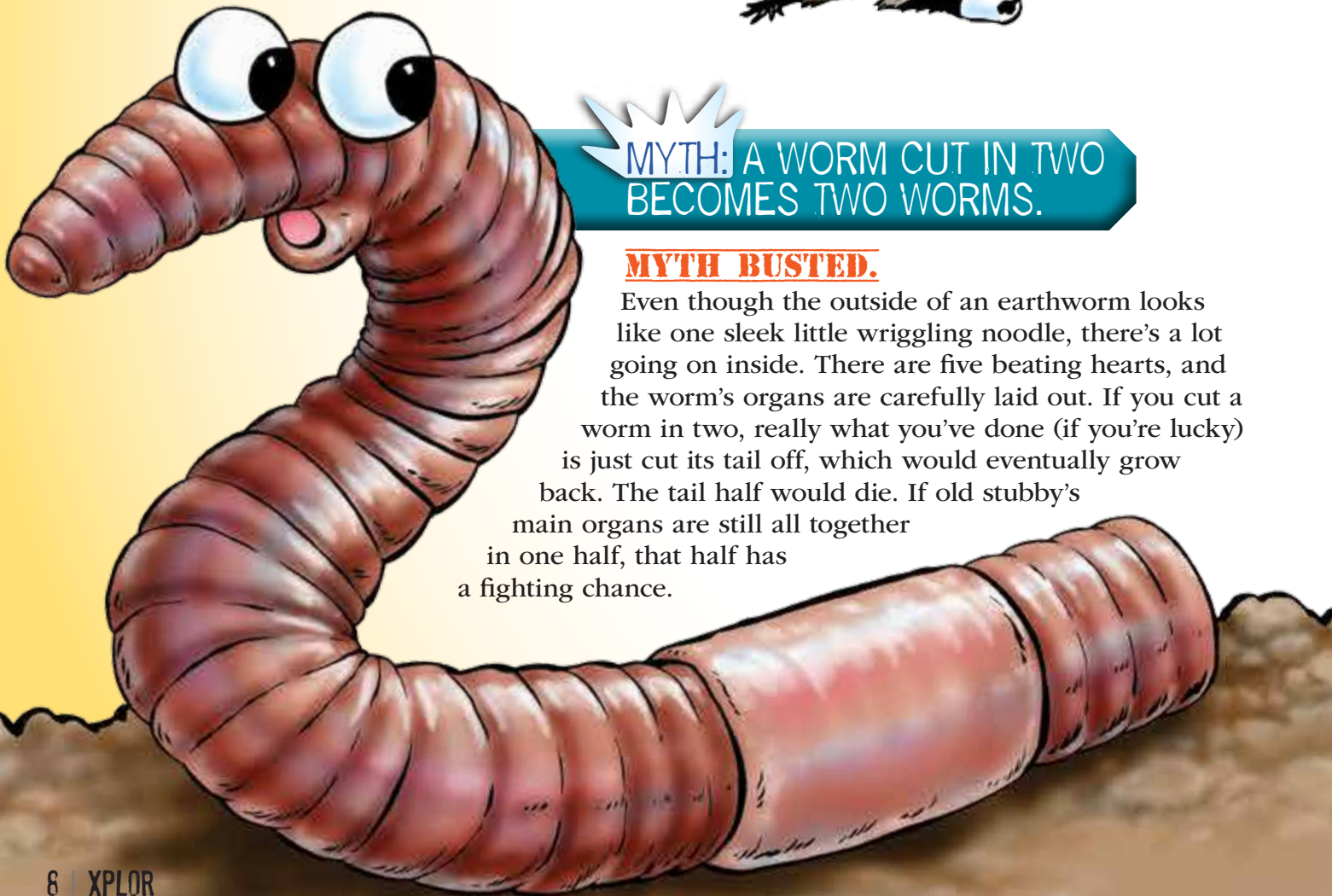
Birds *can* smell, although even the experts can't agree how well they smell, despite more than a 100 years of research and debate. Since food odors quickly blow away, most birds probably don't have well-developed noses, even though they do have the glands to process smells. However, scientists have studied the turkey vulture's ability to smell dead meat (wow, sounds like fun), and they say that without a doubt vultures can smell great, although *what* they smell probably smells *awful!*



MYTH: A WORM CUT IN TWO BECOMES TWO WORMS.

MYTH BUSTED.

Even though the outside of an earthworm looks like one sleek little wriggling noodle, there's a lot going on inside. There are five beating hearts, and the worm's organs are carefully laid out. If you cut a worm in two, really what you've done (if you're lucky) is just cut its tail off, which would eventually grow back. The tail half would die. If old stubby's main organs are still all together in one half, that half has a fighting chance.





MYTH: MOSS ONLY GROWS ON THE NORTH SIDE OF TREES.

MYTH BUSTED.

Lost? Don't follow the moss. Generally, the north side of a tree gets less sunlight and tends to be cooler and damp — the perfect place for moss to grow. But don't expect moss to help you find True North. Lots of things can create shady conditions that moss likes, so don't ditch your compass just yet!

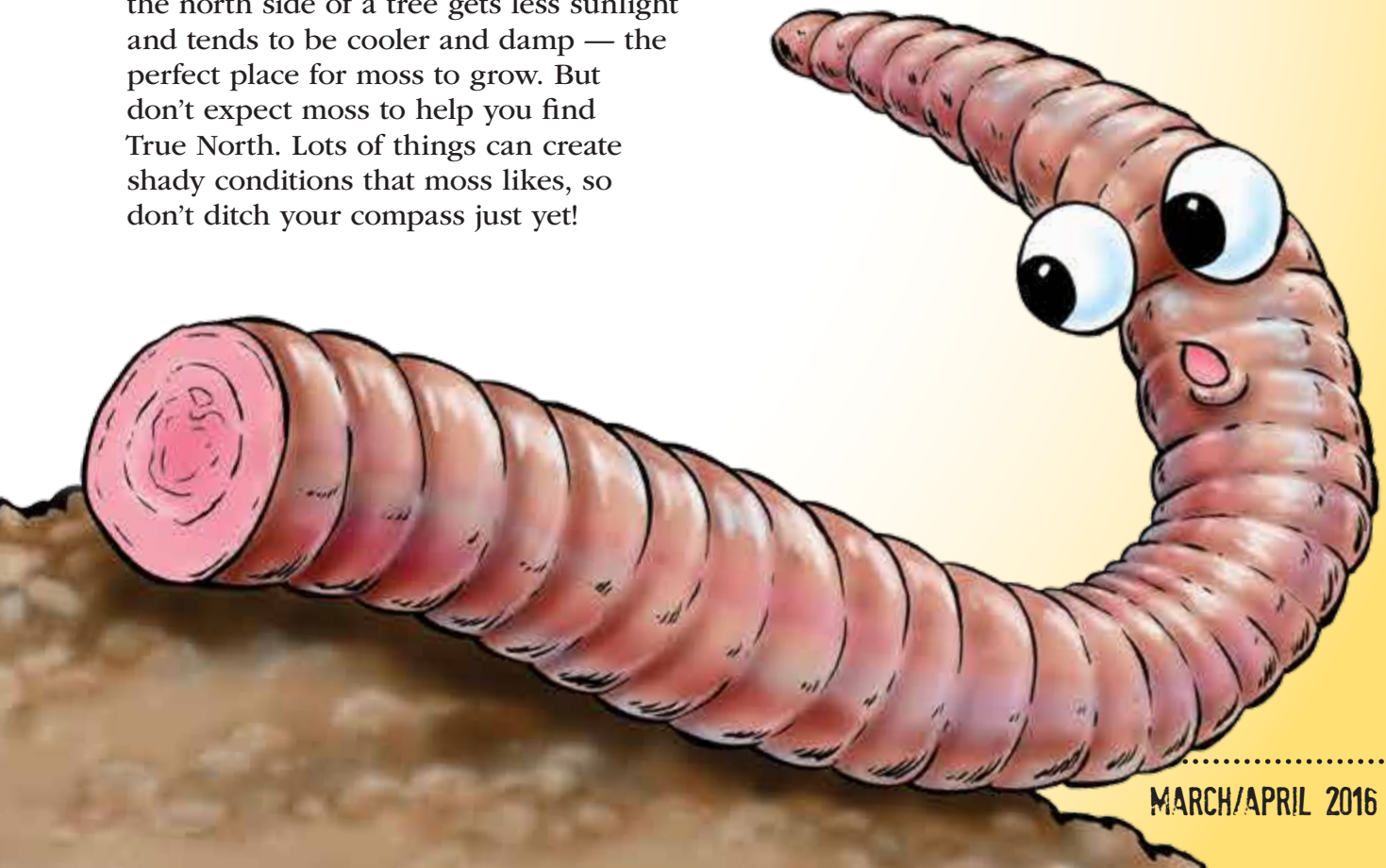


Eastern American toad

MYTH: HOLDING A TOAD GIVES YOU WARTS.

MYTH BUSTED.

Holding a toad doesn't give you warts. Warts on people are actually caused by a human virus. A toad's bumpy skin helps camouflage it. The wartlike bumps behind a toad's ears can be mildly dangerous. The bumps release a nasty substance that irritates the mouths of some predators and sometimes human skin.



LIFE SIZE

by Matt Seek

From burly bears to tiny birds, Missouri's critters come in a variety of shapes and sizes.

The animals here are shown life size.

How do you stack up?

Northern Saw-Whet Owl

Hardly bigger than a soda can, these itty-bitty owls are Missouri's smallest bird of prey. They visit the Show-Me State in winter to feast on forest mice and voles. Although a deer mouse is barely a snack for a bigger owl, it makes two meals for a tiny saw-whet.



Bald Eagle

Eagles are known for being eagle-eyed. Evidence suggests that Missouri's largest bird of prey can spot a rabbit 2 miles away. An eagle's excellent vision has a lot to do with the size of its eyes. Although the bird's head is smaller than yours, its peepers are about the same size as your eyes.





Short-Tailed Shrew

Barely as big as a glue stick, short-tailed shrews possess venomous saliva, ninja-like speed, and oversized attitudes. Although they eat mainly insects and earthworms, the pint-sized predators aren't afraid to tangle with larger animals such as mice and snakes.

Black Bear

Black bears use their furry, burly, claw-tipped paws to rip open rotten logs so they can slurp up the yummy bugs hiding inside. Claws also come in handy (or paw-y) for gripping bark when the bear wants to shimmy up a tree squirrel-style. And bears use their claws to scratch up tree trunks to let other bears know where they've been.

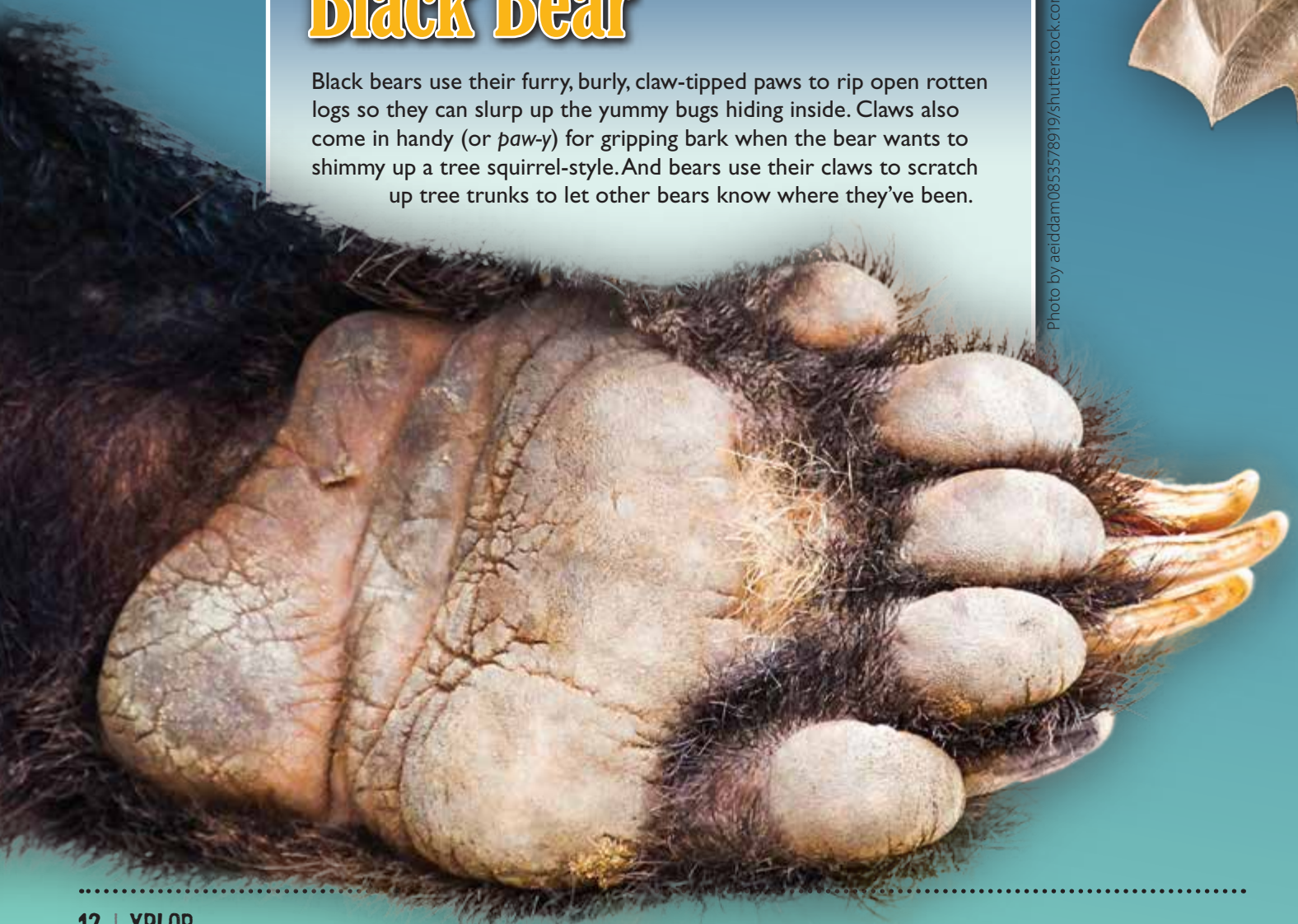


Photo by aeiddam0853578919/shutterstock.com

Flat-Headed Snake

At first glance, you might mistake this snake for an earthworm. The Show-Me State's smallest serpent rarely grows more than 8 inches long. It lives throughout the southern half of Missouri, hiding in burrows on wooded, south-facing hillsides.



Photo by Gary Meszaros/Visuals Unlimited, Inc.

Little Brown Bat

When hunting, a bat bags bugs in its wings then passes the morsels to its mouth for an in-flight snack. The wings are made of skin stretched between the bones of a bat's arms and its freaky-long fingers. Although this little brown bat is much smaller than you, its 3-inch-long digits are about as long as your fingers.



Photo by © Michael Durham/Minden Pictures

Missouri Tarantula

They're big. They're hairy. But, are they really scary? Missouri's largest spider looks ferocious, but it's actually quite shy and spends most of its time hiding in burrows. When threatened, tarantulas sling arrow-sharp hairs off their bellies at attackers. The barbed bristles pepper a predator's skin and eyes, giving the spider time to scurry away.





Ozark Hellbender

During the day, these super-sized salamanders hide under rocks in cold Ozark streams. At night, they slink slowly along the stream bottom, looking for crayfish to gobble. Their wrinkly skin helps them blend in, and it also helps them breathe. The wrinkles wave in the current, allowing blood vessels at the skin's surface to absorb oxygen from the water. Once common, hellbenders are quickly disappearing from Ozark streams, and biologists are trying to learn why.



Cecropia Moth

Missouri's largest moth is bigger than some songbirds. But size doesn't make this mega moth any less edible than its smaller cousins. To keep from becoming bird food, cecropias have a sneaky trick. Spots on their wings look like the glaring eyes of a snake. When a cecropia unfolds its flappers, the eyespots show, startling would-be predators and giving the moth time to flutter away.

Photo by Donna Brunet

Ruby-Throated Hummingbird

Missouri's smallest bird flaps its wings at blinding speeds — about 50 to 70 times each second. To keep their wings revved up, hummingbirds eat two to 14 times their weight in insects and nectar every day. An average-sized 10-year-old would need to drink 160 to 1,100 cans of soda a day to keep up with this teeny-tiny bird. What a sugar rush!



THIS
ISSUE:

WILD TURKEY VS BOBCAT

Illustrated by David Besenger

Claws for Alarm

Bobcats keep their claws tucked into their paws to keep them razor sharp. When the cat pounces, it unsheathes its terrible toenails and hooks them into prey.

Super Senses

Turkeys have amazing eyesight and see in color. A wide range of vision allows them to detect any movement. Turkeys have great hearing, too, even though they don't have outer ears.

Patient Predator

Timing is everything for the bobcat, nature's silent stalker. It closes the distance on prey before pouncing — the key to a successful ambush.

Fly Like an Eagle

The wild turkey can fly as fast as 55 miles per hour — about as fast as a car on the highway. They can run at an unbelievable 25 miles per hour.

AND THE WINNER IS...

The stealthy bobcat pounced, but only snagged a few feathers. Gobbles are hard to catch and make up only a small portion of a bobcat's diet, which is mostly rabbits and mice.

STRANGE but TRUE!

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



To get a girlfriend, **AMERICAN WOODCOCKS** spiral hundreds of feet up in the sky and then dive straight down. Moments before they go splat, the chubby daredevils pull up and land gracefully at nearly the same spot where they took off.



GREAT BLUE HERONS

like to raise their families close to other herons. This behavior leads to nest neighborhoods, called rookeries, that can contain 500 or more nests at a single site and dozens of nests crammed into individual trees.

Baby **RIVER OTTERS** can't swim. So when they're about 12 weeks old, mama otters start swimming lessons. The pups aren't enthusiastic students — most are scared of water — so mom often has to drag them in to teach them how to float, paddle, and dive.



GLASS LIZARDS

slither, but make no mistake, they aren't snakes. The legless lizards have eyelids and ear holes, two features snakes lack. And when attacked, a glass lizard can shed its long tail, a freaky feat no snake could pull off.



EASTERN WHIP-POOR-WILLS are hard to see but easy to hear. On moonlit nights during mating season, the camouflaged, big-mouthed birds belt out their name — *whip-poor-will* — 60 times a minute.

Some may call more than 1,000 times without stopping.



The feathered world is full of master builders, birds such as orioles who weave elaborate hanging nests. Then there are **MOURNING DOVES**, who often nest atop nothing more than a few flimsy twigs balanced carelessly in the fork of a branch.

ALLIGATOR GAR are the battleships of the fish world. They're freakishly large, and they're covered in armor-like scales. The scales, which are made of a substance similar to tooth enamel, are so hard and sharp, Native Americans used them for arrowheads.



HOW TO

Dye Some Wild-Colored Eggs

Missouri's wild birds lay eggs of nearly every color and pattern. Here's how to dye chicken eggs to look like the ones laid by crows, cardinals, and robins.

HERE'S WHAT YOU NEED

- White chicken eggs
- Newspapers
- Three coffee mugs
- Measuring cup
- Tablespoon
- White vinegar
- Kitchen tongs
- Red, yellow, blue, and green food coloring gel
- Two small plates
- Old toothbrush
- Paper towels

HERE'S HOW YOU PREPARE

1 Hard boil the eggs and let them cool to room temperature. While the eggs are cooling, cover your work surface with old newspapers.

2 Pour 1 cup of water into each coffee mug. Stir 1 tablespoon of white vinegar into each cup of water.

3 Follow the recipes on the next page to make each kind of egg.

Actual wild eggs



AMERICAN CROW

Base Coat

- 5 parts yellow gel
- 2 parts blue gel
- 1 part red gel

Stir the gel into the water and vinegar until it's completely dissolved (it helps if the water is hot).

Soak the egg for 45 seconds.

Spots

- 4 parts red gel
- 3 parts yellow gel
- 1 part blue gel

Mix the gel together on a small plate. Add a little water to make the mixture soupy.

Dab a toothbrush in the paint, and run your thumb over the bristles to sling paint spatters onto the egg.



NORTHERN CARDINAL

Base Coat

- 6 parts red gel
- 2 parts yellow gel
- 1 part blue gel

Stir the gel into the water and vinegar until it's completely dissolved (it helps if the water is hot).

Soak the egg for 45 seconds.

Spots

- 1 part blue gel
- 1 part red gel

Mix the gel together on a small plate. Add a little water to make the mixture soupy.

Dab a toothbrush in the paint, and run your thumb over the bristles to sling paint spatters onto the egg.



AMERICAN ROBIN

Base Coat

- 6 parts blue gel
- 1 part green gel

Stir the gel into the water and vinegar until it's completely dissolved (it helps if the water is hot).

Soak the egg for 3 minutes.

TIP Use pea-sized amounts of food coloring gel. For example, if the base coat recipe says to use six parts blue and one part green, add six pea-sized squirts of blue gel and one pea-sized squirt of green gel to the water and vinegar mixture.

TIP Approximate soaking times are provided, but check the eggs every 30 seconds and pull them out of the dye when they reach the right color.

Use kitchen tongs to pull eggs out of the dye and place them on clean paper towels to dry. Don't add spots to the eggs until the base coat dries completely.

Dyed chicken eggs



XPLOR MOR

MARSH MUDDLE

For many a wetland bird, finding food has a lot to do with the length of its legs. Short-legged birds must hunt for worms and insects in the oozy mud and shallow water along the shoreline. Leggy birds can wade in deeper to spear fish or pluck insects from the surface. And birds who float, such as ducks, don't worry too much about water depth.



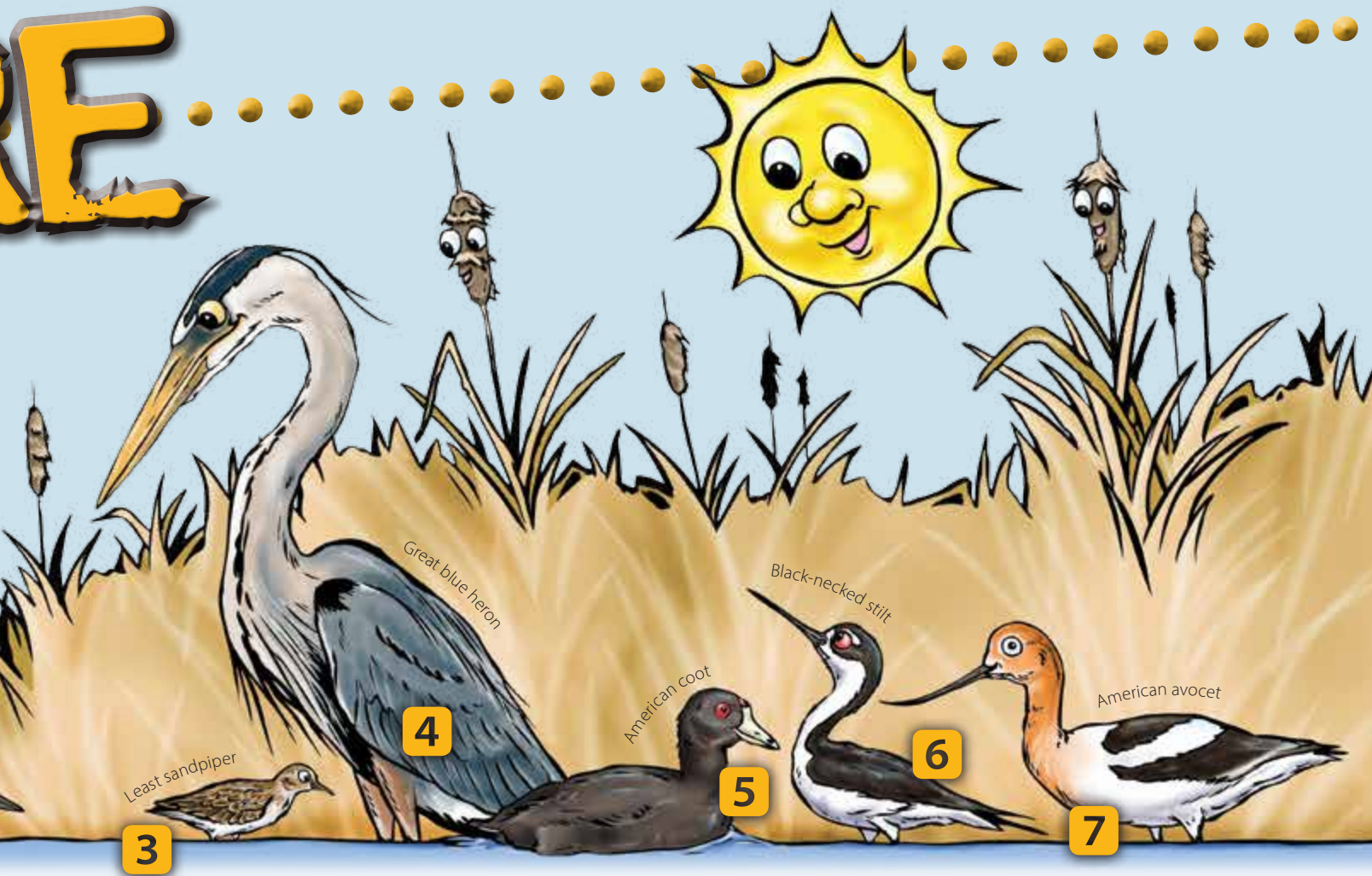
The legs of these birds have become all muddled up. Can you help the feathered foragers find their proper foot gear? Draw a line from each bird to the feet it should be attached to.

WHAT IS IT? — FROM PAGE 3 —

Known for its dazzling display of white blooms in early spring, the flowering dogwood is also Missouri's official state tree. It can be seen in open forests and yards throughout the state. The flowering dogwood's dark red berries feed squirrels, white-tailed deer, wild turkeys, and about 30 other types of birds.



E



Least sandpiper

3

Great blue heron

4

American coot

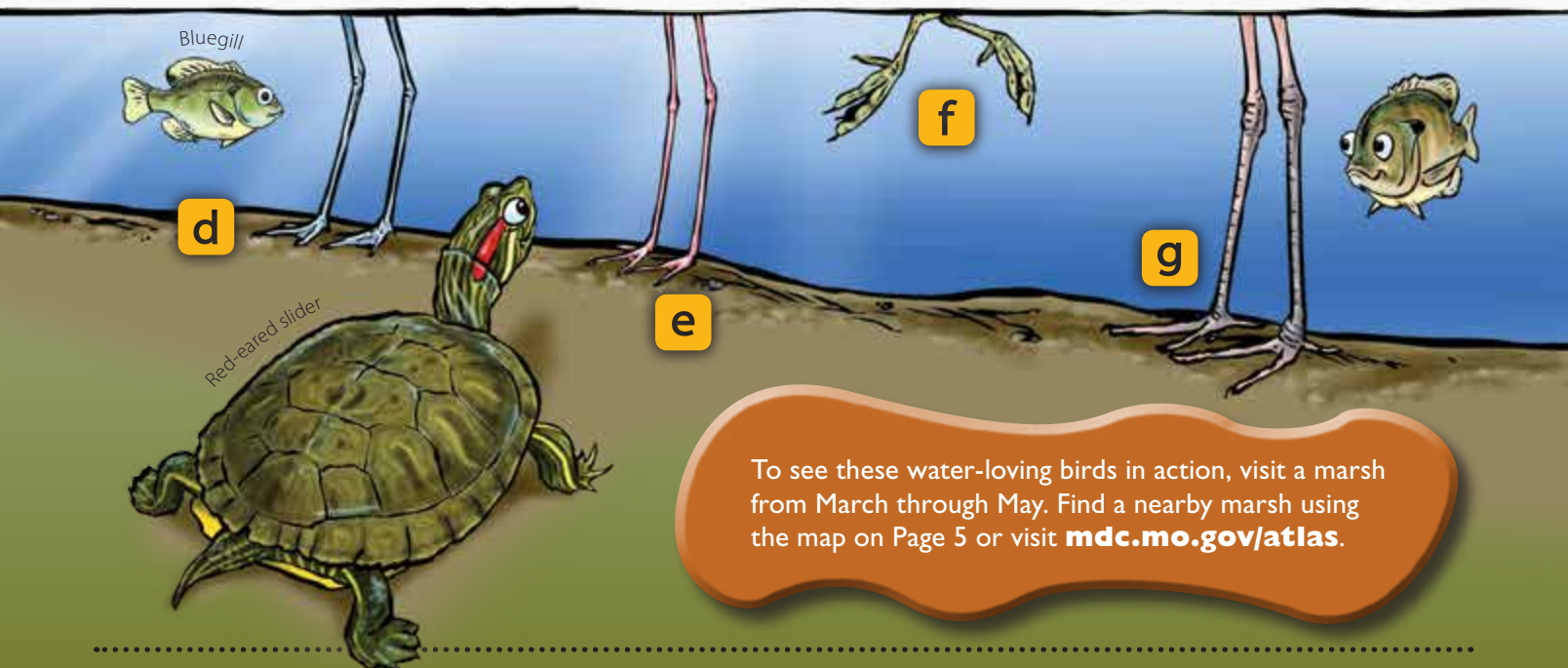
5

Black-necked stilt

6

American avocet

7



Bluegill

d

Red-eared slider

e

f

g

To see these water-loving birds in action, visit a marsh from March through May. Find a nearby marsh using the map on Page 5 or visit mdc.mo.gov/atlas.

SUBSCRIBE ONLINE

xplormo.org/node/2618

FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

Eastern Cottontail Rabbits



Hoppy spring! As spring gets green, watch for baby rabbits nested up or out grazing and playing. You might even see a *hippety-hoppety* cottontail doing a “binky” — jumping high in the air while twisting and spinning around. If you find a baby rabbit tucked away in the brush, leave it there. Mama rabbit is probably feeding nearby.