



MAY/JUNE 2023

# Explorer



## A LITTLE DIRT DOESN'T HURT

MOLES AND OTHER CRITTERS EAT  
GRIMY GRUB UNDERGROUND

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*Pull out this poster* and tape it to your wall to make your room look wild.

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Great spangled fritillaries sip nectar from a milkweed flower. In addition to flowers, these butterflies get nutrients from some not-so-pretty places like mud puddles, dead animals, and poop.

📷 by Noppadol Paothong



# Xplor

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**You can, too! Share**  
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## ON THE COVER

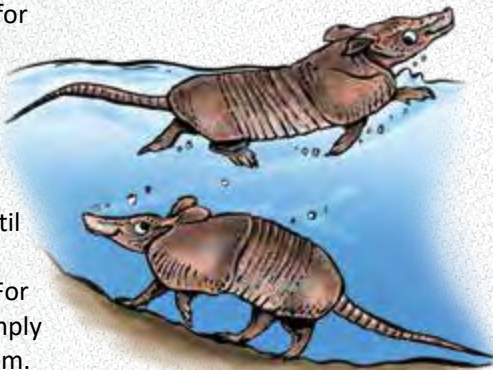
Eastern Mole

by Jim Rathert

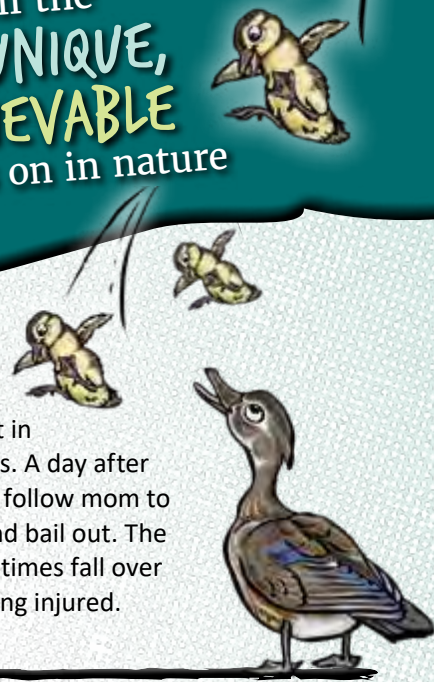
# STRANGE BUT TRUE

Your guide to all the  
**UNUSUAL, UNIQUE,  
AND UNBELIEVABLE**  
stuff that goes on in nature

Although it's perfect for predator protection, a **NINE-BANDED ARMADILLO**'s armor is heavy. To cross wide rivers, an armadillo gulps air until its stomach inflates, then it floats across. For narrow streams, it simply walks along the bottom.



Wahoo! Mama **WOOD DUCKS** nest in holes high up in trees. A day after hatching, the babies follow mom to the entrance hole and bail out. The little fluff balls sometimes fall over 200 feet without being injured.

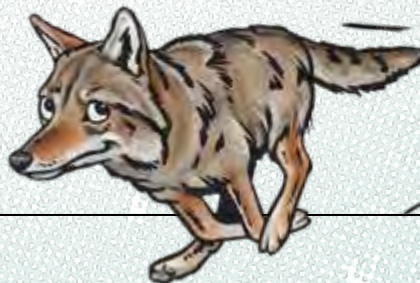


**THREE-TOED BOX TURTLES** are Missouri's longest living reptiles. Many reach their 60th birthday, and a few may live 100 years or longer.

**STRIPED SKUNKS** can spray at birth, but the blind, helpless babies have little control over where their funk flies. By the time they're 3 months old, the little stinkers can aim accurately and fire at will.



**COYOTES** are Missouri's fastest land animal. The caggy canines can zip across grasslands at a blistering 43 miles per hour. Humans are at the back of the pack, reaching speeds of only 27 miles per hour.



Nest fest: If a **YELLOW WARBLER** finds a cowbird egg in its nest, does it kick the egg out? Nope. It simply builds a new nest atop the unwanted egg. If cowbirds keep coming back, this can result in a stack of up to six nests.



When a predator grabs a **FIVE-LINED SKINK** by the tail, the little lizard leaves its behind behind. By flexing special muscles, the skink snaps off its tail and squeezes blood vessels shut. As the detached tail twitches, the skink slinks to safety.



# WHAT IS IT?

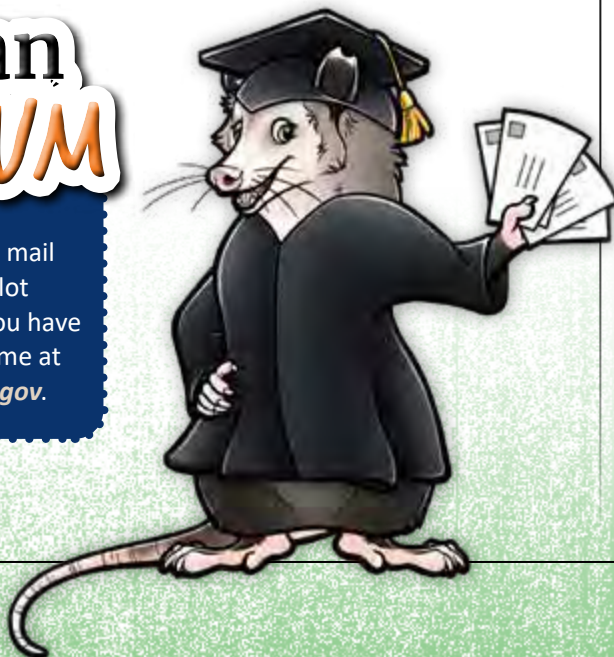
DON'T KNOW? Jump to page 21 to find out.

- 1 I spend my days on rocky glades.
- 2 Soaking up sun or hiding in shade.
- 3 Colorful scales I've got in spades.
- 4 I run real fast when I'm afraid.



## Ask an OPOSSUM

Hi! I'm Phi, *Xplor's* mail possum. I know a lot about nature. If you have a question, email me at [AskPhi@mdc.mo.gov](mailto:AskPhi@mdc.mo.gov).



**Q:** Why does poison ivy make you itchy?  
— From Grayson, age 7

**A:** Poison ivy is covered with invisible sap. Touch it, and the sap sticks to your skin. Your immune system defends your body from harmful things like germs. But sometimes it goes overboard. With poison ivy sap, it reacts by forming a red, itchy rash. Not everyone's body acts this way. About three out of ten people — and ten out of ten possums — could roll around in poison ivy and not feel itchy at all. I wouldn't try it, though!

# HOW TO PREVENT TICK BITES

**D**on't let fear of ticks keep you indoors. Follow a few simple steps to keep the tiny bloodsuckers at bay.



Although ticks can turn up whenever it's warm, they're most active in Missouri from April through September. They live in grassy, brushy, and wooded areas, so they're often encountered when you're hiking, camping, fishing, or hunting. You might even find ticks in your own backyard.



## DRESS TO SUPPRESS

Wear pants — even in summer — to prevent ticks from easily reaching your skin. Tuck your pants into your socks to make it even harder on the bloodsuckers. Light-colored clothing makes it easier to spot a tick crawling up your arm or leg.

## WEAR REPELLENT

Spray your skin and clothing with insect repellent. If you're outside often, ask a grown-up to treat your clothing with permethrin, a strong but safe-for-humans pesticide. Be sure to carefully follow the instructions on the permethrin label.



## TREAT WITH HEAT

As soon as you return indoors, strip down and put your outdoor clothes in the dryer. Run it on high heat for at least 10 minutes to kill ticks that might be clinging to your clothing.



### CHECK 1, 2, 3

After showering, carefully check your body for ticks. Though they can attach nearly anywhere, they're often found on your head, around your waist, under your arms, and between your legs. Have a trusted grown-up help you check the places on your body that are hard to see. Look carefully! Some ticks are itty-bitty.

### UNSTICK A TICK

If you find a tick stuck to your skin, don't freak out! Use clean, fine-tipped tweezers to grab the tick as close to your skin as possible. Pull out the tick with steady, even pressure — don't jerk it out! Flush the tick down the toilet then wash the bite site with soap and hot water.



### IF YOU FEEL ILL

Ticks can carry harmful diseases. If you run a fever, feel like you have the flu, or develop a rash within several weeks of removing a tick from your skin, let a grown-up know so they can take you to a doctor.





# Dinner from the DIRT

artwork by David Besenger

Some creatures dine where the sun doesn't shine. Here's what's on the menu.

## Soiled Spaghetti

An American robin hops quickly across the grass, stopping often to cock its head to look and listen. When it spies an earthworm at the surface, a tug of war begins! If the worm loses, it becomes the bird's breakfast. Though the robin usually wins, it's not entirely a one-sided fight. Stiff hairs, called setae (*see-tee*), circle each segment of the worm's wiggly body. The bristles anchor the earth-eater in place, making it tough to tug it out of the ground.



An illustration of an eastern mole in a dark, earthy tunnel. The mole is shown from a top-down perspective, with its large, pinkish, clawed front paws extended. It is holding a large, segmented, greyish-brown May beetle grub in its mouth. The mole's body is covered in grey fur, and its snout is visible. The tunnel walls are made of dark brown soil, and some green grass is visible at the top left corner.

## Grimy Grub


An eastern mole couldn't see dirt if it were buried in it. The tiny tunneler's eyes are sealed shut and covered with fur. But who needs sight when you're always in the dark? Instead, a mole uses its oversized front paws to claw through the earth with a swimming motion. While it digs, its pointy snout wiggles about, sniffing and feeling for food. Creepy-crawlies that cross its path — like this May beetle grub — soon become snacks.

An illustration of a flat-headed snake in a dark, earthy tunnel. The snake is shown from a side profile, with its head open and its mouth wide. It is holding a large, multi-legged, reddish-brown centipede in its mouth. The snake's body is covered in brown, scaly scales, and its head is flat and broad. The centipede has many pairs of legs and a segmented body. The tunnel walls are made of dark brown soil.

## Lots o' Legs


*Crunch!* A flat-headed snake takes a bite out of a giant red-headed centipede. Missouri's smallest snake rarely grows longer than 8 inches. It lives on sunny glades in the Ozarks, hunting under rocks and in loose soil for scorpions, spiders, and centipedes. This particular snake, however, may have bitten off more than it can chew! Red-headed centipedes have big fangs and strong venom, which they use to capture insects, baby mice, and *small snakes*. This snake better eat quickly!

## Lunch on the Run



This white-footed mouse better run faster! There's a hungry weasel hot on its tail. Barely bigger than a bratwurst, a least weasel is the world's smallest meat-munching mammal. But don't let its tiny size fool you. Ounce for ounce, it bites harder than any of Missouri's other furry critters. The pint-sized predator's skinny body is perfectly shaped for pursuing prey in tight spaces. It can even squeeze through holes less than 1 inch wide.

## Slithery Snack



When threatened, a prairie ring-necked snake curls its tail into a corkscrew and shows off its reddish-orange underside. The bright tail is a decoy, used to lure predators away from the snake's helpless head. But the trick probably won't work on a hungry short-tailed shrew. About as long as your pinkie, this tiny mammal produces venomous spit that paralyzes small prey like insects and slows the heart of larger victims like small snakes.

## Poached Eggs

A few hours ago, a sizable snapping turtle crawled out of its mucky marsh, lumbered across the land, and dug a hole. Inside, the mama turtle laid several dozen leathery eggs. But the scent of disturbed dirt has given away her buried treasure. A masked bandit followed its nose to the nest and is now enjoying an *eggcellent* feast. Raccoons, skunks, and other egg-eaters can be a huge problem for turtles. In some areas, they gobble up eight out of ten nests.



ILLUSTRATION BY BILLY BISHOP © 2023

# LEAST TERN

## PROTECTIVE PARENTS

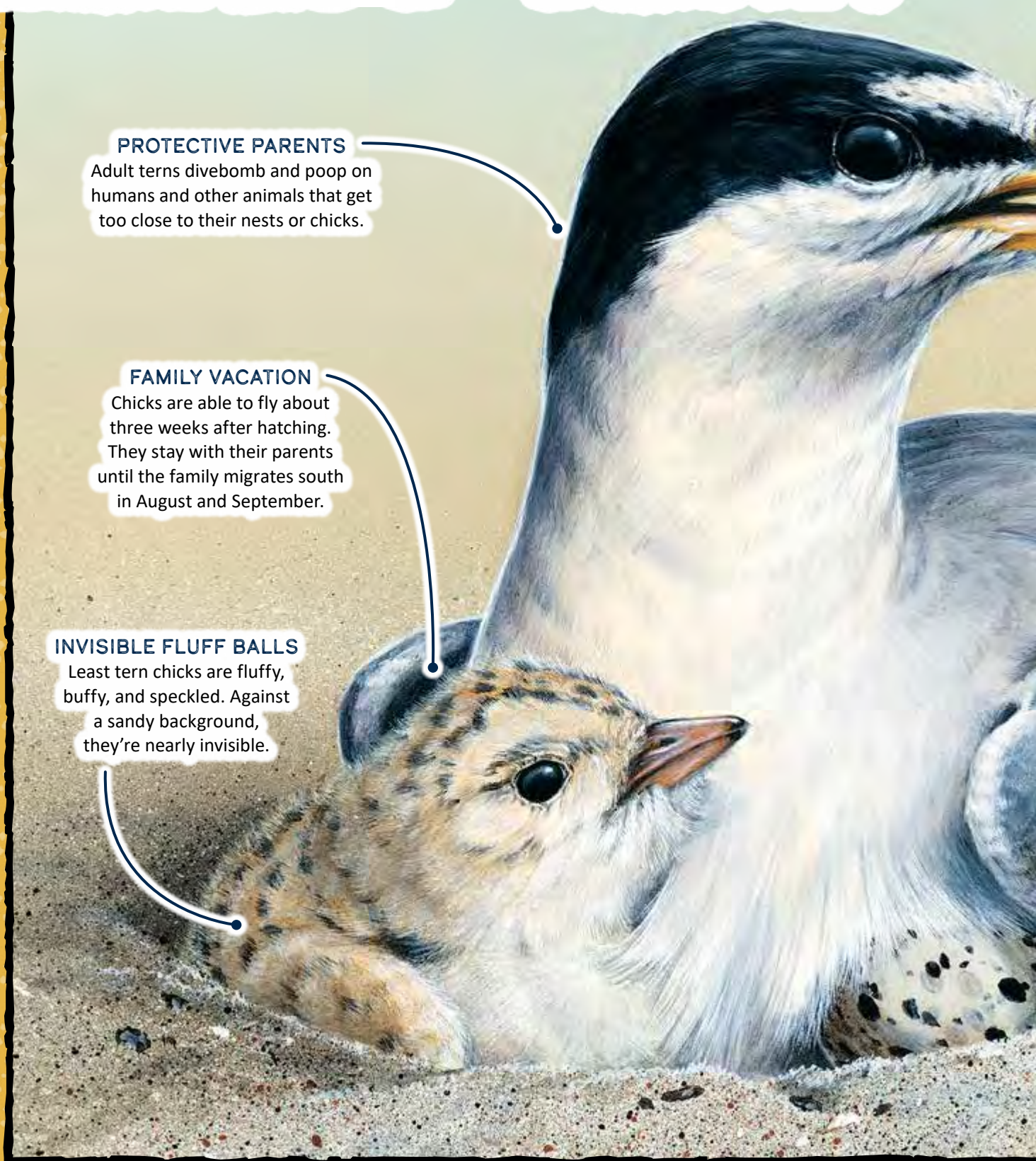
Adult terns divebomb and poop on humans and other animals that get too close to their nests or chicks.

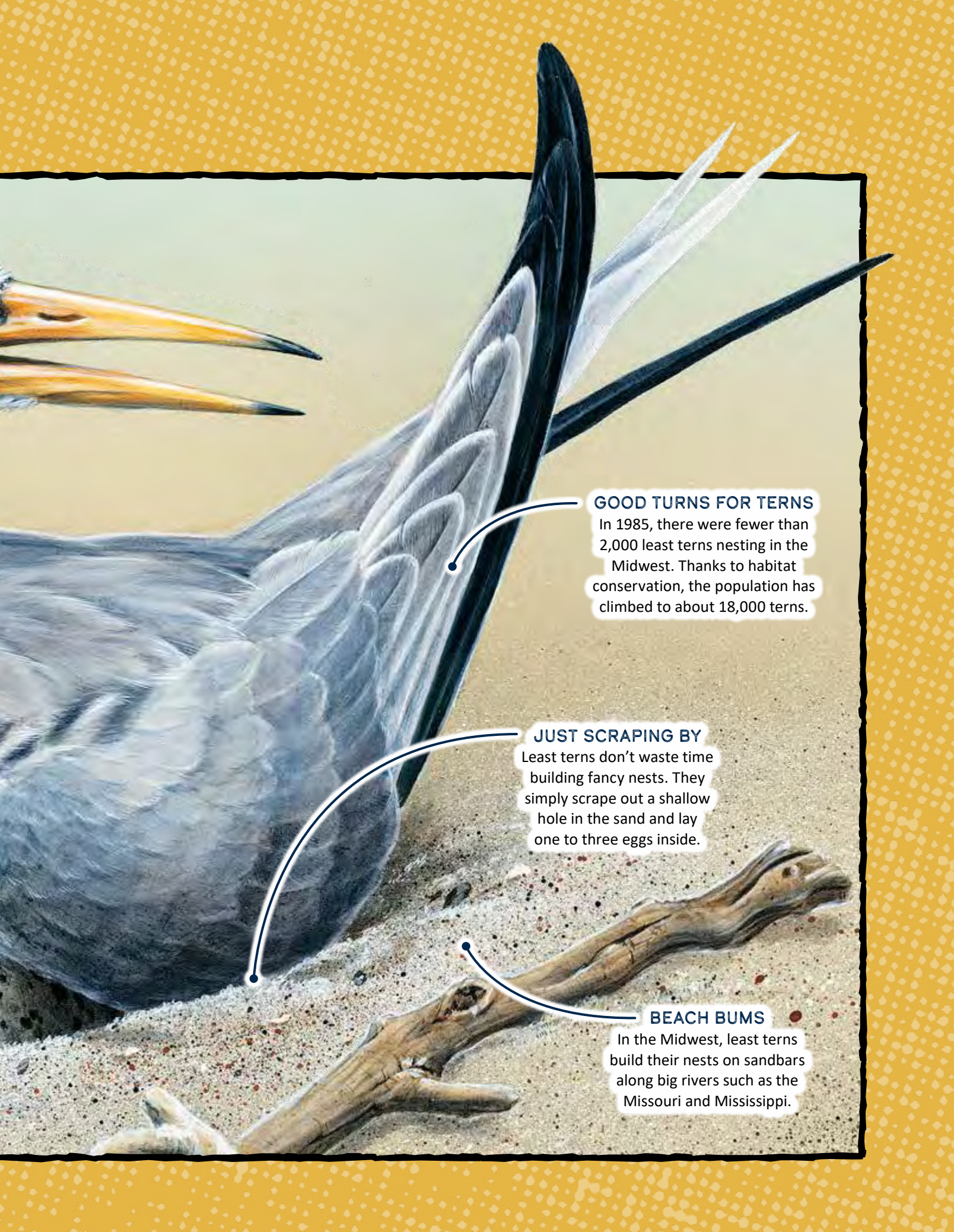
## FAMILY VACATION

Chicks are able to fly about three weeks after hatching. They stay with their parents until the family migrates south in August and September.

## INVISIBLE FLUFF BALLS

Least tern chicks are fluffy, buffy, and speckled. Against a sandy background, they're nearly invisible.





**GOOD TURNS FOR TERNS**

In 1985, there were fewer than 2,000 least terns nesting in the Midwest. Thanks to habitat conservation, the population has climbed to about 18,000 terns.

**JUST SCRAPING BY**

Least terns don't waste time building fancy nests. They simply scrape out a shallow hole in the sand and lay one to three eggs inside.

**BEACH BUMS**

In the Midwest, least terns build their nests on sandbars along big rivers such as the Missouri and Mississippi.

# POSTCARDS FROM A Wandering Warbler



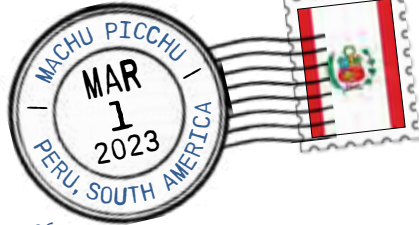
© LEV FRID | SHUTTERSTOCK.COM

*¡Hola!*  
My name's Azul.  
I'm a cerulean warbler.  
Don't be fooled by my small size  
and fabulous feathers. I might  
look cute, but I'm a daring  
adventurer!

SOUTH  
AMERICA

Home tweet home!  
When it's winter in  
Missouri, I live in Peru,  
a warm, sunny country  
in South America. Cloud-  
cloaked forests on the slopes  
of the Andes Mountains offer  
tons of bees, beetles, and other  
bugs for me to eat. My particular  
patch of paradise is just a short  
flight from the ancient Inca  
fortress of Machu Picchu.

Azul   

EDDIE WISZKA ON UN SPLASH

Forests here are under threat. Each year, an area the size of 300,000 football fields is cleared for mining and farming. But some farmers don't want their forests cut down. They've learned to grow a high-dollar crop — coffee — underneath the towering trees. That's good for them and for birds like me!

Azul   
Azul 



© MORLEY READ / ALAMY STOCK PHOTO

Like most adventurers, I can't stand to stay in one place for long. Every spring, I point my beak north, flap my blue wings, and leave my lush forest behind. It's a great spot to spend winter, but there are better places to raise a family. I fly at night — it's safer that way — and stop every day at dawn to rest my weary wings.

Azul   
Azul 



© STREETFLASH | SHUTTERSTOCK.COM

# CENTRAL AMERICA

Each night, I make it about 100 miles farther north. When the sky's lit with stars and the wind's at my tail, I put more miles behind me. But when head winds blow me backward or thunderstorms rumble, I don't get as far. Speaking of rumbling ... This mountain is actually a sleeping volcano. I hope it doesn't blow its lid while I'm overhead!



RIKIN KATYAL ON UNSPLASH

Azul



Who needs a map? Not this bold bird! The sun, stars, and Earth's magnetic field are all I need to find my way.

© MICHAEL TRUCHON | DREAMSTIME.COM

## Azul's Adventure

Cerulean warblers travel more than 8,000 miles round-trip between Missouri and South America. We know where they go because biologists have put tiny, high-tech backpacks on some of them to track their locations.





Danger lurks behind every branch. When you move around as much as I do, you're bound to run into a few critters who'd like to make you their meal. Yesterday, for example, I was scared quite a lot by a hungry ocelot. And today, while I was bathing in a jungle stream, a jaguar crept so close I could feel its breath. Yikes!



Azul 

Nom, nom, nom. So much to eat, so little time. I've taken a break near these Mayan ruins to fatten up on jungle bugs. I need the extra energy. In a few days, I'll make a loong flight across the Gulf of Mexico. With nothing below me but the deep blue sea, there will be nowhere to land until I reach America.



Azul 



Things have gone horribly wrong. I left the Mexican coast hours ago, surfing a tail wind across the moonlit sky. Stars danced in the ocean below. When I saw lights, I thought I'd made it to America. I circled for hours, burning energy. Then I realized it was only an oil rig far out at sea. I hope I have enough left in my tank to make the coast. Just. Keep. Flapping.



Azul 

# NORTH AMERICA



© LEVFRID | SHUTTERSTOCK.COM

Ooh, baby! I think I've met the girl of my dreams. Her name is Verde. Like me, she just arrived from South America.

Whew! After flying 16 hours across 600 miles of open ocean, I finally made landfall on the Louisiana coast. Boy, are my tiny wings tired! Now I'm deep in a swampy bayou. It's full of hungry owls and snakes, but I'm too exhausted to care. All I want to do is rest and stuff my beak with bugs. Wait ... Did that log just move?

Azul 



© JIM LAWRENCE | DREAMSTIME.COM

After six weeks of traveling, I finally reach my home away from home. Deep in the Ozarks, on the banks of the sparkling Jacks Fork River, I find a towering sycamore and stake my claim. I'm not only an adventurer. I'm also a singer. From the tip-top of the tree, I whistle and warble my little lungs out.

Azul 



# A Helping Hand for Feathered Friends

Birds like Azul need our help. Over the past 50 years, nearly 3 billion birds have disappeared. You can help bring their numbers up by doing a few easy things.

- ✂ **MAKE YOUR WINDOWS SAFER.** Each year, nearly a billion birds die from crashing into windows. To prevent collisions, put stickers or washable paint on the outside of large windows and turn off indoor lights at night.
- ✂ **KEEP YOUR CATS INSIDE.** Biologists estimate outdoor cats kill over 2.5 billion birds each year.
- ✂ **ASK YOUR PARENTS TO AVOID PESTICIDES.** Not only do these chemicals kill pests, they also kill tons of insects that birds like to eat.
- ✂ **ENCOURAGE YOUR PARENTS TO DRINK SHADE-GROWN COFFEE.** Find bird-friendly beans at [nationalzoo.si.edu/migratory-birds/where-buy-bird-friendly-coffee](https://nationalzoo.si.edu/migratory-birds/where-buy-bird-friendly-coffee).
- ✂ **PLANT NATIVE TREES AND WILDFLOWERS.** They provide better habitat for birds.

© CARMICHAEL, KEN / ANIMALS ANIMALS



Migrating is a piece of cake compared to raising kids! From sunup to sundown, Verde and I catch insect after insect and stuff them in the beaks of our four baby birds. Verde is a thrill-junkie like me. She leaves our nest by diving over the side, with her wings folded tight, and opens them to fly only when she's far beneath the branch.



Azul 

Time flies, and so must I. My kids have left the nest. Now it's time for me and Verde to fly south. Wish me luck. See you next year!



## Take the Bait

More than two dozen kinds of game fish swim in the Show-Me State's ponds, lakes, and rivers. Most will take a variety of baits, but some lures work better than others for certain fish. Test your angling IQ — and your memory — by playing this matching game.



### Instructions

1. Glue construction paper to the back of each set of cards, then cut out each card. (This way the backs of all the cards look alike.) You can also photocopy these pages and then cut out the copied cards.
2. Find a friend to play the game with you.
3. Place all of the cards face down on a table. Players take turns flipping over two cards at a time.
4. A player gets to keep their flipped-over cards only if one card is a fish and the other is the lure you would use to catch it. If the cards don't go together — for example, if both cards are fish or both are lures or if the lure isn't the right one for the fish — the player must flip the cards face-down.
5. Continue taking turns until every match has been found and all the cards are gone. The player with the most cards wins.

### The Fish Cards



**Largemouth Bass**



**Smallmouth Bass**



**Channel Catfish**



**White Crappie**



**Bluegill**

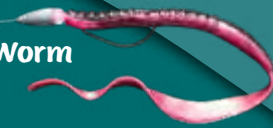


**Rainbow Trout**

# Different Dishes for Different Fishes



Largemouth Bass » Plastic Worm



White Crappie » Marabou Jig



Smallmouth Bass » Crayfish Lure



Bluegill » Tube Jig



Channel Catfish » Dough Bait



Rainbow Trout » Dry Fly



## The Lure Cards



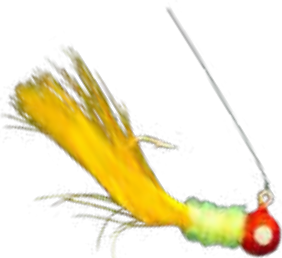
Plastic Worm



Crayfish Lure



Dough Bait



Marabou Jig



Tube Jig

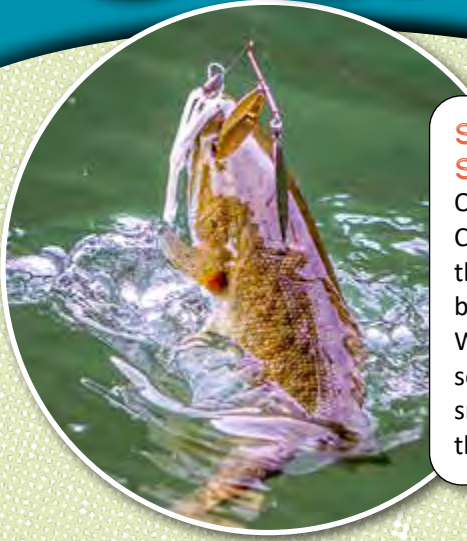


Dry Fly

# GET OUT!



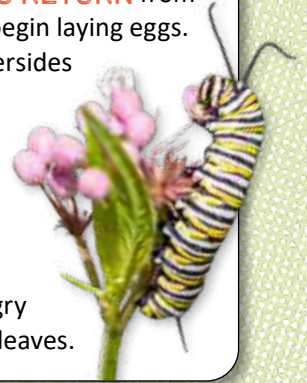
FUN THINGS TO DO  
AND GREAT PLACES  
TO DISCOVER NATURE



**SMALLMOUTH BASS SEASON** opens for Ozark streams on May 27. Cast a crayfish lure into the deep water around boulders or under snags. With any luck, you'll soon have a hungry smallmouth fighting on the end of your line.

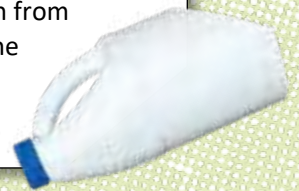


In May, **MONARCH BUTTERFLIES RETURN** from the south and begin laying eggs. Search the undersides of milkweed leaves to find the tiny white eggs. If you find one, check back every few days to watch the hungry caterpillar munch leaves.



June 3 is **NATIONAL TRAILS DAY**. Celebrate by hiking a trail and picking up any trash you find along the way. Conservation areas have miles of multiuse trails to explore. Search for one nearby at [mdc.mo.gov/atlas](http://mdc.mo.gov/atlas).

To **GET A CLOSE-UP LOOK** at the creatures that live in ponds, marshes, and streams, wash an empty bleach bottle. Cut off the bottle's end and poke holes in the side opposite the handle. Scoop up mucky water, let it drain from the holes, and be astonished at the squiggly creatures left behind.



Northern cardinal

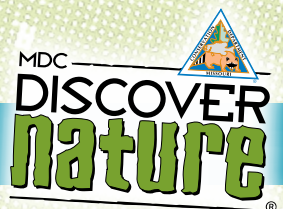


American goldfinch

May is the perfect time to **START GROWING YOUR OWN BIRDSEED**. Plant a few rows of sunflowers, and you'll keep every cardinal, goldfinch, and chickadee in your neighborhood fat and happy all autumn long.



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at [mdc.mo.gov/events](http://mdc.mo.gov/events).



WHAT IS IT?

— FROM PAGE 3 —



### EASTERN COLLARED LIZARD

Eastern collared lizards live on dry, rocky glades scattered across southern Missouri. The colorful carnivores are Missouri’s fastest reptile. They can reach speeds up to 15 miles per hour when chasing down prey like grasshoppers or dashing away from predators like roadrunners. If a collared lizard has a need for extra speed, it stands upright and runs on its hind legs, using its long tail for balance.

## GO FIND IT!



Cut out this critter card and take it with you outside. How many of the things on the card can you find?

### SPECKLED KINGSNAKE



#### SHY GUYS AND GALS

Shy and secretive, speckled kingsnakes hide under rocks and logs or in abandoned animal burrows.

#### PEST PATROL

Kingsnakes eat rodents, eggs, small birds, and other snakes — even venomous ones like copperheads and rattlesnakes.

#### ALL HAIL THE KING

Speckled kingsnakes aren’t affected by the venom of Missouri’s cottonmouths, copperheads, and rattlesnakes.

#### HEAVY HUGGERS

To subdue prey, kingsnakes coil around it and *squeeeeeeze* until the meal quits breathing or its heart stops.

#### EGGSTRA SNAKES

In June and July, mama kingsnakes lay eggs in rotten logs, sawdust piles, and animal burrows. The babies hatch in August or September.



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or update your address, visit  
[mdc.mo.gov/xplor](http://mdc.mo.gov/xplor).

FREE TO MISSOURI HOUSEHOLDS

# GO FIND IT!

Speckled kingsnakes live in prairies, farm fields, wooded hillsides, and the edges of forests and marshes. For more on this spotted serpent, slither over to [mdc.mo.gov/field-guide](http://mdc.mo.gov/field-guide).

SPECKLED KINGSNAKE

