

Greater Roadrunner

Geococcyx californianus



Suggested alt text: "A picture containing a weapon"

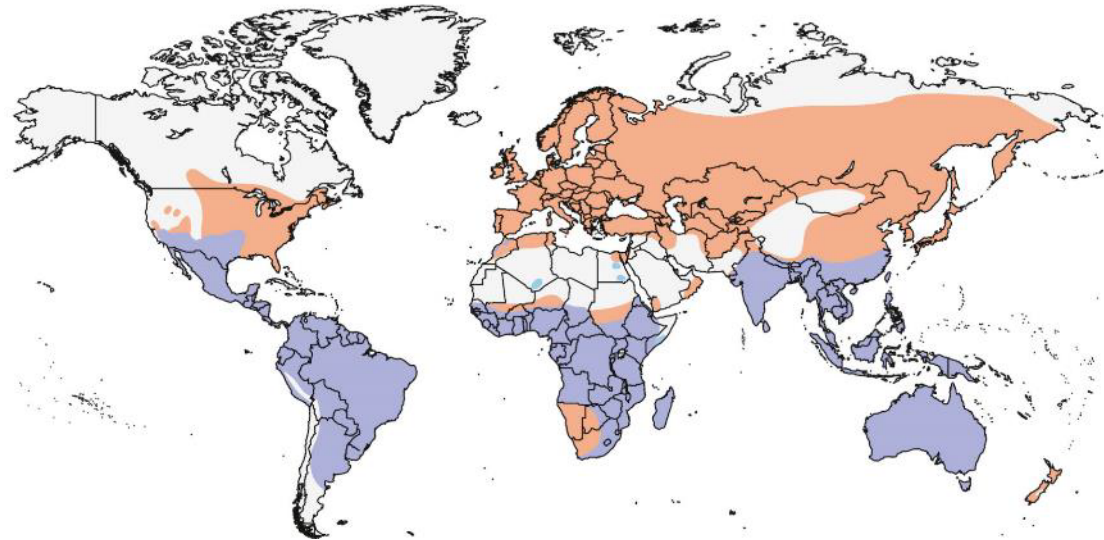
Let's meet the bird, the myth, the legend...



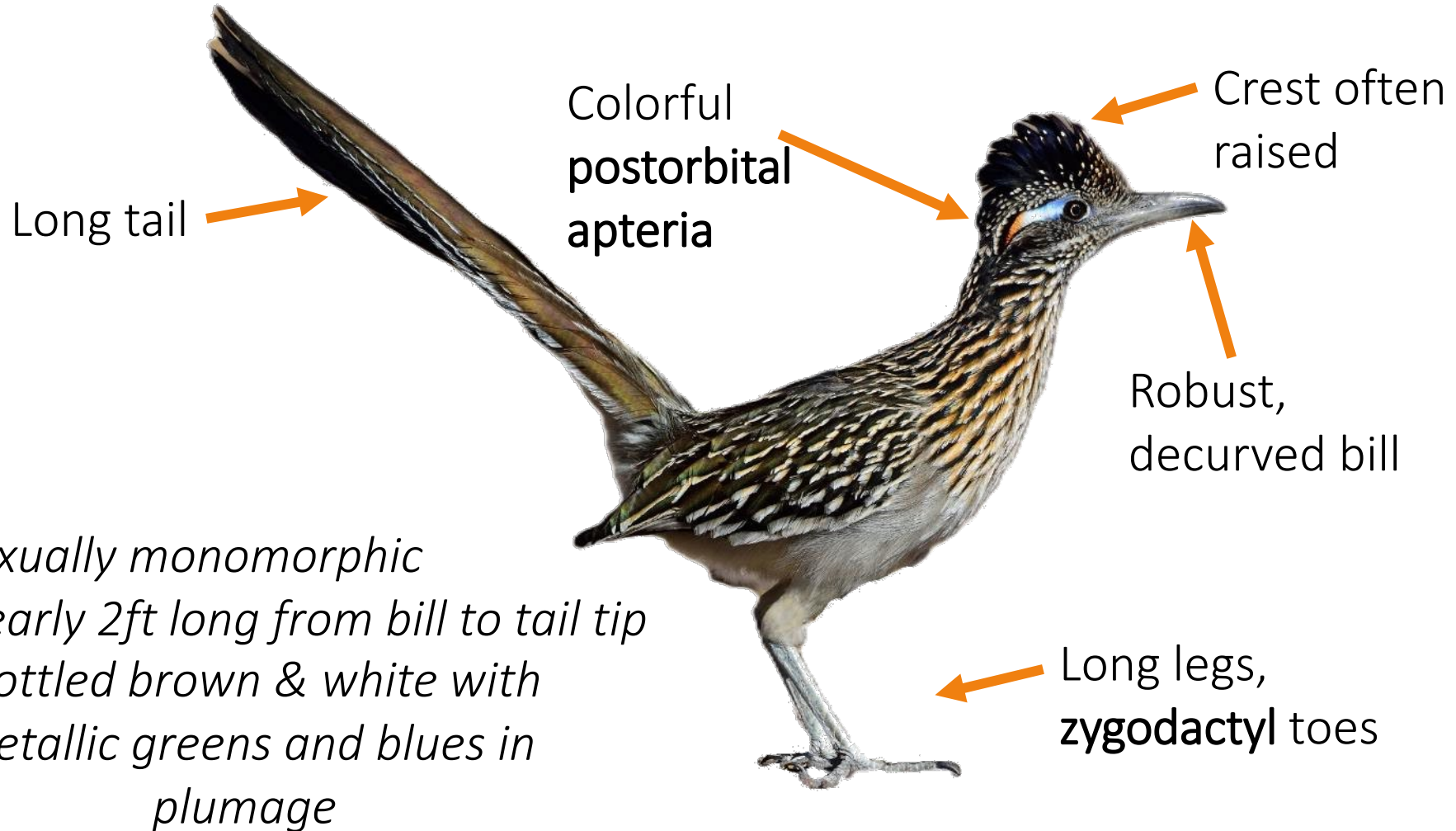
Laurie Sheppard, Blackland Prairie Chapter

But first, meet the Cuckoos...

- Order *Cuculiformes*,
Family *Cuculidae*
(cuckoos, roadrunners,
and anis)
- 147 species
- Found in forested,
woodland, savannah, and
arid scrubland habitats
- Cuculidae is (in)famous
for engaging in brood
parasitism



Greater Roadrunner Characteristics



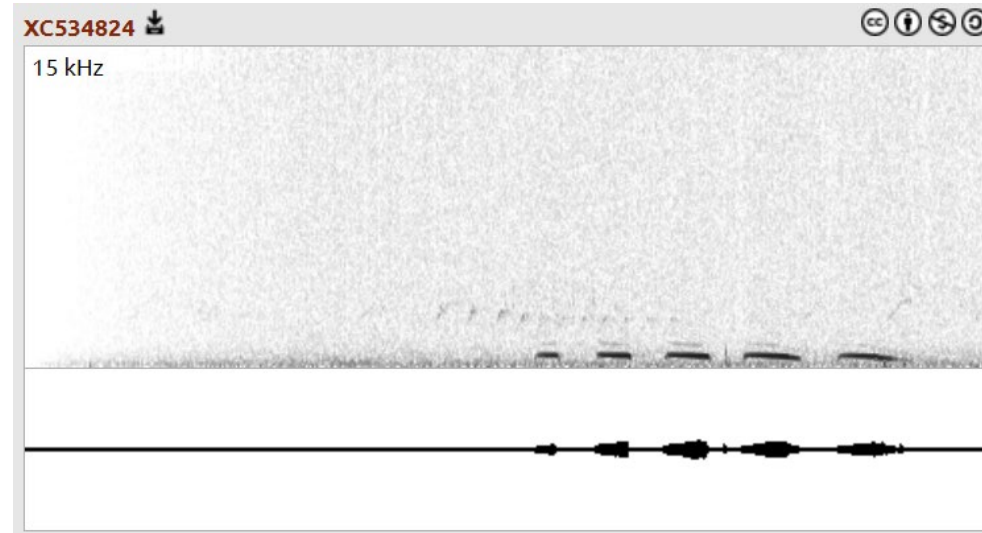
Feathers: Color

- The iridescence on feathers is the result of *structural color* not pigment
 - Tiny bubbles in the feather's structure refract the light



Vocalizations

- *Coo-call* 3-8 low-frequency down-slurring coos given by the male; if heard, bird is typically within 250m
- *Bark-call* sounds like coyote yelps – only given by female
- *Bill rattle* given by both sexes

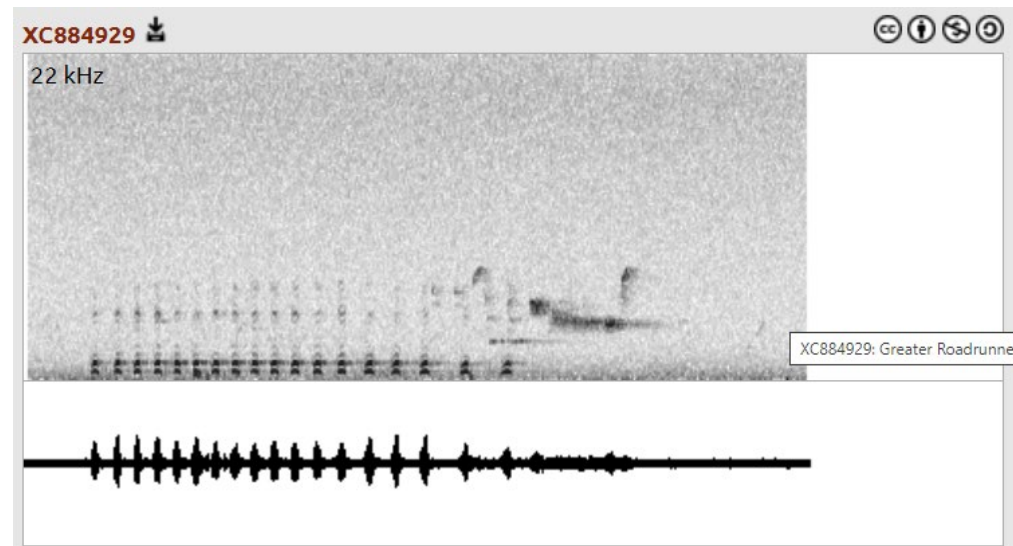


Caleb Helsel, XC534824. Accessible at www.xeno-canto.org/534824.



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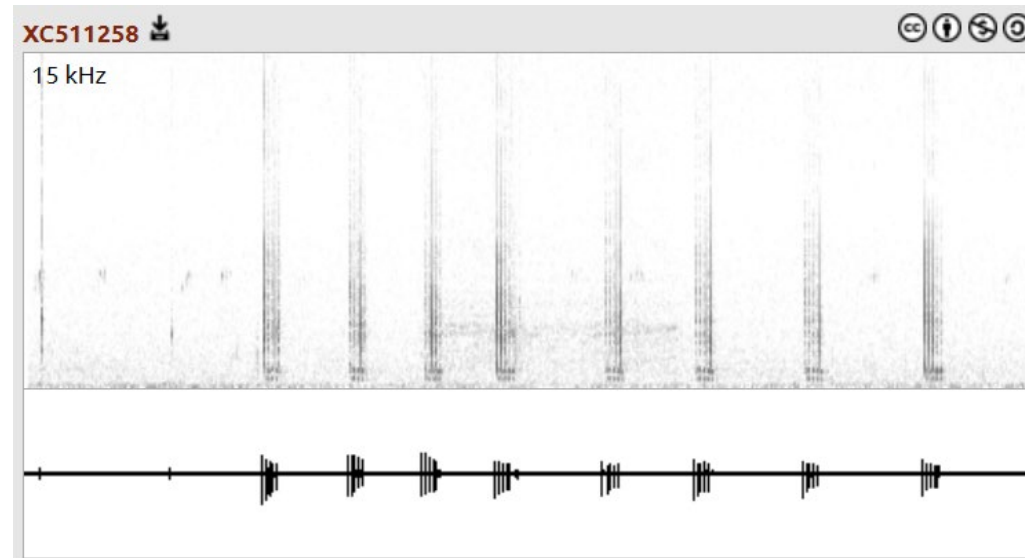


Mark McClelland, XC884929. Accessible at www.xeno-canto.org/884929.



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Bobby Wilcox, XC511258. Accessible at www.xeno-canto.org/511258



Greater Roadrunner Habitats

- Associated with arid to semi-arid open country with up to 50% scrub cover, usually with 2-3m tall brush
- In Texas, found most frequently in mesquite scrub, juniper savannah, chapparal, riparian woodlands, canyonlands



jakeschneider00, iNaturalist, CCBY-NC



Texas Prairie Girl, iNaturalist, CCBY-NC

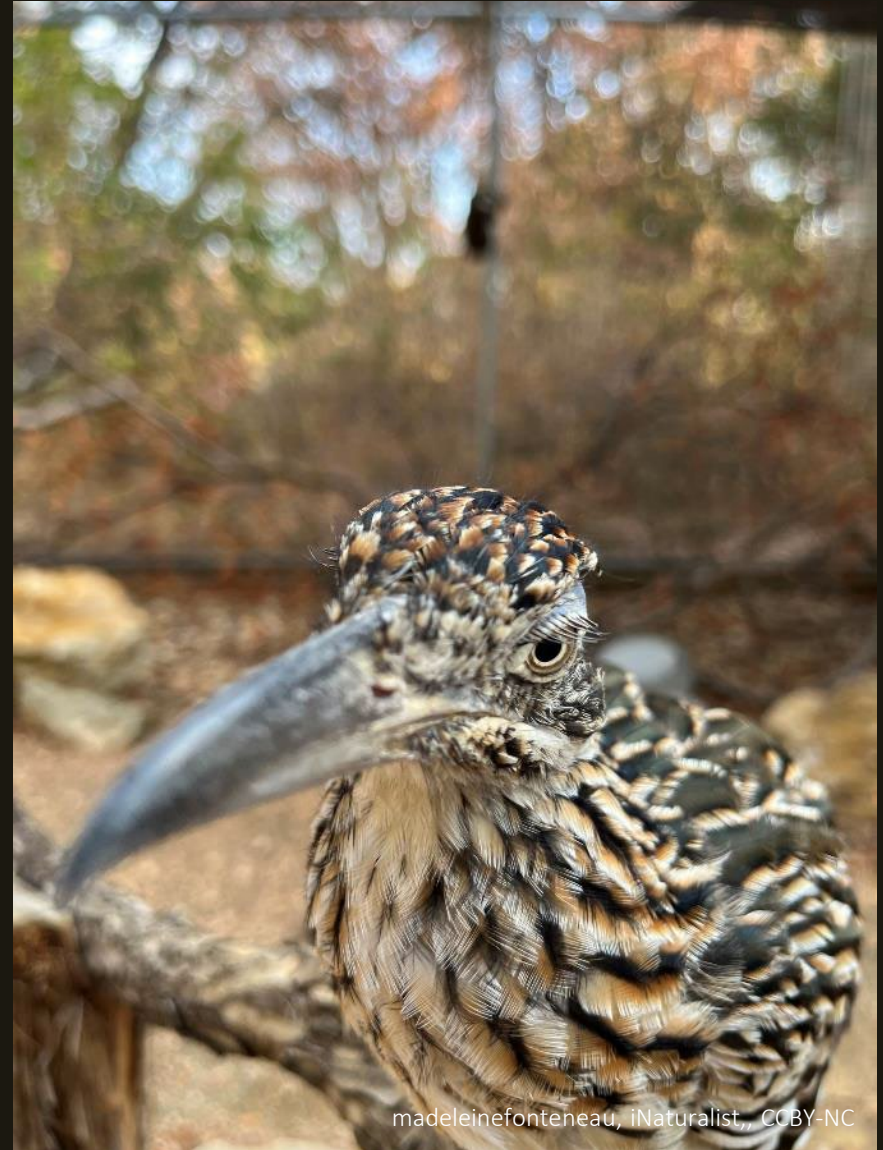


Patrick Ryan, iNaturalist, CCBY-NC

Myth or Fact?

Roadrunners are so adaptable, they can persist in ANY setting

MYTH



madeleinefonteneau, iNaturalist, CC BY-NC

Greater Roadrunner Habitats

- Across its range, often found in low-density development and farmland
- Generally avoids areas of heavy urbanization and dense forest/woodland



Texas Prairie Girl, iNaturalist, CCBY-NC



Michael Rhodes, iNaturalist, CCBY-NC

Greater Roadrunner Adaptations

Adapted to arid habitats

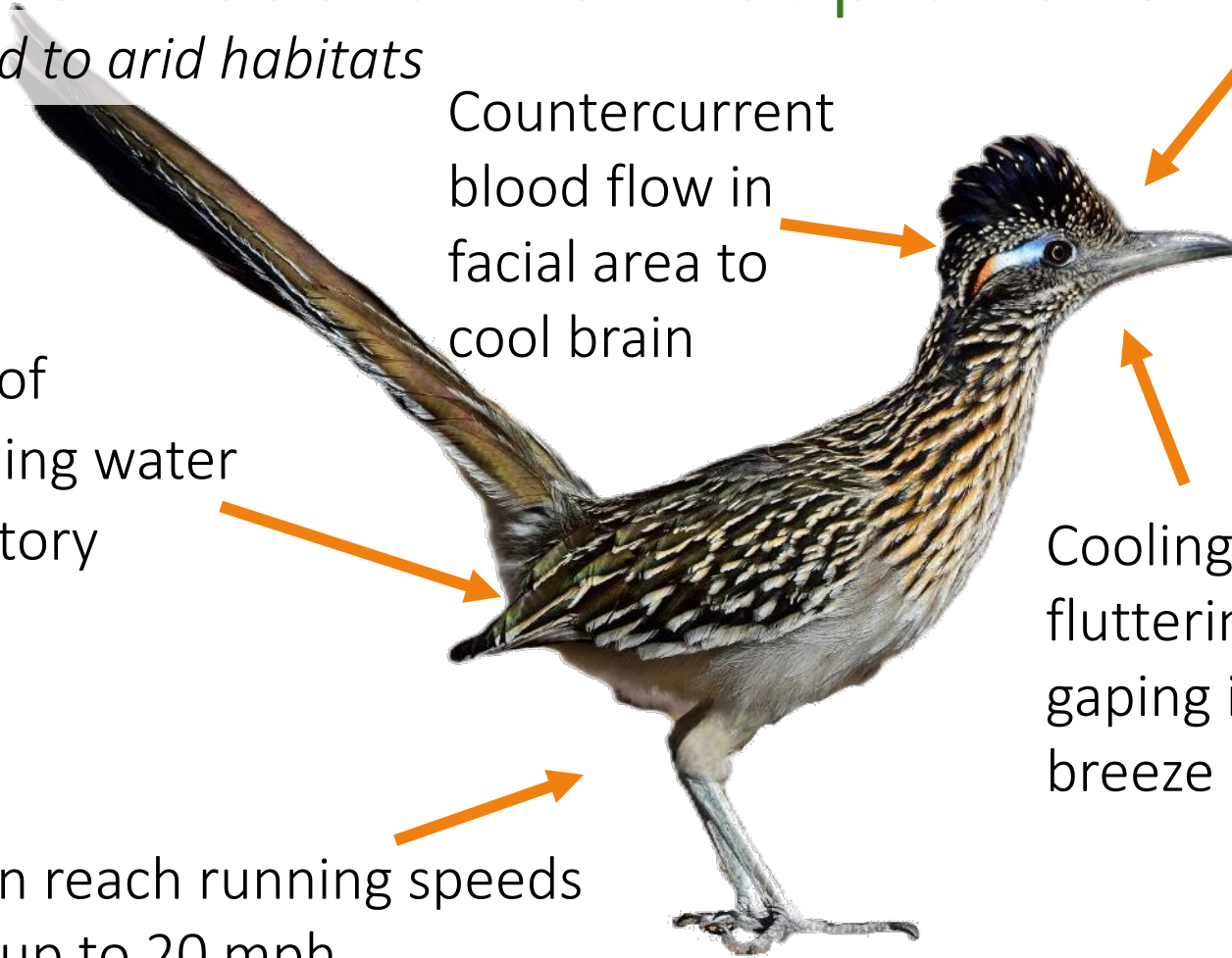
Countercurrent
blood flow in
facial area to
cool brain

Nasal
glands can
excrete salt

Capable of
reabsorbing water
via excretory
system

Cooling via gular
fluttering, panting, &
gaping into a strong
breeze

Can reach running speeds
of up to 20 mph



Greater Roadrunner Adaptations

Water is for drinking, dust is for bathing



Miles Fuquay, iNaturalist, CCBY-NC



Robert Pyle, iNaturalist, CCBY-NC

Thermoregulation

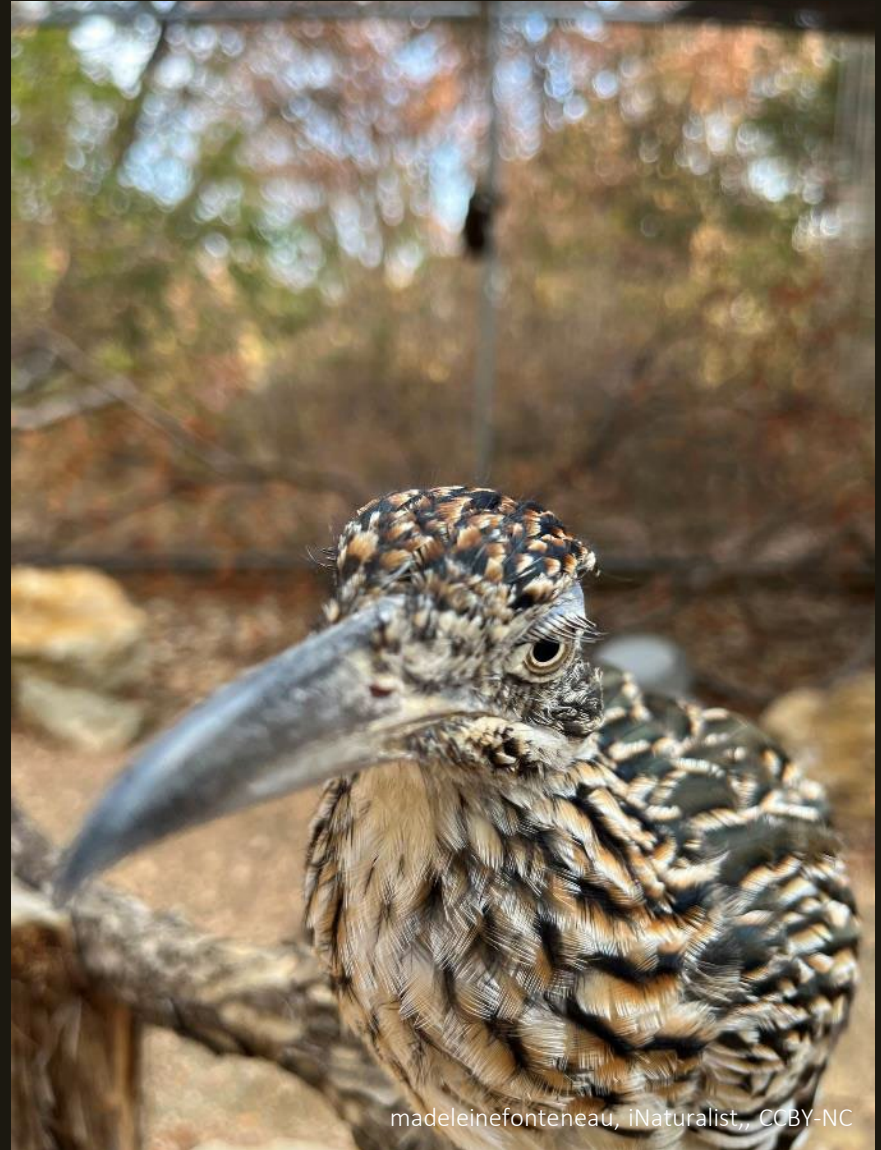
- Body temperature may drop by as much as 6°F at night to save energy (*torpor*)
- Sunbathes with back to the sun
- Dark down on back insulates and collects sun's warmth



Myth or Fact?

Roadrunners can
safely eat
venomous prey
like wasps,
centipedes, &
scorpions

FACT



What do roadrunners eat?

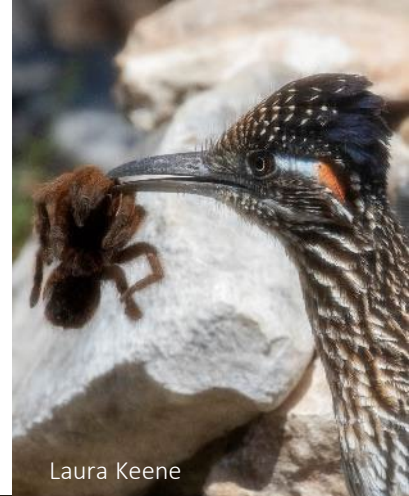
Bird Salesman: *gently pats roadrunner*

This bad boy can fit so many prey items in it...


90% animals: insects,
spiders, scorpions,
centipedes, millipedes,
lizards, small snakes, adult
birds and their young and
eggs, rodents, frogs, carrion
10% plant material



What do roadrunners eat?



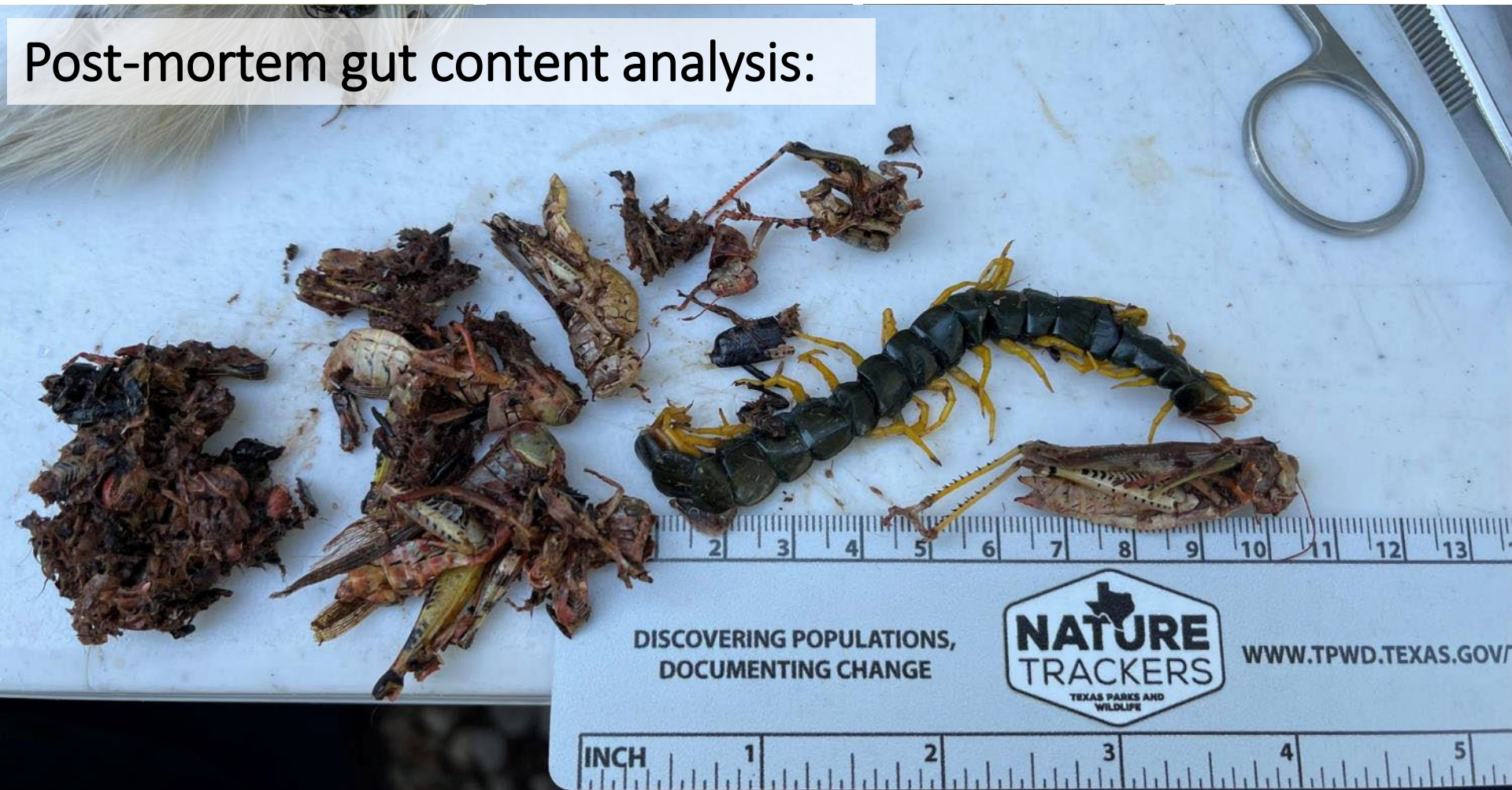
What do roadrunners eat?



I would if
I could...

What do roadrunners eat?

Post-mortem gut content analysis:



Advanced Techniques...

- Larger prey slammed against hard surfaces to kill or incapacitate; may also help “tenderize” prey to make it easier to swallow
- Horned lizards are swallowed head-first and dorsal-side-up to avoid injury from horns
- Will knock tasajillo and prickly pear fruits off plant and roll them on the ground to remove spines

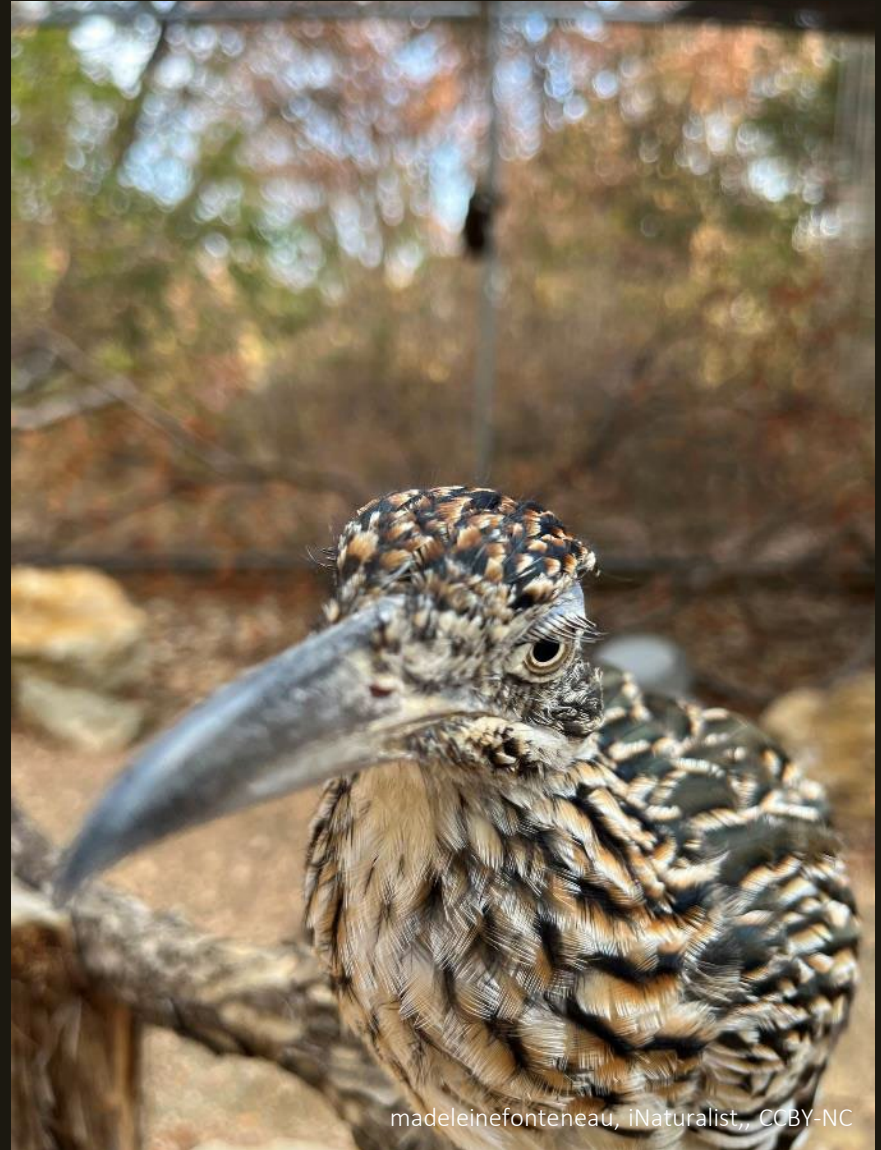


Don Rideout, iNaturalist, CCBY-NC

Myth or Fact?

Roadrunners can
even kill and eat
rattlesnakes

FACT



madeleinefonteneau, iNaturalist, CC BY-NC

“Roadrunner and Rattlesnake fight” by American In Mykolaiv

<https://www.youtube.com/watch?v=3LE78eJx5hg>



What eats roadrunners?

- Eggs and nestlings taken by coyotes, raccoons, skunks, rat snakes, coachwhips, bullsnakes, sometimes corvids or raptors
- Adults often taken by Red-tailed Hawks and Cooper's Hawks

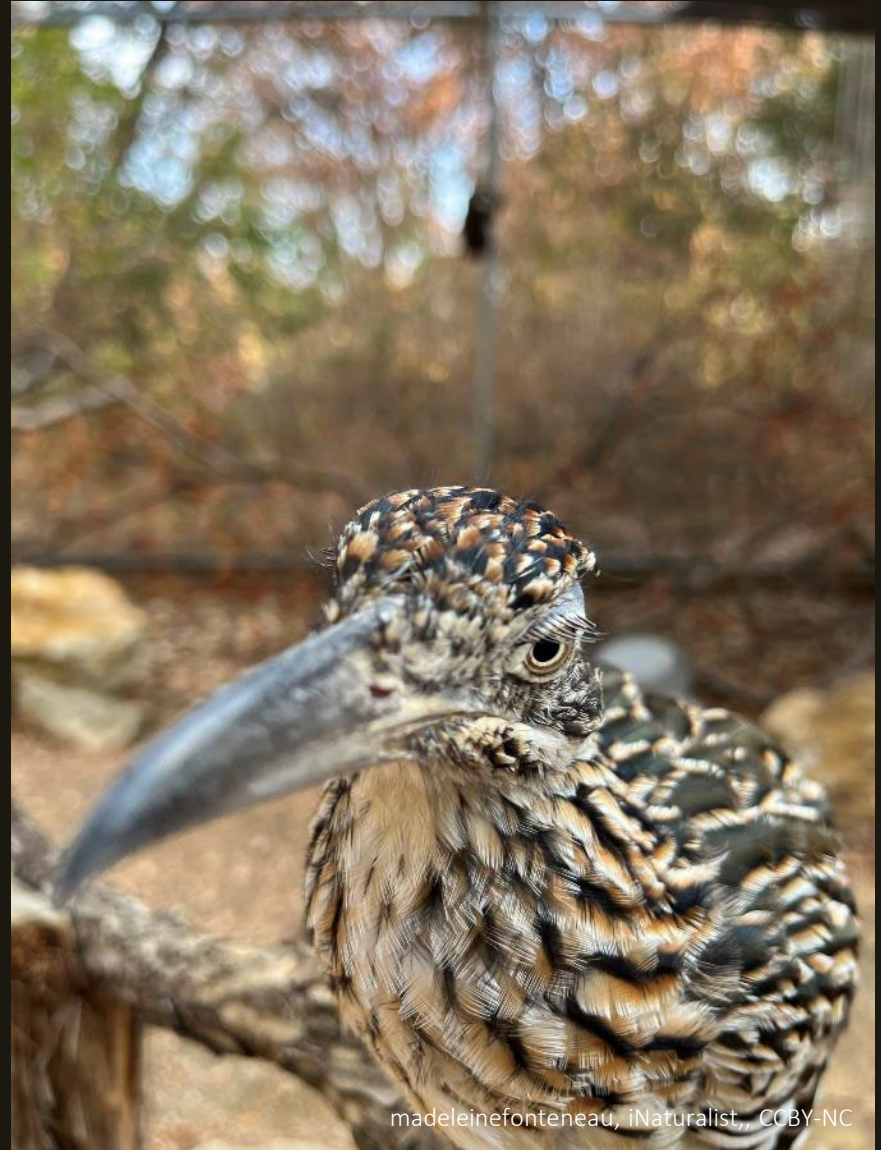


Chris Bentley, iNaturalist, CCBY-NC

Myth or Fact?

Adult roadrunners
are so fast, no
mammalian
predators can
catch them

MYTH



madeleinefonteneau, iNaturalist, CC BY-NC

What eats roadrunners?

A roadrunner's top speed (up to 20 mph) is still not fast enough to outrun a coyote (up to 43 mph)



Family Life

- Holds a year-round territory
- Mated pair may split the territory during nonbreeding season
- Complex courtship with displays



Tail-Wag Display

Family Life

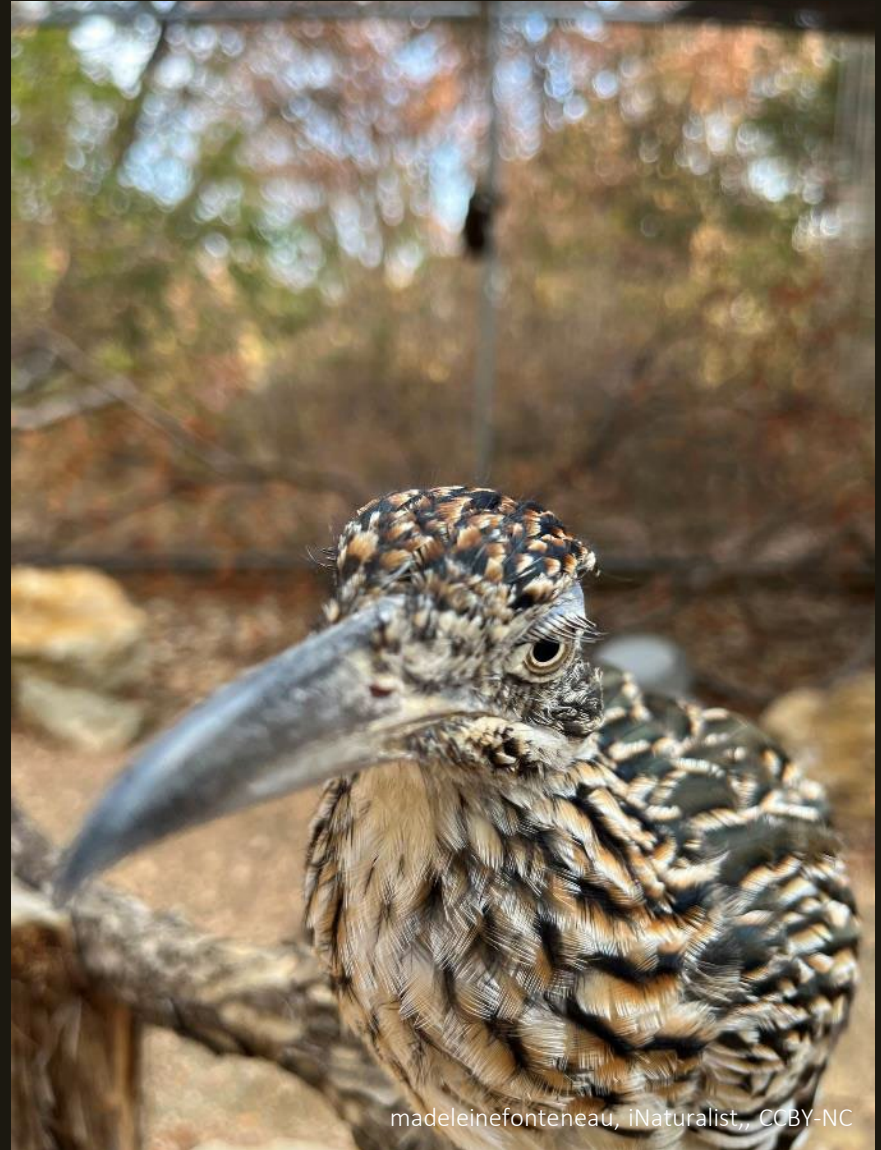
- Mates for life
- Nuptial gift during mating



Myth or Fact?

Unlike many other
cuckoos,
roadrunners raise
their own young

FACT



madeleinefonteneau, iNaturalist, CC BY-NC

Family Life

- In Texas, breeds early March-late October
 - Nests up to 3 times/season if conditions are favorable
- Nests usually placed 1-3m high in isolated thickets of small trees/shrubs, typically near open grassy areas with short vegetation
 - In hackberry, honey mesquite, sumacs, sometimes cacti
 - Male brings materials, female builds
- 3-6 eggs, more eggs when food abundant, laid every other day



Family Life

- Both parents incubate
- Only male incubates at night, which is more metabolically expensive
- Males carry larger fat deposits



Robert Pyle, Naturalist, CC BY-NC

Family Life

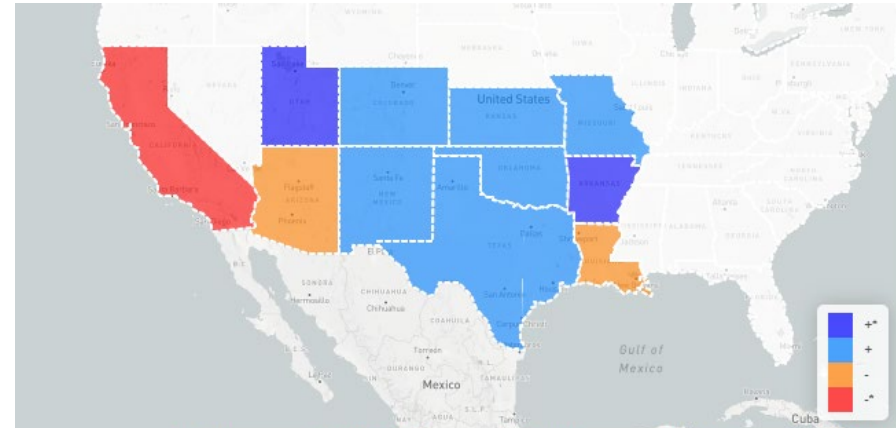
- By 16 days post-hatch, young can fully run and exhibit tail-bobbing and crest-raising and can pick up and swallow own food
 - Fledge at 14-25 days old
 - Early fledges usually led to cover by adult who continues to feed it along with other young still in nest
 - Independent 30-40 days after fledging



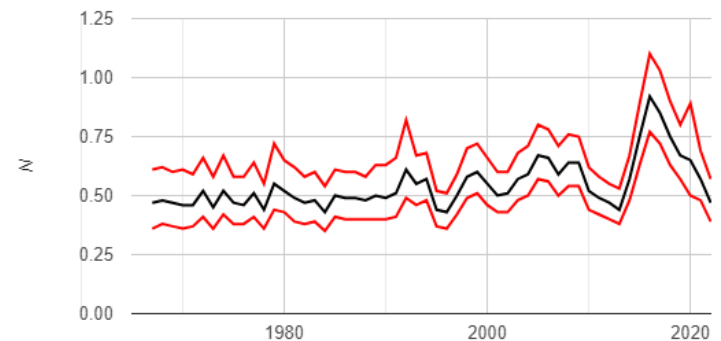
Robert Pyle, iNaturalist, CC BY-NC

Conservation Status

- Global population ~1.4 million birds
- Long-term (last 50 years) population stable
- CBC – 11.7% increase since 1970
- BBS – 5.9% increase since 1966



Greater Roadrunner [*Geococcyx californianus*]



USGS, Breeding Bird Survey

Roughly 20-33% of the global population resides in Texas

Status and Trends > All Species

Greater Roadrunner *Geococcyx californianus*

Abundance

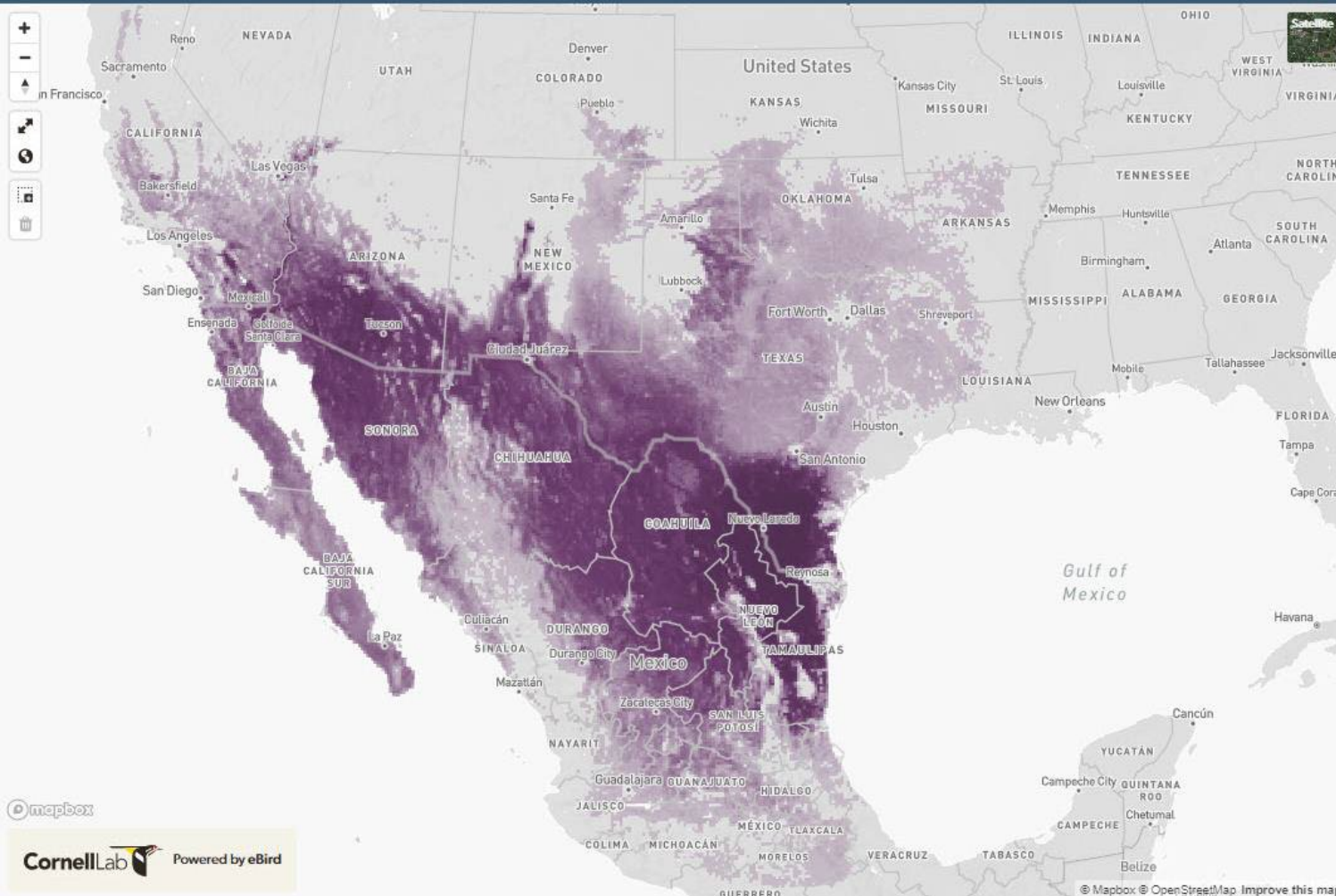
Weekly

Trends

Range

Static map

Downloads

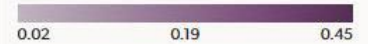


Abundance

Relative abundance is depicted for each season along a color gradient from a light color indicating lower relative abundance to a dark color indicating a high...

[Learn More](#)

Year-round



Layer Opacity

Regional Stats

Countries, Territories, and Dependencies

United States

Subregions

Texas

Stats [?] Year-round

Mean Relative Abundance	0.1
Percent of Seasonal Modeled Population	20%
Percent of Region Occupied	68%
Percent of Modeled Range in Region	22%
Days of Occupation in Region	365

Custom Shapes Stats Options

Draw a shape on the map to generate a summary table or chart for that custom area of interest.

Draw Shape

Threats: Habitat Loss

- Generally impacted by urbanization
 - Increased vehicular, human, and pet activity
 - Changes to vegetation structure
- May persist in suburban areas where native shrub vegetation is adjacent to short-grass foraging habitat

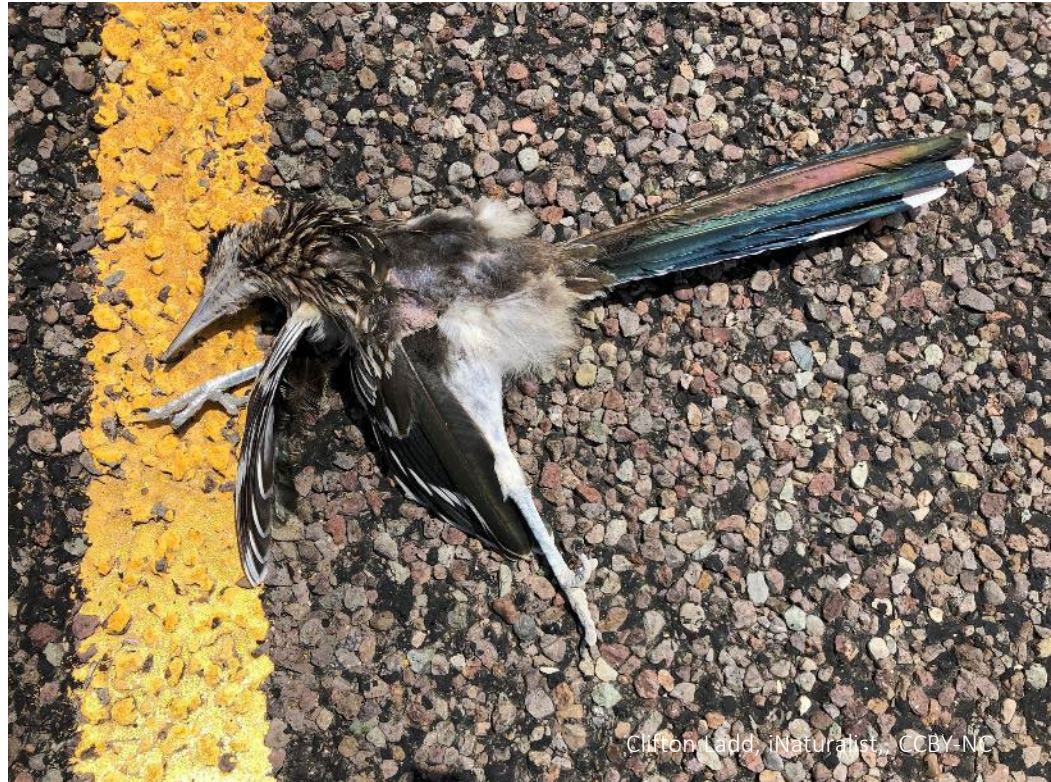


amontero5, iNaturalist, CC BY-NC

El Paso El Paso, Texas, USA, 9/15/2019

Threats: Collisions

- At risk from vehicular collisions due to cursorial habits & frequent proximity of foraging habitat to roads
- Documented as a common mortality at solar installations due to fencing



Clifton Ladd, iNaturalist, CC BY-NC

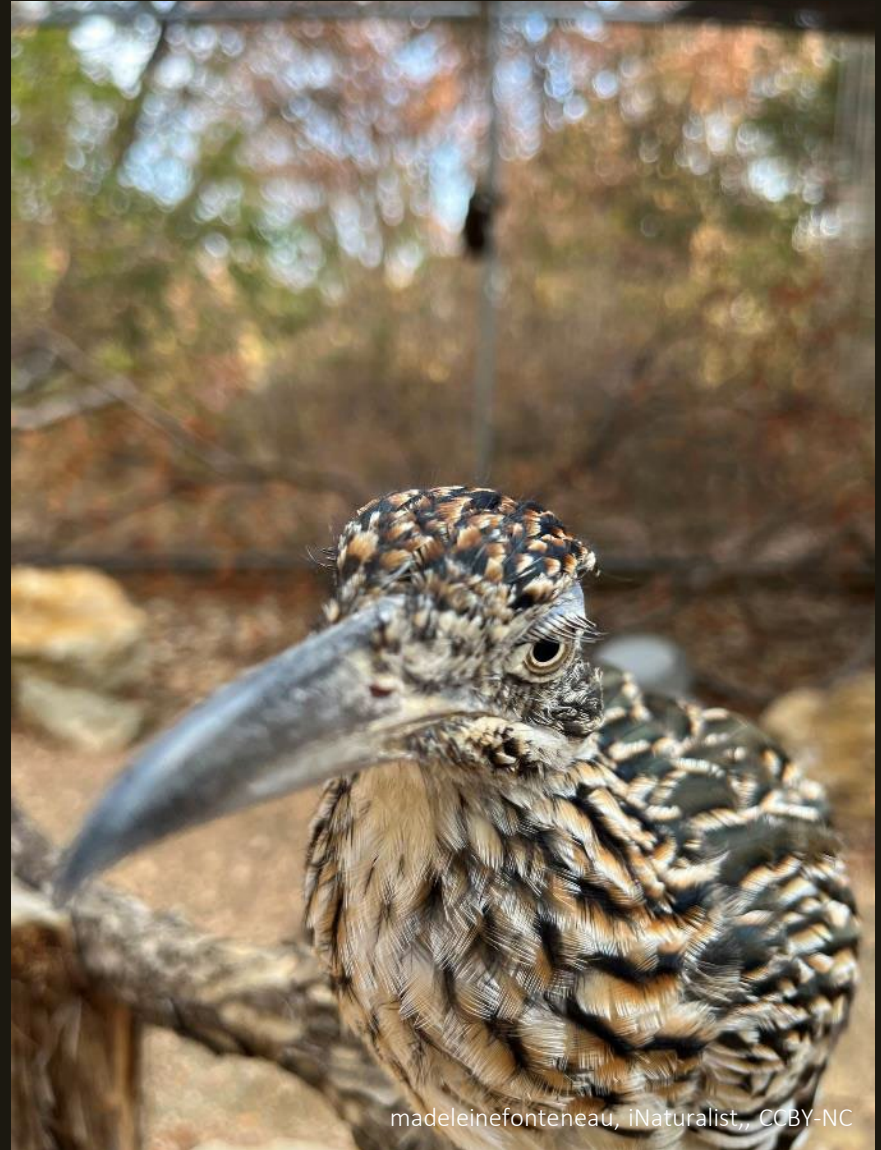
Threats: Pesticides

DDT and DDE (breakdown product of DDT) found in Greater Roadrunner tissues in CA study and in prey items in Texas

Myth or Fact?

Roadrunners are
major predators
of quail

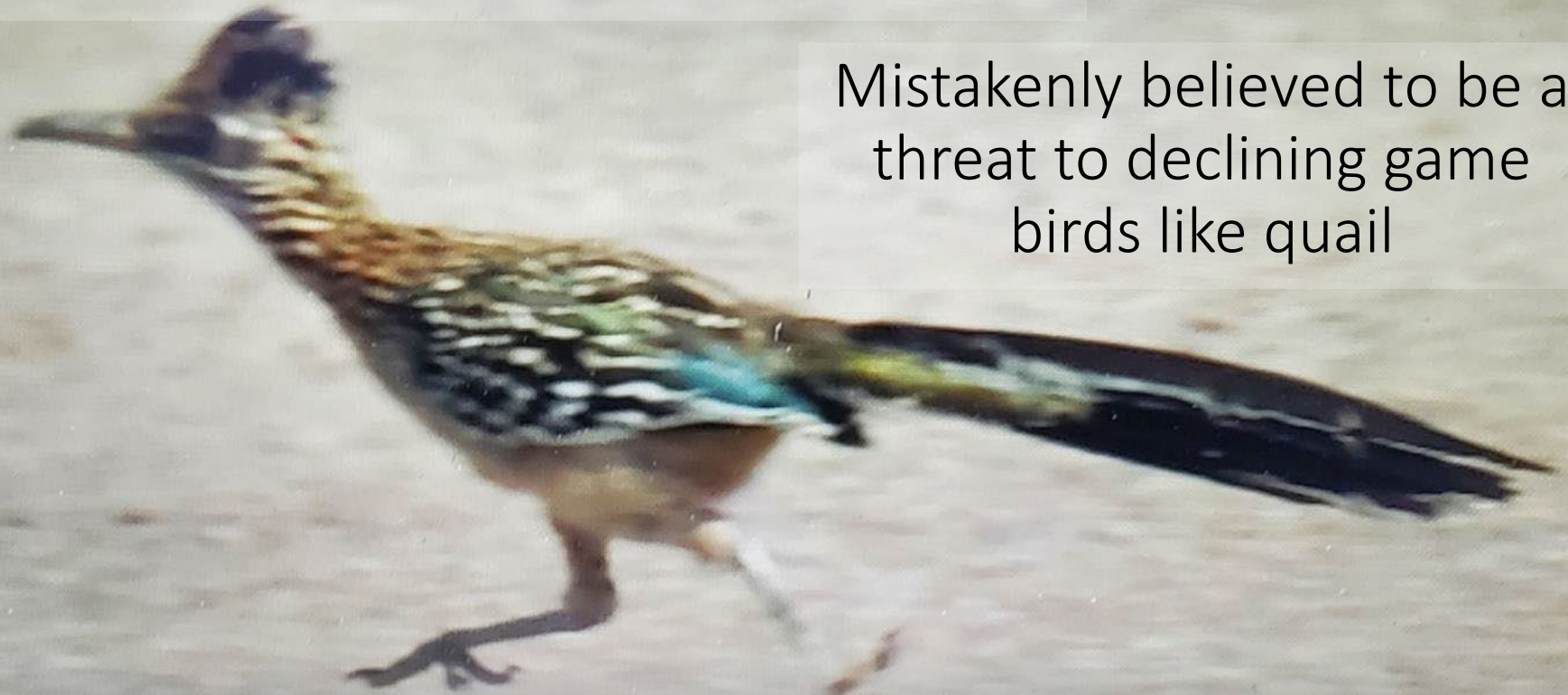
MYTH



madeleinefonteneau, iNaturalist, CC BY-NC

Threats: Human Persecution

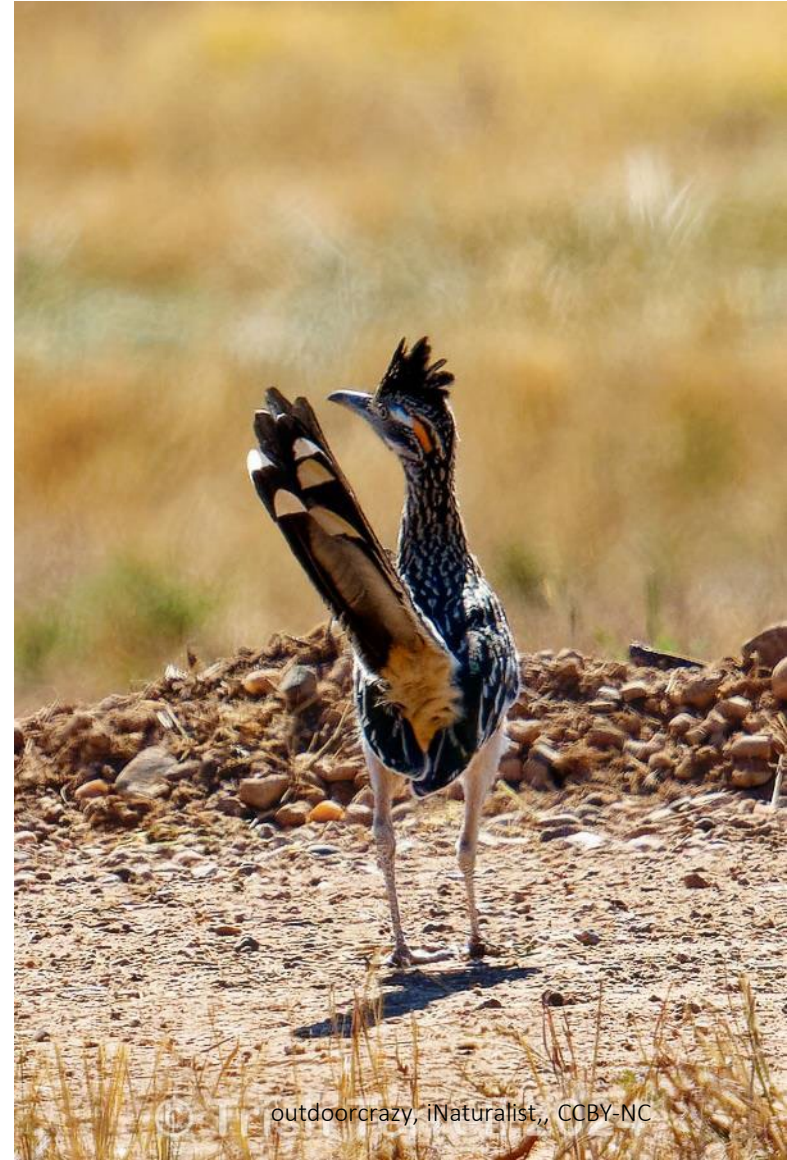
Mistakenly believed to be a threat to declining game birds like quail



“Comprehensive feeding studies indicate that quail are rarely consumed and confirm the value of the Greater Roadrunner in crop and household pest control” but birds are still being **shot illegally**

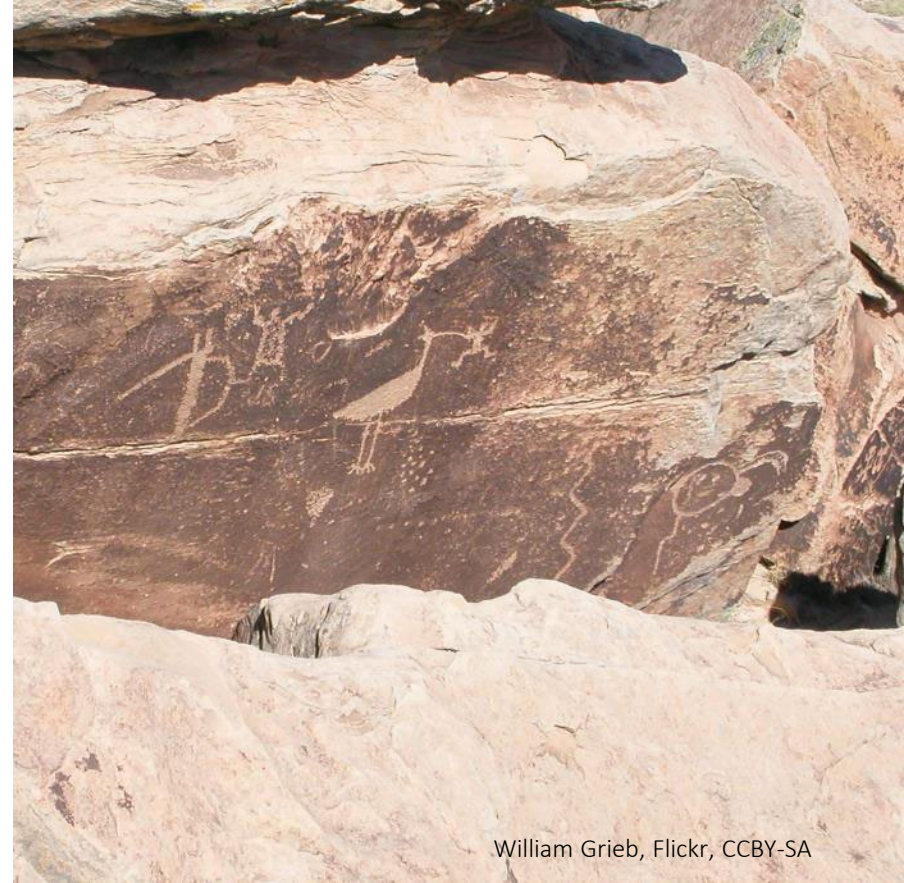
Cultural Connections

- Present in many Native American stories & traditions
 - Courage, strength, endurance
- Native American names translate to “War Bird”, “Snake Eater”, or “Medicine Bird”
- Spanish names “el corre caminos” or “el paisano”
- English names “ground cuckoo”, “chapparal cock”



Roadrunner in Native American Culture

- Depicted in petroglyphs in the Llano Estacado and southern New Mexico
- Pueblo peoples use “X” to symbolize a roadrunner track to ward off evil
 - Placing roadrunner tracks around the home of the deceased confuses evil spirits about the path of the departed’s soul



William Grieb, Flickr, CC BY-SA

European-American settlers believed if one was lost, following a roadrunner would lead them back to a trail



Patrick Ryan, iNat, CCBY-NC

11:37PM 06/03/2021 005



Roadrunner in Contemporary Culture

Congratulations on getting the tail length

Plumage color is ALL WRONG



What is this bill even???

Maybe zygodactyl toes.
Maybe.

Bird runs - accurate

Roadrunner in Contemporary Culture

1970 Plymouth Roadrunner "Superbird"

Decurved bill, better
than Warner Bros

Long tail - accurate



Still the wrong color, *sigh*

Roadrunner in Contemporary Culture



Roadrunner in Contemporary Culture



David Herrera, Flickr, CCBY

Roadrunner in Contemporary Culture



David Herrera, Flickr, CCBY



"Godzilla: Destroy All Monsters", 1968, Toho Co., Ltd

It's giving major Godzilla energy

Roadrunner in Contemporary Culture

Road Runner by Bo Diddley (1960)

I'm a road runner honey,
Beep! Beep!

I'm a road runner honey,
And you can't keep up with me,
I'm a road runner honey,
And you can't keep up with me,
Come on, let's race,
Baby baby, you will see,
Here I come,
Beep! Beep!



Roadrunner in Contemporary Culture

The Guardian US

News Opinion Sport Culture Lifestyle

Environment Climate crisis **Wildlife** Energy Pollution Green light

Texas

This article is more than 1 year old

Man who ran over bird's nest drives across Texas to save only intact egg

Roadrunner hatchling named Miles was driven 660 miles in total before dying at wildlife rescue center several days later



Miles the roadrunner. Photograph: Rogers Wildlife Rehabilitation Center

Miles the hatchling roadrunner made national news in May 2023 after a couple logged over 660 miles in a quest to save this lone survivor of a nest in Odessa, TX

Texas Master Naturalist Icon

T E X A S

Master
Naturalist™



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T E X A S

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Courage – no challenge is too daunting



Texas Master Naturalist icon

Strength –doing the hard work to get the job done



“Roadrunners Killing Prey” by coyotecams

<https://www.youtube.com/watch?v=APuUhHRuvng>

Texas Master Naturalist Icon

Endurance – dynamic & always on the move



Jordan Broadhead, iNaturalist, CCBY-NC

Texas Master Naturalist Icon

Perseverance – facing obstacles head-on in service to our communities



James Bailey, INaturalist, CCBY-NC

Texas Master Naturalist Icon

Teamwork & loyalty to the mission



lonnyholmes, iNaturalist, CCBY-NC

Supporting Roadrunners at Home

Food
Water

Shelter/Space
Safety



Native plants are the gold standard for food
(habitat for prey) and shelter!



Water

- Drips, bubblers, guzzlers, shallow basin
- Keep it clean!



Caryn Vorsas, iNaturalist, CCBY-NC

Shelter & Space

- Cultivate/protect mid-story native shrub & cacti species for cover and nesting
- Open areas of low-growing native vegetation for foraging
- Roadrunners are territorial and will stay in the same area year-round

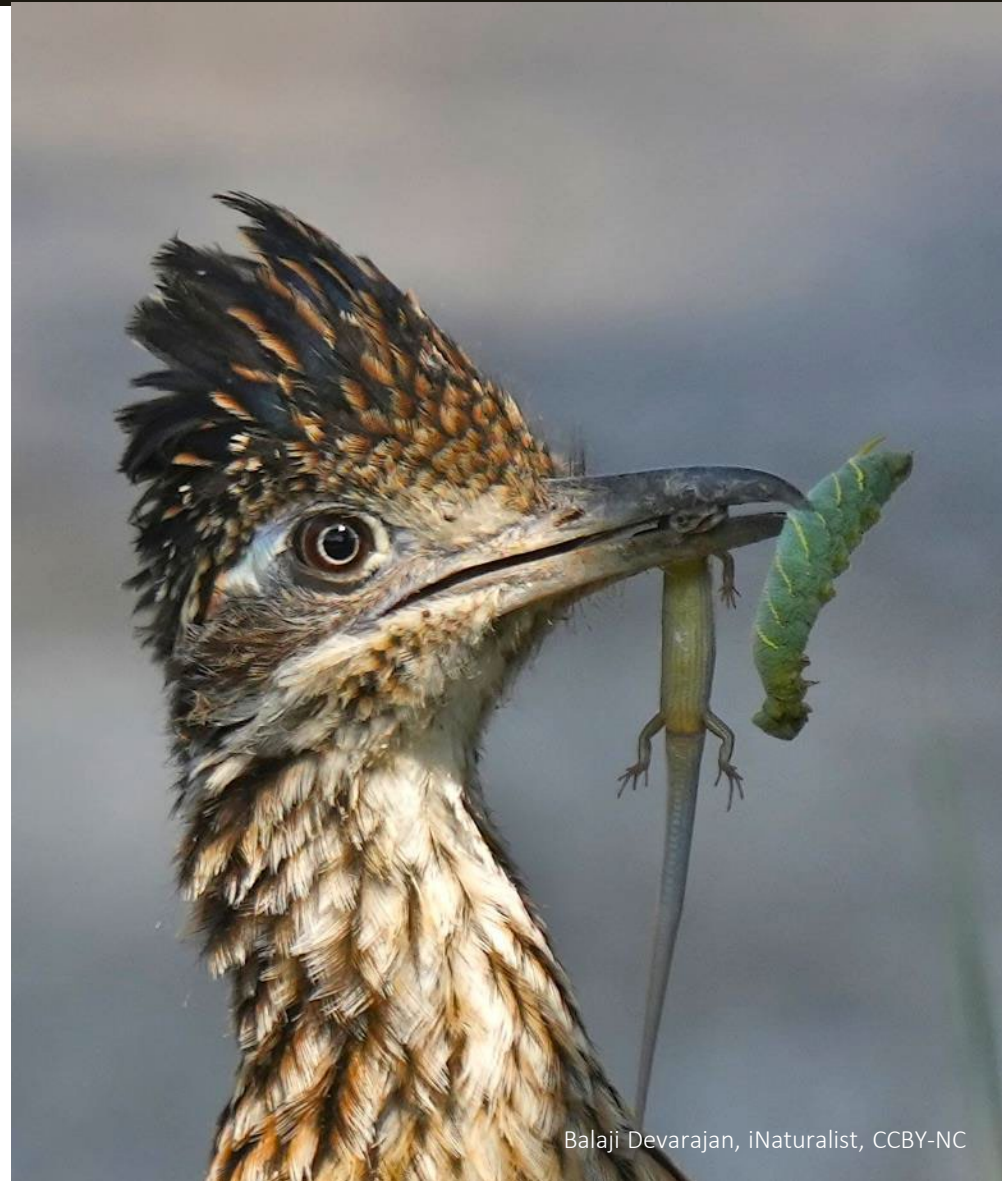
Protect open space in and around urban areas!



Safety - Pesticides

- 90% of diet is animal prey – avoid use of insecticides and rodenticides
- Ideally, use integrated pest management techniques rather than relying on chemical pesticides
- Benefits for ALL wildlife

Roadrunners ARE pest control



Safety - Cats Indoors

- Keep cats indoors
- Cats are the #1 human-related cause of death to birds in the US!



Dieter Joel Jagnow, sxc

Safety – Vehicle Collisions

- Encourage driver awareness of smaller wildlife near roadways
- Signage
- Wildlife over- or underpasses may benefit multiple smaller species



Documenting Roadrunners for Stewardship & Science



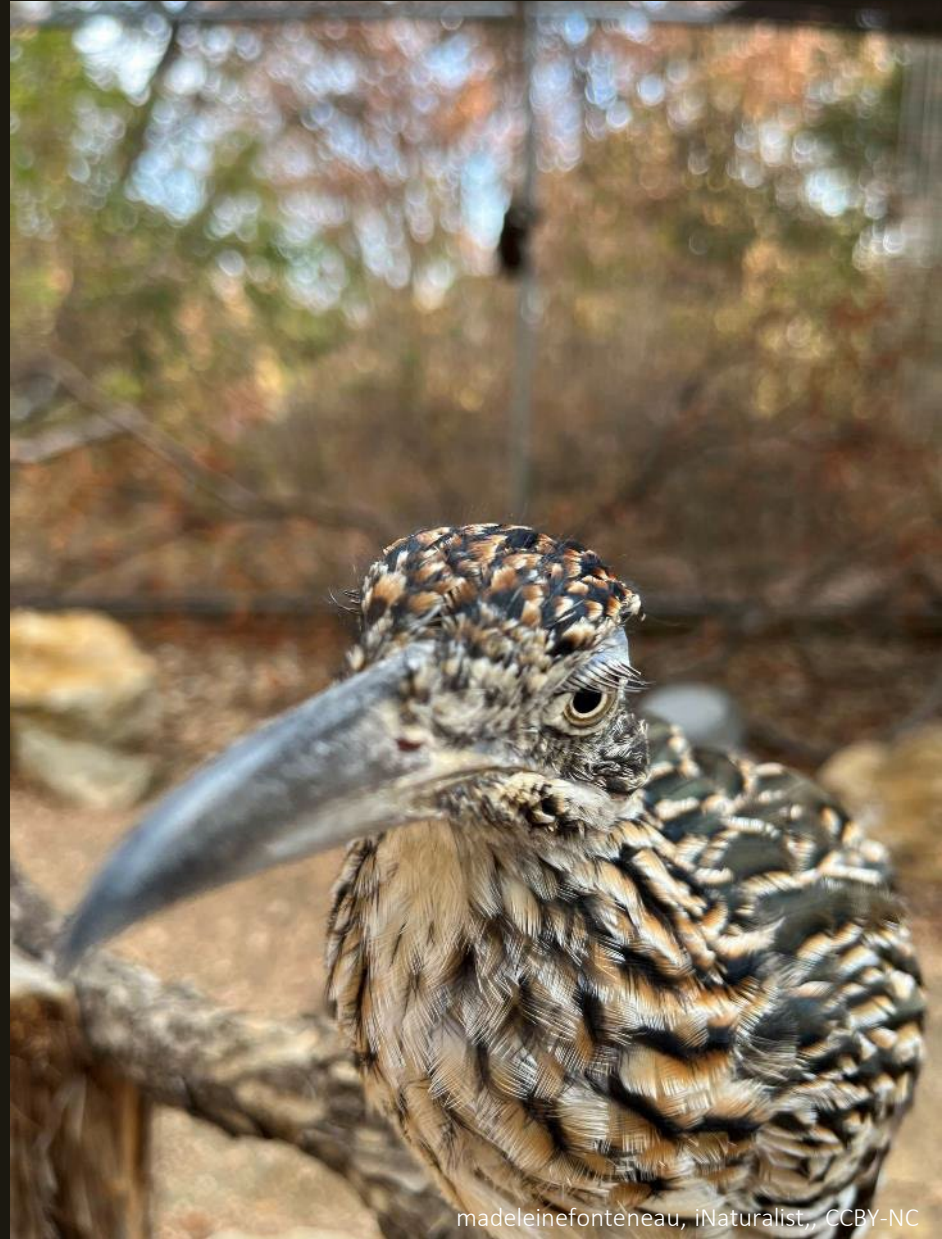
Community Science for Birds



Project NestWatch



2025 Texas Master
Naturalists,
show us your
Greater Roadrunner
spirit!



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Questions?

