

# **Shelling Out**

An investigation into the sale of tiny turtles at US reptile expos





### Contents

- Introduction
- Going undercover
- Hard facts about turtle-associated diseases
- 4 Preventing future disease outbreaks
- Protecting children from zoonotic disease
- 6 Venues are all about the green
- Conservation and cruelty concerns
- 8 Slow-moving federal response
- ? References

This report is dedicated to the volunteer investigators who stuck their necks out to collect evidence of the sale of tiny turtles at US reptile expos during an international pandemic.

#### Introduction

Some of the first public events to resume during the COVID-19 pandemic were US reptile expos.

Despite an international crisis that can likely trace its origins back to human interactions with wild animals associated with wildlife trade, cash-strapped venues reopened their doors to reptile expo organizers and their guests as early as May 2020, when much of the world was still in strict lockdown.

Reptiles and amphibians are estimated to account for some 74,000 cases of human Salmonella infections every year in the US alone. Found normally in the digestive tract of healthy reptiles, presence of the same type of Salmonella bacteria in humans can cause stomach cramps, fever, diarrhea, or infections in the blood, urine, bones, and joints. Sickness can even lead to hospitalizations and death, especially in small children and older adults.

Pet turtles are commonly contaminated with Salmonella and are often the source of reptile-associated Salmonella infections in humans.<sup>2</sup> Because they pose a severe threat to children, the sale of turtles with shells less than four inches in length has been banned in the US since 1975.<sup>3</sup>

Despite this longstanding prohibition, this World Animal Protection report reveals multiple instances of the apparent selling of illegally-sized turtles at US reptile expos between February 2020 and March 2021. Our investigation also found a willful ignorance of best safety practices at these events and a lack of capacity among state and federal authorities to ensure safety practices and enforce the ban on the sale of tiny turtles.

Reptile expos not only pose a threat to humans through the possible transmission of diseases. They also pose several conservation concerns and an animal welfare tragedy. Turtles are particularly prone to unsustainable use because of their life history traits, including their long life spans, which also makes keeping them captive particularly cruel.

The COVID-19 pandemic brought to the world's attention the shocking ways we treat wild animals as commodities that cause them to become stressed and sick and pass diseases onto humans. Yet despite this, live wild animal markets capable of infecting humans with zoonotic diseases are thriving in the United States.

While World Animal Protection would ultimately like to see the commodification of wildlife as pets brought to and end based on animal cruelty, ecological devastation, as well as public health concerns, authorities must be empowered to enforce best practices and the ban on tiny turtles designed to safeguard our children's health.

It seems bizarre that when we are all closely following the advice of health professionals regarding COVID-19, that we would not also be following their advice about how to prevent the spread of Salmonella.

Liz Quick-Corral

Interim Executive Director/Director of Development

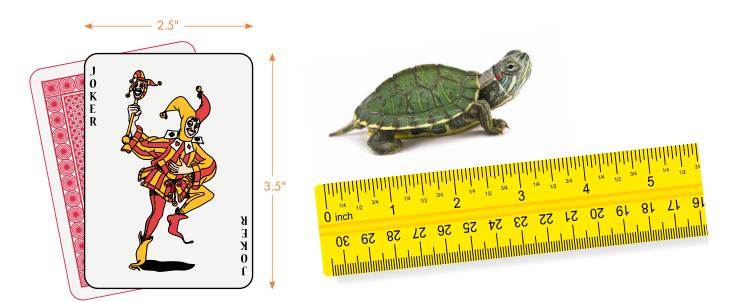
Shelling out World Animal Protection

# Going undercover

Between February 2020 and March 2021, World Animal Protection investigators went undercover at numerous reptile expos around the country<sup>4</sup> to collect evidence of the sale of tiny turtles and document safety measures taken at these events.

The sale or distribution of turtles with a carapace<sup>5</sup> less than four inches in length has been banned throughout the United States since 1975<sup>6</sup> to reduce the spread of turtle-borne Salmonella infections. Although any sized reptile can carry Salmonella, tiny turtles are especially risky<sup>7</sup> because children are more likely to put these animals in their mouths and not wash their hands after handling them. However, as the US Centers for Disease Control and Prevention (CDC) points out, "tiny turtles are still sold by street vendors, flea markets, and souvenir shops." 8

They are also sold at reptile expos.



Our investigators found evidence of what appears to be illegal tiny turtles for sale at all three of the nation's most prolific reptile expos: Repticon, HERPS, and Cold Blooded Expos.

Dozens of turtles for sale at these events appeared to our investigators to be less than four inches in length. Our investigators took photos and footage at these events and compared turtle sizes to other objects of known size, such as the size of the investigator's palm, or the length of a standard playing card, 3.5 inches. In two of these instances, the person selling the turtles confirmed that the shells were around 2.5 inches.

In addition to witnessing firsthand tiny turtles for sale at four events, our investigators found videos online of tiny turtles for sale at two more events in 2018 and 2019. Our online investigation only scratched the surface of what is likely many more videos and photographs showing tiny turtles for sale at similar events.

Reptile expo, location, and date

Photographic evidence collected by World Animal Protection investigators

Cold Blooded Expos
DoubleTree by Hilton Bloomington, MN.
February 23, 2020

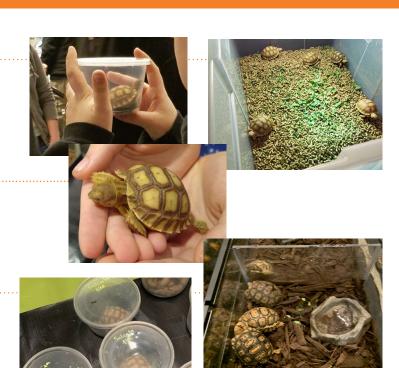
Cold Blooded Expos ..... Hilton Garden Inn West -Des Moines, IA. August 30, 2020

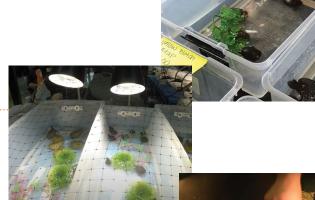
Cold Blooded Expos DoubleTree by Hilton Hotel Kansas City -Overland Park, KS. November 7, 2020

ReptiDay (Repticon)
Family Life Center Boynton Beach, FL.
March 13, 2021

ReptiDay (Repticon) ...... Eau Gallie Civic Center -Melbourne, FL. May 25, 2019

Richard M. Borchard Fairgrounds -Robstown, TX. August 11, 2018





Shelling out

#### Hard facts about turtle-associated diseases

The CDC estimates that reptile and amphibian contacts account for around 74,000 cases of Salmonella infections per year in the US alone with around half of all infections occurring in children.<sup>11</sup> Older adults and people with lowered natural resistance to infection because of pregnancy, cancer, HIV/AIDS, diabetes, and other diseases also have a higher risk of contracting salmonellosis—an infection caused by the Salmonella bacteria—and are more likely to have severe symptoms.<sup>12</sup>

Turtles commonly carry the Salmonella bacteria on their outer skin and shell surfaces. Salmonella can cause a serious or even life-threatening infection in people, even though the bacteria do not necessarily make reptiles or amphibians sick. Salmonella infections can cause diarrhea, fever, stomach pain, nausea, vomiting, and headaches in people. Even if a small turtle doesn't look sick, they may still carry Salmonella bacteria and present other health concerns. <sup>13</sup>

Every year, the CDC reports on interstate outbreaks of salmonellosis due to exposure to reptiles. <sup>14</sup> In four outbreaks between March 1, 2017, and February 23, 2021, pet turtles were the likely source of Salmonella infections in at least 168 people. These four outbreaks were traced to Salmonella typhimurium in small pet turtles in 2019 and 2021, <sup>15</sup> to Salmonella oranienburg in pet turtles in 2019, <sup>16</sup> and to Salmonella agbeni in pet turtles in 2017. <sup>17</sup> Among the 168 who got sick, 58 of them were so ill they had to be hospitalized. At least 25 children younger than five years were among those who got sick. One adult patient died in the 2021 outbreak.

The CDC investigations showed that shortly before many of the people became ill, they were exposed to a small turtle by touching, feeding, cleaning the habitat, or changing the water in the tank.



#### Preventing future disease outbreaks

All public settings where animals are located are strongly encouraged to follow the National Association of State Public Health Veterinarians (NASPHV) Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2017. These guidelines suggest, among other measures, that children should not come into contact with animals likely to carry zoonotic diseases, and also that food and drinks, and items such as strollers, pacifiers, cups, and toys should also not be allowed in areas with animals.

#### National Association of State Public Health Veterinarians guidance relating to reptile expos

Do not allow consumption of food or beverages in animal areas

Do not allow toys, pacifiers, spill-proof cups, baby bottles, strollers, or similar items to enter animal areas

For areas where animal contact is encouraged, a 1-way flow of visitors is recommended

Children < 5 years of age should not have direct contact with animals that are considered likely to carry zoonotic pathogens

Ensure that visitors receive educational messages before entering an exhibit, including information that animals can cause injuries or carry germs that can cause serious illness, along with recommended prevention measures

Provide information in multiple formats (e.g., signs, stickers, handouts, and verbal information) and languages

Encourage compliance by the public with risk reduction recommendations, especially compliance with handwashing procedures as visitors exit animal areas

Become familiar with and implement the recommendations in this compendium

Since 2018, World Animal Protection investigators have visited more than a dozen reptile expos and exotic pet events worldwide to observe the conditions of the animals and document visitor safety and animal welfare. <sup>19</sup> The investigations raised several serious concerns at each reptile expo we visited, including those here in the US. They include:

- A lack of concern for the spread of reptile-borne bacteria: Although many vendors had anti-bacterial soap on their tables, use of it was not encouraged or only encouraged before handling an animal.
- A lack of safety signage: No warnings about the importance of washing hands and keeping young children and the immunocompromised away from reptiles.
- Inadequate space and overcrowding of animals: As many as 12 animals were commonly observed piled on top of one another, increasing the risk of injury and illness.
- Inappropriate housing: Housing conditions did not meet minimum recommendations, raising concerns regarding the health status of animals.<sup>20</sup>

While the sale of illegally-sized turtles appears to be out in the open at US reptile expos, noticeably absent is any signage warning of the zoonotic disease dangers of handling reptiles—despite the CDC making plenty of it available.<sup>21, 22, 23</sup>

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Our investigators found no attempt to warn visitors to US reptile expos of the dangers posed by Salmonella infection from coming into contact with reptiles. Indeed, the websites of repticon.com, herpshow.net, and coldbloodedexpos.com do not advertise that reptiles can cause Salmonella infections in humans or provide any safety advice on how to prevent such infections.<sup>24</sup>

Instead, visitors are informed through signage about the price of admission and who the event sponsors are.





Missing: Signage with the CDC's warning that reptiles are vectors of zoonotic disease and children under five should avoid contact

In addition to a lack of signage, no attempt appears to be made to discourage strollers, pacifiers, or children's belongings from entering areas with live animals. Nor was there any apparent attempt to prevent the consumption of food and drink. Instead, our investigators witnessed children being encouraged to pet reptiles. Social media and other websites dedicated to US reptile expo events are full of photographs of strollers in areas with animals and children having direct contact with reptiles, including many posted by the reptile expo organizers themselves.<sup>25</sup>

## All about the green

It is hardly surprising that reptile expo organizers show a lack of appetite to clearly post information for visitors regarding the potential for reptiles and amphibians to carry bacteria and other pathogens that can make people sick. Reptile expos are in the business of selling animals. Anything which limits contact between children and their products will also restrict their ability to sell animals. World Animal Protection believes it is the responsibility of the venues hosting reptile expos and the authorities to ensure the safety of guests at events in their jurisdiction.

### Protecting children from zoonotic disease

Reptile-borne salmonellosis outbreaks disproportionately affect children.

The results of a CDC analysis of an outbreak linked to small turtles in 2015 and 2016 showed that more than 202 people were sickened nationwide. 26

Forty-one percent of the patients were children aged younger than five.

In 2011, the CDC investigated an outbreak linked to African dwarf frogs;

241 people were sick, sixty-nine percent were younger than ten years of age.

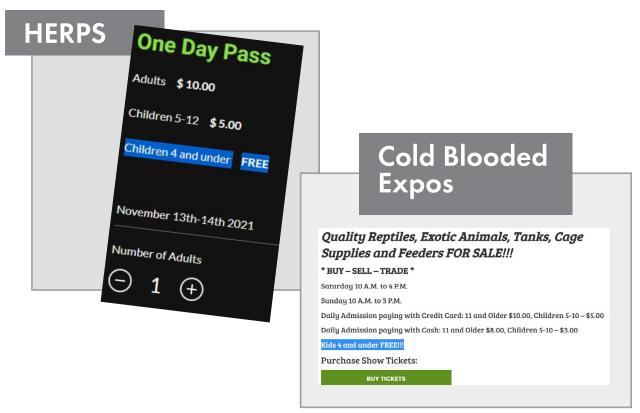
Because of the zoonotic disease threat posed by reptiles in general, and tiny turtles in particular, to young children, the CDC is unequivocal in its position that children younger than five years of age should avoid direct and indirect contact with reptiles:

- "Children younger than 5 years of age, people with weak immune systems, and adults older than 65 years of age should not handle or touch amphibians or reptiles or their environment because they are at a higher risk for serious illness and hospitalization from Salmonella."<sup>27</sup>
- "Reptiles, amphibians, poultry, rodents, and ferrets are not suitable for settings with children under 5 years of age."<sup>28</sup>
- "Children aged less than 5 years and immunocompromised persons should avoid direct and indirect contact with reptiles." 29

This message about preventing children under five from coming into contact with reptiles is pervasive throughout the CDC's website. But in a cruel irony, this is precisely the age group that US reptile expos let into their events for free.

8 Shelling out World Animal Protection



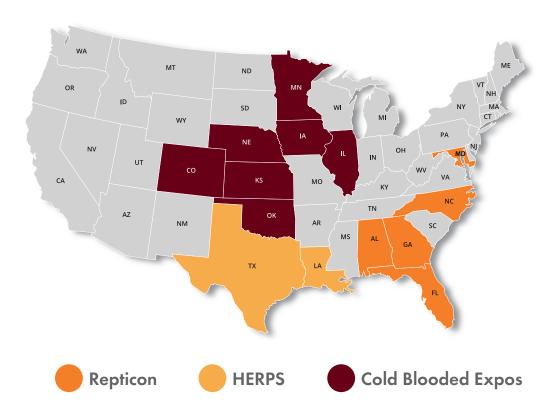


The exact demographic that the CDC warns us should be prevented from having access to reptiles is the same as the one being enticed to go to reptile shows for free.

It seems evident that offering free entry to reptile expos to children under five years of age is acting in contradiction to the recommendations of the CDC and the NASPHV.

### Cashing in and Shelling Out

Although reptile expos occur in every US state, they are far more common in some states than others. Of the three most prolific US reptile expos, Repticon (including RetiDay) is the most common with at least one event, usually two, every weekend.<sup>30</sup> Repticon events generally take place in the southern and eastern United States. Cold Blooded Expos typically occur around the Midwest about once every two weeks and are often confined to a single Sunday instead of an entire weekend.<sup>31</sup> HERPS shows take place around once a month, primarily in Texas and surrounding states.<sup>32</sup>



These reptile expos are hosted by venues such as city-run civic centers, state fairgrounds, international hotel chains (such as Hilton, Holiday Inn, and Ramada), churches, Shriner temples, and private arenas. Despite World Animal Protection contacting every venue hosting Repticon, Cold Blooded Expos, and HERPS events between May 2020 and May 2021, responses were few and far between. The few responses from venues typically deflected responsibility for the safety of their guests to the reptile expo organizers.

Reptile expos were some of the first public events to resume during the COVID-19 pandemic, as early as May 2020. This, despite the origins of the COVID-19 pandemic having been linked with human interactions with wild animals associated with the wildlife trade. Starved of events during the lockdown, cash-strapped venues were eager to restart booking their halls, and reptile expos were all too eager to resume hosting their wild animal markets.

For these reasons, "Shelling Out" seems an appropriate title for this report. Venues continue to cash in and sell out on the backs of suffering turtles, while consumers pay through the nose for these reptiles and continue to do so for many years or until the novelty wears off.

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#### Conservation and cruelty concerns

Of all reptiles, the sale of tiny turtles is particularly unstainable. Turtles' life history traits—such as high egg and nesting mortality, delayed maturity, and longevity—make them vulnerable to exploitation.

African Spurred Tortoises (Centrochelys sulcata) <sup>33</sup> such as those we found for sale at Repticon and Cold Blooded Expos may begin life only a couple of inches in size when they hatch, but they can grow to two and a half feet and can live for more than 70 years. <sup>34</sup> Caring for them is a lifetime commitment that few people can successfully achieve, let alone comprehend when they are only a few inches small.

The average length of time someone keeps reptiles is five years.<sup>35</sup> This means that many reptiles are unlikely to live out the entire duration of their natural lives under a single roof.

Turtles typically require more and more specialist feed as they grow older and increasingly larger enclosures, heat lamps, consistent humidity, expensive veterinary care, and both indoor and outdoor spaces. Given their specific care requirements and long natural lifespans, it is no surprise that many are dumped outside or abandoned at rescues once the novelty of owning them has worn off. Some species, such as the red-eared slider, slider have become notorious invasives following release or escape from captivity into the wild, competing with native turtles for food, habitat, and other resources.<sup>36</sup>

Common health problems in pet turtles <sup>37</sup>	Causes
Vitamin A deficiency	An inappropriate diet; produces changes in the epidermis, lack of appetite, lethargy, swelling of the eyes and eyelids (often with a pus-type discharge), swelling of the ear.
Respiratory diseases	Bacteria; often secondary to Vitamin A deficiency. Turtles may have excess mucus in oral cavities, nasal discharges, lethargy and loss of appetite, and open-mouth breathing and wheezing.
Abscesses	Related to Vitamin A deficiency; appear as hard tumor-like swellings on the body, often located on the opening of the ear.
Shell infections and fractures	Bacteria, fungi, viruses, or the result of fractures. Trauma from vehicles or dog bites.
Parasites	Roundworms; may cause diarrhea or weight loss

While estimating mortality rates in captive reptiles is notoriously problematic, a recent study of self-reported data suggests that around 7.3% of turtles & terrapins and 2.1% of tortoises and box turtles die within their first year of acquisition.<sup>38</sup> While other estimates comparing reptile supply with the population of pets in homes suggest the first-year mortality rate for reptiles is far higher, at 75%.<sup>39</sup>

Whatever the actual figure, even a 1% mortality rate still means tens of thousands of unnecessary deaths for the US' approximately two million captive turtles<sup>40</sup>—and that is just in their first year in people's homes. Deaths in the following years, or even in the weeks and months before they are purchased by the consumer, are likely to run into the hundreds of thousands.

Needless to say, a long life in captivity does not necessarily equate to a good life.

### Slow-moving federal response

Throughout World Animal Protection's investigation into the sale of tiny turtles at US reptile expos, investigators kept federal authorities up to date with the organization's findings. World Animal Protection met with members of the CDC's Division of Foodborne, Waterborne, and Environmental Diseases and the FDA's Center for Veterinary Medicine (CVM).

There has been an inability to address the issue of tiny turtles being sold—some apparently illegally—at reptile expos around the country with impunity.

The lack of enforcement of the ban on tiny turtles is so evident that some reptile enthusiasts question its very existence, 41 and in some instances reptile expos openly post photos of apparently illegally-sized turtles on their social media accounts. 42

While the COVID-19 pandemic is one explanation for a reduced presence of federal enforcement on illegal sales of tiny turtles, it does not tell the whole story.

Despite being the most informative agency on the zoonotic disease threat from tiny turtles, the CDC is essentially powerless to investigate or enforce the law unless an outbreak occurs and can be directly linked back to a particular reptile expo.

The FDA's CVM is empowered to administer the provisions of the regulation that ban the sale of tiny turtles but has a backlog of investigatory cases. The agency advised us that the majority of its resources were tied into COVID-19 related matters, and it could only review our findings "as resources and priorities permit." While the CVM compliance team eventually did indicate that it would provide a federal response—although it could offer no guarantees or subsequent information on possible actions—it said that it had been the agency's experience that state and local public health authorities were able to act more swiftly to address such issues.

Indeed, many state and local health departments have engaged and even acted on the findings of our investigation. Authorities in South Carolina, Kansas, Florida, and Oklahoma engaged with reptile expo organizers and venue hosts operating in their states to put measures in place to better protect the health of patrons. Others, such as in Maryland, supported our efforts and provided helpful information. Many more, including health authorities in Texas, Iowa, Georgia, and North Carolina, did not respond in detail to our concerns.

If the COVID-19 pandemic has taught us anything, it is that we have to take the threat of diseases transmitted from wild animals to humans more seriously.

The American Rescue Plan allocated hundreds of millions of dollars to federal agencies in March 2021, including \$300 million to the US Department of Agriculture and \$95 million to the US Fish and Wildlife Service to monitor zoonotic diseases in animals. But it neglected to give the FDA the resources it needs to enforce the ban on the sale of tiny turtles at reptile expos and help prevent zoonotic infections that the CDC estimates affect around 74,000 people a year, disproportionately children.

While World Animal Protection continues to campaign for an end to all wildlife trade on the basis of animal cruelty, conservation, and preventing future pandemics, enforcing existing laws designed to protect our childrens' health is the bare minimum we can expect.

Our plea to the relatively new leadership of these huge US federal agencies is for them to work together to tackle this dangerous and seemingly illegal activity once and for all.

12 Shelling out World Animal Protection

#### Endnotes

- 1 Mermin J, Hutwagner L, Vugia D, Shallow S, Daily P, Bender J, Koehler J, Marcus R, Angulo FJ, (2004) Reptiles, Amphibians, and Human Salmonella Infection: A Population-Based, Case-Control Study, Clinical Infectious Diseases, Volume 38, Issue Supplement\_3, April 2004, Pages S253-S261, https://doi.org/10.1086/381594
- 2 Centers for Disease Control and Prevention, Salmonella Infection. Available at https://www.cdc.gov/healthypets/diseases/salmonella.html
- 3 Food and Drug Administration, Salmonella and Turtle Safety. Available at https://www.fda.gov/animal-veterinary/animal-health-literacy/salmonella-and-turtle-safety
- 4 Some of these investigations were conducted by World Animal Protection staff who travelled to venues. But most were conducted by volunteers who lived locally due to the COVID-19 pandemic limiting travel.
- A carapace is a dorsal section of the exoskeleton or shell in a number of animal groups, including arthropods, such as crustaceans and arachnids, as well as vertebrates, such as turtles and tortoises. In turtles the carapace is defined as the hard upper part of the shell.

  We use "carapace" and "shell" interchangeably in this report.
- 6 Title 21 Section 1240.62. Available at https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/cfrsearch.cfm?fr=1240.62
- 7 Food and Drug Administration, Pet Turtles: A Source of Germs.
  Available at https://www.fda.gov/animal-veterinary/animal-health-literacy/pet-turtles-source-germs
- 8 Centers for Disease Control and Prevention, The Trouble with Tiny Turtles. Available at https://www.cdc.gov/healthypets/publications/trouble-with-tiny-turtles.html#:~:text=Although%20any%20size%20turtle%20can,flea%20markets%2C%20and%20souvenir%20shops.
- 9 At 10 mins 44 a vendor reaches into a container of turtles no bigger than the size of his palm. Available at https://www.youtube.com/watch?v=tKOqsa7vMNk
- 10 At 4 mins 45 secs video, observers can see a container of turtles appearing to be under four inches in length. Available at https://www.youtube.com/watch?v=BkSQ0IY7ILQ
- 11 Centers for Disease Control and Prevention, Reptile-Associated Salmonellosis Selected States, 1998-2002. Available at https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5249a3.htm#:~:text=Overall%2C%20reptile%20and%20amphibian%20contacts,the%20United%20States%20(3)
- 12 Food and Drug Administration, Pet Turtles: Cute But Commonly Contaminated with Salmonella.
  Available at https://www.fda.gov/consumers/consumer-updates/pet-turtles-cute-commonly-contaminated-salmonella
- 13 Green J, Coulthard E, Norrey J, Megson D, D'Cruze N, (2020) Risky Business: Live Non-CITES Wildlife UK Imports and the Potential for Infectious Diseases. Animals, 10(9), 1632; https://doi.org/10.3390/ani10091632
- 14 Centers for Disease Control and Prevention, US Outbreaks of Zoonotic Diseases Spread between Animals & People. Available at https://www.cdc.gov/healthypets/outbreaks.html
- 15 Centers for Disease Control and Prevention, Salmonella Outbreak Linked to Small Turtles: Investigation Notice. Posted April 15, 2021. Available at https://www.cdc.gov/salmonella/typhimurium-02-21/index.html
- 16 Centers for Disease Control and Prevention, Outbreak of Salmonella Infections Linked to Pet Turtles: Investigation Notice. Posted January 9, 2020. Available at https://www.cdc.gov/salmonella/oranienbura-10-19/index.html
- 17 Centers for Disease Control and Prevention, Multistate Outbreak of Salmonella Agbeni Infections Linked to Pet Turtles, 2017 (Final Update). Posted March 13, 2018. Available at https://www.cdc.gov/salmonella/agbeni-08-17/index.html
- National Association of State Public Health Veterinarians, Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2017. Available at http://www.nasphv.org/Documents/AnimalContactCompendium2017.pdf
- 19 World Animal Protection (2020) Suffering in Silence: Uncovering the cruelty of the global trade in Ball pythons. Available at https://www.worldanimalprotection.us/reports
- 20 D'Cruze N, Paterson S, Green J, Megson D, Warwick C, Coulthard E, Norrey J, Auliya M, Carder G, (2020) Dropping the Ball? The Welfare of Ball Pythons Traded in the EU and North America. Animals 10(3), 413; https://doi.org/10.3390/ani10030413

- 21 Centers for Disease Control and Prevention, Stay healthy around pet reptiles and amphibians! Poster. Available at https://www.cdc.gov/healthypets/resources/safety-around-reptiles-H.pdf
- 22 Centers for Disease Control and Prevention, Turtles and other reptiles are risky pets sample factsheet. Available at https://www.cdc.gov/media/matte/2012/09-turtles-salmonella.pdf
- 23 Centers for Disease Control and Prevention, The Trouble with Tiny Turtles. Available at https://www.cdc.gov/healthypets/resources/trouble-with-tiny-turtle.pdf
- 24 Repticon's website does include a mention of Salmonella buried deep in rules specific to shows in Tennessee
- 25 See, for example, https://www.flickr.com/photos/repticon/page21
- 26 Centers for Disease Control and Prevention, Four Multistate Outbreaks of Human Salmonella Infections Linked to Small Turtles Posted May 18, 2016. Available at https://www.cdc.gov/salmonella/small-turtles-10-15/index.html
- 27 Centers for Disease Control and Prevention, Safe Handling of Pet Reptiles & Amphibians. Available at https://www.cdc.gov/healthypets/pets/reptiles/safe-handling.html
- 28 Centers for Disease Control and Prevention, Animals in Schools and Daycares. Available at https://www.cdc.gov/healthypets/specific-groups/schools.html
- 29 Centers for Disease Control and Prevention, Reptile-Associated Salmonellosis Selected States, 1996-1998. Available at https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4844a1.htm
- 30 Repticon and ReptiDay. Available at https://repticon.com/events/
- 31 Cold Blooded Expos. Available at https://coldbloodedexpos.com/
- 32 HERPS. Available at https://herpshow.net/shows/
- 33 Tortoises are considered turtles under the law, as are terrapins, and all other animals of the order Testudinata, class Reptilia, except marine species (families Dermachelidae and Chelonidae).

  Available at https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/cfrsearch.cfm?fr=1240.62
- 34 Animal Life Expectancy, African Spurred Tortoise. Available at https://www.worldlifeexpectancy.com/reptile-life-expectancy-african-spurred-tortoise
- 35 American Pet Products Association, The 2019-2020 APPA National Pet Owners Survey Debut. Available at https://www.americanpetproducts.org/pubs\_survey.asp
- 36 US Department of Agriculture, National Invasive Species Information Center. Available at https://www.invasivespeciesinfo.gov/aquatic/fish-and-other-vertebrates/red-eared-slider
- 37 Bishop Ranch Veterinary Center & Urgent Care. Available at https://www.webvets.com/Resources/resource.php?Common-Diseases-of-Pet-Turtles-108#:~:text=Common%20conditions%20of%20pet%20turtles,feeding%20turtles%20an%20inappropriate%20diet
- 38 Robinson JE, St. John FAV, Griffiths RA, Roberts DL, (2015) Captive Reptile Mortality Rates in the Home and Implications for the Wildlife Trade. PLoS ONE 10(11): e0141460. https://doi.org/10.1371/journal.pone.0141460
- 39 Toland E, Warwick C, Arena P, (2012) Pet hate: Exotic pet-keeping is on the rise despite decades of initiatives aimed at reducing the trade of exotic and rare animals. Three experts argue that urgent action is needed to protect both animals and ecosystems. The Biologist.

  Available at https://www.semanticscholar.org/paper/Pet-hate%3A-Exotic-pet-keeping-is-on-the-rise-despite-Toland-Warwick/833b7f704c3048f9e3
  08e1a85b9a89b5ed0e17de

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- 40 Northstar Research Partners, (2020), Exotic Pet Ownership in the United States. Produced for World Animal protection. Available on request.
- 42 Repticon Flickr album from Sarasota 2021. Available at https://www.flickr.com/photos/repticon/50894897028/

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We are World Animal Protection.

We end the needless suffering of animals.

We influence decision makers to put animals on the global agenda.

We help the world see how important animals are to all of us.

We inspire people to change animals' lives for the better.

We move the world to protect animals.

We strive to end injustice.

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