

THE FLORIDA PANTHER

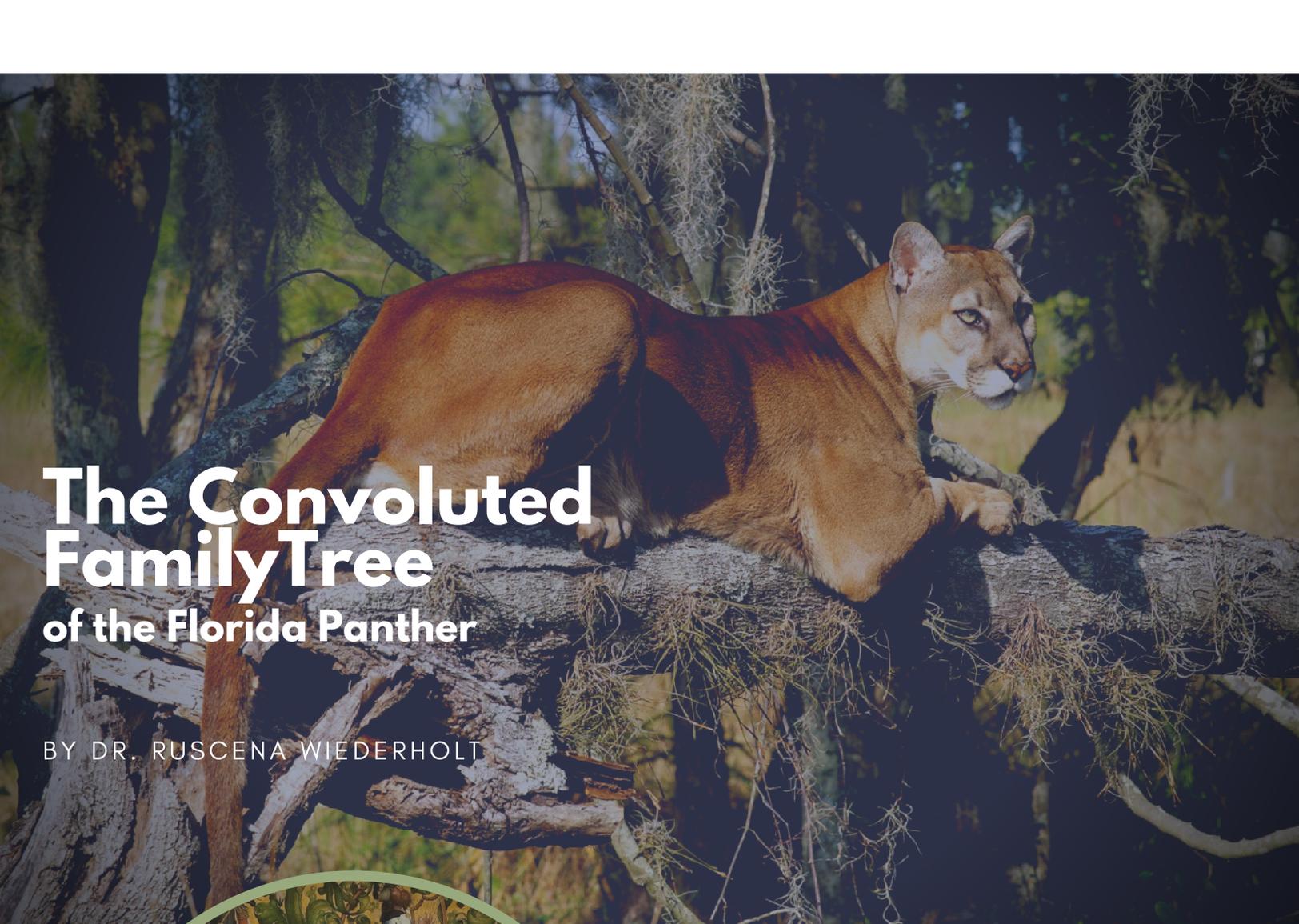
**THE CONVOLUTED FAMILY
TREE OF THE FLORIDA PANTHER**

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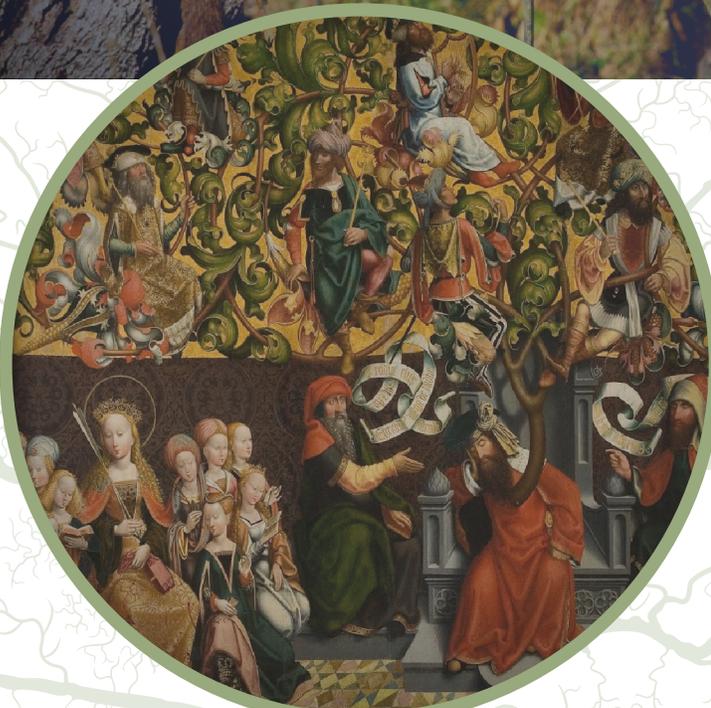
FLORIDA PANTHERS ARE THE LAST
POPULATION SURVIVING IN THE
EASTERN UNITED STATES.



A photograph of a Florida panther resting on a large, weathered tree branch. The panther is facing right, looking off-camera. The background is a dense forest with sunlight filtering through the trees.

The Convoluted Family Tree of the Florida Panther

BY DR. RUSCENA WIEDERHOLT



THE TREE OF JESSE

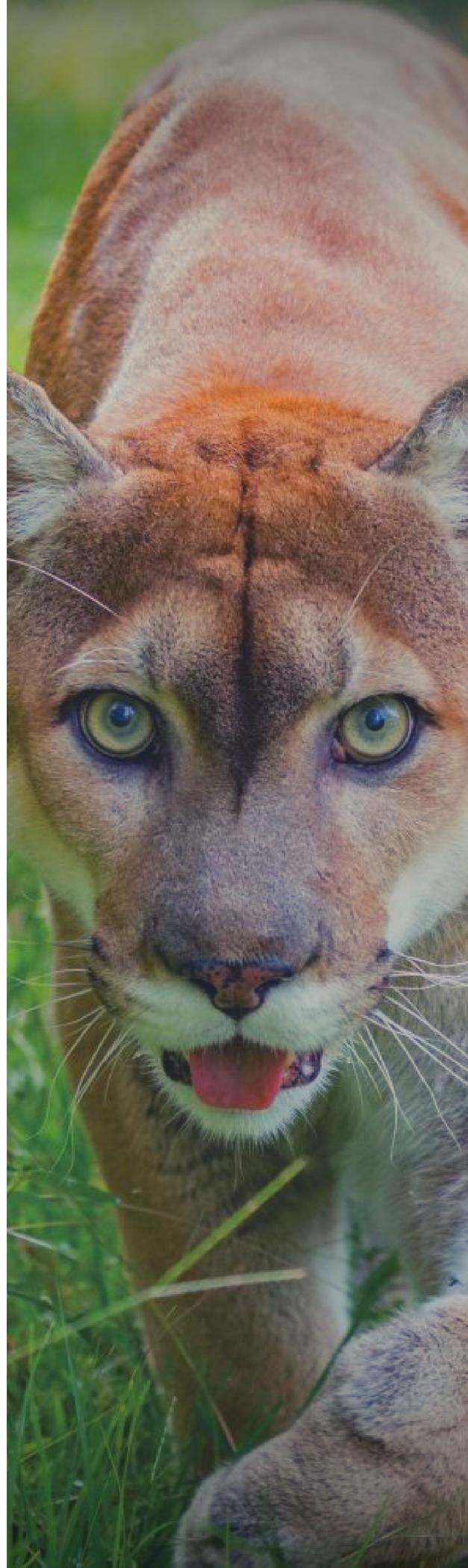
A painting by an anonymous German artist in 1500. This painting depicts the ancestors of Christ through a tree which rises from Jesse of Bethlehem, the father of King David. This depiction is based on a passage from the book of Isaiah 11 1-10.

In medieval times, a special type of art illustrated a tree. No ordinary tree, its branches held people, particularly a young woman. Extremely popular, they were displayed in manuscripts, carved into stone, painted on walls and ceilings, and even set into windows. Notably, an infant or a man was always found somewhere among the branches too. The identity of these people is likely known to you, the Tree of Jesse is tracing the lineage of Jesus, through his mother Mary, back to his ancestor Jesse. This type of Christian artwork was inspired by a biblical quote using a tree metaphor. The reason we call reconstructions of our lineages “family trees” likely comes from this artistic depiction. Religious art aside, a charismatic Everglades species has one of the interesting family trees of all: The Florida panther.

The iconic Florida panther

is our state animal and the mascot for numerous sports teams including South Florida's hockey team. A subspecies of mountain lion, Florida panthers are the last population surviving in the eastern United States. While historically Florida panthers occurred throughout the southeastern United States, by the early 1900s, their range had shrunk to less than 5% of its original extent. At the same time, their numbers had plummeted from hunting and habitat loss. To add insult to injury, isolation in a small corner of Southwest Florida produced another problem caught up in the twisting strands of their DNA. The lack of contact with other mountain lion populations caused a sharp reduction in gene flow. Stories of sickly royal families have revealed no new blood is harmful, leading to unhealthy children, physical deformities, reduced mental abilities, infertility, and lowered survival. Unfortunately, by the 1970s, panthers had been inbreeding for decades, leaving them riddled with diseases and parasites, and with a host of problems like undescended testicles, low fecundity, kinked tails, and heart defects. At this point, only about 20 adults and subadults remained, and the Florida panther was already listed as federally endangered.

To make matters worse, in the late 80s and early 90s, several panthers were found dead suffering from mercury poisoning. Fearing the extinction of these charismatic cats, in the early 1990s, a group of scientists convened to discuss their fate. They decided there was no option but to bring in some familial help. Eight female mountain lions from Texas were released in Florida's panther territory to reduce inbreeding. They had 20 kittens, with blue eyes just like house cats, and spots to camouflage them. This dramatically increased the genetic diversity of the panthers, improving visual and cognitive abilities, reproduction, and mitigating other negative effects of inbreeding. Those 20 kittens gave the population a fresh start, and their numbers started climbing again.





A Struggle For Survival

Currently there are 230 Florida panthers (excluding all the adorable kittens), and in 2016 another milestone was reached. A mother with two kittens were spotted north of the Caloosahatchee River for the first time in 40 years, which means the breeding population of panthers is expanding their range. However, they're not out of the woods yet, and the panther continues to face numerous threats. Panthers need a lot of space; males roam over 200 square miles, and females use 50 square miles. Their habitat includes swamps, pinelands, forests, wetlands, and grasslands, but they can also inhabit areas like rangeland. Unfortunately, the rapid urban and agricultural development in South Florida, combined with the loss of rangeland leaves much less room for panthers. On top of habitat loss, they're also threatened by habitat degradation, fragmentation, and collisions with cars.

Their family tree raised its head again when something else was found in their DNA. Mountain lions range from

Canada to the tip of South America, and at one point were thought to include 32 distinct subspecies. In 2000, genetic analyses proposed that there were only 6 subspecies, with just one subspecies stretching across Mexico, the United States, and Canada. Then in 2017, further studies led the IUCN (International Union for the Conservation of Nature) Cat Specialist Group's Classification Task Force to recognize only two mountain lion subspecies, one found in South America, and the other predominantly in North America. With this rapidly shrinking family tree, is it possible that the Florida panther, long considered a distinct subspecies, may not be so unique after all?





The United States Fish and Wildlife Service still recognizes the Florida panther as a unique subspecies, and for the moment, the rearrangement of their family tree appears to be open to debate. Genetics aside, the Florida panthers are the only mountain lions remaining east of the Mississippi and they do exhibit distinctive physical traits from other mountain lion populations. Even if taxonomic classifications were to change, distinct populations are also eligible for protection under the Endangered Species Act.

Florida panthers have come a long way, but as an endangered species, their population size remains precariously low. Because they need such large amounts of space they're known as an umbrella species, since protecting them also indirectly protects many other species. So conserving these cats also helps a lot of other creatures that roam, slither, fly, swim and grow within the borders of our state.

Let's hope the future brings a better fate for Florida's special felines.





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