



Encyclopedia of Life

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## Lions Podcast and Scientist Interview

*Panthera leo*

Does the mane really make the lion? Certainly, luxurious locks are the feature that sets *Panthera leo* apart from the other large cats. But surprisingly, not all male lions have manes. And manes used to cover more of the lion than just the head. Archivist Connie Rinaldo of Harvard University and curator of mammals Bruce Patterson of Chicago's Field Museum talk about the diversity of lions in the distant past and the challenges they face in the present.

### Transcript

**Ari:** From the Encyclopedia of Life, this is One Species at a Time. I'm Ari Daniel Shapiro.

When you think of a lion...whether it's the lion roaring to introduce an MGM movie...

...or the Cowardly Lion from the Wizard of Oz...

**Cowardly Lion:** I haven't any courage at all.

**Ari:** ...or Mufasa from the Lion King... chances are you think of a mane. And for good reason.

**Patterson:** Lions are the only cats that have manes.

**Ari:** Bruce Patterson is the Curator of Mammals at the Field Museum of Natural History in Chicago. He studies lions, or *Panthera leo*.

**Patterson:** Manes offer lions advantages in social contexts – males are more attractive to females, and more intimidating to rival males.

**Ari:** But there are two surprising things about manes. First, not all male lions have them. Turns out that manes respond to the environment. Lions in cooler places have full-flowing manes. Whereas lions in hot places grow barely any mane. Maybe a little Mohawk, or some sideburns, but nothing lush.

**Patterson:** Manes in hot equatorial regions are big heavy blankets. A lion with a big mane is at a big disadvantage because he's gotta stop patrolling his territory earlier in the morning. He can't look as far for mates.

**Ari:** The second surprising thing about manes is they haven't always just framed a lion's head. Two centuries ago, the lions of South Africa, and those living in the mountains of Morocco and Algeria, for instance, had expansive manes.

**Patterson:** And not only were they way back over the shoulders and the middle of the back, but both forms had belly manes. Fringes of fur that started on their chests and went right back into the pelvic region.

**Ari:** And even before this, 50 thousand years ago – during the late Pleistocene – three different species of lion paraded the globe

**Patterson:** Scientists believed that the lion was actually the most widespread terrestrial mammal species on the planet.

**Ari:** North America used to boast a radically different ecosystem – it was filled with herds of large mammals that the American lions ate. But at the end of the Pleistocene 10 to 20,000 years ago, many of those herds vanished.

**Patterson:** A combination of both extreme climate change and the arrival of Paleolithic hunters administered a coup de grâce to this fauna, and left us with a tenth of what was running around this continent. Lions disappeared with this fauna, probably not through direct persecution, but through a collapse of the prey base that they depended on.

**Ari:** It was the beginning of a slow decline in lion numbers that's continued throughout the last century. Today, fewer than 20,000 lions are alive in the wild – in a few pockets in Africa, and a single population in Western India. The cause?

**Patterson:** Conflict with people, mainly over livestock.

**Ari:** Lions rely on a large amount of land to hunt their prey. But their natural habitat is shrinking, and their food sources are growing ever scarcer. Again, Bruce Patterson, Curator of Mammals at the Field Museum of Natural History in Chicago.

**Patterson:** Lions certainly deserve better given their role in our iconography and in our imaginations, and in making the world an exciting and mysterious place in which to live. But, uh, it actually affects me quite a bit, so let me get my act together here and I'll finish that. Keeping wild lions alive – with or without manes – will take the hard work of governments and citizens in the countries where these cats still roam free.

**Ari:** When he continues, Patterson says that despite the growing difficulties for lions, he refuses to believe that they'll vanish from the wild.

**Patterson:** Lions do very well when we leave them to their own devices – there's no problem with captive propagation. Lions are very good at colonizing areas from which they've been extirpated. It's more a matter of managing people than it is managing lions.

**Ari:** You can visit eol.org for a couple of web extras. First, the lions that used to inhabit the Earth are known partly from old writings, paintings and engravings – works of science and art that fill the pages of countless books locked up in libraries. Digitizing those books – all 40 million pages worth – and liberating that information so that anyone in the world can have free access – is the mission of the Biodiversity Heritage Library. Connie Rinaldo is a librarian at Harvard's Museum of Comparative Zoology – one of the partners in the project.

**Rinaldo:** These books are hidden from most people. One of the reasons the Biodiversity Heritage Library was started was really to repatriate information.

**Ari:** The idea is to get this information into the hands of people in countries struggling with biodiversity protection – in places like Africa, and Central and South America. Learn more on our website – eol.org..

**Patterson:** This anesthetized lion suddenly lifted his head, turned around, and I was standing straddling the lion at the time. I think it took maybe 2 minutes for my knees to stop shaking after that experience.

**Ari:** Our series, One Species at a Time, is produced by Atlantic Public Media in Woods Hole, Massachusetts. I'm Ari Daniel Shapiro.

## Meet the Scientist

Meet Bruce Patterson, the scientist featured in the Lion Podcast:



### **Where do you work?**

I work at the department of Zoology at the Field Museum of Natural History in Chicago, IL. USA.

### **What do you study?**

I study the ecology, evolution, and conservation of mammals great and small.

### **What are three titles you would give yourself?**

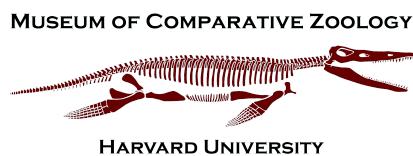
Evolutionary biologist, nature photographer, capsaicin addict.

### **What do you like to do when you are not working?**

I roam the great wilderness areas of South America and Africa.

### **What do you like most about science?**

The opportunities it provides for collaborating with scientists throughout the Developing World--their interests, abilities, and dedication should give us all hope.



The One Species at a Time podcast series is supported by the Harvard Museum of Comparative Zoology.