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THE BIG QUESTIONS

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Do Animals in Chernobyl's Fallout Zone Glow?

The scientific debate about Europe's unlikely wildlife sanctuary.

By [Mary Mycio](#) | Posted Monday, Jan. 21, 2013, at 5:33 AM ET



In the Chernobyl exclusion zone, Valentina Sachepok (right) points out herbs to author Mary Mycio. Courtesy Mary Mycio.

See a [gallery of Chernobyl's wildlife here](#).

Valentina Sachepok darted ahead while I chased her through a forest in the exclusion zone surrounding the Chernobyl nuclear power plant.

A camera crew followed us; they were shooting a documentary about the babushkas of Chernobyl. The 1986 disaster forced the permanent evacuation of 300,000 people, but a smattering of women still live semi-legally in their old homes.

Sachepok, a retired nurse in her 60s with tufts of gray hair peering from under a maroon kerchief, didn't walk but trotted, sprinting abruptly while the rest of us scrambled to keep up. After collecting fat yellow mushrooms from a clump of moss, she led me to a pine tree. "This one is for the hedgehog," she said of the spiny creature beloved in Slavic folktales. She pierced a mushroom on a pine branch close to



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the ground.

That's where radioactivity is highest these days. The explosion and fire here spewed the equivalent of at least 20 Hiroshima bombs' worth of radiation, mostly within about 25 miles of the reactor building. The most radioactive isotopes have long since decayed, and rain has washed the rest into the soil and the food chain. Two of the most persistent isotopes are cesium-137, which chemically mimics potassium, and strontium-90, which imitates calcium in living things. As these isotopes have been taken up by plants, animals, fungi, and bacteria, radioactivity is no longer *on* the zone, but *of* it.

This is a unique ecosystem, twice the size of Rhode Island and about evenly divided between Belarus and Ukraine. A generation after most humans abandoned the area, forests and wetlands have consumed once-tended fields, villages, and towns. Only the occasional carcasses of crumbling buildings mutely testify to the former occupants.

Sachepok stuck another mushroom a foot higher on the tree. "That's for the roe deer. It's hard for them to find food under the snow." The late October day was still warm, but Ukraine's winters are frigid.

Few wild animals lived in the region in 1986; their habitats had been destroyed for Soviet dairy farms and pine plantations. But large mammals started appearing almost immediately after the evacuations, and the animal populations soon exploded.

Roe deer and wild boar caught here in the early 1990s packed more than 2,000 times the safety norms for cesium-137 in meat. Though internal radiation levels have since dropped dramatically, some animals recently tested in Belarus still exceeded safe levels by dozens of times.

But in a surprise to just about everyone, the animals all looked physically normal. The same was true of other species tested—radioactive but normal-looking. The few known exceptions include albino spots and some deformities in [barn swallows](#).

Standing up straight, Sachepok pierced the highest mushroom. "And this is for the moose."

Of the dozen moose sightings I've had in my lifetime, all were in the exclusion zone, where in the course of many journeys I've spent more than a month's time researching my book [Wormwood Forest: A Natural History of Chernobyl](#). It's a strange and beautiful place where I've spotted wolves in broad daylight; lynx tracks in the snow; and huge herds of boar, roe deer, and elk. I'm still drawn back.

Sachepok smiled with more mischief than seemed possible for a lone woman in a radioactive no-man's land. "The animals all know me," she said, a gold tooth glinting, before lecturing me on healthy living, including avoiding what she called the "zombie box"—television.

I think she meant it politically. Ukrainian TV is pure propaganda. But when it comes to Chernobyl, it is only a matter of time before zombies or mutants come up. Whenever I tell anyone about my encounters with Chernobyl wildlife, the questions are always the same: Do they have two heads? Do they glow? Do you glow?



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Actually, in the early years, when contaminated dust coated everything, researchers found countless examples of the monstrous mutations imagined in 1950s horror movies: malformations, dwarfism, gigantism, strange growths, and, yes, even some glowing.

But those effects were seen only in plants. While *Attack of the Giant Leaves* doesn't seem as horrible as the *Creature With the Atom Brain*, no one has ever found seriously deformed wild animals (or zombies) after the Chernobyl accident. Mutant animals born in the wild die or get eaten before they can be discovered. Whatever the biological costs of radiation to individuals, the fittest survived.



Chernobyl's abundant and surprisingly normal-looking wildlife has shaken up how biologists think about the environmental effects of radioactivity. The idea that the world's biggest radioactive wasteland could become Europe's largest wildlife sanctuary is completely counterintuitive for anyone raised on nuclear dystopias.

The news isn't good for all animals. Many species that like human company—swallows, white storks, pigeons—mostly left the region along with the people. Also, small creatures seem to be more vulnerable to the effects of radiation than large ones. That may be why Chernobyl rodents studied in the 1990s had shorter life spans and smaller litters than their counterparts outside the zone. Stag beetles had uneven horns. But it didn't affect their population numbers.

And because the health of wild animal species is usually judged by their numbers rather than the conditions of individuals, Chernobyl wildlife is considered healthy. According to all the population counts performed by Ukraine and Belarus over the past 27 years, there is enormous animal diversity and abundance. The prevailing scientific view of the exclusion zone has become that it is an unintentional wildlife sanctuary. This conclusion rests on the premise that radiation is less harmful to wildlife populations than we are.

In an effort to challenge that view, biologists Timothy Mousseau of the University of South Carolina and Anders Moller of the University of Paris have published a series of papers claiming that **populations of insects, birds, and mammals** are *declining* in Chernobyl's most contaminated regions. They also contend that birds **avoid nesting** in highly radioactive areas. They dismiss contrary reports of animal abundance as anecdotes.

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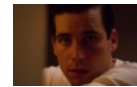
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Mary Mycio is the author of [Wormwood Forest: A Natural History of Chernobyl](#). She reported on Ukraine for the *Los Angeles Times*.

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