A Career in Reverse

VIOREL POPESCU STARTED HIS WORK IN BIOLOGY WITHOUT AN INKLING OF HOW TO RUN FIELD STUDIES

By Joshua Rapp Learn

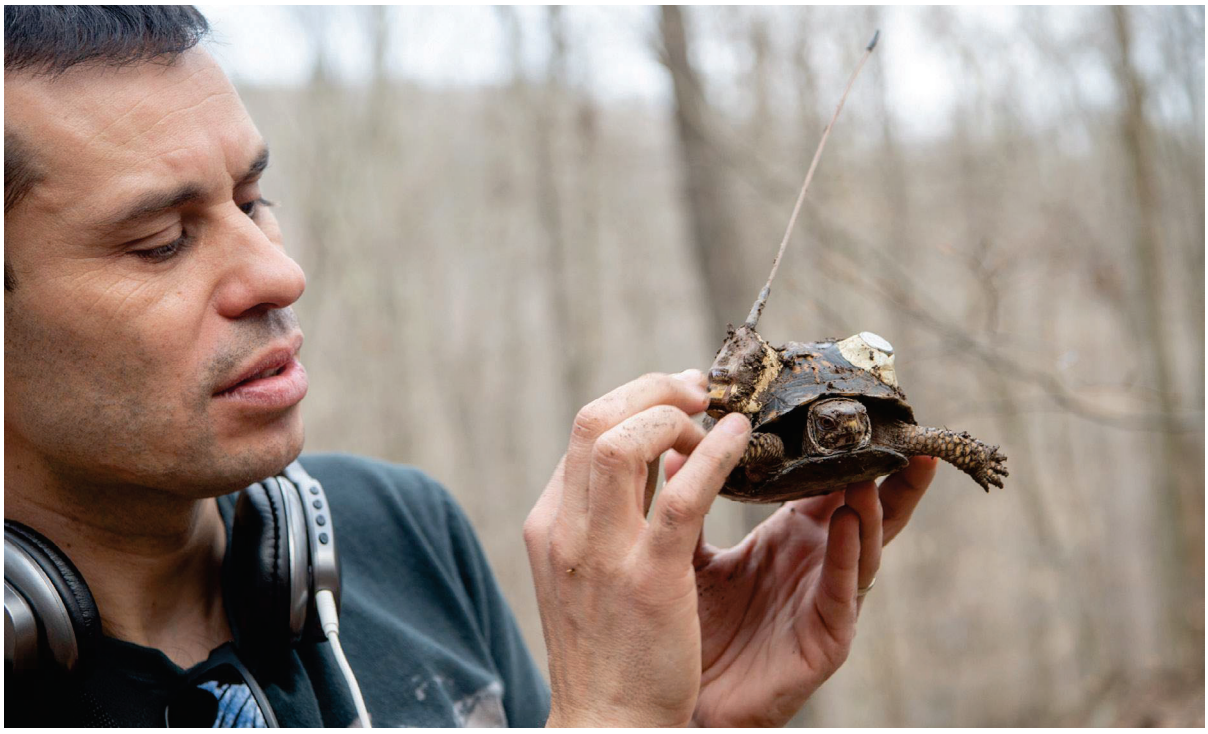
Viorel Popescu didn't fall in love with wildlife at an early age. He didn't start his career doing internships with conservation organizations or state agencies. While growing up in Romania, he didn't even study biology or ecology. His bachelor's degree in geography and environmental science focused on hydrology, pollution and spatial planning.

But in 2000, Popescu and his colleagues received a grant from the European Union to conduct some biodiversity work. "They needed people to go out and look for vipers and tortoises, and I'd never seen a viper or tortoise in the wild," Popescu said.

After a couple of "crummy days" walking around the countryside without finding what they were looking for, the team sat down on a rocky outcropping for lunch. Popescu looked down and saw a baby long-nosed viper (*Vipera ammodytes*) sitting on an oak leaf between his legs. "First of all, I was afraid of snakes like a lot of people," he said.

But when his colleague showed him how to hold the reptile, Popescu realized what was missing in his life. "Holding that baby in my hand, very carefully, it just completely changed me," he said. Compared to his work in geography, "I just found that animals were much cooler than rocks."

When he and his colleagues returned the next year for follow-up surveys, though, they were shocked to find that the vipers that were plentiful in this area were nearly all gone. Someone had likely come in and removed the animals to sell their venom. "They collected almost the entire population," Popescu said. It was his first realization of the many challenges that wildlife face.



Credit: Ben Siegel

Popescu supervised a project with a master's student examining how a new highway in Wayne National Forest affected the space use, behavior and stress of eastern box turtles (*Terrapene carolina carolina*).

Entering the wildlife world

Since then, his work on wildlife has taken him from tracking carnivores in the Carpathian Mountains to graduate work in the United States and conservation and management work in western Canada, the Amazon and China.

"I'm pretty sure that Viorel was the only graduate student where I went and actively recruited a specific individual," said Mac Hunter, now a professor emeritus at the University of Maine, where Popescu did his PhD work. He received his master's degree at the State University of New York's College of Environmental Science and Forestry on a Foreign Fulbright scholarship studying mink frogs (*Lithobates septentrionalis*) in the Adirondacks, and his work in Maine continued to focus on amphibians.

"He was fantastic," Hunter said. "I can't recall all the awards he got."

The relationship Popescu built with both his master's and PhD supervisors didn't end with his graduation. He worked with them to publish the fourth edition of their textbook, *Fundamentals of Conservation Biology*. "We were delighted to have him on board," Hunter said. "He has a great ability to write, which is something that is no small thing when you consider English is his second language."

Changing the narrative

After graduating, Popescu conducted postdoctoral work simultaneously at the University of California Santa Cruz and Simon Fraser University in Vancouver—commuting between Vancouver and California every few weeks while living in Canada. In the north, he worked on a project with the British Columbia Hydro and Power Authority, using his expertise in hydrology and conservation planning to examine how dams would affect waterways in the province. He approached this both ecologically and sociologically, bringing together a coalition of people from the government, academia, nonprofits and First Nations to better determine how changes in stream ecology might affect different areas.

His team developed hundreds of scenarios in different places—a simulation that ultimately helped BC Hydro improve its decision process for renewable energy development in ways to reduce the overall ecological, economical and sociological impact of their projects.

Credit: Andrew Travers

▲ **Popescu holds a hellbender captured in western Pennsylvania.**

"In some ways, we totally changed the narrative in British Columbia," Popescu said, and their approach to modeling is something that the provincial power authority still uses.

From Ohio to the Amazon

After years of studies, fellowships and scholarships, Popescu landed a job at Ohio University. Right from the beginning, his work there mirrored some of his early work on carnivores in Romania. He was estimating the population of bobcats (*Lynx rufus*) when the state wanted to open up trapping opportunities on the recovering population there. He also worked on hellbenders (*Cryptobranchus alleganiensis*) with some of his students and oversaw a project creating artificial vernal pools using cattle ponds to conduct experiments on larval amphibian development.

"He's made a significant impact on a lot of young people. I don't think I'd be where I am today without his knowledge and mentorship," said Cassie Thompson, now an assistant professor of wildlife biology at Lees McRae College in North Carolina. She worked with Popescu on the vernal pool project as a PhD student.

After a few years at Ohio University, Popescu moved over to Columbia University in New York City, where he presently works on everything from broad-scale environmental DNA tracking projects in southern China to work in the Amazon.

Bringing it all back home

Through all of this work, Popescu has managed to stay focused on some of the issues that first sparked his love for wildlife back in his native country. He supervises graduate students conducting work and has ongoing surveys on Romanian wildlife. But one of the biggest impacts he's had there goes back to the carnivores he was surveying in the Carpathians in one of his early projects.

At one point years ago, Popescu was sitting down drinking vodka and wine with the foresters in charge of estimating wildlife populations in the region. "This guy that was half drunk took out his notebook and starts writing numbers," Popescu said. At first, he thought the man was some sort of biology genius. Then, he realized the forester was just making up the numbers that were eventually passed onto the government, which used them as a basis for carnivore hunting programs.

In 2016, Popescu and his colleagues took this faulty data to the government and showed with some "very simple back-of-envelope calculations" that their numbers were way off. "Obviously, that didn't go well with the government, and we made a lot of enemies," he said.

They published a paper on their findings in the *Journal of Applied Ecology* (Popescu et al.: 2016), but the government didn't acknowledge it. Instead, he said, it published its own yearly report that falsely suggested "ginormous" numbers of carnivores on the landscape. There was a public outcry at this obvious discrepancy, with news stories on national television. "People went out in the streets," Popescu said. "There was this huge movement." The Romanian Academy of Sciences even withdrew its support for the government paper.

Popescu had gone from breaking his back in the woods with "zero information" on how to conduct a proper population estimate to affecting the way Romania managed its carnivore population.

"Like a lot of us, he tries to thread the needle of doing what is both good primary science and what is good conservation work," Hunter said. "It's not always easy to do both of those things simultaneously—a lot of his success is because he does thread that needle so well." ■

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