



Encyclopedia of Life

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## New Species in the Old World Podcast and Scientist Interview

### *Stenosis austini and Parabathyscia raffaldii*

You don't always have to venture into the heart of a rain forest to discover a new species. Sometimes all you have to do is look more closely, right where you are. In Europe, experts and enthusiasts alike are looking high and low, from alpine meadows to underground caves, in search of Old World species new to science.

### Transcript

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

When scientists want to find new species of plants and animals, they often head to the tropics. Places like rain forests and coral reefs – known for their biodiversity. But some scientists in Europe are taking a different approach. They say there are still plenty of species to discover in their own backyard.

**Fontaine:** We only know the tip of the iceberg. There are much more species that we don't know than species that we know.

**Ari:** Benoît Fontaine is an ecologist at the National Museum of Natural History in Paris. And recently he and his colleagues made a surprising finding.

**Fontaine:** We are discovering more species in Europe every year than 50 years ago, or 100 years ago. So the rate of discovery is increasing.

**Ari:** That rate of discovery is up to almost 800 new species a year in Europe. Now, we're not talking about new kinds of rabbits or birds. They tend to be tiny creatures, like insects, spiders, and worms. But the fact remains that each year brings an ever-growing tally of species, because Europeans are getting better at finding them.

Jean-Michel Lemaire swings open his garage door in the village of Contes, in the southeast of France, and begins rifling through his climbing gear.

Lemaire's a spelunker – he goes caving. And he's got another passion –

**Lemaire:** Beetles!

**Ari:** In the last several years, Lemaire's found seven new beetle species, including a small, chiseled black one called *Stenosis austini* and a green polka-dotted one called *Parabathyscia raffaldii*. He used to be a mathematician. But now, after his retirement, he calls himself an amateur naturalist.

**Lemaire:** If you want to find something new, you have to go to a place nobody has been before. So you have to open your eyes.

**Ari:** This is one reason so many new species are turning up in Europe. People are simply looking in new places. In Lemaire's case, he's hunted for beetles by exploring caves, and even crawling through tunnels dating back to the Middle Ages.

Other investigators are seeking unexplored habitats above ground.

One such place sits on the border of France and Italy. This is Mercantour National Park where families hike and cows graze, at the foot of the Alps.

Samuel Jolivet stands beside an alpine lake, ringed by granite peaks in the distance. He's just finished searching the water for dragonflies. Jolivet is an entomologist with a French organization that promotes insect conservation, research, and education. He says this park is an important outpost in the search for new species.

**Jolivet:** We are in one of hotspot of biodiversity in France, because we have a lot of influences from Mediterranean region, from alpine region, from continental region.

**Ari:** The precipitation and temperature patterns from these regions converge on the park's undulating landscape, splintering the area into countless tiny habitats. And species have emerged to adapt to these micro-environments.

**Leccia:** We know that we have a very good knowledge for birds, for mammals. But, uh, maybe less for the insects.

**Ari:** Marie-France Leccia is an ecologist at the park, and she manages a project to look for new insects and other small organisms here. In Mercantour National Park alone, the recent search has already yielded 50 new species.

I find two members of the inventory team crouched beside a creek, looking for insects.

**Brulin:** Marvelous. Extraordinaire! It's a paradise for me.

**Ari:** Michel Brulin is 63. Pierre Queney – 73.

**Queney:** Ah, je content. I am very glad.

The men look like kids, searching for their next treasure in the water.

**Ari:** Brulin is one of France's experts on mayflies and Queney is a specialist in aquatic beetles. But today they're here as volunteers – part of an amateur army fanning out across the continent looking for new animals. In fact, 60% of the new species in Europe are being discovered by amateurs, often self-taught experts in particular insect and invertebrate families.

Back at the National Museum of Natural History in Paris, Benoît Fontaine says the search for new species in the Old World doesn't diminish the need to continue looking in the tropics, where there are also more species to be found. The point is, he says, we should be looking everywhere. Because humans are causing extinctions everywhere at an unprecedented rate.

**Fontaine:** We will need several centuries to describe everything in the world. And things are disappearing faster than we can discover them.

**Ari:** And that means, he says, we should hurry. 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 scientists Benoît Fontaine and Marie-France Leccia:



Benoît Fontaine



Marie-France Leccia

**Where do you work?**

Benoît: Conservation biology department (UMR 7204) of the National Museum of Natural History, Paris (France).

Marie-France: I work for the Mercantour National Park (France), in the scientific team, as an ecologist.

**What do you study?**

Benoît: I work on the conservation biology of neglected species, i.e. invertebrates: common butterflies in France, and poorly known snails of tropical islands.

Marie-France: I manage the Mercantour/Alpi Marittime ATBI (for All Taxa Biodiversity Inventory) this large-scale project aims to obtain an inventory as exhaustive as possible of the species living in the alpine transboundary territory covered by the Mercantour National and the Alpi Marittime Natural Park. I am also the referent person for the entomology and the non-vascular flora, and work on the acquisition of knowledge for the less known species, the less studied habitats and the areas for which we could give some recommendations about their management.

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

Benoît: Naturalist, Birdwatcher, Reader.

Marie-France: Ecologist, Traveler, Curious about everything.

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

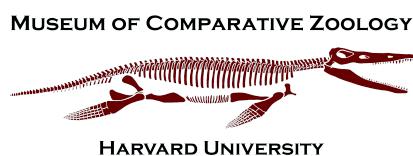
Benoît: I like being in the field and enjoying nature with my kids.

Marie-France: I share my free time between inventorying dragonflies, preparing my next trip, reading books and enjoying being with people I love.

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

Benoît: I like the thrill of discovering species new to science, and being an explorer of biodiversity. And I enjoy providing my grain of sand to the understanding of conservation biology.

Marie-France: I enjoy participating to a better knowledge of our environment: How does this ecosystem work? Why does this species live here and not there?



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

