

# Snail-Killing Snails and an Expedition to the Society Islands: An Interview with Zoologist Justin Gerlach



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Zoology involves studying the diverse spectrum of organisms in the animal kingdom, but Dr. Justin Gerlach finds his attention especially drawn to snails. Having completed his degree in Zoology at Wadham College, Oxford with a subsequent Ph.D. there in 1994, Dr. Gerlach continued his studies by moving to the University of Cambridge. Since then, he has also taken on the role of coordinator of the Terrestrial and Freshwater Invertebrate Red List Authority. Dr. Gerlach recently returned from an expedition to the Society Islands and has kindly agreed to discuss his findings and his life as a zoologist.

## What initially made you interested in studying zoology?

I was always interested in the world around me, with a childhood obsession with animals that never left me. I can't remember a time when I didn't want to be a zoologist.

## Your current research interests are the Pacific island tree-snails. How did this interest come about, and why do you feel the tree-snails deserve attention?

I've worked on them for 25 years, on and off, but the original interest goes back 36 years to a popular article I read on Jersey Zoo's new project to breed endangered snails from Tahiti. It struck me as really interesting, and the conservation story is tragic, as it involves the pointless extinction of around 100 species. A predatory snail species (yes, they do exist, but they're limited to hunting prey slower than themselves: other snails) was deliberately introduced to the islands to control the numbers of garden pests. Predictably, it wasn't interested in garden pests, preferring rare tree snails. The tree snails had evolved without predators and so were totally defenseless, so within 20 years most were extinct. I've been involved with research on the problem and captive breeding of the few surviving species. It may seem unimportant, but there are ethical and historical reasons for valuing these animals. More importantly, they were the main consumers of algae, fungi and decaying plant matter in the trees. With their extinction, there is nothing to remove that material, and there has been a big rise in fungal diseases killing forest trees. But the reason they interest me is really just that I like snails!

## This summer, you went on an expedition to the Society Islands in the South Pacific Ocean. Do you get the chance to go on expeditions often?



Not often. I used to do a lot more than I do now. It just depends on what I'm working on at the time and whether I can raise the money to get to interesting places. In terms of cost, my research is basic science; my equipment costs very little (me, a notebook, and a camera just about covers it), so it's just the transport that is expensive. For me, expeditions are an important part of the research since I can appreciate the animals and the environment they live in; lab work has never appealed to me.

## What were the aims of your project in the Society Islands and did you achieve them?

This year's expedition had two aims. The glamorous one was to search for survivors of species we thought were extinct. The more important aim was to study the predators: the carnivorous snail and a more recently-introduced snail-eating flatworm. Over the past decade, there have been a few sightings of surviving snails on hard-to-reach mountains, so I wanted to find out if they were still there, what they were, and if they were likely to survive. I had mixed results with that – most of the sites proved impossible to get to, as the terrain is fantastically steep and dangerous. I did find one of the species though, which makes it all worthwhile.

On the other side, the carnivorous snail has almost vanished and been replaced by the flatworms. I brought back some of the flatworms and am now studying their behaviour. I am afraid they are revolting animals and there is nothing enticing about working with them, but we need to know more about them if we are to save the tree snails.

## How will this information be used? Do you feel that this work will contribute to society?

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The field surveys tell us what is where and which species have managed to survive so far. Once I have worked out exactly what the flatworms do, we may be able manage the problem. Even if there isn't a solution to the presence of predators, we may be able to put the tree snails in safe places. It's a very long way from being able to restore the forest environment, but we do not know what will work in research or management until we've tried it.

**What are your future plans? Do you think you'll continue to study Pacific island tree-snails?**

None of this has been planned; I thought I'd finished with these snails in 1994 and moved on to all sorts of other animals (from tardigrades to giant tortoises) and plants, but I seem to have come full circle. If the conservation and reintroduction efforts work, then there may be whole new areas of evolutionary research opening up. Plus, new techniques are being developed all the time, so there is more and more that can be done. I don't think you should plan a research career too precisely; the interesting things are always the ones no one anticipated.

**Aside from research, what else do you do on an average day?**

In term-time teaching takes up most time, which makes me question my assumptions and explanations all the time. Otherwise, if I'm not actively researching, part of my mind is thinking about the research questions. I'm always noting down new thoughts – things to try or possible explanations.

**Is this an average day for most zoologists?**

I think that any research scientist who enjoys what they do will have the same sort of approach. You get involved in research because you have an enquiring mind in the first place. Some sciences are more obsessive than others, and zoology may well be the most extreme. So yes, I think we are all thinking about our animals even when we are pretending that we aren't.

**What advice would you give to someone interested in studying zoology?**

Much the same advice that I would give anyone: do what interests you. Don't think too much about what is "useful," as everything is connected in science so whatever you do will give you a useful perspective. I think you should follow your interests. A lot of people abandon a genuine interest in favor of something that seems more useful for a career and end up hating what they do. On the other hand, zoology and botany are special in that there are very important aspects that can be done as a hobby, or can be returned to after a long gap. After all, I abandoned my tree snails for 25 years and the field had not moved on at all when I returned to it.