



# Tiptoeing through the Rainforest

Max Planck scientists cooperate with partners in around 120 countries worldwide. Here they relate their personal experiences and impressions. Behavioral biologist Amanda Monte is currently working on her doctorate at the Max Planck Institute for Ornithology in Seewiesen. She is researching how hummingbirds communicate in the Brazilian rainforest.

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Rainy and not-quite-so-rainy – these are the two seasons in the rainforest. Nevertheless, all seasons in this complex ecosystem are incredibly fascinating for scientists. I work with hummingbirds of the genus *Colibri*. I record their voices and am trying to establish how they learn their sounds – songbirds and parrots, as well.

Unlike in other animals, the sounds these birds make are not instinctive, but a learned behavior – and a highly multifaceted one, at that. Different species of hummingbirds have different communication strategies: there are non-verbal species, which use wing or tail movements to communicate, and species whose males charm the females with the most sophisticated songs in what can only be described as a song competition.

In conducting my fieldwork, I spend many hours walking through the dense fog, my assistant at my side, and carrying, apart from my recording device, only the most essential piece of equipment: a knife. If we're lucky and spot a hummingbird, we observe this creature of rare beauty while recording its sounds and songs. This can be quite a dangerous undertaking! I once built a ladder for myself and almost fell off of it.

But this isn't the most dangerous aspect of my fieldwork in South America by a long shot. And I'm not afraid of snakes or jaguars. What I fear most are humans – the poachers and farmers. Poverty, more than anything else, drives them into the rainforest, where they chop down trees to make room for houses in which they can then live.



Amanda Monte, 29, studied biology and environmental behavioral research and obtained her master's degree in 2012 at the State University of Pará, where she specialized in biostatistics and behavioral theory and research. Since 2013 she has been working on her doctorate under the supervision of Director Manfred Gahr at the Max Planck Institute for Ornithology in Seewiesen. She is currently preparing her first scientific publication.

Although I'm not aware of any incidents involving violent attacks on field researchers, I don't even want to think about what would happen if they came across us. We move around in small groups of just two or three and are basically unarmed. All we have is a knife and an air gun to scare off wild animals. And people looking for a quick profit are far more dangerous than animals here in the northern Amazon, in Gunma Ecological Park, 40 kilometers from Belém, which I visited twice for my hummingbird research.

Fortunately, my second research area is much safer: Professor Mello Leitão's open-air museum in the south, near the Atlantic rainforest, where hummingbirds can fly around freely. All in all, I have recorded 12 different hummingbird species and hope that these recordings will help me gain a better understanding of how they produce their sounds and what strategies they use to do this.

I love my fieldwork. But I'm always glad to return to Seewiesen, too, mainly for the lovely surroundings and the cultural interaction on campus. It's a known fact that Brazilians tend to be isolated in South America because they speak Portuguese. Funnily enough, I learned a lot more about South America in Germany than I did when I still lived in Brazil.