



**TALES OF A**

by Fredy Cabrera

# TORTOISE TRACKER



**“ I AM ABOUT TO DIE”** I was standing on trembling earth, just a few feet from a billowing, thunderous fumarole. I braced myself for the inevitable.

But to my eternal relief, the booming faded and the tremors subsided. With the panic over, I picked up my rucksack and radio-tracking equipment and headed off in search of my quarry: eleven GPS-tagged giant tortoises roaming somewhere in the vastness of Alcedo, the central volcano on the westerly island of Isabela.

I first encountered giant tortoises growing up in Bellavista, the small community in the highlands of Santa Cruz en route from Baltra to Puerto Ayora. We had tortoises around our family farm and would also come across them while out hunting for goats and pigs, two staples of our diet back then. I did not think too much about them until 1999 – they were just a regular feature of the landscape. I was working with the Galapagos National Park in their effort to eradicate goats from the archipelago, running over lava fields, climbing near-vertical escarpments and spending nights out in the cold on the trail of these and other invasive animals. When my specially trained hunting dog started sniffing the ground and licking his paws, I watched as he uncovered a nest full of hatching tortoises. The babies seemed to be trapped, digging down rather than up. So keeping my dog well away, I helped them to the surface. It was thrilling to watch them scurry away into the undergrowth.

In spite of this moving experience, I never imagined I would ever work directly with tortoises. But ten years later, in 2009, I met

Stephen Blake, an ecologist at the Max Planck Institute of Ornithology in Germany. He had recently set up a tortoise research project and was on the lookout for a technician with knowledge of Galapagos and experience in the field. Thanks to funding from the Swiss Friends of Galapagos, I am still with the project more than three years later. I can't imagine doing anything else.

The work on the project is extremely varied. The most time-consuming task is locating wild tortoises. We have now tagged almost 50 different individuals from four different species on three different islands with a small electronic device. This contains a GPS unit that records the tortoise's position every hour. It also emits a unique radio signal, helping us to locate the animal and the valuable data it's been generating. You might think it's easy to find a tortoise, especially one broadcasting its location. Our data – and the all-too-common experience of walking for ten hours in a day only to return to camp without success – suggest otherwise. Tortoises, we have discovered, can move quickly over impressive distances. Like all the local residents, I knew that the distribution of the tortoises changed with the seasons, but I had no idea of the details of their migration up and down the volcano, doggedly marching along the same trails year after year, following the growing season of their favoured plants. They move into the lowlands during the rainy season to feed on the lush new growth, then migrate back into the highlands in the dry season to stock up on grass.

**Main picture:** Standing at the summit of Alcedo volcano on Isabela, Freddy hopes to receive a radio signal from one of the Programme's tagged tortoises. © Stephen Blake.  
**Inset picture:** A tortoise is scrubbed down in preparation to receive the small electronic device that will collect data on its movements. © Sebastian Keynes.



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In parallel with tracking the movements of wild tortoises, we have been trying to find out the extent to which tortoises help to disperse the seeds of many Galapagos plants. Are they, as is often said, really the “Gardeners of Galapagos”? Our research suggests that they are just that.

A couple of years ago, I spent three months working with the captive tortoises at the Charles Darwin Research Station in Puerto Ayora to study this question in detail.

**Top picture:** Fredy sometimes has to move tortoises off the roads so that he can get to work, © Stephen Blake.

**Bottom picture:** Fredy and Miriam Silva attach a GPS tag to “Fredy” the tortoise, © Stephen Blake.

By feeding them coloured beads and then sorting through their dung – (someone’s got to do it) – we worked out that it typically takes around 12 days for food to pass from one end to the other. Given what we now know about tortoise movements, most individuals will have carried seeds hundreds of metres from the parent plant in this

time, sometimes much further. By “using” tortoises to move many seeds over large areas, parent plants increase the chances that at least some will germinate and survive. It was during this work that a large male tortoise almost took off the tip of my index finger, his sharp beak chomping down on what he probably thought was a banana.

Even with the erupting volcanoes, the long days under the hot sun or in driving rain, the risk to life, limb and digit, I love what I do. Every day, we are learning so much that is new about the hidden lives and ecology of these wonderful creatures.

I feel privileged to be part of this research, to be growing as a scientist and to be making a difference to the conservation of the islands my family and I call home. ■



## THE GIANT TORTOISE PROGRAMME



**The giant tortoises** of Galapagos might be world-famous, yet we still know surprisingly little about what they really get up to. Using a mixture of traditional observation and high-tech tracking tools, the Galapagos Tortoise Movement Ecology Programme brings together a wealth of expertise to shed light on these enigmatic creatures, inform the Galapagos National Park’s management decisions and inspire a wider appreciation of these iconic species. You can find out more about the Programme and meet the tortoises we are following at [gianttortoise.org](http://gianttortoise.org)

## MY FAVOURITE TORTOISE



**Many of the tortoises** we are following are named after people involved in the project. In 2010, Stephen and I tagged a large male near Cerro Fatal on the eastern slopes of Santa Cruz. We called him Fredy, so I will always have a soft-spot for him. On the same day, we also tagged a female who we called Sandra, after my wife. Both Fredy and Sandra are very active tortoises: they migrate between a lagoon near our old farm and Cerro Fatal, and spent lots of time close to each other. You can download all the data for Fredy and Sandra and the other tortoises from the animal movement website [movebank.org](http://movebank.org)

## LONESOME GEORGE TRIBUTE FUND



**If you would like to donate** to GCT’s giant tortoise conservation work, you can do so through the Lonesome George Tribute Fund. GCT established the fund in memory of Lonesome George, the Galapagos conservation icon and last remaining Pinta Island tortoise, after his death on 24 June 2012. The fund will be closing on the first anniversary of his death. To donate, please visit [lovegeorge.org](http://lovegeorge.org)