



## The Galapagos

### *Galapagos Academic Commentary*

DAVID: Well I'm David Robinson and I'm a Biologist at the Open University.

INT: David, have you had a long relationship with the Galapagos Islands? You feature heavily in the clips that we see.

DAVID: I've had a long, intellectual relationship with Galapagos going back to when I was at school, when I went to Down House, which was Darwin's home in Kent, and it was obviously a day when very few visitors were around, and the curator said, "Would you like to have a look down Darwin's microscope?" Well what do you think I replied to that? And then he said the slide under the microscope is one that Darwin made when he was on the *Beagle* out near the Galapagos, and since then I've had the ambition to go, and I was lucky enough to go in 1996, and again last year, 2007.

INT: So was your experience with Darwin's microscope one of the reasons you think you ended up in the profession you're in?

DAVID: Oh, I'm sure that's the case, yes. It really, really was motivating to be in Darwin's study, with his instruments, his books, and to look down his microscope at one of his slides.

INT: Did your visits to the Galapagos live up to expectations?

DAVID: Yes, it's an extraordinary experience, firstly to be in Darwin's footsteps, that is just amazing, but also to be in such a fragile ecosystem. It's unusual for most zoologists and biologists to get this opportunity to see animals that are so rare, and on my recent trip I stood looking at the Flightless Cormorants, absolutely fascinating, about a dozen of them, and then when you realise that perhaps there are as few as five hundred in the world, and that most of them are just on two islands in Galapagos, you realise what a privilege it is to be there, and watching them, and they're behaving as if you weren't there at all.

INT: One of the things that came out very strongly in the films was that there is this delicate balance between it being necessary for people to visit to appreciate the Galapagos

and to keep them preserved in the way they are, but at the same time the infrastructure that supports them, the people that have to be there to support all these visitors, are decimating the place.

DAVID: It is a very difficult balance to manage. Nobody would be interested in preserving the Galapagos, well very few people anyway, if it was impossible ever to go and see the results, so you do need the visitors in order to encourage a continual flow of money that helps to preserve Galapagos. You need the infrastructure, and the way that it's managed by the National Park at the moment, where almost all of every island is closed and you can't go there, but there are visitor sites on islands, and there are I think two or three areas which are where, for the local population, and are for the infrastructure, like a very small number of hotels. All this helps to preserve Galapagos. When you land on any of the islands, you can only land for a very short time, you can't take any food with you - on certain islands - there's one particular which is pristine, it hasn't had introduced animals and plants on it - you have to change your clothes completely before going on, wash your boots thoroughly, you must make sure you take absolutely nothing onto these islands - it's a very strict regime, but it's absolutely essential if these, the integrity of Galapagos is to be preserved.

INT: So are they winning then in preserving it at the moment? There is a sense in the film that there is a constant battle underway in the fact that, for example, the goats have had to be killed, the domestic animals are threatening the indigenous animals - but is it fair to say that the strict regime you're talking about is winning out?

DAVID: The strict regime is absolutely essential, and will be there forever. Of course there were a lot of problems that go back into the past, and eradicating goats and pigs, and feral donkeys and so on will make an enormous difference, but the threats are there all the time, it doesn't take much to imagine a rat getting off a boat that happens to have docked there; if it's a pregnant rat, then you've got rats re-introduced somewhere. Constant vigilance, and although massive strides are being made, you still feel that an awful lot of it could suddenly reverse by chance or by accident, and you also have to realise that many of the animals there are quite susceptible to climate changes. You get big climate changes; they're called El Nino events, and the Marine Iguanas, for example, have a very bad time in an El Nino event because the sea temperature rises, the seaweeds that they are dependent on for food don't do very well, die back, and the iguanas starve, and Martin Wikelski, who's seen in one of the films, told me how he'd watched an iguana coming back from the sea during an El Nino event, and simply dying halfway up the beach, not having sufficient energy to get back because there'd been nothing to feed on offshore.

INT: Is there any sense of irony, David, in the fact that Darwin wrote about species arriving because they were more competitive in an environment, but now scientists are intervening to preserve species and kill off other species that might be threatening them?

DAVID: I don't know whether it's ironic. It does show that if you introduce an animal which can compete and do better than the local animals, then natural selection will favour the

introduced one. It's because the Galapagos is so isolated and they have a very limited sample of animals and plants there that they have formed a community, if you like well adapted to the existing situations, but unable to adapt to a sudden introduction of an animal or plant from a different habitat that manages to compete very successfully. It does, I'm afraid, demonstrate natural selection, but it's not the sort of natural selection you want to see.

INT: You remarked in the films that the timidity of the animals because they have no reason to be scared of humans, they don't see them as predators, means that researchers have this extraordinary connection with the animals they're studying, they see them so much in their natural habitat as they're really meant to be – was it a real privilege to witness some of this research going on?

DAVID: Yes it was, and the researchers who work in Galapagos of course have a number of restrictions on what they can do, because clearly they have to preserve as well, just like everybody else, and they're probably far more committed to preservation than most visitors, so it was a privilege to be with people who have spent you know part of their research year on Galapagos, and also to join in parts of their research, because that brought me into close contact with some really famous types of animal, particularly the Giant Tortoises, I mean to be able to handle a Giant Tortoise, to help turn it over and to be involved in ultrasound scans of Giant Tortoises, I mean that's an amazing experience.

INT: If and when you make another trip to the Galapagos, what are you looking forward to seeing in terms of the research or generally – are there certain things you'd like to go back and discover more about, or follow up?

DAVID: Oh, there are lots of things I would like to go back to do. I have been to many of the islands – there are still one or two that I haven't been to – and not every island is the same, there is quite a variation between islands, so it isn't a case of seen one, you've seen them all, by any means, so I'd like to see more, of course, but I'll be particularly interested to go back perhaps in another five years' time to see the effect of the eradication of goats, particularly on Santiago, the island that Darwin visited, or one of them, because when I first went there I saw goats; the second, on my second visit the goats had just all been eradicated, I didn't see any. I'd like to see how far the vegetation has started to recover.

INT: The problem for the tortoises was that they didn't have the reach of the goats in finding the food, is that correct, is that what you hoped might have changed – that the tortoises were flourishing more?

DAVID: I think it'll be a very long time before tortoises get back to flourishing in the way that they had in the past. I don't know, I'm not sufficiently well up on the Botany to know how long it will take for the normal, or if you like the native Galapagos vegetation to re-assert itself now that the goats are no longer chewing all the leaves. I suspect it will take a very long time, but if it does eventually restore, and introduced plants are

also removed, then maybe we shall see an expansion of the tortoise population, say on Santiago; currently the tortoises live in a reserve on the island, they don't run free.

INT: David, you mentioned the Cormorants as being a wonderful moment on the Galapagos – was there anything else that matched that?

DAVID: Well something that came very close, and it was actually while I was having a rare moment of relaxation and going for a swim in the sea, and there were sea lions about and coming up to look at me, and then one of the Galapagos penguins came along and it started to swim between my legs, and round and round me, and that is amazing because they're almost directly on the Equator – very, very hot – and there's a penguin swimming around you in the water. So it was an absolutely amazing experience to have a penguin, an animal normally associated with the Antarctic, swimming around you, and being Galapagos the penguins are endemic, that is they're unique to Galapagos, they must have arrived some time in the past, up from Antarctica, perhaps floating on ice, but there they are – a most unusual animal in a most unexpected place, but perfect for a Zoologist.

**END OF INTERVIEW**