



Photo: Max Planck Institute for Ornithology, Radolfzell sub-institute/MaxCine

## In Darwin's Footsteps

Galapagos – the name has a magical ring to it, and not just for biologists. A unique flora and fauna developed on this group of islands located some 1,000 kilometers off the coast of Ecuador. When Charles Darwin reached the archipelago in 1835, it was, besides the finches, above all the sub-species of giant tortoises, each specifically adapted to the ecological conditions of their individual island, that inspired his thoughts on the origin of species. But even then, many sub-species were already extinct: their ability to go for very long periods without food and water made the tortoises ideal provisions for seafarers. Today, there are still ten sub-species living on six of the islands. They are endangered primarily by non-native species, such as rats and goats, and human encroachment on their habitat.

The portly animals, which can weigh up to 300 kilograms, feed on shrubs, leaves and grasses, depending on the kind of vegetation available on their home island. Some tortoises undertake long voyages between the lowlands and the higher areas on the volcanic slopes, which are lush with vegetation even in the dry season; others spend the whole year in the lowlands, which can sometimes be very dry. To learn more about these migrations, scientists working with Stephen Blake from the Max Planck Institute for Ornithology attach GPS loggers and ultramodern 3-D accelerometers to the shells of some of the tortoises. This allows them to precisely track the animals over long periods and compare their observations with climate and vegetation data. Their findings were surprising: it is primarily adult males that walk up to ten kilometers in search of fresh, succulent food. But the researchers are still puzzled as to why the giant tortoises, which can go for months without eating, undertake these strenuous journeys.