The southern sunfish *Mola ramsayi* might not be as well known as the ocean sunfish *M. mola*. However, it is just as, if not more, spectacular - its disc-shaped body reaching up to an incredible three metres in diameter and propelled along by the combined action of two towering fins, one above and one below. There is no tail to speak of, only a fleshy, flexible ridge that extends from one fin to the other. Its skin is thick and tough, embedded with sharp, sandpapery scales. It is wise to wear gloves when working with this species. I pull mine on and the work begins.

One week earlier, the expedition had started with a rather different goal. I had come to Galapagos, along with colleagues from the Georgia Aquarium, the marine research and conservation network MigraMar, the Marine Megafauna Foundation and Galapagos National Park, to work on whale sharks. We had hoped to confirm that the huge females frequenting Darwin’s Arch in the very north of the Archipelago between June and November are pregnant. The whale sharks were not cooperating so we cut short our efforts around Darwin and turned towards Isabela and Plan B: to study sunfish.

While some of the team cradle the animal in the water, I work from the inflatable boat to attach tags and take tissue samples that will yield DNA for genetic analysis and allow us to check for plastic contamination, which is a growing problem in the open ocean. In a few minutes, we are finished and the animal swims off, finning strongly into the murky depths. We look on anxiously as it takes several expensive instruments with it, but hope that over the next few months we will receive data on the movements of this individual and insights into the biology of a species that, frankly, we know next-to-nothing about.

In just a few days, we fit nine southern sunfish with a variety of real-time satellite tags, archival satellite tags and acoustic tags. We also deploy acoustic receivers onto the sea floor, devices that will listen for coded ultrasound signals now being emitted by the tagged sunfish, registering their passing like cars at a motorway toll. From these data we should be able to get a feel for how the sunfish move around Isabela, the wider Galapagos Archipelago and beyond. As I write this, our animals are still at large, sending back packets of data whenever they spend more than a few minutes away from our receivers. I pull mine on and the work begins.
seconds at the surface. The early results suggest that southern sunfish may not roam as widely as we had imagined. After four months, our most reliable communicator is still hanging around northwestern Isabella, occasionally sweeping along the northern edge before heading right back to where we tagged it last October. Once Alex Hearn from the Universidad San Francisco de Quito and Jules Paredes from the Galapagos National Park recover the acoustic receivers later this year, we will have more data still, giving us a chance to map the way these peculiar fish are using these waters.

The Galapagos National Park will be able to use this information to provide better protection for the sunfish. Knowing that they don't roam far, for example, would allow Park staff to focus research and enforcement efforts on key locations. The southern sunfish may also illuminate the impact that climate change is having in these waters.

As a bonus, there is something profoundly symbolic about this creature. It is truly remarkable that in 2017 we know so little about a species as large and charismatic as the southern sunfish. How much more do we still have to discover?

**WHALE SHARK PROJECT UPDATE**

by Alex Hearn

It has been another successful year for our whale shark research. In 2016, along with the traditional satellite tags, we deployed miniature pop-up tags on eight animals, devices that will record depth, temperature and average daily positions for several months before detaching to be recovered at the surface. With this information we hope to learn a lot more about the vertical behaviour of the whale shark, especially during the time they spend away from Darwin Island when they may be giving birth. In 2017, we hope to begin aerial surveys and tagging of whale sharks along mainland Ecuador and in southern Galapagos. These efforts should help us to complete their migratory loops. We will also be returning to Darwin Island in the summer, hoping to establish once and for all whether the females here are pregnant.

**UK NEWS**

**RAFFLE STORY**

When Bernard Cooke won the raffle at Galapagos Day last year, we were delighted, especially as there is a lovely story behind it. In 2015, Bernard’s daughter Sophia visited Galapagos and set up a project to understand the impacts of the invasive smooth-billed ani on native species. Sophia spent two field trips trialling novel methods of capturing ani, a task previously thought to be particularly difficult. She had great success during her second trip, but due to issues caused by El Niño in 2016, she needed one more trip before being able to validate and publish her findings.

She was having trouble raising the funds for this final trip until her father won the raffle. She can now finalise and publish the design of the trap, and begin planning for a large-scale dietary analysis. The results from this will determine what effect, if any, the ani is having in Galapagos and inform decisions on its future.

**MARINE IGUANA OUTREACH**

by Sai Pathmanathan

Having excitedly written a fun, activity-packed resource on those most wondrous of creatures, marine iguanas, it was time to release one particular activity into the wild. That is, iguana raft building at Globe Primary School in Bethnal Green. In collaboration with Jen Jones from GCT, I ran a session for Year 5 on divergent evolution. Using craft materials the children worked in teams to build rafts for ancestral iguanas to cross water and colonise new islands. One group even did a little creative writing, putting themselves in the position of the ancestral iguanas.

Find out more about Sai: www.saipathmanathan.com

Visit our Discovering Galapagos Evolution Zone for educational resources and activities: www.discoveringgalapagos.org.uk

**CHAIRMAN RGS TALKS**

GCT Chairman Mark Collins gave two lectures to the East Anglian branch of the Royal Geographical Society in February 2017. His presentations provided some real insights into both the historical and contemporary importance of science in Galapagos. Mark started with Darwin’s journey to the Archipelago and its implications for today’s ecological thinking. He then focused on the work GCT is supporting on Floreana island, illustrating how many of the species Darwin studied are now critically endangered.

**GALAPAGOS DAY**

Galapagos Day 2016 was another great success. Around 200 attendees listened to Dr Amy McLeod, Dr Olyn Young and Dr Richard Kelby talk about their scientific research in Galapagos and highlight the importance of conservation across the Archipelago. Students from Falmouth University’s Marine and Natural History Photography course also gave a presentation about their recent photography trip to Galapagos. We would like to say thank you to all of our members and speakers who attended the event and we look forward to seeing you again in autumn 2017.

**SPRING | SUMMER 2017**