

Tristan da Cunha and St Helena Science Cruise (Part 2)

By Dr Katie Brigden

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01/04/18 – 15/04/18 Second leg finished and survey complete...

SAERI scientists Katie Brigden and Paul Brewin recently returned from the 2018 BAS-CEFAS science survey around Tristan da Cunha and St Helena, on-board the BAS ship RRS James Clark Ross (JCR). This is a joint funded project through the UK government's Blue Belt programme and Overseas Development Aid, carrying out science to support and inform on fisheries and marine biodiversity. Last month we posted an update from their time around Tristan, here's news from the St Helena survey leg!

It was a 5 day steam from Tristan to St Helena, which allowed time for the team to sort through samples, get on top of data entry and generally make sure all was ship-shape for surveying at St Helena. There was a definite change in temperature en-route, with the weather becoming much more hot and humid, and sunny skies allowed for the opportunity to catch a few rays for those that were keen! On arrival, the JCR stopped briefly at the capital of Jamestown, where extra pairs of hands came on-board from St Helena National Trust and SHG Marine Section. Then it was straight off to complete a circumnavigation of the island to survey the seafloor.



The JCR calls into Jamestown, St Helena. (Photo courtesy of Katie Brigden).

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The focus of the work at St Helena was on pelagic ecosystems, with the aim to improve the understanding of pelagic food webs which underpin St Helena's tuna fisheries. As with the science work at Tristan, work continued round the clock '24/7' at St Helena, with a combination of multibeam seabed mapping, water measurements, daytime benthic trawling to sample marine life on the seafloor, and pelagic trawling after nightfall to sample marine life in the water column. Surveying and sampling was first carried out in the waters around St Helena, and then at the associated seamounts Bonaparte and Sysoev (Bagration). As the JCR travelled between sites the team were also lucky enough to catch sightings of masked boobies and whale sharks during the day and brightly flashing squid feeding at night.



Looking back toward St Helena as the JCR travels between sites. (Photo courtesy of Katie Brigden).

For the benthic team, the rugged nature of the seafloor made finding suitable ground to trawl somewhat challenging. Perseverance paid off though and they were rewarded with successful trawls made up of lots of different crabs, snails, sea slugs and clams, displaying abundant and rich marine life. The night shifts were busy for Katie and Paul on the pelagic trawl team, with the net catching a wide variety of species from the surface down to 1000 metres. This included vampire squid, jewelled squid, fangtooth fish, deep-sea anglerfish, lanternfish, hatchet fish, tiny puffer fish, deep-sea crustaceans and some species which may be new to science!



Hermit Crab found living in the water surrounding St Helena at 90m (Photo courtesy of Chester Sands).

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Clockwise from top left: *Anoplogaster cornuta*, fangtooth; deep-sea crustaceans; pelagic trawl team sorting the catch; *Oneirodidae*, deep-sea anglerfish. (Photos courtesy of Katie Brigden).

The team's efforts achieved some great results from St Helena which will go toward informing the management of St Helena's marine ecosystem. Detailed maps were produced of the seafloor around St Helena and of the Bonaparte and Sysoev seamounts, and an initial count showed that over 200 species of fish and invertebrates were sampled. Many of the species collected will be sent back to the UK for further analysis, some of which will go to the Natural History Museum in London.



Paul ashore at St Helena (climbing all 699 steps of Jacobs ladder!) and the wreck of the Papa Nui at St Helena. (Photos courtesy of Katie Brigden).

Following a successful seven days of surveying, the JCR returned to Jamestown, where some members of the team stayed on to meet with project partners. For the rest of the team, it was time to return home, though with a day and a half's wait for the flight, we were lucky enough to have some time to explore the beautiful island, in and out of the water. A great end to a great trip!

For more info and pictures, check out the project on Twitter at https://twitter.com/saeri_fi?lang=en and <https://twitter.com/DevelopingOcean>