

## St Helena Invertebrate Endemics Update 2022

Species Recovery Trust has been supporting two invertebrate conservation projects on St Helena in 2022. The Cloud Forest Project is a large-scale multiple partner project restoring the Cloud Forests of St Helena, and this project has included an invertebrate component. As these forests are where most of the island's endemic invertebrates are found. The second project is the St Helena Invasive Invertebrate Project, which is looking at the control of the island's most aggressive invasive invertebrates, including two ferocious predators: the Common Wasp *Vespula vulgaris* and the Big-headed ant *Pheidole megacephala*. Both are listed in the world's top 100 most aggressive invasive species (see photo of a common wasp eating an endemic hoverfly – credit Liza Fowler).



### Cloud Forest Project

On the Cloud Forest Project the Species Recovery Trust is supporting the field survey work that is being carried out by St Helenian Invertebrate Specialist Liza Fowler from the St Helena National Trust in the Cloud Forest. This includes working with Liza on methods of collecting annual field survey data, as well as analysing data. Some of the key outcomes of this work have been, better understanding of endemic invertebrate presence on different plant species, endemic distribution on different sites plus the occurrence of key invertebrate endemics on restoration sites.

In addition, Species Recovery Trust has been leading on specimen work including working with the Natural History Museum on a DNA reference collection for Cloud Forest invertebrate endemics, using existing museum specimens. As well as developing Hemiptera keys with Mick Webb and Roger Key, a Lepidoptera key with Timm Karisch and Spider keys with Danni Sherwood. Danni has also been doing some amazing work on spider taxonomy which is vastly outdated for the island and using this work to develop a series of species level spider keys.

### Invasives Invertebrate Project

Species Recovery Trust is also providing support to the Invasive Invertebrate Project team led by Natasha Stevens to test out control methods for both Common wasp and Big-headed ant. We are supporting report writing, project delivery and citizen science elements of the project. The project so far has achieved trials for both species on island (see photo of trials in action – credit St Helena National Trust). The Big-headed ant has been successful suppressed in several sites, using a standard ant toxin on island. Impacts on the endemics and the environment were assessed and mitigated using bait stations and modified application practices. This work has been monitored and has shown significant ant declines, as well as some potential indication of recovery in key endemic invertebrate groups, such as True bugs. The next step is to do further trials on endemic sites and integrate ant suppression into the ongoing work of St Helena government. For the Common Wasp the work has been more challenging with numbers being low and the life cycle being unclear. However, some small trials were possible, using a similar approach with bait stations and mitigation using a very specific bespoke toxin (from New Zealand) and it appears that the wasps were removed on the sites where it was applied. There is still a hope to eradicate the Common wasp from St Helena but more trials and monitoring work is needed before this is possible.

