

REPORTS FROM AWARD HOLDERS

In this newsletter The Alice McCosh Trust is delighted to report on progress from three previous recipients:

[Sarah Richdon](#)

[The Species Recovery Trust](#)

[Kelleigh Greene](#)

STOP PRESS!

Earlier this year Kasim Rafiq published his findings in the prestigious scientific journal Current Biology. This received a fair bit of media attention and here is a link to a great article covered by

[The Conversation.](#)

2019 AWARD SIMRAN AUJLA

will be investigating how the carnivorous round-leaved sundew is responding to a changing planet. This plant lives in bogs and its populations are at risk from nitrogen pollution and climate change. Simran has been tracking the fate of thousands of individual plants. He intends to identify how the plant populations differ and how nitrogen is affecting their survival, reproduction and growth.

So watch this space....

LEE RAYE

may be a familiar name, he was a successful applicant in 2016. Having translated Scotia Illustrata (II:3) he set about comparing the results with modern day conservation data to work out how the fauna of Scotland has changed over centuries. He will now undertake the translation and publication of Scotia Illustrata II:1 which is a description of the naturally occurring plants of Scotland. And check out Lee's publication titled; ["Robert Sibbald The Animals of Scotland"](#)

ROBERT SIBBALD
THE ANIMALS OF
SCOTLAND

THE *Alice*
McCOSH
TRUST

Newsletter

Autumn 2019

SARAH RICHDON LIVINGSTONE FRUIT BATS

Livingstone's fruit bats are Critically Endangered, found only on the Comoros islands (midway between Madagascar and the East African coast), thought to be one of the rarest bats in the world. Due to declining population numbers, ten male and two female bats were relocated to Jersey Zoo in 1992 to create a captive breeding programme.

In 1998, two males and five females from the Jersey Zoo population were moved to Bristol Zoo Gardens, to create two reproductively isolated groups. There are now 68 Livingstone's fruit bats in this programme but, as paternity is often cryptic (many males may mate with the same female and it is uncertain who the father is), little is known about the genetic health, of these populations.

Sarah is about halfway through the project. The next step is to sequence the DNA and then compare the individuals. This will allow relatedness between captive individuals to be established and prevent inbreeding.



Claudia and baby Ben at Jersey Zoo

THE SPECIES RECOVERY TRUST

Last year you may remember the work undertaken by the Species Recovery Trust to examine the status of the Field Gentian in the New Forest and Pembrokeshire Coast National Parks. Detailed ecological information from both locations has been collected, as well as an updated view of how the populations fluctuate from year to year.



The New Forest project received a massive setback in the summer of 2018 when the heatwave killed off the majority of the populations. Following extended survey works eventually some plants were located amongst the scrub. The impact this will have on the long-term survival of the species in the New Forest remains to be seen.

On the Pembrokeshire Coast a slightly different picture has emerged and it appears constant onshore winds, cropping the vegetation and preventing the development of a tall sward that could outcompete the Field Gentian has allowed it to survive. The coastal breezes also bring in a small amount of moisture and maintain lower temperatures, so the impact of the heatwave was felt less strongly. It may prove the case that the populations here become more of a stronghold as sites inland start to be lost.

AND DON'T FORGET

Applications are now open; the closing date is

30th November

and Christmas cards are for sale [here](#).

KELLEIGH GREENE

SEXUALLY DECEPTIVE ORCHID POLLINATION STRATEGIES

Kelleigh is part way through her PhD attempting to answer the following questions:

- Is attracting one pollinator species better than attracting many pollinator species, in terms of pollination rates?
- If a pollinator is no longer required, as with the self-pollinating *Ophrys apifera*, will the attractive signals be lost?

Distribution maps for the orchids and their pollinators have been complete and the flowering periods of the orchids and flight periods of the pollinators have been charted.

Pollinator rates have been recorded for each orchid species from field sites across parts of England, based on visual inspection of the flowers and whether a seed pod was produced.

Photographs in both the visual spectrum and ultraviolet spectrum have been taken for a selection of the orchids and scents have been obtained from an *Ophrys apifera* individual to prepare for the analysis of olfactory signals.

These samples will be analysed to identify the amounts and types of compounds the orchids are producing to attract the pollinators.

