

A special visitor

In June, we had a visit from Dr. Julie Crawford - a Plant Ecologist based in Flagstaff, Arizona with the U.S. Fish and Wildlife Service.

While on holiday in Scotland, Julie and her family joined our recent outing at New Lanark and was struck by the number of our local species which are also familiar to her in Arizona and other locations she has worked, such as Colorado and Alaska.

Julie Crawford with Michael Philip at New Lanark



Here in the British Isles, we have a well-established tradition of biological recording, and the concise and accurate Ordnance Survey map grid to work with. By contrast, faced with thousands of species scattered across more than a hundred thousand square miles of often challenging terrain (including the Sonoran Desert and the vast Grand Canyon), neither Julie's department, nor those of her sister agencies, has the time or resources to engage in general botanical recording.

Julie's specialist role with the Fish and Wildlife Service is to identify rare plants facing threats, and aid in their protection and recovery. Specifically, she works on species status assessments, the listing of Threatened and Endangered species and designation of Critical Habitat under The Endangered Species Act, as well as creating Recovery Plans and working toward recovery of Arizona's rarest species. She also runs a program funded through Section 6 of the Endangered Species Act, which annually funds 6–12 rare plant recovery projects in Arizona.

Through the Section 6 program, and in partnership with other agencies, a key objective in recovering rare plants is firstly to locate those plants (a major challenge in a state which is well over three times the size of Scotland). Our readers may be interested to hear of three innovative techniques which are being used:

1. Dogs

Ecological scent-detection dogs, with their excellent olfactory abilities, are being used to survey for special-status and invasive plants. This has already proved effective in a preliminary trial survey of the cryptic Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), which grows in sparse, widely-scattered communities in southern Arizona, where individual plants are often hundreds of yards apart and hidden by other vegetation. Traditional surveys for this cactus are time and cost intensive; the dogs offer an alternative or complementary survey method that may improve detection and lead to a better understanding of the species' distribution, abundance, and demography.

2. Drones

Where plants grow in hard-to-reach places, such as on rock-ledges and steep unconsolidated slopes, drones are proving invaluable to plant researchers. The stable viewing-platform they provide is ideal for scanning a cliff-face for plants such as *Erigeron lemmonii* and *Amsonia kearneyana*, two rare plants of southern Arizona mountains. Drones allow these habitats to be assessed and rare plants located and counted where technical climbing skill and equipment would otherwise be required.

3. Environmental DNA

Environmental DNA is being used by researchers interested in non-invasively determining species composition of specific locations. In southern Arizona, by analysing a sample of river water, a group of advanced high school students from Tucson and Pueblo High Schools, were able to isolate certain DNA markers of the rare and cryptic aquatic plant species, *Lilaeopsis schaffneriana* ssp. *recurva*. The markers for this rare target plant indicate the presence of the plant nearby and for species close to extinction, it is vital that every possible population is discovered.

A special find

Just in the last few days, news has come in of a spectacular find.



This is *Ophrys apifera* (Bee Orchid) and it is growing within a controlled development site in the Glasgow area. It appears that there is just a single plant, but efforts are being made to assess how it came to be there, and whether there may be more nearby.

This species was first recorded in Scotland only as recently as 2003 and is now known in just eleven Scottish locations, in five vice-counties. It has never been recorded anywhere in Lanarkshire before.

It is most encouraging that the employee who found it (a) recognised its significance; (b) thought to take the photo; and (c) knew to refer it on to the BSBI.

Photo Project

Remember that you can send in your best photos of plants in Lanarkshire. Our growing library of pictures (to be made available online before long) is being co-ordinated by Peter Wiggins. His email address is:

pswiggins@gmail.com

Peter will explain our protocol for filenames, and the best methods by which photos can be sent in. The full list of species for which we need more photographs is available on request.

Could you find and photograph Scots Pine, or Heath Bedstraw, or Long-headed Poppy, or Creeping Buttercup, or Feverfew?

Outings Programme

The month of August has now been added to our Outings Programme, which is being circulated with this newsletter. You are warmly invited to join us in such places as Blantyre (River Clyde), Cathkin Braes, Langlands Moss (East Kilbride), Firhill (Glasgow), and the Falls of Clyde (west side).

We have now recorded over
680 species in 2019, adding over
6,400 records to the national database
including new data from over
200 different map squares.

BSBI Training (a reminder of previous publicity)

Following the success of her recent workshops on identifying plant families and learning to identify grasses, Dr. Faith Anstey is holding a new workshop on "Identifying Sedges & Rushes". This will be of interest to many field botanists who are less familiar with these classes of plants.

The workshop will run on Saturday 20th July from 10am - 4.30pm at Mugdock Country Park and is an ideal way for people to make a start on learning some of these 'difficult' but beautiful and fascinating species.



**IDENTIFYING
SEDGES
& RUSHES**

SAT 20 JULY 2019
10am – 4.30pm
Mugdock Park,
Milngavie
Led by Dr Faith Anstey

This is a brand new workshop on identifying common sedges and rushes the easy way - by their field characters, rather than using microscopes or wading through lengthy keys.

**BOOKING
IS ESSENTIAL**
£20 Full-time students
£30 Non-students

A basic knowledge of wildflower ID is the starting point for getting the most out of this workshop. A copy of the new booklet on identifying sedges & rushes will be yours to take away.

To book: bsbi.org/scotland
Info: faithanstey@gmail.com

Image by Bill Boyd © BSBI

Please note that there is a charge for this BSBI event and advance booking is essential.

To book, go to: <https://www.tickettailor.com/events/botanicalsocietyofbritainireland/237541/>

. . . or for further information, contact Faith Anstey herself at: faithanstey@gmail.com

Take the plunge, go on!
(You'll even get a free copy of Faith's booklet "Start to Identify Sedges and Rushes".)

More detail on refinds

For those who want a more detailed update on our refinds progress, here it is - buried on the back page.

<u>Hectad</u>		<u>Needed at Start</u>	<u>Found</u>	<u>Still needed</u>
NS56	Glasgow (north-west)	114	22	92
NS57	Summerston, Possil Loch, Forth & Clyde Canal	90	27	63
NS65	East Kilbride & Blantyre	93	14	79
NS66	Glasgow (east)	61	37	24
NS67	Bishopbriggs to Moodiesburn	COMPLETED!	25+	-
NS73	Lesmahagow (west)	COMPLETED!	14+	-
NS76	Coatbridge & Airdrie	22	15	7
NS77	Mollinsburn & Luggiebank	COMPLETED!	42+	-
NS84	Clyde Valley & Lanark (west)	33	2	31
NS94	Lanark (east) to Carstairs	COMPLETED!	20+	-
NT03	Biggar and Coulter area	92	20	72

Keep in touch

Email correspondence on Lanarkshire botany is always busy. You are welcome to get in touch at any time with questions or any other matter concerning field botany in this big geographical area.

If I can't provide an answer myself, I'll refer you on to someone who can!

Also, if you know anyone who would be interested in receiving the programme of outings and occasional newsletters, please ask them to get in touch. Our network continues to expand steadily.

11 of our 55 contacts have already been on at least one outing this season, including one 'first timer'.

And remember, all Lanarkshire newsletters and details of our outings are also available on the excellent BSBI website. Just go to:

<https://bsbi.org/lanarkshire-v-c-77>

Michael Philip (BSBI recorder, VC77)

email: botany@opus44.co.uk

Picture credits:

<i>Lepidium heterophyllum</i>	Michael Philip, Leckethill Tip, 25th May 2019
<i>Valeriana pyrenaica</i>	Michael Philip, Kittochside, 27th May 2019
Julie Crawford	Jim Dyer, at Falls of Clyde, 16th June 2019
<i>Ophrys apifera</i>	Emilie Wadsworth, Glasgow area, 1st July, 2019