

Urban Flora of Scotland

-an update from our convener

John Grace, October 2018

Introduction

We are recording the urban flora of Scottish towns and cities, creating a data base that will be made available to everyone. Later, we'll publish a handbook and interactive web site so that people of all ages will be able to identify the wild plants they find around them. It is not a trivial undertaking - we think it will take ten years. We are doing this because we believe there is a need to bring the knowledge of plants and their ecology to ordinary people, and because we want to demonstrate the botanical changes brought about by climate warming, urban development and the inevitable escape of garden species. The data base will be important for researchers and may provide early warning of the spread of invasive species.

Progress

Nearly 5,000 records have been added to our urban flora database on iRecord since this time last year, bringing the total records to 25,500. There are still more records to come, as people catch up with entering data. Coverage of Scotland's towns and cities is developing nicely, but there is still much work to be done (Fig 1). We have filled some of the gaps in the Scottish Borders and also the south-west. However, the west of the country is clearly under-recorded, and we hope to do some of that next year. We have no data from the Orkneys, or Shetland. Can anyone help?

Some people have entered a lot of data, others, just a little. Even a few entries of the commonest species are valuable so don't be deterred. New recorders are always welcome. Because of the anonymity of iRecord, we cannot email you to thank you for your records but we can see who you are and we hope to thank you personally. We are of course especially grateful to other groups and particularly the BSBI who have willingly collaborated.

Of course we can never claim to have covered each town exhaustively— most locations have been visited only once or twice and the larger settlements have many habitats. We cannot visit every street, yard or park. To do that we'd need a resident recorder in every town. Altogether, we have found 1205 species, the most common ones, in declining frequency, are: *Bellis perennis*, *Ranunculus repens*, *Senecio jacobaea*, *Trifolium repens*, *Epilobium montanum*, *Galium aparine*, *Chamerion angustifolium*, *Urtica dioica*, *Plantago lanceolata* and *Poa annua*.

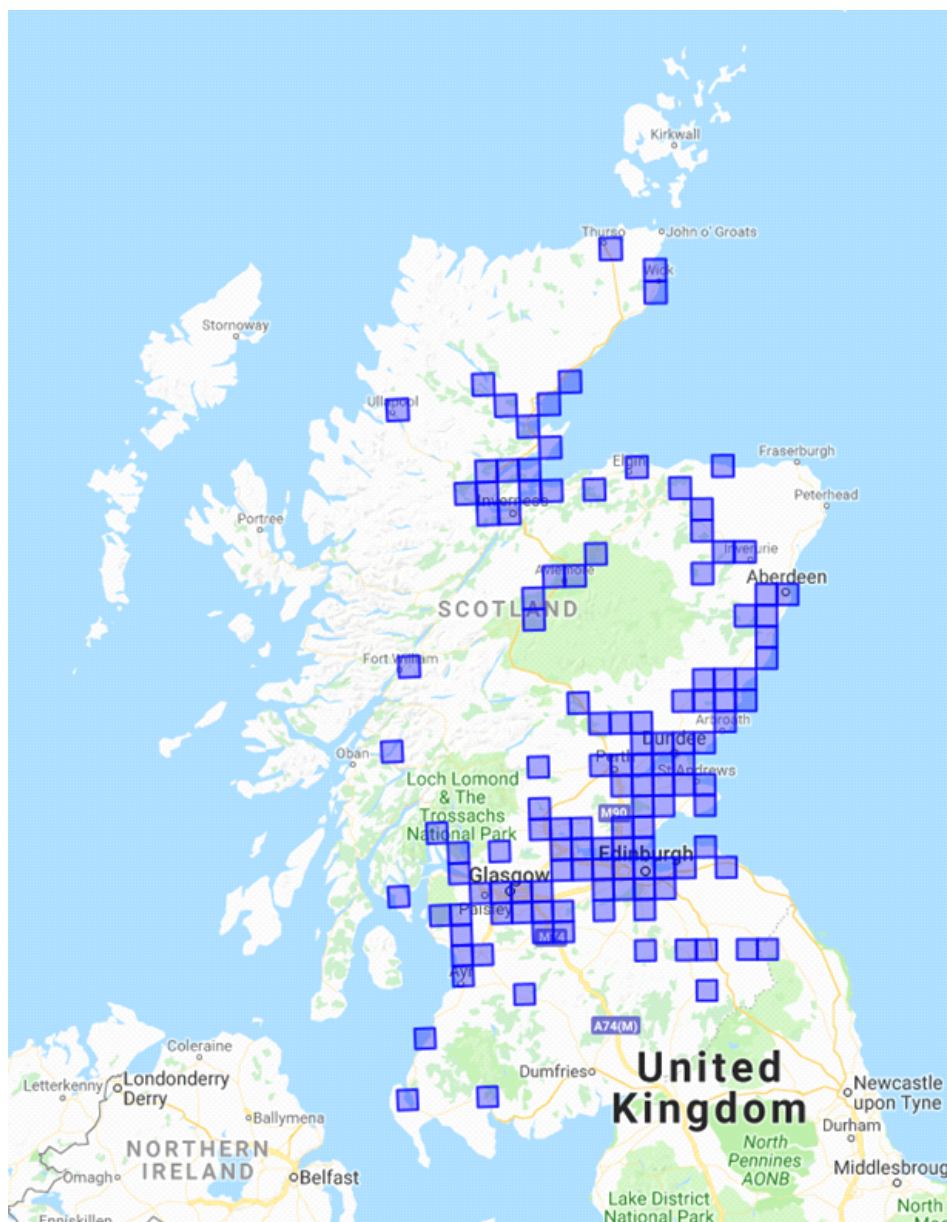


Fig 1 Map of sites visited since the Urban Flora Project started

In the entire data set there are 319 species which have been seen once only ($n=1$). Some of them are surprising, because they are rather common plants in Scotland as a whole. *Calluna vulgaris*, Heather, has been seen just once this year in our urban records, at Holyrood Park, Edinburgh. Several other common species are somewhat rare in our database: *Aira praecox*, *Rumex longifolius*, *Urtica urens*, *Anemone nemorosa* and *Juniperus communis*. This raises a fundamental question: how many towns should we visit and how many records must we make before we can say that we have truly 'captured' the urban flora? Of course, there are statistical tools to interrogate the data to answer this question, and we plan to do this soon. There is also a time-of-year issue. Many recorders are unable to re-visit a site to confirm a provisional identification made with vegetative material, and some species show themselves for just a few weeks before dying back. This is brilliantly demonstrated in a data set received from Roy Sexton, whose group has surveyed the same sites near Stirling Castle many times, and at different times of year.

Some of the species we've found this year are indeed new records for their locality. A distinctly southern coastal plant, *Euphorbia portlandica* (Portland Spurge) was found at Girvan; *Parentucellia viscosa* (Yellow Bartsia) turned up at Broomhouse Glasgow, (Fig 2) when we visited with Michael Philip of the BSBI; *Lepidium didymum* (Lesser Swine-cress) was found behind the swimming pool at New Cumnock; and at the end of a hard day in Melrose, we were rewarded by *Draba muralis* (Wall Whitlow-grass), quite dead but still identifiable from its tiny but characteristically shaped fruits. Other notable finds are *Lemna minuta* and *Spirodela polyrrhiza* at Strathpeffer.



Fig 2. (left) Yellow Bartsia at Broomhouse in Glasgow
Fig 3.(right) Studying the urban environment.

Our recording includes non-vascular plants, and we have quite a lot of bryophyte records from all over Scotland. Over 600 records are about to be entered into iRecord. David Chamberlain and Liz Kungu have surveyed the entire coastal strip (up to 100 m from the sea) within the city of Edinburgh. The most noteworthy finds have been

Tortula freiburgii, a fourth Scottish record, and *Henediella heimii* in Granton Harbour, a vice-county record which has not been seen for 50 years. The survey showed that the effect of the salt spray extends for less than 100 metres from the sea and a few species have been recorded in the most urbanised areas on man-made materials. A comparison between the less disturbed areas at the Western boundary of the city to totally built up Portobello in the East clearly demonstrates the effect of urban development.

Future plans

It is not too early in the life of the project to be thinking about publication. We have been discussing several possibilities from check lists to 'coffee table' books, but we haven't reached a consensus and we'd like to hear your opinion. These days, 'publication' does not only imply a book, but also may refer to an on-line repository. There is much to consider.

We can make a difference

Data we have collected may also be valuable when considering plans to change the use of the land. A case in point arose very recently. You may recall that at the start of our project in 2015 we recorded in Midmar Paddock, a grassy area in Edinburgh with a small amount of woodland, owned by an offshore trust. It is up for sale, as "10.31 acres of potential development land". This is despite the site's highly protected status (Green Belt, Special Landscape Area, Open Space, Local Nature Conservation Site). The local community, supported strongly by all the local politicians, want to keep the land as it is, an important amenity where people walk and enjoy the unspoilt views of the city and Blackford Hill. There is also heritage value, and part of the heritage is the 70 plant species which the site holds. If the case comes to public enquiry, our work from 2015 may be one part of the case against development.

How you can help

1. **Join us.** Make contact by joining one of our organized visits next summer. We'll introduce you to the methods, and you'll meet some of our group.
2. **Be an independent recorder.** Adopt a town, a square or a set of streets and work as an independent recorder. See our web site about how to collect data; upload it yourself to our project area on iRecord or simply send us your completed recording forms. The protocols are explained on the web site, but one-to-one help can be given.
3. **Specialize.** Become a recorder of a particular type of habitat where you have a familiarity or special interest: eg allotments, river/canal banks, cemeteries, school grounds, wild areas within cities, walls, old industrial sites, coastlines.
4. **Register.** http://www.botanical-society-scotland.org.uk/Urban_Flora_of_Scotland and click on the left-hand tab 'Urban Flora Registration'. If you have any queries please contact me at jgrace@ed.ac.uk.