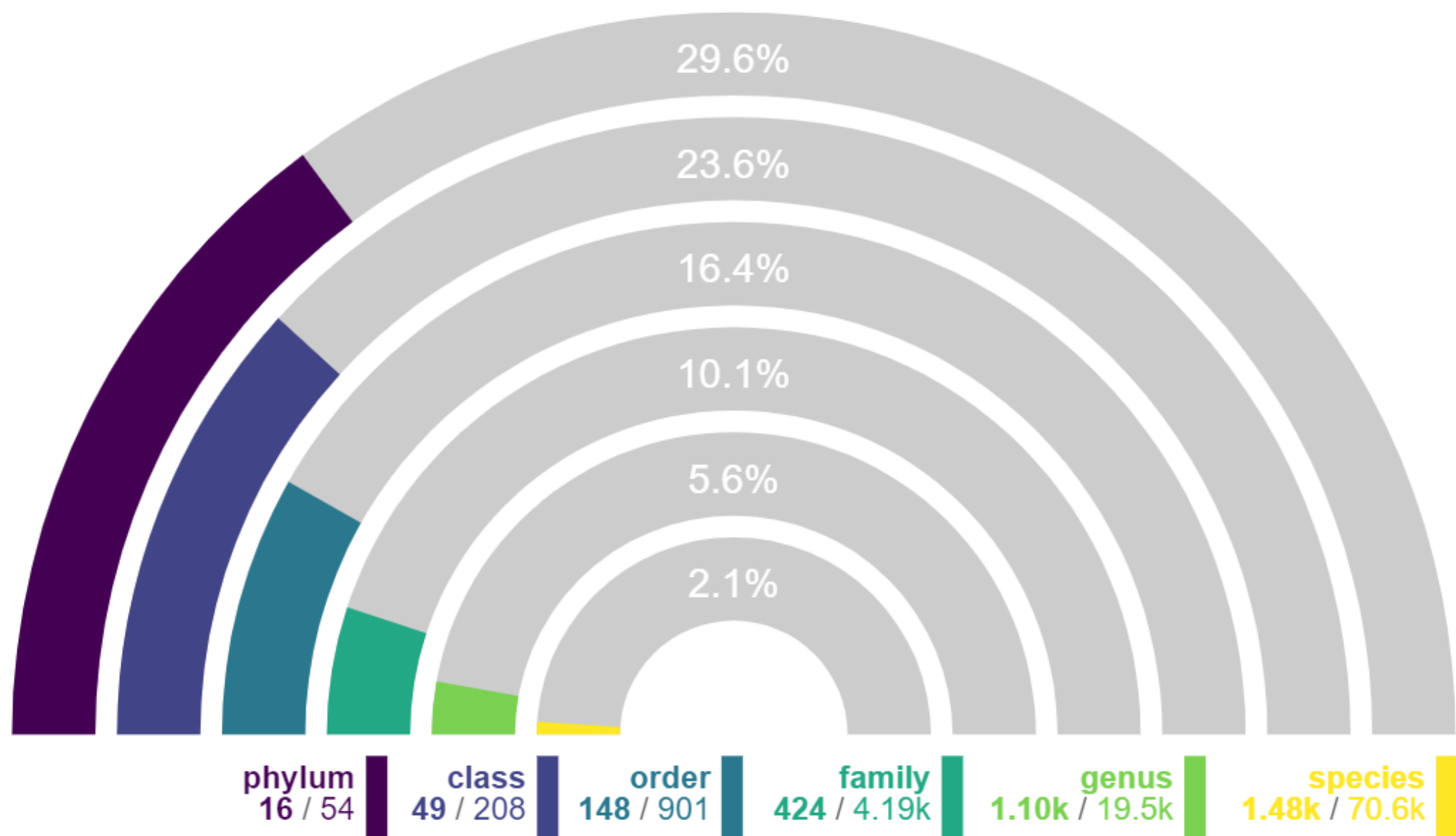
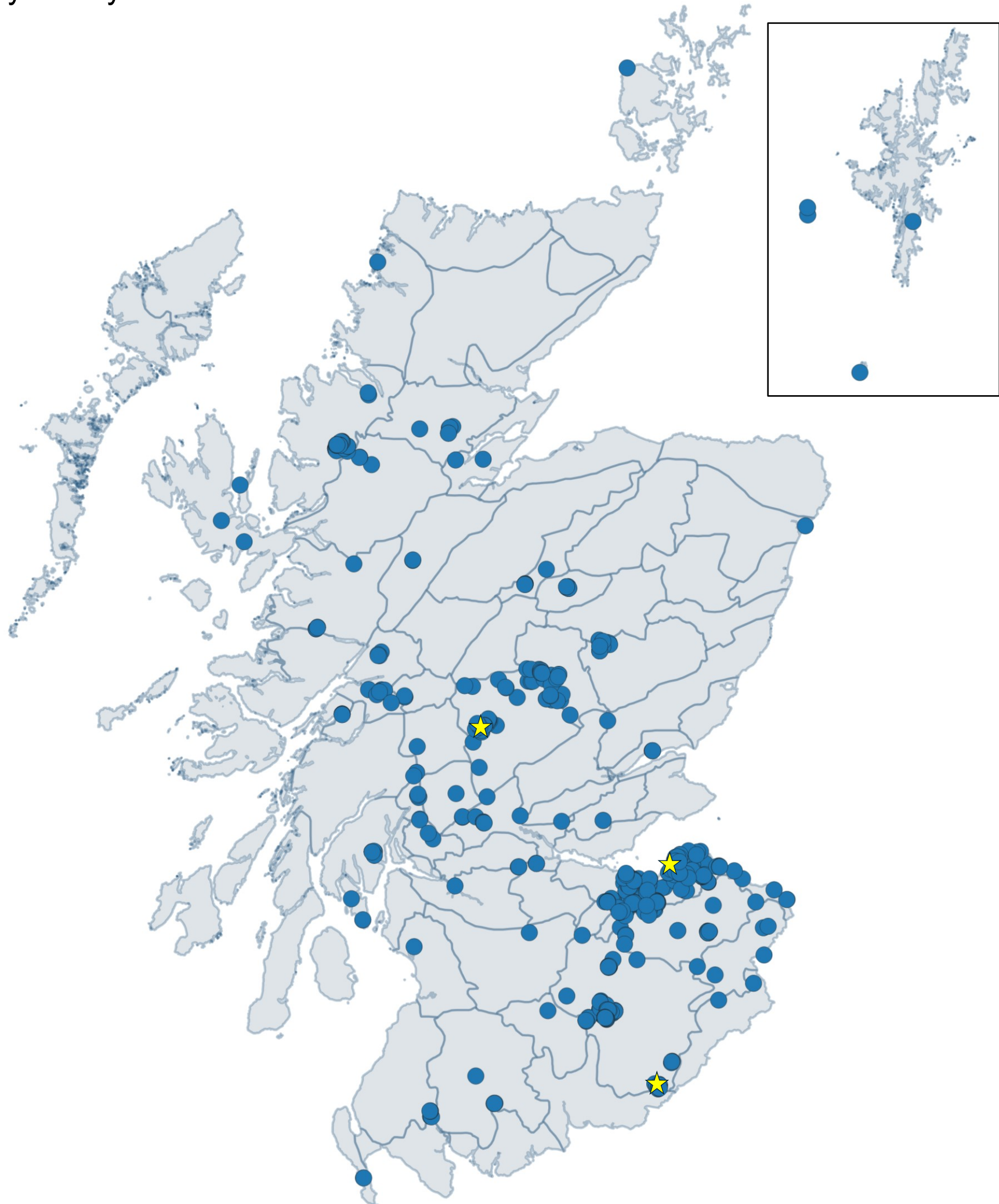




The Darwin Tree of Life project aims to sequence reference quality genomes for all ~70,000 species of plants, animals, fungi, and protists in Britain and Ireland. The Royal Botanic Garden Edinburgh (RBGE) is one of six Genome Acquisition Labs, tasked with the collection, identification and curation of samples for the project. Here we summarise sequencing progress so far and showcase some botanical sampling highlights from Scotland



The enormity of the project: Proportion of Darwin Tree of Life genomes sequenced for all eukaryotes by taxonomic ranks – as of October 2024



Locations of Darwin Tree of Life botanical sampling in Scotland. Stars indicate sampling location highlights.

Darwin Tree of Life Plant Genomes Progress

1208 Vascular plant species sampled
(native and archaeophytes)

430 Bryophyte species sampled

175 Plant genomes publicly released

Scottish Sampling Location Highlights

Ben Lawers National Nature Reserve

74 species have been sampled from Ben Lawers NNR including many of the artic-alpine plants this celebrated botanical site is famous for. Sampled species include *Juncus biglumis*, *Erigeron borealis*, and *Bryoerythrophyllum caledonicum*



Aberlady Bay, East Lothian

An important site for coastal, saltmarsh, and sand dune flora, 82 species have been sampled around Aberlady Bay including, *Stellaria palustris*, *Potamogeton coloratus*, and *Parapholis strigosa* (see photo on left).



Tarras Valley Nature Reserve, Scottish Borders

Tarras Valley, a recent community land buy-out and ecological restoration scheme, is providing a bryophyte bounty with 30 species sampled in 2024. For example, *Trichocolea tomentella*, *Diplophyllum obtusifolium*, and *Blepharostoma trichophyllum*

Scottish Sampling Species Highlights 2024



Hammarbya paludosa - required surveying every square centimetre of possible sites near Tyndrum



Fossombronia incurva - small, ephemeral, elusive bryophyte finally found near Langholm



Carex norvegica - Brilliant mountain day to reach a rare but healthy population at Ben Lawers