



Morgan Academy

The James Hutton Institute

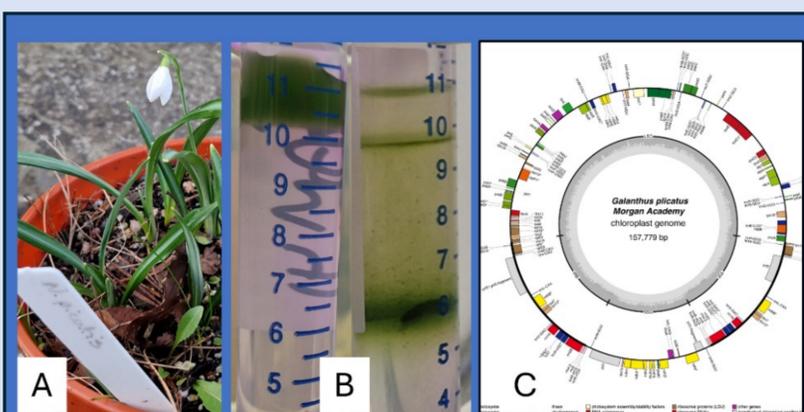
How did snowdrops “drift” from the Caucasus mountains to the Mediterranean?

Why have we asked this question?

Snowdrops (*Galanthus* species) are a cherished sign of spring. The common "British" snowdrop, *Galanthus nivalis*, was likely introduced in the 16th century. Snowdrops originally evolved in the Caucasus mountains and 20+ different species evolved as they spread across Europe to Türkiye, and the Mediterranean islands, over millions of years. With help from UK national collections and using DNA sequencing we are investigating how geography and evolution have shaped the history of this remarkable plant family.



Collecting snowdrop leaf material at Bruckhill's Croft. Scottish National Snowdrop Collection



- A. *G. plicatus*
- B. High salt gradient centrifugation of chloroplasts
- C. Map of *G. plicatus* chloroplast DNA

What's next?

We have optimized DNA extraction by using high salt gradient centrifugation to enrich for chloroplast DNA, enabling high-quality sequencing with MinION technology. This method allows multiple samples to be sequenced simultaneously. We are now comparing these sequences to build a family tree for *Galanthus*, revealing how different species are related and highlighting the role of geography in their evolutionary history.