

Wild apple *Malus sylvestris* on Pabaigh Mor

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Introduction

Apples occur widely throughout the British Isles, though they are much more scattered in Scotland than further south. Both native apples (*Malus sylvestris*) and domesticated apples (*Malus domestica*) can be found, and the pattern of distribution of the native apple is obscured by the frequent planting for fruit of the domesticated variety, and from specimens derived from discarded cores. The two species are similar morphologically and in principle they can be distinguished by the hairiness of the leaves (no hairs in *M. sylvestris*, hairy beneath in *M. domestica*) and the size of their fruits (<30 mm in *M. sylvestris*, >30mm in *M. domestica*). However, as the two species do hybridise and introgression (the transfer of some genetic material from one species into the DNA of another closely related one) is likely to have happened over the last 1000 years in Scotland, morphological characters can be ambiguous and unreliable. DNA analysis offers a way to distinguish the two species, and to assess the distribution of the native species. Ruhsam *et al.* (2019) have investigated *Malus* specimens from Scotland using genetic markers (microsatellites) to investigate how common hybridisation between the native wild apple and the domesticated apple are. Worrell *et al.* (2019) have written a summary article about the genetic issues and conservation.

Archaeological records from the Outer Hebrides

Apples belong to the Rose family (Rosaceae), which also include hawthorn and rowan, and the wood of these species is morphologically similar, so archaeological remains, which are often charcoal, are generally not distinguishable (eg Sharples 2012, p31). Therefore, there is no evidence for the presence or use of apple wood.

There are however other types of remains, and apple seeds (pips) have been recorded from archaeological excavations. Bishop *et al.* (2009) summarised the evidence for cereals, fruits and nuts in Neolithic sites in Scotland, and only 5 out of 75 sites contained apple seeds. One of these was at Bharpa Carinish (Boardman 1993). Despite several recent publications documenting excavations in the Outer Hebrides, no other archaeological remains have been noted. Therefore, it seems likely that apples were not widespread, but it is interesting that they were present at all, because the number of extant trees is very small. No native apples are currently known from N Uist.

Pabaigh Mor

In June 2003, D & E Hayes reported an apple on the island of Pabaigh Mor, Uig. PAS managed to visit this island on 3 May 2012, and located the single, very gnarled tree more or less appressed to a low cliff above the ruined village at Briomanish (NB10353742, Fig. 1). A specimen was taken, and appeared to be glabrous, and since these were leaves just expanded from the bud it seemed likely that they were *M. sylvestris* s.s.

MR carried out a genetic analysis of a sample from this specimen, which indicated that it is pure *Malus sylvestris*. This suggests that this is a native apple tree. There are several other records of apples, all near habitation or on roadsides in the Uists and Lewis, and further investigation is needed to discover whether these are native or domesticated.



Fig. 1: *Malus sylvestris* s.s. on a low cliff at Briomanish, Pabaigh Mor.

Wider occurrence in the north and west of Scotland

Malus is also known as a native cliff plant in Shetland (Scott *et al.* 2002, p69), originally in two sites on cliffs inaccessible to grazing with a handful of bushes in each, though one of these has subsequently been lost to erosion. The remaining site was included in Ruhsam *et al.* (2019)'s samples, and also proved to be *M. sylvestris* s.s.. So *M. sylvestris* seems to persist even in exposed situations at the limit of its range.

The nearest localities for native *M. sylvestris* s.s. confirmed by DNA analysis outside the Outer Hebrides is at Dundonnell, vc105 (NH18). No other records are known from the NW of Scotland except for one unlocalised record in NG94, though there is a scattering of records of *M. sylvestris* s.l.

Conclusion

At least one native apple tree persists in the Outer Hebrides. Further investigation of extant bushes would be worthwhile, and we would be interested in any further reports of apples, particularly in possibly native situations.

References

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