



Protecting the Threatened Flora of Old Walls

Position Paper No. 2 by The Dublin Naturalists' Field Club

Old walls act as refugia for many plant species which were once common in the Irish landscape but are now rare following the destruction of their natural habitats. Many towns and villages still have old walls and they are often respected as testimony to earlier times, irreplaceable survivors of former cultures and social activity. The oldest walls are usually associated with religious establishments or Anglo-Norman castles. More recent constructions from the 19th century, such as estate walls, canal embankments and river and railway bridges, are also of value. The wildlife (flora and fauna) and historical conservation value of these structures are now under threat from a variety of processes.

In this position paper we set out the scientific reasons for our concerns about these built habitats. We recognise that the loss of these habitats is part of a wider downgrading of our natural biodiversity, and we appreciate that often very well-intentioned but unhelpful voluntary actions have been conducted in an information and knowledge vacuum. Accordingly, we set out an evidence-based rationale for the protection of these special habitats while they still survive. In addition, we suggest ways in which the ongoing losses of these habitats might be prevented, and we indicate pathways for well-directed conservation actions by concerned citizens.



Old stone walls provide niches for flowering plants, mosses and ferns which would naturally grow on shallow soil over bedrock outcrops or on rocky cliffs. With the destruction of their natural habitats, old walls now provide important refugia for these species.

The geological background

The Irish landscape consists of a large variety of rock types, formed during different geological periods and modified by tectonic processes, such as folding, volcanic events and metamorphism. In places, outcropping bedrock of various types has been exposed through uplifting, glacial action, soil erosion or quarrying. These rock features vary from relatively low protuberances to substantial mountains and the various minerals from which they are formed have different chemical characteristics and physical properties. When materials from these features are used for wall building, it results in the formation of a variety of habitat conditions suitable for natural colonisation by certain plants, lichens and invertebrates.

Much of the bedrock of lowland Ireland is covered by glacial till — a mixture of stones and smaller particles deposited by the melting glaciers. Glacial depositional features, such as eskers and moraines, often contain boulders and large stones which have subsequently been incorporated into built structures.

Different rock types have their characteristic plant species.

Quarrying has exposed the bedrock in many places and provides striking examples of the affinity of certain plant species to particular substrates. The soils that have formed on these exposed outcrops are usually very shallow, free-draining and seldom dominated by the heavier grasses found on deeper soils, which can smother smaller, short life-cycle species.

Traditionally, rocks for wall building were quarried locally. In recent decades bedrock extraction has increased to satisfy demand from the building and road construction industries. As a result, many of the characteristic species of these exposures have now been eliminated from the immediate landscape. Meanwhile, other outcrops have become overgrown by encroaching heavy scrub, their abandonment brought on by difficulties with ploughing the land where there has been a shift to cultivation, or the need to protect livestock.

Diversity of wall habitats

While most old walls were originally constructed from materials available at close hand, some decorative ornamental stone from less immediate sources was used to embellish windows and doors of churches and abbeys. Medieval stonework was often precisely crafted by expert stone masons. In many parts of the Irish midlands, stones rounded by glacial action were used to strengthen earth banks or were cemented together by primitive forms of mortar. Many walls, mainly in the west of Ireland are free-standing, dry-stone constructions, enduring tributes to the wall-builders' art (see for example, Fig. 1 below). Elsewhere, walls were formed by skilled artisans, using the characteristics of the locally-available bedrock, their artifice predicated by the bedding characteristics of the immediately-available stone provided by quarrymen. The stones and rocks were secured in place by combinations of thoughtful design, supplemented by various forms of mortar, again derived from local sources — powdered limestone or lime-rich sea-shells. In some instances, limestone mortar was used on walls constructed from stone other than limestone (e.g. granite or sandstone), enabling lime-loving indigenous plant species to spread by natural means beyond their original limits to areas poor in lime.

Walls provide a variety of ecological niches for characteristic species.

Walls, in their finished state, have different construction and design features, which in turn lead to the formation of various ecological niches for characteristic flowering plants, ferns, mosses, lichens and invertebrates. This structural diversity underpins much of what has subsequently resulted in terms of habitat and hence species diversity. Some walls (especially those of limestone and granite) are topped with cut blocks. Others, particularly those of shales, are capped with sloping slabs, reflecting the bedding characteristic of the rock employed. In later years, the tops of some walls have been cemented

over and sealed to prevent rainwater percolating into their interstices and undermining their structural integrity. As a result, the water supply to the roots of certain species has been compromised.

Depending on the shape of the wall tops and sides (and mortar composition, where present), thin or skeletal soils gradually form from decomposing mosses and lichens and accumulating sand. This provides a growth medium for a variety of shallow-rooted, usually short-lived plant species, collectively classified as winter annuals. Their seeds germinate over winter, then flower and set seed in spring, dying shortly before the summer droughts. In many instances, where carpets of dense moss have formed over skeletal soils, they act as incubators for the next generation of these very small plants which will grow there with their roots anchored and protected from sudden dry spells. Typically, these winter annual communities include Spring Whitlowgrass *Erophila verna*, Rue-leaved Saxifrage *Saxifraga tridactylites* (Fig. 5), Wall Speedwell *Veronica arvensis*, Lesser Chickweed *Stellaria pallida* and Thyme-leaved Sandwort *Arenaria serpyllifolia*.

Mineral composition of rocks influences species distributions

The composition of the flora of natural rock outcrops is determined to a large extent by the nature of the bedrock and its constituent minerals. Gardeners appreciate the relative differences in the environmental requirements of certain plant species. Some thrive on soils derived from limestone; others do best on acid ground. Alpine gardeners are particularly aware of the need for free-draining substrates and sunshine, emulating the conditions which these species occupy in their natural world. Similarly, walls of differing rock types will have different species growing naturally on them. Navelwort *Umbilicus rupestris*, English Stonecrop *Sedum anglicum* and the fern, Black Spleenwort *Asplenium adiantum-nigrum* (Fig. 8), for example, typically occur on acid rocks and are often prominent features on non-limestone walls, such as those composed of granite and siliceous shales. Many species grow on limestone walls and one of the less plentiful is Hairy Rock-cress *Arabis hirsuta* which has steeply declined along with other limestone grassland species.

Environmental factors

Free-standing walls, depending on their directional alignment in the Irish landscape, will experience different patterns of temperature, rainfall and other ecological conditions on their contrasting sides. Those that are laid out in an east-west direction will have one very hot south-facing side with the other much cooler. Walls in a north-south orientation will be much wetter on the side facing the prevailing winds (usually from the south-west). As a result of these and other processes, the range of species on contrasting surfaces can be considerable.

An interesting aside is the matter of retaining walls — i.e., those which have been constructed to prevent soil slipping onto roadsides where civil works have created unstable banks positioned at an excessively steep angle of repose. This is particularly evident where ground water, percolating through the earth banks, threatens to undermine the stability of the bank. Such walls, backed by the retained material, are usually damper and cooler on the outer side and therefore suitable for colonisation by a range of small ferns, mosses and liverworts (e.g. Fig. 3). In addition, they are often shaded by overhanging vegetation, which, in turn, prepares suitable ground for colonisation by larger humidity- and shade-demanding species such as ferns — for example, Male-fern *Dryopteris filix-mas*, Soft Shield-fern *Polystichum setiferum* and Hart's-tongue *Asplenium scolopendrium* — and mosses. Sea walls, e.g. where protecting coastal railway lines, provide habitat for the salt-tolerant plants (halophytes) Rock Sea-spurrey *Spergularia rupicola*, Rock Samphire *Crithmum maritimum*, Rock Sea-lavender *Limonium binervosum* agg. and more exceptionally for the shade-demanding Sea Spleenwort *Asplenium marinum* (Fig. 13), these being usually plants of cliffs in the sea spray zone.

Ferns and mosses

Ferns and mosses are particularly indicative of rock type, with allowances being made for the locally distorting effects of mortar on acid rocks. Walls composed of calcareous rock (e.g. limestone) or cemented with lime-rich mortar are often colonised by the mosses *Homalothecium sericeum*, *Rhynchostegiella tenella*, *Ctenidium molluscum* and several small cushion-forming acrocarps. Occasionally, much rarer moss species such as *Entosthodon muhlenbergii* (Fig. 14) and *Leucodon sciuroides* (Fig. 15) are found on base-rich walls. In contrast, certain species of *Hypnum* and *Racomitrium* may colonise old, undisturbed base-poor walls, especially in the uplands (Fig. 4). *Bryum pallescens*, another uncommon moss, is unusual in that it often colonises old walls irrigated from above by water dripping from metal roofs, apparently tolerating or even benefiting from the metalliferous run-off (Fig. 16).

Mosses and ferns reproduce by spores which are highly mobile in moving air and will colonise suitable walls once the relevant factors necessary for establishment are present. Old walls often provide very suitable alternative refugia for these plants when all other outcropping rock habitats have been erased from the landscape. Some species of open sunny rock faces such as Wall-rue *Asplenium ruta-muraria*, Maidenhair Spleenwort *A. trichomanes*, Rustyback Fern *A. ceterach* and some Polypody *Polypodium* species have spread throughout Ireland and may also grow on some more recently constructed structures such as civic and institutional buildings, finding niches analogous to their natural habitats (Figs 9–12). Other species e.g. Brittle Bladder-fern *Cystopteris fragilis* are occasionally found on damper walls and bridges and are more common on rocks in upland situations where the local climate is cooler and moister. Churchyards can also be important in providing a range of different substrates due to the variety of rock types used for headstones and other structures.

Bridges and railway structures

River bridges, especially older ones, are often the only place where certain species now occur. This is particularly the case in upland areas. Formerly, some native species, especially Hawkweeds (*Hieracium* species, Figs 2, 6) occurred on rocky ground above river gorges. These species are particularly susceptible to the effects of sheep-grazing. Though perennial, most of their living biomass is above ground. Thus, being easily grazed, they are unable to form stems, flowers and fruits. Many are usually encountered nowadays on bridges crossing these upland streams and rivers, where they are secure from grazing. Sadly, some colonies of these very rare and undoubtedly indigenous species are now endangered by re-pointing older stonework, or by other less necessary cosmetic actions. Similarly, another suite of Hawkweed species, which are relatively recent arrivals, has made its way onto old railway walls and the garden walls of some heritage houses. These species were originally transported as seed and dispersed accidentally and are now clinging on in small towns where not only have the train stations been closed but the permanent way itself, with its steep banks and stone chippings, has been erased from the rural landscape. These precariously small colonies, self-sustaining but isolated from others, have now come under pressure, as more and more of the older walls are either cleaned up, repointed or re-purposed as ornamental features. Once eliminated there is no available source for natural re-colonisation by these species.

Invertebrate species on walls

In addition to their significance for plant species, old walls secured by early forms of crumbling mortar provide suitable lime-rich environmental conditions for a number of rare woodlice (e.g. *Porcellio spinicornis*) and some species of terrestrial mollusc. Snails such as *Helicella itala*, *Cernuella virgata*, *Xeroplexa intersecta* (syn. *Helicella caperata*) and *Cochlicella acuta* were formerly widespread species of semi-natural lime-rich grassland and, being vulnerable to trampling by cattle, are now largely confined to walls and banks. One of the most characteristic snails of mortared walls is *Lauria cylindracea* which thrives secreted in cracks. *Balea perversa* lives in similar situations, especially on walls shaded by

vegetation and the minute *Pyramidula umbilicata* can often be seen on exposed wall tops, especially on dry-stone walls. Various bee and other heat-demanding species use wall spaces for their tunnels and nests, assisted by the heat-retaining characteristics of the stonework, especially when the structure is situated on bedrock.

Invasive species on walls

In common with many other Irish habitats, walls have been invaded by a number of plants of garden origin. Many of these are true species (as opposed to cultivated garden varieties), occurring naturally elsewhere in the world. Islands such as ours have depleted insect faunas which results in the scarcity of predators which in a natural setting would keep these robust plant species in check. Therefore, these garden escapes are able to spread and reproduce, curtailed only by the prevailing environmental conditions of an area. Many of these invasive species are now so widespread that they are often assumed to be natural components of our indigenous Irish flora. Some of the species that have come to invade our old walls are originally species of hot rocky ground elsewhere in the world and were intentionally introduced as garden plants but have subsequently escaped onto our old walls.

The main culprit in this respect is Red Valerian *Centranthus ruber*, a long-established garden escape which can have dense flower heads of pink, red or white (Fig. 17). Originally introduced from Mediterranean regions to bedeck garden walls and rockeries, it has, in recent years, become a major pest species. Its destructive roots insinuate themselves into and between the mortar. Its leaves, being broad and mildly succulent, can block out the sun from the much smaller, short-lived native annuals that could otherwise grow on the wall tops. In this way it completely changes the microclimate for plants and other organisms at the tops and upper sides of the walls. Because it is a colourful fast-colonising species, especially now in times of milder winters and hotter summers, Red Valerian is often tolerated or seen as an asset.

The less aggressive species, Fairy Foxglove *Erinus alpinus* (Fig. 7), from south-west Europe, is another such interloper. Its lower stature does not lend itself to becoming a dense canopy-forming species, but it lays down a thick carpet of vegetation. It was noted as becoming a colonist of old walls with suitable microclimate by the middle of the nineteenth century in Ireland and still persists in some of the sites where it was first recognised. This and other species such as Mexican Fleabane *Erigeron karvinskianus* were deliberately imported as garden plants, long before society became aware of the need to protect our own complement of native species. The related Bilbao's Fleabane *Erigeron floribundus* (syn. *Conyza floribunda*) is a recent arrival, initially colonising sunny urban sites and now often encountered on walls.

Ivy-leaved Toadflax *Cymbalaria muralis* (Fig. 20), as its scientific name suggests, has a strong association with walls and was similarly imported, from south-central Europe. Its vegetative parts are very susceptible to herbicide application, but it has the unusual capacity of being able to insert its seed capsules into cracks and crevices after flowering. Though the parent plants may die, whether from herbicide or drought, the concealed seeds remain viable and may germinate the following year. Where spraying incidents occur, and all other wall dwelling plant species have been killed off, Ivy-leaved Toadflax can re-assert its presence year after year, often flowering amidst the dead remains of the native species which have been cleared in the interests of tidiness. Indeed, in the absence of other wall-dwelling species, its presence indicates the casual manner in which the indigenous has been replaced by the opportunist.

One of the most pernicious new weeds being consciously introduced is White Stonecrop *Sedum album*. This succulent, originally a species of dry landscapes in mainland Europe, was brought into Ireland as a plant suitable for rockeries and walls. Its clusters of white flowers make it an attractive species which needs minimal maintenance or attention. Requiring little watering, it is now firmly established in graveyards and has spread thence onto old walls where it is robustly displacing other drought-tolerant

species, including the related indigenous Biting Stonecrop *Sedum acre*. White Stonecrop is widely promoted by commercial interests as a component in green roofing — supposedly as an eco-friendly measure — but without any advice or apparent awareness as to the environmental consequences of its introduction. It needs little encouragement. The current and much-needed enthusiasm for the protection of biodiversity unfortunately — in the course of doing something positive for some non-native species — leaves natives disadvantaged or locally exterminated.

A species that is increasingly becoming problematic on old walls is Ivy *Hedera* species (Fig. 19). While having acknowledged benefits for wildlife — providing nectar or pollen later in the season for bees and wasps and berries for birds, in addition to providing shelter for over-wintering butterflies and other invertebrates — there are certain situations where this species should not be encouraged, for example, on old walls constructed with lime mortar. Once established at the base of such walls, this species has the capacity to grow rapidly, displace smaller, long-established native species and undermine the wall itself as its stems can easily penetrate between the stones, weakening any lime mortar present. Over time, as it grows and its stems increase in girth, smaller stones and mortar fall out, destabilising sections of the wall itself.

Long-established colonists of historic interest

In Ireland we have a number of other species associated with old walls from much earlier periods, for example, species associated with the castles and tower houses of the Norman era. Indeed, the prominent position of many of these structures often testifies to the proximity of natural bedrock.

The composition of the botanical clothing of the walls of these structures and of their immediate surroundings indicates that several species were used and probably introduced by medieval herbalists and others. Some — for example Alexanders *Smyrniolum olusatrum* which is often found in the shelter of these walls — have a long-established reputation as culinary herbs. The reasons for the presence of others are more obscure and some may have had decorative or mystical significance. Modern research methods at the molecular level are now able to detect differences in the genetic composition of different colonies of certain species. In the case of Ireland, where spatially isolated colonies of a given species have maintained themselves independent of other colonies of the same species, it may, in time, be possible to ascertain the historical provenance of these colonies, thus throwing light on the practices and paradigms of medieval and pre-medieval religious orders, herbalists and gardeners. In too many instances excessive wall-cleaning has resulted in the needless destruction of the dwindling body of historical evidence associated with these old structures. In certain circumstances, especially on taller buildings, it is still possible to see the remnants of this botanical evidence high up on their walls, safe beyond the reach of herbicides, power washers and cement.

The exact status of some of these species thus remains to be explored. Wallflower *Erysimum cheiri* originally from the East Mediterranean, for instance, is a well-known and conspicuous feature of many medieval towns. Other built areas of similar vintage and with apparently similarly-aged buildings are missing this species. Whether the Wallflower ever occurred in these towns or has simply been cleared away, may never be known. The status of Pellitory-of-the-wall *Parietaria judaica* is an even more challenging issue. It occurs on very old buildings far from other colonies, but also in natural habitats such as coastal rocks and shingle. It is a puzzle as to whether it spread from one castle (and its often-supporting bedrock) to another, or perhaps was introduced separately to different sites for reasons now obscured by history.

The use of culinary and medicinal herbs forms a potentially fascinating area for study by medieval historians. On occasions, following excavations around old structures, long-buried but still viable seed is brought to the soil surface where it germinates and sometimes sets seed, thus perpetuating the occurrence of these seldom-seen species on their sites. The temptation for site managers is sometimes

to spray off these plants before they can set seed and to jeopardise the survival of future generations of the colony.

Protecting the historical evidence and the habitats

The casual erasure of this body of historical biological evidence is now a matter of considerable concern endangering our botanical heritage. In addition, the decline of these important habitats as refuges for our native rock outcrop and scree plant species means that various invertebrate species are similarly threatened. While major issues such as the threat to existing bat colonies through depletion of wall roosting sites are already well-flagged, the habitats of many invertebrate species are now also under active threat. They are often eliminated by people who are unaware of their presence or the significance of their occurrence. Herbicide spraying, power washing, rendering, re-plastering, grouting and pointing (particularly with modern cements) are all actions whose enduring consequences are often not appreciated. The living elements have survived for hundreds of years on these sites but their historical testimony can be eliminated in a few days of well-intentioned 'tidying'.

Considerations prior to cleaning walls

Wherever and whenever wall-clearing and other works are under consideration, a number of points should be considered.

Firstly, it is worth asking whether the contemplated action is really necessary. Where compelling matters of public safety are a genuine concern, there is little at issue and the necessary works should be undertaken using appropriate materials.

Secondly, the removal of ivy is often a contentious matter. It is perhaps best not to let it become established in the first instance. If it is being removed this may dislodge old mortar and stonework, which then necessitates various supplementary repair works. This, in turn, can have a devastating impact on invertebrates such as spiders, snails, woodlice, lepidoptera and certain solitary bees that find the micro-climate that forms under the canopy of vegetation congenial to their environmental requirements. One overarching conservation and legal consideration relates to the welfare of our bat species, many of which are strongly associated with old ruins. If the removal of long-established ivy on such ruins is being considered, a bat survey must be carried out before any works take place.

Thirdly, consider the impact of the proposed action on the existing flora and fauna. Is the action purely cosmetic — tidying for the sake of tidiness or planting for the sake of adornment? If so, is it really justified to remove both the indigenous species and the inherent historical evidence that has taken centuries to form and maintain itself? Similarly, is it really necessary to 'repair' the whole wall in one operation rather than incrementally over a number of years? An essential characteristic of rare species is their association with rare self-sustaining ecological conditions which are not easily reproduced or maintained. Even if these conditions were to become available in the future, source populations for recolonisation are often no longer present in the hinterland.

We appreciate that it is not easy for well-motivated, concerned citizens in this area to access the knowledge necessary to form prudent judgements on contemplated 'improvements'. There is a current genuine concern for the protection of biodiversity. Unfortunately, we are running the risk that, without expert guidance, efforts to protect a structure from some colonists may result in the local extermination of other species of greater ecological or historical value. A number of suggestions which we hope may guide are offered here.

At a minimum, prior to any works taking place on old walls, a survey should be conducted by a competent botanist who is familiar with the species concerned and knowledgeable as to their occurrence within the immediate locality. This entails both a **diagnosis** (stating which significant species

are present on the walls in question and in the immediate locality), and a **prognosis** (a statement as to what the regional consequences of the proposed actions are). The County Botanical Recorder of the Botanical Society of Britain and Ireland (BSBI) is the best person to be contacted in relation to plant species, usually via the Heritage Officer or Biodiversity Officer network of the local authorities. Additionally, information of the local occurrence of rare invertebrate species may be provided by the various research scientists of the National Biodiversity Data Centre (NBDC) and National Parks and Wildlife Service (NPWS).

The Dublin Naturalists' Field Club (DNFC) has produced a paper (available at dnfc.net/wildflower-seed-mixtures) outlining the consequences of the inappropriate introduction of so-called 'wildflowers' into areas where they never occurred naturally. Sowings of this nature are strongly discouraged.

In the meantime, and as an initial measure, much useful work can be done by preventing the establishment of Ivy and alien invasive species such as Butterfly-bush *Buddleja davidii* and Red Valerian *Centranthus ruber* on our older walls. In certain circumstances it is now possible, using digital photography to canvass the opinion of other professional ecologists and *pro bono* field botanists regarding the current state and significance of particular walls. This should result in reducing the impact of any contemplated action on the quality of the existing habitat.

The alternative is to contemplate the continuation of the erosion of our native biodiversity and its replacement by an overgrowth of warmth-aided garden escapes, along with a substantial further depletion of the surviving ecological and historical evidence contained in the species growing on old walls. It is now imperative to instigate measures and thinking that will ensure continuity of these supporting habitats and their living evidence-base into the future.

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WALLS



Fig. 1. Dry-stone boundary wall at Kilcrohane, Co. Cork with at least eight fern species: *Asplenium trichomanes*, *A. adiantum-nigrum*, *A. scolopendrium*, *Dryopteris affinis*, *D. aemula*, *Blechnum spicant*, *Polypodium* sp. and *Athyrium filix-femina*.



Fig. 2. Monicknew Bridge, over a tributary of the Delour River, Slieve Bloom Mountains, is a refuge for a native Hawkweed species (*Hieracium* sp.).

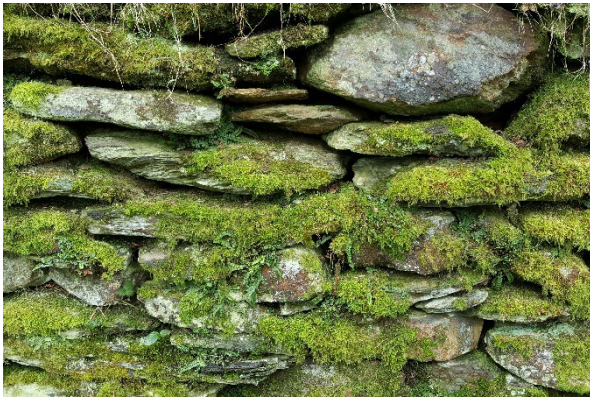


Fig. 3. Shaded retaining walls in Glendalough support strong colonies of mosses and liverworts and several species of fern.



Fig. 4. Large wefts of the acrocarpous heathland moss *Racomitrium lanuginosum* on a dry-stone wall in the Cooley Mountains, Co. Louth.

FLOWERING PLANTS



Fig. 5. Winter annual community with Rue-leaved Saxifrage *Saxifraga tridactylites*.

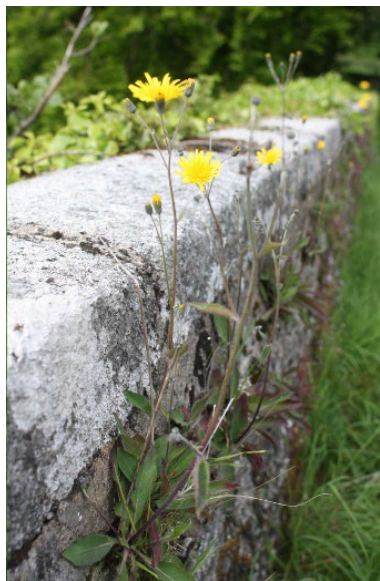


Fig. 6. Hawkweed *Hieracium* sp. on bridge spanning the River Liffey in Co. Kildare.



Fig. 7. Fairy Foxglove *Erinus alpinus*, Clonmacnoise, Co. Offaly. Photo: Jennifer Wann

FERNS



Fig. 8. Black Spleenwort *Asplenium adiantum-nigrum*.
Photo: Pat Lenihan



Fig. 9. Rustyback Fern *Asplenium ceterach*, syn.
Ceterach officinarum. Photo: Pat Lenihan



Fig. 10. Maidenhair Spleenwort *Asplenium trichomanes*



Fig. 11. Hart's-tongue *Asplenium scolopendrium* and
Wall-rue *Asplenium ruta-muraria*



Fig. 12. Polyphyllum *Polypodium* sp. Baldongan



Fig. 13. Sea Spleenwort *Asplenium marinum* on ruins
beside the sea, Crohy Head, Co. Donegal.

RARE SPECIES



Fig. 14. The small moss *Entosthodon muhlenbergii* (above left, bearing capsules with beaked lids) is a very rare species in Britain and was thought to be extinct in Ireland (Lockhart et al. 2012). It was known from only two locations in Ireland, both in Co. Cork, and had not been seen since the mid-19th century. However, it was re-found by Sam Bosanquet and George Smith in 2012 on an old wall at Glanworth Abbey, Co. Cork (above right). It had narrowly avoided extermination — the walls of the abbey had been cleaned and repointed, but the perimeter wall had been left undisturbed. *E. muhlenbergii* was added to the Flora (Protection) Order in 2015 and continues to be legally protected under FPO 2022. Photos: George Smith

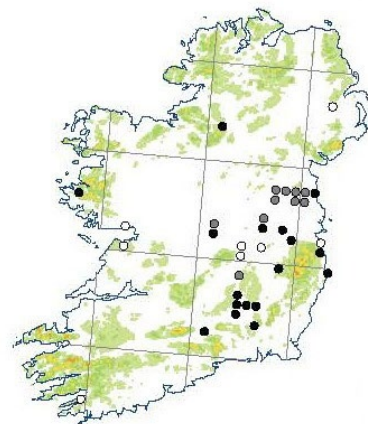


Fig. 15. *Leucodon sciuroides* on an old wall in Co. Kildare. An uncommon moss in Ireland, it usually grows on trees but can also be found on old walls. Photo: Jo Denyer. Distribution map: Blockeel et al. (2014)

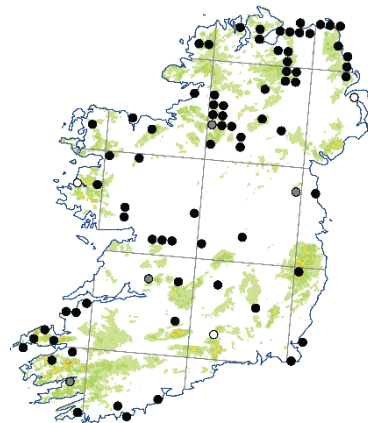


Fig. 16. *Bryum pallescens* forms large, loose colonies on this old stone wall, Royal Hospital Kilmainham, Dublin, where water drips from the metal roof above. Distribution map: Blockeel et al. (2014).

PROBLEMS AFFECTING OLD WALLS



Fig. 17. The non-native Red Valerian *Centranthus ruber* — an eye-catching but potentially damaging component of the flora of many walls. Photo: Ballyedmonduff Road, Sunniva Hanley.



Fig. 18. Contrast between old wall on left colonised by bryophytes and vascular plants and recently renovated wall on right entirely devoid of flora. Photo: Ballynahinch, Jo Denyer.



Fig. 19. Ivy, while of benefit to wildlife, can quickly come to dominate old walls, displacing smaller species and potentially causing structural damage. Photo: Donadea, Daniel Kelly.



Fig. 20. Ivy-leaved Toadflax *Cymbalaria muralis* is a garden escape which survives on walls when indigenous flora has been sprayed off, because it can sow the seeds of the next generation into cracks.

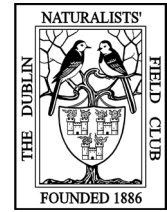
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Photographs

Unless otherwise stated, photographs were taken by DNFC Conservation Sub-committee members.



The Dublin Naturalists' Field Club

Promoting nature in Ireland since 1886

The Dublin Naturalists' Field Club promotes the study and conservation of the natural environment, its species, habitats, underlying geology and landscape. It provides opportunities to learn about and share information on all aspects of natural history and it encourages and seeks to assist in the conservation and protection of sites of ecological interest.

Activities

Outdoor field meetings and indoor workshops and presentations are held throughout the year, mostly in the greater Dublin region. Many of our events are conducted by leading Irish and visiting naturalists. They cover natural history topics from the wild plants, birds and insects, to the geology and ecology that make their lives possible.

Principal aims

The principal aims of the Field Club are:

- to provide opportunities for people to share their interests in all aspects of natural history
- to offer activities that raise awareness of and promote interest in our natural heritage
- to train and educate naturalists of all ages and experience
- to protect rare and endangered plants, animals and habitats
- to promote the conservation of sites of natural history interest
- to carry out specialist surveys of flora and fauna
- to provide input to local and national authorities on nature conservation matters

History and publications

The Dublin Naturalists' Field Club was founded in 1886 and early members included Nathaniel Colgan (1851–1919) author of *A Flora of County Dublin* and Robert Lloyd Praeger (1865–1953) whose publications included *Irish Topographical Botany* and *The Way that I Went*. Other significant publications include the *Flora of the County Wicklow* by J.P. Brunker (1950), *Flora of County Dublin* by DNFC members (1998), *The Flora of County Cavan* by P.A. Reilly (2001), *A Catalogue of Alien Plants in Ireland* by Sylvia Reynolds (2002), *Ireland's Butterflies: A Review* by David Nash, Trevor Boyd and Deirdre Hardiman (2012) and the *Flora of County Limerick* by Sylvia Reynolds (2013).

Conservation

In view of the continuing loss of natural habitats, the Board of the DNFC felt obliged to form a Conservation Sub-committee in 2018 to review, prepare and disseminate evidence-based commentaries on the current conservation status of species, sites and habitats; to consider the content and effectiveness of various local and national biodiversity plans; and to convey its opinions, through discussion and written submission, to parties concerned with the implementation of these plans.

Our first Position Paper was produced in 2021 entitled 'The case against wildflower seed mixtures' and our second in 2024 on 'Protecting the threatened flora of old walls'.