



## THE CLARE ISLAND SURVEY OF 1909–1911: PARTICIPANTS, PAPERS AND PROGRESS

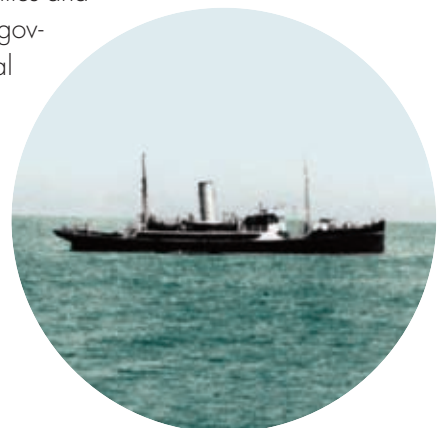
TIMOTHY COLLINS

The multidisciplinary survey of the flora, fauna, geology and antiquities of Clare Island and the surrounding area of west Mayo was the most ambitious collective scientific project undertaken in Ireland up to this time. With major funding from the Royal Irish Academy and support from the Royal Dublin Society, the British Association for the Advancement of Science and the Royal Society, London, a committee representing interested researchers was set up in 1908 to choose a suitable island to survey off the west coast of Ireland. Dr R.F. Scharff, Director of the Museum of Science and Art in Dublin was chairman of the committee, and Robert Lloyd Praeger was secretary.

Praeger had completed a biological survey of Lambay with a team of twenty naturalists in 1905, and the resultant success was measured not just in providing the owner with a listing of the flora and fauna of the island but also in the wholly unexpected number of additions to the Irish flora and fauna, including five species new to science. After much discussion on suitable islands, ranging from Arranmore in Donegal to the Blaskets in Kerry, the committee chose Clare Island and agreed that work would begin in spring 1909.

Almost one hundred workers from Ireland, Britain, Germany, France, Denmark, Switzerland and America took part in the fieldwork, with a similar number working subsequently on identifying the material collected. Many of these were amateur naturalists who had developed their collecting abilities and observational skills in the field through their membership of the many amateur naturalists' field clubs that then existed in most of the major cities and towns of Ireland. Professional researchers from government organisations such as the Geological Survey, the Fisheries Branch and the Museum worked closely with the amateur naturalists, displaying a level of teamwork and cooperation not seen before and rarely seen since.

All of the advance planning for this survey was organised by Robert Lloyd Praeger, whose



Left: Robert Lloyd Praeger (centre) and A.W. Stelfox (left) on Clare Island in 1910.

Right: *Helga II*.

Much of the looser sediment now seen on top of these rocks was deposited at current latitudes but during much colder climates, when ice sheets covered Ireland. These 'rocks', which are just over 10,000 years old, demonstrate the rapid shifts in climatic zones that have happened during our present glacial episode. The record of warming during the last 10,000 years is preserved in some of the peats found in depressions such as Lough Avullin.

#### IMPORTANT VEGETATION FINDS

Two particularly interesting finds are: *Lycopodiella inundata* (marsh clubmoss): a rare species of occasionally flooded bog margin areas and lake shores; and *Geocalyx graveolens* (a species of liverwort): This Atlantic species is on the Irish Red List of protected species. It was first found in Ireland in the 1960s and is now present in only seven or eight sites across the country.

#### PLANT INVADERS

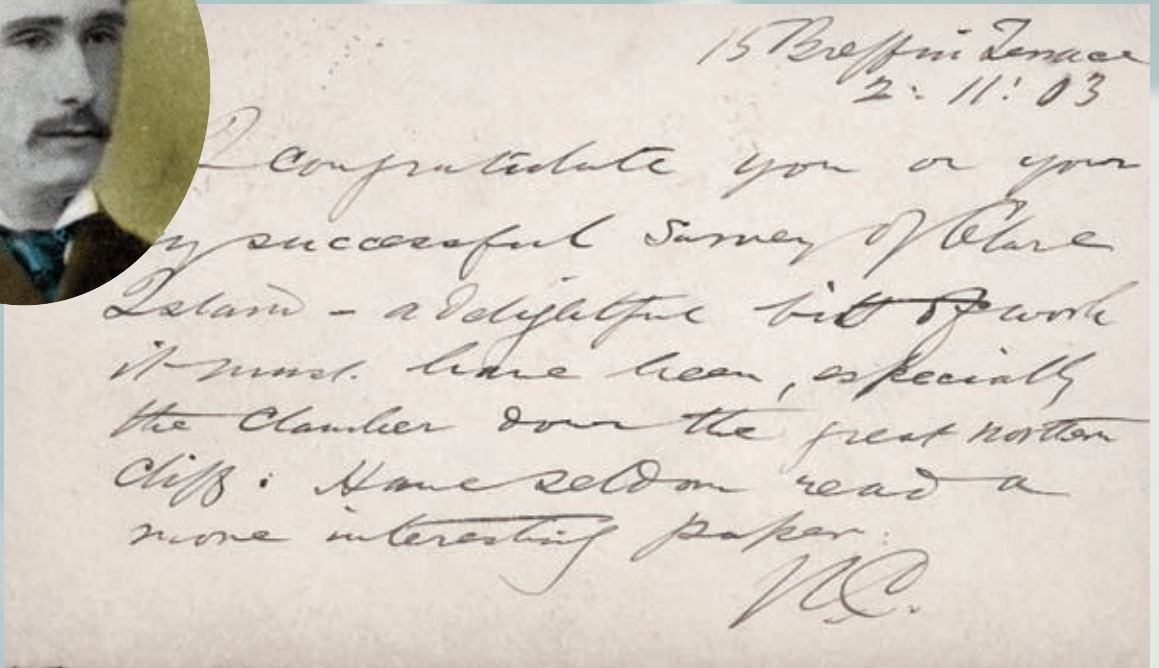
Since Praeger's survey, the harbour area has been colonised by the invasive plant species *Gunnera tinctoria*. This is of considerable concern because its very large rhubarb-like leaves shade-out the native vegetation when they are green. When the leaves die, they decompose very slowly, further stifling neighbouring native vegetation. Because *Gunnera* uses a blue-green algal symbiont to supply its nitrogen requirements, it will enhance the nitrogen status of stream banks and streams, affecting the native algal communities. A programme aimed at eradicating *Gunnera* on Clare Island is underway, organised by the National Botanic Gardens and Mayo County Council, with part-funding from the Biodiversity fund of the Heritage Council.



*Gunnera tinctoria* (Robert Welch)

#### CHIRONOMIDAE (NON-BITING MIDGES)

By collecting pupal cases rather than catching adults, ten times more species were found in the new Survey of Clare Island compared with the original survey.



skills as an expedition leader had been honed as a young man through his involvement in the many outings of the Belfast Naturalists' Field Club and, after his move to Dublin, the Dublin Naturalists' Field Club. Although working as an assistant librarian in the National Library and therefore classed as an amateur, Praeger was recognised as one of the foremost Irish field botanists at this time, with his reputation acquired from the number and quality of his many publications.

The origin of the flora and fauna of islands had been the focus of naturalists ever since the publication of Charles Darwin's *On the Origin of Species* in 1859. While Praeger's interest had evolved from his floral surveys of Ireland's diverse terrain, other researchers felt that a detailed survey of the flora and fauna of an offshore island might show the beginnings of species differentiation from mainland populations. In the event this was not proven, but the Clare Island Survey was a resounding success for an unexpected reason—the sheer number of individual species collected and identified.

Inset: Nathaniel Colgan.

Above: Postcard from Nathaniel Colgan to Praeger.

Below: Researchers on Clare Island  
Opposite page: *Sedum himalense*.



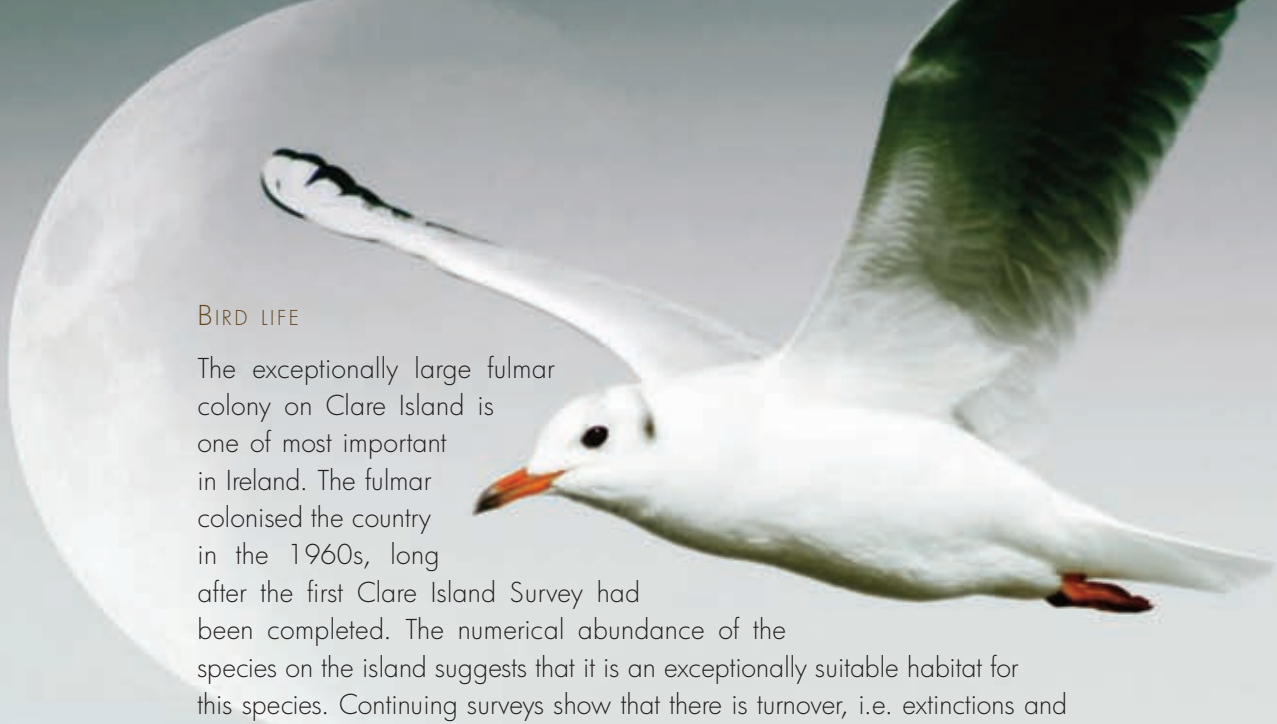
Commencing in April 1909 and continuing through to November 1911, teams of workers arrived on the island in groups of between six and sixteen, staying a month on average and collecting specimens. Offshore the newly commissioned government fisheries research ship *Helga II* dredged the surrounding waters to a depth of 125 metres. Thanks to Praeger's organisational skills, the only problems encountered were when bad weather prevented workers from collecting specimens.

The results, which appeared in 67 reports between 1911 and 1915 under Praeger's editorship in a special three-part volume of the *Proceedings of the Royal Irish Academy*, were quite startling, for the number of species found exceeded all expectations. A total of 8,488 species was noted. 3,219 species of plants were recorded, with 585 species new to Ireland (an 18% increase in the known flora), and 11 species new to science. 5,269 species of animals were collected, of which 1,253 species were new to Ireland (a 24% increase in the known fauna), and 109 species were new to science.

The Clare Island Survey has become the baseline from which all subsequent surveys are measured. For the first time, many of the papers presented an ecological approach to their subject, noting how species interacted with each other, an advance on the nineteenth-century method of merely listing species in isolation. Most notable are the marine papers published by Rowland Southern, and, of course, Praeger's paper on the flora with his coloured vegetation map of the island, a breakthrough in graphically representing groups of plant types.

Since its completion, virtually every researcher in the areas of Irish archaeology, botany, folklore, geology, history, marine science and zoology has consulted these published results.





#### BIRD LIFE

The exceptionally large fulmar colony on Clare Island is one of most important in Ireland. The fulmar colonised the country in the 1960s, long after the first Clare Island Survey had been completed. The numerical abundance of the species on the island suggests that it is an exceptionally suitable habitat for this species. Continuing surveys show that there is turnover, i.e. extinctions and immigrations of other bird species on the island.

#### NEW DISCOVERIES FROM WORK ON THE ABBEY ON CLARE ISLAND

The conservation work uncovered images that were not previously recorded. On the north wall the newly uncovered paintings include a hound chasing a deer and to the right a painted version of the canopy of the O'Malley tomb.

On the south wall a mounted Gaelic soldier is depicted holding a spear. This is a very rare contemporary image of such a soldier

The most remarkable new discovery is that of an organ being played. This is the only representation of an organ from medieval Ireland. Also newly discovered is a depiction of a lyre player to add to the harpist already recorded by Westropp.

Body-sharing animals that were misunderstood by Westropp in the original survey can only now be seen for what they are. The head and torso of an animal at the top left of the image can be seen as either part of an animal in full horizontal flight or as part of a vertically arranged crouched animal. The remainder of this picture is a mirror image, less clearly preserved.

Conservation work on the Abbey.

