
IQUA

Cumann Staidéar Ré Cheathartha na h-Éireann

Irish Association for Quaternary Studies

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Introduction

In this issue we have details of the well organised and most enjoyable Annual Field Meeting which this year was centred in the Killarney region. The meeting was well attended by over thirty members and was blessed with fine weather. Many aspects of Quaternary environments were touched on during the course of the two-day event, and the variety of sites visited ensured that most interests were well catered for (an account of the meeting is given below).

The next IQUA event is, of course, the Annual Symposium which will take place in November. Further information on the Symposium, which promises to be a most stimulating and interesting event, is given in this Newsletter.

An account of the 1st Irish Diatom Meeting is published in the Newsletter. It is the intention of the organisers that this will be an annual event.

IQUA members are reminded that the IQUA Bulletin Board is now up and running. Members are encouraged to use this to generate discussion or seek information on any topic relevant to the

Quaternary. For information on accessing the Bulletin Board see Newsletter 16, April 1996.

IQUA now has six corporate members as follows: Coillte Teoranta, Dublin; GeoArc Ltd., Galway; John A. Wood Ltd., Cork; The County Library, Roscommon; Ex Libris, Germany; and The Natural History Museum, London. The interest of, and support received from, our corporate members is greatly appreciated.

Most members will now be aware that Barbara Miller passed away in April of this year. Barbara was an active and enthusiastic member of IQUA and recently served as Honorary Treasurer of the Association. An appreciation is included in this Newsletter.

IQUA Annual Field Meeting:

Central Kerry, 5th-6th October, 1996

Saturday morning, sun shining, we cautiously entered the breakfast room, searching the faces

before us for any hints which might distinguish IQUA members from the October holiday makers. Those with American accents were immediately ruled out, as were those enjoying a continental breakfast. We narrowed it down to the 'hiking boots and fleece jackets' brigade, and reckoned that those of the aforementioned group who devoured the traditional Irish breakfast were 'definites' for IQUA membership. As two UCG undergraduates, this was our first encounter with IQUA, an organisation that counts geologists, geographers, geophysicists, botanists, archaeologists, and interested members of the public among its ranks.

Investing in a copy of the field guide proved to be a wise decision for our weekend trek around central Kerry. Edited by Catherine Delaney and Pete Coxon, it contained detailed information on all the sites visited. We had considered wellingtons to be another essential item for the weekend but our first port of call, Ross Island, south of Killarney, showed that our fears in this regard were unfounded. Billy O'Brien was our guide during this part of the excursion. We started with an interesting historical account of Ross Castle, a very impressive structure located on the eastern shore of Lough Leane. After a short walk through the woods which included yew and planted species such as Scots pine, beech and hornbeam, we arrived in the area of the copper mines.

Ross Island has a long history of mining, beginning in the late Neolithic/copper age times and concluding with large-scale industrial operations in the early 19th century. Of particular interest was the Bronze Age cave site, set in Carboniferous limestone, in which mining

was carried out as early as 2400 cal. B.C. At present the wire fence surrounding the site restricts access, as the cave is structurally unsound. Some of the outer rock face had already collapsed and so the difficulties of excavating under these conditions and the on-going task of making such areas safe for public access were easily appreciated. Billy informed us of the various safety precautions which were taken during the course of his excavations and, especially so, since an important part of the excavation teams over the last four years was the students. So we began to feel that we were an important part of the task of digging up the past and putting the pieces together.

An account of research carried out by Tom Cooney into the vegetation changes associated with late Neolithic copper mining in Killarney was presented by Fraser Mitchell. Unfortunately, good peat deposits have yet to be found near the mining site, but we were assured that the search for these continued. We then proceeded back to Ross Castle and boarded the boats for Inishfallen. A guided tour of the impressive monastic sites by Billy O'Brien took us well beyond lunch time with the result that the proposed walk around this beautiful island had to be left for another time.

The afternoon session took us to the east of Killarney where Michael Philcox introduced us to aspects of terrace morphology. Quarry faces displayed diamicts, foresets and laminated beds and there was much detailed discussion on the environmental conditions as the local ice sheet melted and deposited these vast gravel and sand resources.

Later that night, while the IQUA committee convened, the remaining participants adjourned to Mac Sweeney's, a local 'watering hole' in Killarney. Committee members soon rejoined the group and lively discussion and debate ensued for the remainder of the night. Any fears we may have had about being undergraduates and outnumbered were soon dispelled as we visualised a number of the 'veterans' of academia still fitting into a college bar scene. Upon hearing the following morning that the Killarney club scene had been investigated, we sighed with relief!

Day two saw a convoy of cars wind its way westwards through the Gaddagh River Valley en route to view the Gaddagh river moraines. Pete Coxon lead the expedition to the summit — of the first ridge — insisting that the view from this point was adequate to examine the valley terraces, and indeed it was. The Macgillicuddys Reeks towered above us, with Killorglin visible in the distance below. And as the clouds swept by, thundering blue ice sheets were conjured up in the valley below us, as the Ice Age drama of 17 000 years ago unfolded before our very eyes.

The penultimate stage of our trip took us to Castlemaine Harbour, where Catherine Delaney outlined the sedimentary and palaeoecological history of the site. Prior to 3000 B.P., the inner part of Dingle Bay was primarily a freshwater environment. After this, the area was inundated by marine brackish water. The result is salt marsh peat overlying a layer of freshwater woody herbaceous peat. A wealth of information has been gathered in this area from pollen, diatom and sediment analysis.

After lunch in Killorglin, we visited the cliff sections between Fenit and Spa. Basic stratigraphy and sedimentology in the area were explained by Pete Coxon and organic peat deposits dating back to c. 118 000 years were closely examined. The mysterious way in which stones surface to ground level as a result of freeze/thaw action was one of several phenomena to be addressed.

The spectacular backdrop of the red cliffs at Fenit (nobody seemed to be sure about the precise conditions under which they were formed!) was an impressive end to a very enjoyable weekend in Kerry. On behalf of all present, Kevin Barton thanked Pete Coxon and Catherine Delaney for their careful organisation of the excursion and reminded us that Catherine had returned from her new post in Manchester Metropolitan University to be with us. Needless to say, we were very impressed by the wealth of information that IQUA members contributed to the discussions. As final year Environmental Science/Botany students, we can safely say we followed a steep learning curve regarding most aspects of Quaternary science throughout the entire weekend. Quarries will never be the same again and the words 'cryoturbation' and 'solifluction' are forever imprinted on our minds!

And so back to Galway, and the pressures of 4th year ahead. But no matter how hard the weeks to come, we now know that we can look back, sigh and say ... at least we had Kerry....!

Rebecca Walsh and Stephanie Collins
(Palaeoenvironmental Research Unit, UCG)

1st Irish Diatom Meeting:

**May 10th 1996, Department of Geography,
University College Cork**

The first Irish Diatom Meeting was convened by Chris Blythe and Anne Sinnott of the Geography Department, UCC. This inaugural meeting aimed to bring together people with an interest in contemporary diatom research in Ireland. A number of different groups and individuals presently work on diatoms in Ireland but up until now there has been no forum for interaction, other than British-based meetings and workshops.

The meeting was attended by a wide spectrum of research investigators from both north and south as well as the UK. **Professor Rick Battarbee** (Environmental Change Research Centre, University College London), started the meeting with a historical overview of diatom research in Ireland *Early Diatom Days on Lough Neagh*. He chartered his postgraduate research, reviewed early research projects and highlighted the important work carried out by various people such as Dr Roger Flower, Dr Simon Patrick and Dr. John Anderson. This overview highlighted this important beginning in diatom research in Ireland and the wealth of experience gained.

Dr. Dave Jewson (University of Ulster) gave a presentation on *Planktonic and benthic diatom communities of Lough Neagh*. Examples of the life history strategies of diatoms in the largest lake in the country, where the photosynthetic zone is less than two metres, were discussed. Two of Dave's research students also presented talks on ongoing research at Lough Neagh and provided an interesting comparison and

indication of research developments at the Freshwater Laboratory. **April Curry's** work summarised by Dave, is looking at the *Morphological variation in natural and cultured populations of two Stephanodiscus species from Lough Neagh* and **Tania Baxter** introduced her research on *Reconstruction of past water level changes in Lough Neagh using diatoms*". Tania has taken 12 cores up to 8 metres in depth to compare deep water sediment formation with shallow water diatomite along the Bann Valley.

An 18 m core sequence of estuary sediments retrieved from under 17 m of gravel from Cork harbour was the subject of **Anne Sinnott's** presentation *Diatoms from interglacial sediments in Cork Harbour*. She has found that the changing diatom assemblage suggests a change from freshwater-pond type environment to intertidal and estuarine conditions. **Chris Blythe** (UCC) presented data from a transect from the intertidal zone in Castlemaine Harbour, Co Kerry, in his talk entitled *Diatoms and environmental controls and implications for palaeoecological reconstruction*.

Although based at the Environmental Change Research Centre at UCL, **Catherine Dalton** is looking at lake sediment cores from S.E. Connemara. Her presentation *A palaeo-ecological study of organic acidity in surface waters in Connemara* aims to establish the contribution of organic acidity to acidification in these lakewaters and establish links with landscape evolution and catchment afforestation.

Dr Bob Devoy (UCC) and **Dr Jane Reed** (Loughborough) provided presentations on their

particular areas of research. Although not Irish-based they provided an international dimension in diatom research. Bob's talk was on *Diatom palaeoecology and environmental change in Hawkesbury Estuary, Australia* and Jane followed with a presentation on the *Problems of interpreting past salinity from fossil diatom assemblages in Spanish salt lakes*.

The diatom meeting was attended by palaeoecologists, ecologists, taxonomists, sedimentologists and postgraduate students. The meeting was very full and informative and highlighted the need for further communication as a means of promoting diatom research in Ireland. The need for future meetings was identified and a date was set for the **2nd Irish Diatom Meeting** to be held on **April 12 1997 at the Botany Department, Trinity College Dublin**. Further information on this forthcoming meeting is available from the author at:

Environmental Change Research Centre,
University College London, Geography
Department, 26 Bedford Way, London WC1H
OAP (E-mail: cdalton@geog.ucl.ac.uk).

Catherine Dalton (Environmental Change
Research Centre, University College London)

IQUA Annual Symposium 1996

The forthcoming IQUA Annual Symposium is being organised by Fraser Mitchell and is entitled **Human Interactions with the Irish Quaternary**. It will be held at the Geological Survey of Ireland, Haddington Road, Dublin 4, on Friday, 22nd November, 1996. Lectures

begin at 10.00 am. Full details are available on the IQUA web site (see below).

IQUA on the Internet

Please note that the address of the IQUA home page has been changed to:

<http://www2.tcd.ie/IQUA/iqua.html>

IQUA Annual Discussion Meeting 1996

The following is an abstract of a paper presented at the Annual Discussion Meeting that took place in the Department of Geography, UCC, in March of this year. Due to an oversight on the part of the Newsletter Editor it was omitted from Newsletter 16, April 1996.

Mea culpa (Ed.)

Recent results from the ArchaeoGeophysical Imaging Project at Rathcroghan Mound near Tulsk, County Roscommon

Kevin Barton and Yvonne Brennan, Applied Geophysics Unit, University College Galway and Cathy Delaney, Department of Geography, University College Cork

The ArchaeoGeophysical Imaging Project (AGIP) is an interdisciplinary project funded by the Heritage Council and is run jointly by the Department of Archaeology and the Applied Geophysics Unit, University College Galway. The project's brief is to undertake an archaeological study, through geophysical means, of specific monuments in the

Rathcroghan and Carnfree complexes near Tulsk, County Roscommon.

The Rathcroghan complex of monuments, lying to the northwest of Tulsk, is reputed to be the *Cruchain* of early Irish epic which served as the ancient royal seat and royal cemetery of the Kings of Connacht. Rathcroghan Mound is a broad, flat topped, circular mound about 90m in diameter with a small mound placed eccentrically on its summit. The mound is centrally located in the complex and commands extensive views of the surrounding landscape.

The key questions about the mound are: is it a wholly natural or man-made structure? Is there any geophysical expression of human occupation? Does the mound contain any internal features? To try and answer these questions an ongoing programme of geological, topographical and geophysical surveying is in progress.

We will present results which include reconnaissance mapping of the Quaternary geology, digital terrain mapping and geophysical surveying. The geophysical methods include two resistivity techniques; mapping with a 0.5m square-array and Wenner array tomography using a 1m Imager cable. Magnetic gradiometry and susceptibility surveys complement the resistivity results. In addition ground probing radar has been used to investigate structures within the mound.

The results from these surveys are currently being processed. A preliminary interpretation of the data using parallels from excavation results and reconstructions from other mounds in Ireland will be given.

Barbara Miller - an appreciation

Barbara Joan Miller (née Thompson) sadly passed away in April of this year. Barbara was an avid naturalist, with an immense interest for the world we live in and the factors that shape it. Graduating in Natural Sciences from Trinity College, Barbara was elected a Trinity Scholar in 1950. Barbara loved teaching, and taught in Alexandra College, Clongowes Wood, and the Department of Geology, UCD, before joining the Department of Geography in 1977, where she led field trips, demonstrated in topics as diverse as climatology and Medieval Dublin, and introduced countless 1st year students to geology.

Barbara was one of the most enthusiastic members of the Irish Association for Quaternary Studies, attending almost every field meeting and symposium held by the Association, and in recent years she will be best remembered in her role as Honorary Treasurer. Barbara always loved field excursions, whether it was introducing 1st year students to the Wicklow mountains, attending the Trinity 400 Botany trip to the Burren, travelling to Donegal for the 1995 IQUA field trip, organising trips for Erasmus students to Donegal and the Aran Islands, or visiting such exotic places as Morocco or the Czech Republic. Even during her final days she visited one of her most favourite places, the Boyne Valley and Newgrange with a group of students from the Department of Geography, UCD.

Barbara Miller will always be remembered for her wonderful stories about field trips and her

unbound enthusiasm. Barbara will be sadly missed by IQUA members.

Peter Glanville (Department of Geography, University College Dublin)

The National Committee for Geology (NCG)

The National Committee for Geology, the national body representing and co-ordinating the Earth sciences in Ireland, was established in 1967 as a Committee of the Royal Irish Academy. Membership is drawn from state agencies, universities, industry and geological associations throughout Ireland. The present Committee was formed in 1996 and will have a life of four years. The author serves as the IQUA nominee on this Committee.

There are a number of areas in which the NCG operates:

- 1) It represents the Irish geological community in national and international liaison work. In this regard the Committee is the National Committee for the International Geological Correlation Programme (IGCP) of IUGS/UNESCO.
- 2) Develops proposals in relation to earth science policy in Ireland
- 3) Works to improve public understanding of the earth sciences and their relevance to

resources development and to environmental protection

- 4) Co-ordinates the support of the Irish geological community for nationally desirable activities in the earth sciences.
- 5) Disseminates information on the activities in the earth sciences in Ireland from a national and international viewpoint.

The NCG seeks to help the community of earth scientists by:

- 1) Making representations to Government and to regulatory bodies, where appropriate, on general Earth science issues of concern to the community.
- 2) Establishing contacts with workers on existing projects through bodies such as IGC, IUGS, IGCP, EFG, etc.
- 3) Providing information on funding agencies and on work in the Earth sciences in Ireland.

This short account of the NCG is largely based on a forthcoming information leaflet which will be available from the Royal Irish Academy. In the meantime, if any IQUA member wants further information or seeks to have an issue raised at the next Committee meeting (January 1997) then please contact me.

Kevin Barton (Applied Geophysics Unit, University College Galway)

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