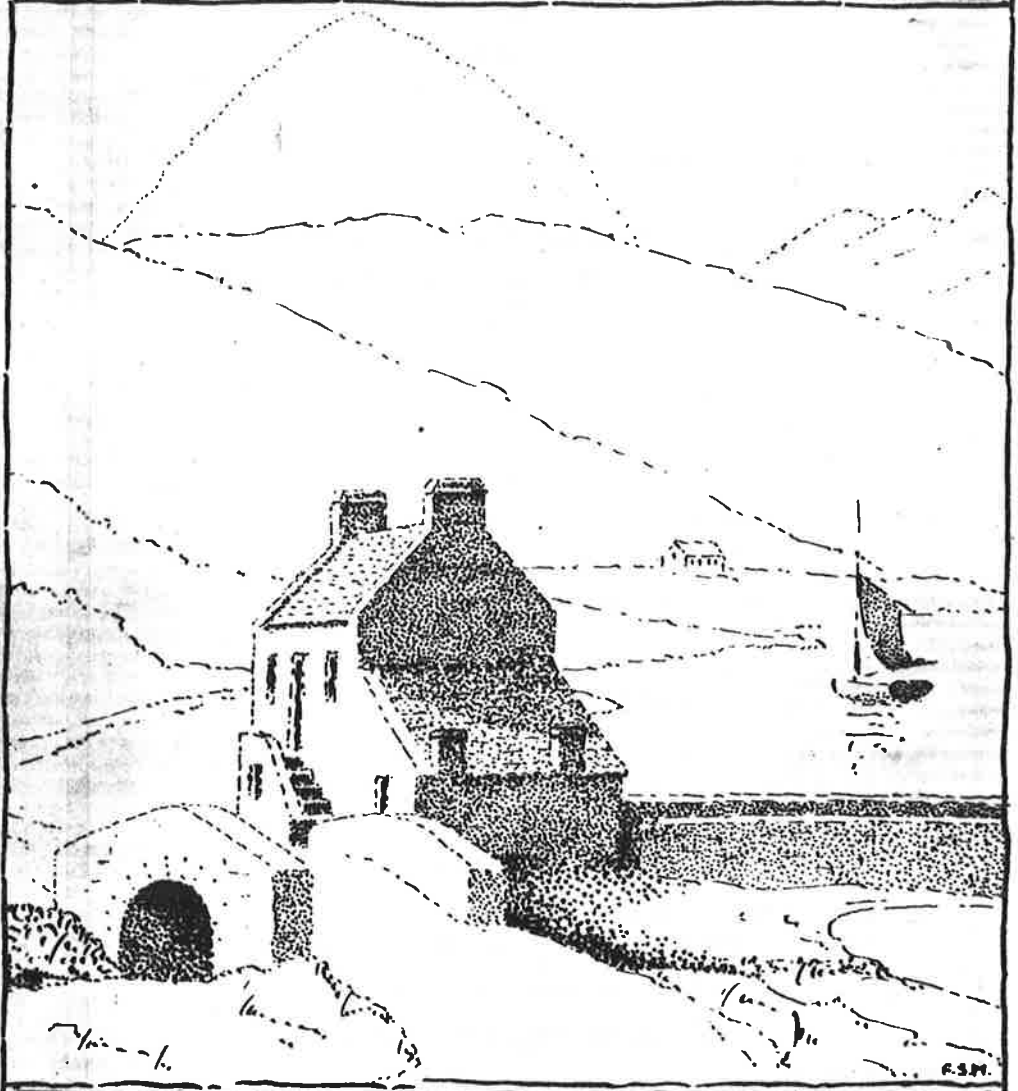
The Old Salthouse, Jura.

after Wm Daniell 1819



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T H E K I S T

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JOINT HON. SECRETARIES

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Mrs A.M.Kahane, MA. FSAScot. (Membership and Kist)
Kilchoan Lodge, Poltalloch, by Lochgilphead

Price: 40p. (by post 50p) Free to Members

STUDIES IN THE HISTORICAL ECOLOGY OF NORTH KNAPDALE

Leslie Rymer

IV. The Late-glacial Vegetation

In the last paper of this series I described the sediments found at a depth of $7\frac{1}{2}$ - 8 metres below the present surface of Drimnagall fen, and mentioned that these deposits had been laid down well over 10,000 years ago, and I discussed how careful investigation of the exact nature of these sediments made it possible to reconstruct in some detail the climatic and environmental conditions prevailing in N. Knapdale when they formed. In the present note I am going to continue this discussion by turning attention to the fossil pollen grains contained within the sediments.

When pollen grains are examined under a microscope they are seen to come in all imaginable shapes and forms. They may be spherical or angular, they may have pores or furrows or bladders, they may have a spiky, smooth, striate or reticulate surface pattern, and so on. Students examining pollen grains for the first time are frequently astonished at the range of variation that is found in objects invisible to the naked eye. However, even though pollen grains taken as a group encompass such diverse shapes, those produced by any particular plant-species all look alike. In some cases all the species found within any particular genus (e.g. all the buttercups) may produce indistinguishable pollen. In other cases (e.g. the grasses) all the plants found within a particular family may produce pollen grains which are very difficult to distinguish. Within these limits, however, pollen grains can be identified.

Every year the plants growing in a particular area release millions of pollen grains into the atmosphere. Some fall out of the air very quickly and are deposited on the ground nearby. A very few may be carried high up into the atmosphere and be transported for hundreds or even thousands of miles before being washed to the ground in rain. Most will fall within a few hundred metres of the plants releasing them, the number deposited decreasing with increasing distance from the source plant.

The majority of the trees growing in Britain, and many of the other plants besides, are wind pollinated. The pollen rain falling in a particular locality therefore contains a mixture of grains originating from all the plants

in the surrounding vegetation. This makes it possible to reconstruct the vegetation of a particular area by examining and identifying the pollen grains deposited in that area. There are limitations, of course. Plants having insect-pollinated flowers are unlikely to contribute very much pollen to the sample, even if they are very abundant in the vegetation. Wind-pollinated species may produce vastly different quantities of pollen, so an estimate of the abundance of a particular species in the vegetation based on the amount of pollen of that species in the sample is no easy matter. By studying the vegetation, as well as the pollen sample, the relationships between the pollen and species abundance can be elucidated. Such studies can be very useful, as we shall see later.

Many of the grains of the pollen rain which land on the earth's surface will eventually rot away; some will fall on to bogs or settle through water to the bottom of a pond or lake. Peats and lake muds are accumulating deposits and anything falling on their surface will be buried. Pollen is continuously being deposited on the surface, so that stratified pollen deposits are produced, that in the deeper deposits being older than that in the surface sediments. The walls of pollen grains happen to consist of a substance (sporopollenin) which is resistant to all decay processes except oxidation. Lake muds and peat deposits are both anaerobic - that is, they lack oxygen. Pollen trapped in these sediments retains its identity, and grains thousands of years old can be recognised as easily as can newly deposited pollen.

If the vegetation round the lake or swamp changes, then the assemblage of pollen grains falling on the surface will change. By identifying the fossil pollen samples taken from different depths of a sediment core, changes that have occurred round the site during the period in which the sediment was deposited will become clear. The study of fossil pollen provides an excellent tool for the study of vegetational history.

One of the fundamental principles of ecology is that plant distribution is primarily controlled by the distribution of climatic conditions. This means that any variation in climate will be accompanied by changes in the distribution of plants. If we know the climatic requirements of plant species there is the possibility of interpreting

vegetational change in terms of the climatic shifts necessary to produce the observed alterations in plant distributions.

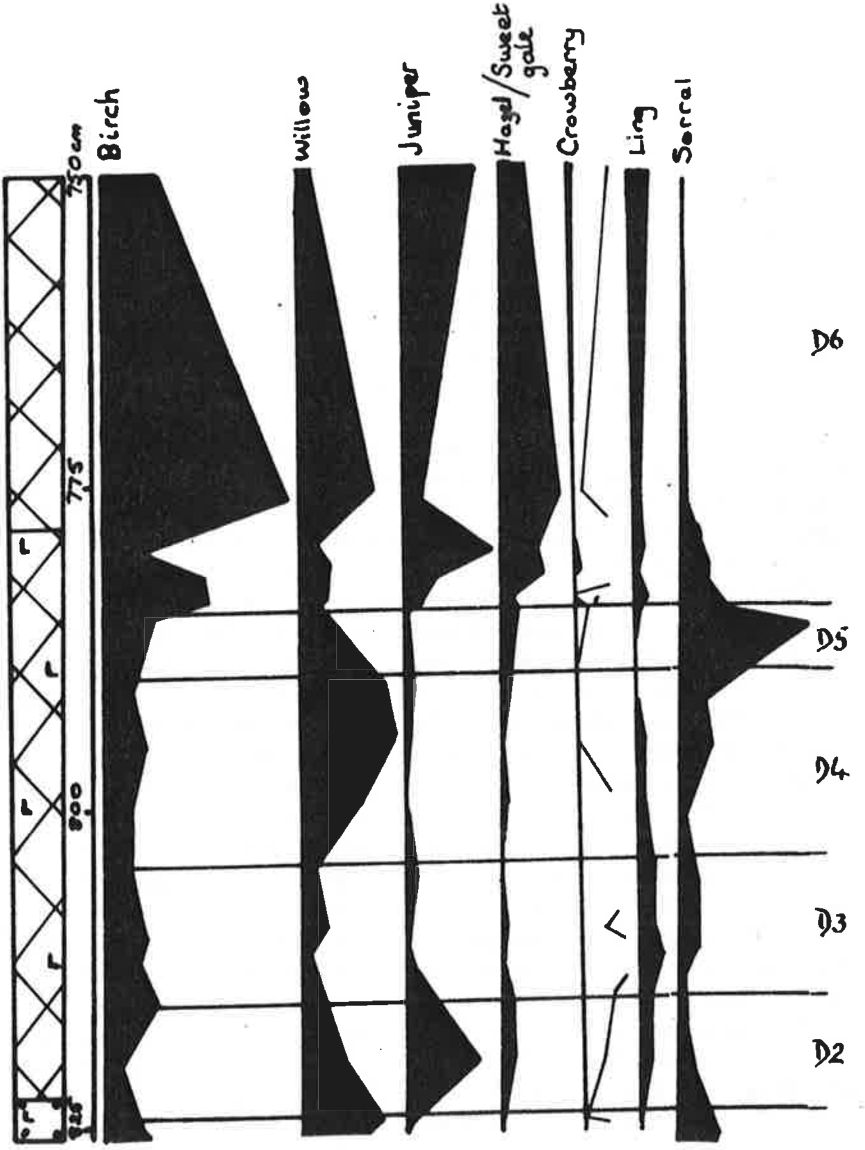
Unfortunately climate is not the only factor affecting these distributions. No matter how suitable the climate, plants are unable to survive unless the right soils are available to them. Although soil development can produce vegetational change, the chemical analysis of sediments, by demonstrating the changing substances washed into the water from the soil as it develops, can sometimes allow this effect to be distinguished from that resulting from climatic change.

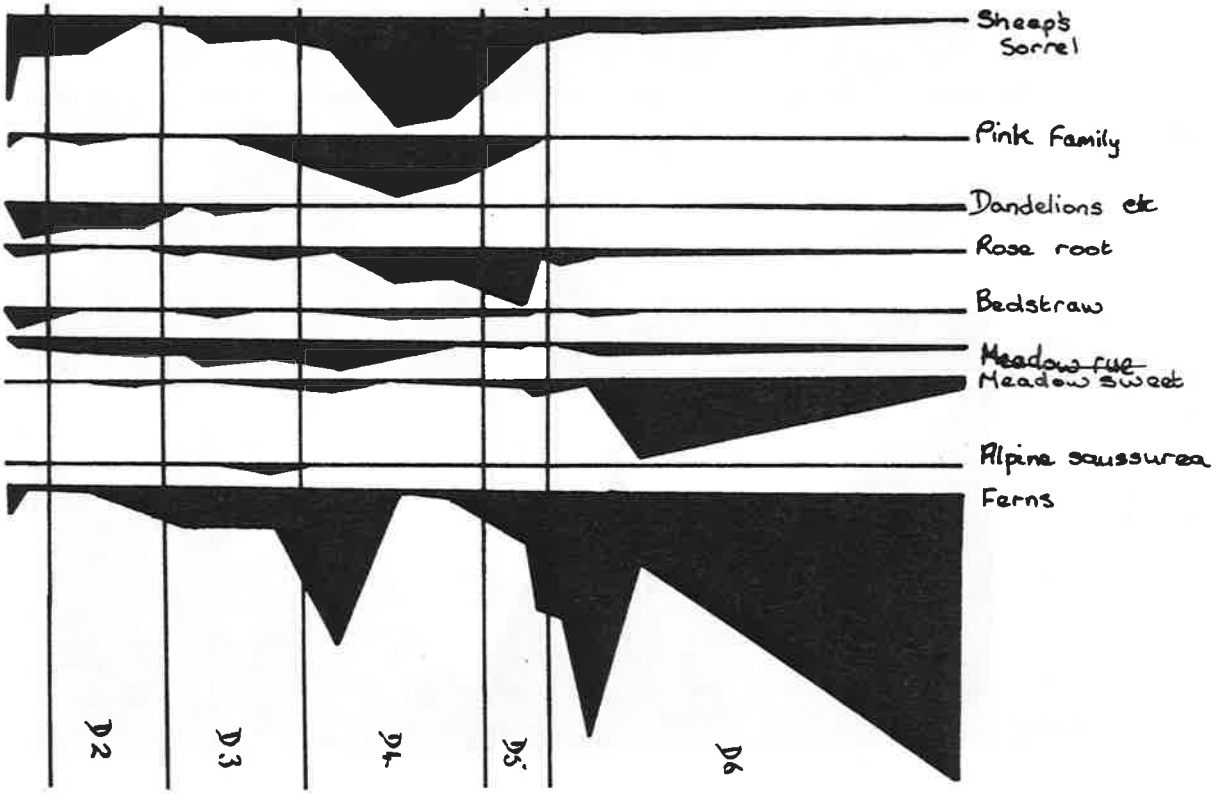
With these preliminaries over we can now discuss the pollen in the late-glacial sediments at Drimnagall. The pollen was extracted by exposing a small sample of the sediment to a series of chemical treatments which destroy everything else. The residue is placed on a microscope slide and examined. All pollen grains encountered are identified and listed. Finally the percentage of each species in the sample is calculated and a series of graphs drawn to illustrate the way in which the proportion of each species in the assemblage changes with depth. The complete set of histograms is called a pollen diagram. A total of 92 different pollen types were identified from the samples discussed here. The accompanying charts are a much simplified pollen diagram showing some of the more important of these. To the left is a column depicting the type of sediment found at different depths, as discussed in the last paper. For convenience of description the diagram has been subdivided into a series of horizontal 'pollen zones'; these are numbered D1 at the base (oldest) to D6 at the top (youngest).

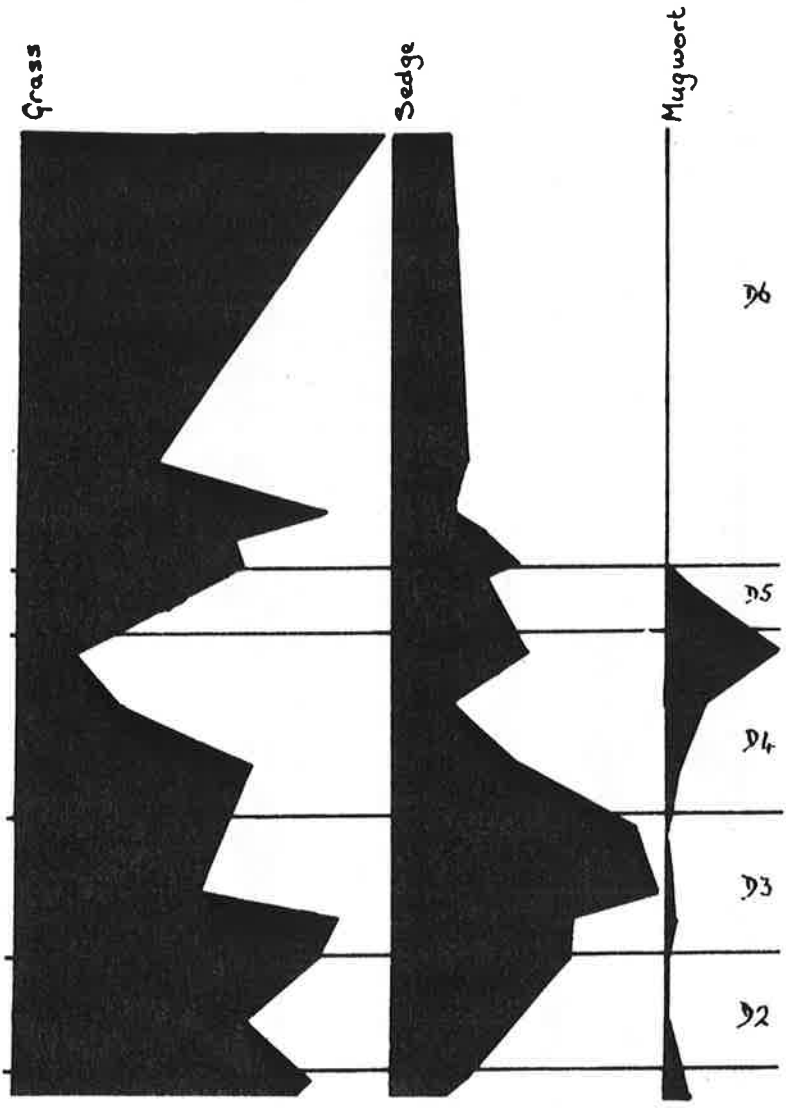
The sediment from 826 to 850 cms is not shown as it did not contain any pollen. Conditions must have been too severe to allow the survival of any plant life, and must have been similar to those found in polar deserts at the present day.

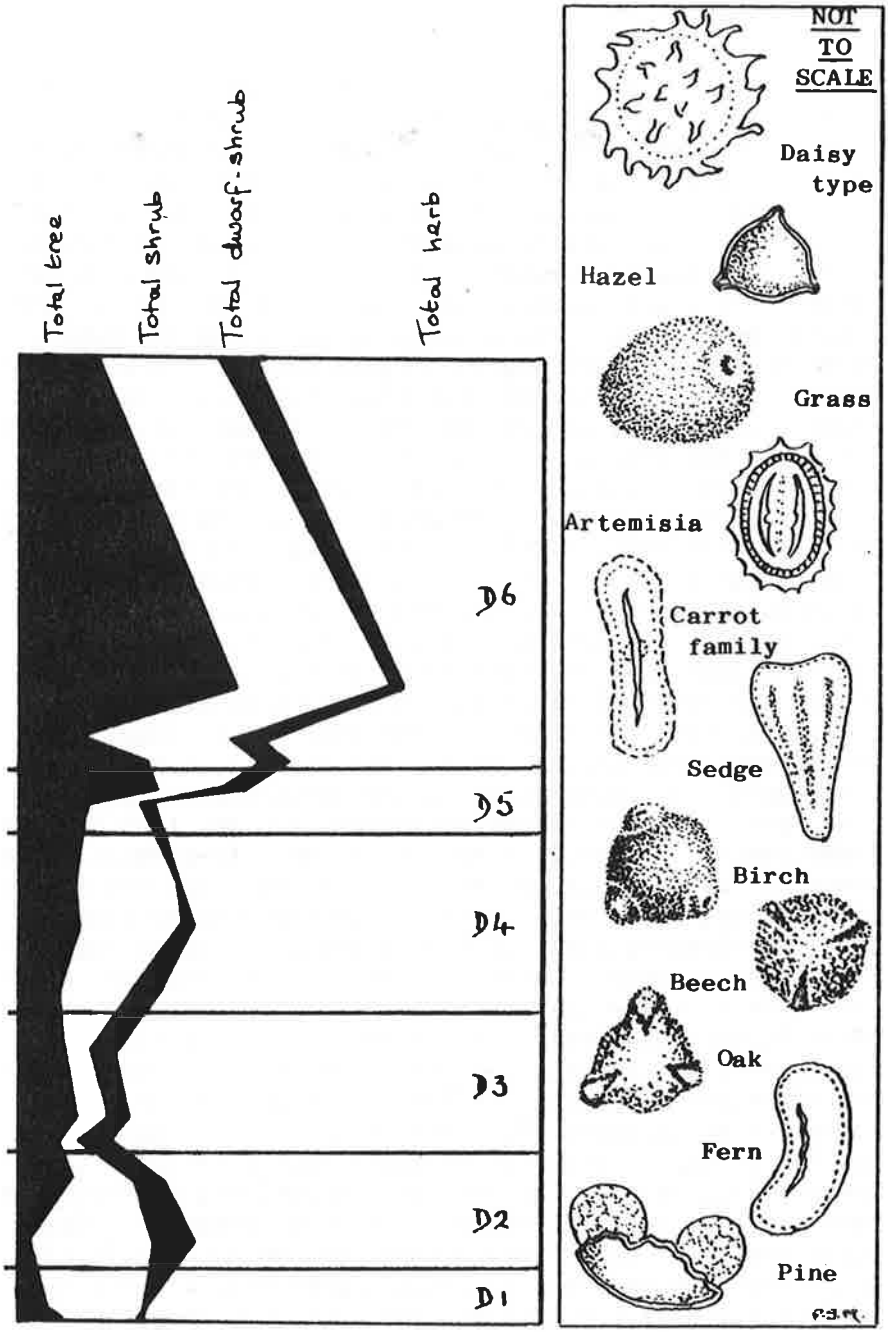
We now know that the last ice sheet reached its greatest extent about 18,000 years ago. We also know that 13,000 years ago almost the whole of Scotland appears to have been free of ice. Pollen zone D1 marks the opening of this late-glacial period, the time when local pioneer vegetation first appeared in the area.

Although Birch pollen is present in D1, this most likely


750 cm
775
800
825
Birch
Willow
Juniper
Hazel/Sweet gale
Crowberry
Ling
Sorrel
D6
D5
D4
D3
D2


Sheep's Sorrel
Pink Family
Dandelions etc
Rose root
Bedstraw
Meadow rue
Meadow sweet
Alpine saussurea
Ferns
D2
D3
D4
D5
D6


Grass
Sedge
Mugwort
D6
D5
D4
D3
D2


Total tree
Total shrub
Total dwarf-shrub
Total herb
D6
D5
D4
D3
D2
D1
NOT TO SCALE
Daisy type
Hazel
Grass
Artemisia
Carrot family
Sedge
Birch
Beech
Oak
Fern
Pine

represents not the usual tree birches found in the area today, but the dwarf birch which is now found only on Scottish mountains. This species is a small shrub which usually lies loosely along the surface and seldom reaches a metre in height. Similarly, the Willows present were probably the creeping and prostrate arctic shrub types, not the more familiar trees. However even these dwarf shrubs do not seem to have been common, and the pollen spectrum is dominated by grasses. The general appearance of the landscape must have been quite stark. There were no trees and much bare rock. Despite this the vegetation cover was by no means monotonous, and differences in topography, exposure, moisture and geology (the soils had not yet had time to develop) certainly resulted in a complex pattern of plant communities. Detailed interpretation of the pollen spectrum is difficult, partly because a high proportion of the pollen identified is likely to have been transported a considerable distance and not produced locally. This is demonstrated by the fact that pollen concentration is low. Nevertheless many interesting herbs were present (some of which are now very rare) as well as the more usual Buttercups and Sheep's Sorrel. These included at least two Saxifrages (the alpine and purple) as well as the common Club Moss. In reconstructing the landscape of that period the fact that what is now Drimnagall fen was then a large lake should be kept in mind. Planktonic freshwater algae were living in the cold waters of the lake and the plants already mentioned were covering the surrounding slopes.

The changing sediment type between D1 and D2 suggests the onset of more temperate conditions, an interpretation which is confirmed by the pollen record. By comparison with D1 the abundance of woody plants is significantly increased, and Juniper in particular seems to have become an important component. There is a possibility that Hazel first appeared about this time. Unfortunately pollen of hazel cannot be reliably separated from that of Sweet Gale, at least in British samples, and we cannot be sure whether one of these or both were present. Sweet Gale grows mainly on fens and bogs; because it has a fairly high northern latitudinal range in Scandinavia at present, its presence in the late-glacial would not be altogether surprising. Sweet Gale happens to be one of those plants able to fix atmospheric nitrogen. Nitrates would have

been very low in the immature soils then present, and this fact, as much as the severity of the climate, might have been responsible for the absence of many species. The previous presence of plants able to fix nitrogen (and so improve the soil) may well have been a prerequisite for the colonisation of other, more demanding, plants. The dependence of plants on a developed soil in an area in which all soil had been removed by glacial scouring presents grave problems in trying to interpret everything in simple, climatic terms. The presence of Meadow Sweet which (at least relatively) is a warmth-loving species does suggest that the climate was not exceptionally severe. Another fairly abundant species at this time was Thrift (sea pink). The whole range of this species at the present time falls between the -8'C and +8'C January isotherms which sets limits, albeit rather broad ones, to the climate then prevalent.

In the previous paper I mentioned that the reduced minerogenic sedimentation at this depth indicated a greater surface stability, perhaps because an almost complete ground cover of vegetation had developed and was preventing the downwash of soil into the lake. Although probably true, some of the plants present in D2 are characteristic of open, disturbed areas. Perhaps one can imagine a zonation of vegetation from Juniper scrub in the more sheltered hollows, through dwarf-shrub heath dominated by Crowberry to a very open 'fell-field' vegetation (consisting mainly of bare rock) on the very exposed summits of Dùn Mór. In addition to this general zonation small marsh communities were developing in waterlogged depressions and by the side of the lake. Although dominated by Sedges they were yellow with Marsh Marigold.

Pollen zones D2 and D3 are contained in the same sort of sediment, but the change in pollen assemblage suggests that a climatic oscillation was taking place and that conditions were becoming increasingly severe. Pollen of woody plants such as Juniper, Willows and Sweet Gale decreases, presumably because these species were no longer playing an important role in the vegetation. Many of the plants recorded from D3 are typical of open vegetation such as is found in tundra conditions or in habitats disturbed by man. The Alpine Saxifrage, for example, is confined at present to the cool damp north-eastern prec-

ipices of mountains such as Ben Nevis and Ben Lawers. Other typical plants of this zone include the Plantains, Rock Rose, Mugwort and members of the Goosefoot family. Some of the other plants found in this zone grew together in what is known as the Tall Herb Association; this is a plant community now confined to exposures of calcareous rock above the woodland limit of our mountains. The presence of this association seems to indicate a fairly deep snow cover in most winters. Species belonging here include Roseroot, Angelica, and the Alpine Saussurea. Drimnagall fen is surrounded on three sides by outcrops of limestone, so habitats suitable for the development of this community, given correct climatic conditions, were readily available.

The following pollen zone, D4, indicates a continued and progressive cooling, the vegetation becoming increasingly open and only the more cold-resistant plants remaining. Mugwort (including the now exceedingly rare Norwegian Mugwort) greatly increased in abundance. The Least Willow (which is today widely found in the Arctic regions of the northern hemisphere, and in Scotland is characteristically a plant of mountain summits) began to form extensive communities, especially on the bare, rich limestone outcrops. Another fascinating plant growing near Drimnagall at this time was Keenigia Islandica, a dwarf annual related to the docks, and a plant of very open habitats and especially common on frost-disturbed soils. It now grows only on Mull and in the north of Skye in Britain, although in the late-glacial it must have been much more widespread. Many of the plants recorded from this pollen zone are known to grow together in the mountain dwarf-shrub heath of calcareous areas. However Mountain Avens is always associated with that community, but is not found in the pollen record. As it is known to be a low pollen producer and usually under-represented in pollen samples, it seems reasonable to assume that it was present and perhaps even abundant, in the vegetation of the slopes around Drimnagall fen.

The cold period represented by zone D4 is conventionally taken to begin 10,750 years ago, although, in view of the varied relief of Scotland, one would imagine that its effects would be exhibited at different times in different localities. Other sources of evidence, for example the study of fossil beetles, have suggested that a continued fall in temperature began about 12,000 years ago. Only when some critical threshold value had been exceeded would

this become obvious in the pollen and geological records.

Sometime before the sedimentary record at Drimnagall began, the whole of Knapdale would have been covered with ice. The biological and sedimentary record so far described had developed in an ice-free situation, and 12,000 years ago there may have been no large ice sheets at all in Scotland. Deglaciation was not a continuous process. On a number of occasions the ice re-advanced or stood still for long periods. These irregular fluctuations have been investigated by studying and mapping the various end moraine deposits found in various localities throughout Scotland. The cold period represented by D4 marked the last interruption in the disappearance of the ice sheet, for at that time a further build-up of ice took place. Because the pollen record at Drimnagall is continuous throughout this cold period North Knapdale must have remained ice-free throughout this advance (known as the Loch Lomond Re-advance). The closest point the ice reached in the parish is indicated by the series of morainic deposits located 30-40 miles north and east of the area near Oban. Nevertheless Knapdale certainly experienced the effects of the general decrease in temperature, as is evidenced by the change in vegetation just described.

Next came a further swing towards a warmer climate. Pollen zone D5 is marked by an increase in the amount of tree pollen and by the reappearance of Juniper in the vegetation. Reference to the pollen diagram will show that very low percentages of Juniper pollen were found in zones D3 and D4. This may reflect the presence of dwarfed juniper in the more sheltered areas subject to protective snow accumulation. Any branches of the plant reaching above the snows would have been killed by wind and ice abrasion. The increased amount of juniper pollen in D5 may simply indicate an improvement in climate so that juniper was able to extend beyond the snow cover. Mugwort is decreased by comparison with the preceding zone, suggesting that really open vegetation was becoming restricted to the most exposed areas. There seems to have been an extensive development of the Tall Herb Community again, and the dwarf-shrub heath with Crowberry and Ling once more appeared, probably covering the less calcareous slopes.

The boundary between D5 and D6 is the boundary between late-glacial and post-glacial time. It corresponds to a

change from minerogenic to organic sediment and to the point at which Tree Birches began to make their first important contribution to the vegetation. This boundary relates to a time about 9,500 years ago. The first post-glacial pollen zone is D6. As shown in the diagram there was a rapid increase in Birch pollen and a rise in the Juniper curve. The latter is usually under-represented in modern pollen spectra by comparison with Birch, and we must envisage the gradual development of mixed juniper-birch woodland. Pollen of Hazel also increases in abundance, suggesting that this species had a glacial refuge very near the Knapdale area. Towards its northern limit hazel invariably grows on a calcareous bedrock, so that small areas of hazel scrub may have been developing on the limestone outcrops around the lake.

The presence of small quantities of Oak, Elm and Alder pollen in this zone suggests that small stands of these species were already becoming established in the more favourable regions further south. This pollen is found in such small amounts that there is no possibility that these species were growing locally. To survive at its northern limit, Birch requires a temperature of over 10'C for at least 60 days in the year; Oak requires a similar temperature for 120 days. Unfortunately one cannot argue that the absence of oak implies that this requirement was not met. Birch has a far greater dispersal capacity than oak (for one thing its seeds are much smaller) and, being a pioneer tree, birch can grow on very immature soils. Oak is more likely to have had its glacial refuges much further south of the ice-front than birch, which is more cold-resistant. This is one further difficulty encountered in trying to make an accurate reconstruction of past climates on the basis of botanical evidence.

A large number of herb species is recorded from this pollen zone, which suggests the presence of a very diverse flora. Open birch woods with a juniper and hazel understorey may have been quite extensive and rich with daisies of various sorts, angelica, meadow sweet, many ferns and innumerable other plants. Around the lake and in wetter fens and marshes there were communities dominated by willows, whilst in the more exposed areas with very thin soil were plants such as plantains, club mosses and even dandelions. The complete pollen spectrum makes it clear that overall

the landscape still had only a relatively sparse tree cover.

There may not be any exact modern analogues for the communities growing on the immature soils and under the temperate climate of this early post-glacial period. Soil development must have been weak in the preceding tundra period and not until birch became dominant would the brown earth soils begin to develop.

Of the 92 plants definitely identified as growing round Drimnagall in late-glacial at least 16 do not grow in North Knapdale at the present time. This number does not include tentative determinations such as dwarf birch, the arctic willows and the Norwegian mugwort, despite the probability that these species were growing in the locality. Given the normal limitations of pollen identification, and the fact that many species present may not have been contributing to the pollen rain, it is readily apparent that a considerable number of species must have disappeared from the region over the last 12,000 years. The reasons for this will be discussed in a later paper. The series will continue the vegetational development of North Knapdale up to the present day, and discuss some of the ways in which man has deliberately and inadvertently modified it.

....oOo....

Editorial Note. The column of Pollen Grain shapes has been provided by the Editor to give added interest, and responsibility for inaccuracies is entirely his and not Dr Rymer's.

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The Cover. This has been based on the Daniell print of 1819 and it shows the Smiddy which Miss Sandeman writes about as it appeared when it was a Salt-house more than a century earlier. Apparently it had changed very little since then and the various parts described by Miss Sandeman are readily identifiable. The Editor understands that even today it remains relatively unaltered, although the area lying between it and the church (the isolated building in the distance) has been built over.

WHEN THE YEARS WERE YOUNG

Mary Sandeman

The Smiddy

Bong. Dink. Bong. Dink. Abandoning whatever I was doing I ran down the steep hill from the house, risking skinned knees and scraped hands, for the road was untarred and rough; who cared, the smiddy was working and, what's more, both Coll and Dan were hammering, so I might be allowed to work the bellows. Bong was Coll and Dink was Dan. I couldn't reach the handle of the bellows but one of them would bring it down for me and then I could easily manage to keep the fire going steadily - but I must get there before competition arrived. Over the bridge I scuttled and down the very worn old steps to the smiddy door.

The smiddy was a lean-to against the south gable of the old salt-house at the head of the jetty. I think it had been the cooperage when the salt-house, now two flatted houses, was working.

The smiddy was well below the road, so that the window in its west gable was at road level. Under it was a high work-bench about my eye-level - although of course it shrank as I grew. Here were clamped several vices of different sizes, and boxes of nails and tools, files and chisels and tongs all set out in order. Along the back wall were racks of long lengths of iron bars of various thicknesses and above these were long nails on which hung half-finished horse shoes - fore feet, hind feet, broad and narrow, heavy and light, ready to be adjusted to the customer's requirements.

On the east gable wall was first the bellows and then the long bench fire with its big stone-canopy chimney up which the sparks flew to an infinity of darkness. Not that there should be sparks once the fire was going well; your job on the bellows was to keep it glowing red and steady, white hot at the centre. Under the fire was a low wide wooden tub full of inky black water that sent up gouts of steam with much sizzling when the hot metal, straight from its hammering on the anvil, was plunged in to temper before being re-heated and hammered again. The tongs and shovels were kept in it so that they were always cool when needed. Nothing was left on the floor or anvil or by the fire; there was perfect order in Coll's smiddy and everyone

old or young did exactly as they were told, which perhaps was why it was such a safe nice place to be in.

Between the fire and the door there was another window to the south, and under it a bench. There were things hanging on this wall too but it was rather dark and they were difficult to see. Here, on nasty cold wet days, there were always one or two old men sitting smoking their pipes. Some of the pipes had decorated metal covers and were old and well worn like their owners.

The big anvil stood in pride of place just where the light from the door and the west window met. The floor was deep in iron filings and coal dust, and if there was any sun at all there were always sunbeams, great shafts of dancing light.

As the red hot metal was hammered and shaped on the anvil cascades and showers of sparks like lovely fireworks shot out in every direction - I mean that when I did see fireworks, which I certainly hadn't then, I thought they looked like the smiddy sparks. I always tried hard to see a spark reach the floor before it went out but I never did. Was this something to do with the skill of the smith?

Even if you weren't in the smiddy you could tell what was happening. Bong, dink was the heavy hammer and the 9lb hammer, which meant that they were rough-shaping something; ding, tink, ding, tinka tinkery tink, tink, then a shoe was being shaped round the nose of the anvil; and dittery tink, a flutter of strokes, it was flat on the anvil being flattened off; and dan tink and tink, the nail holes were being put in.

Down the steps from the bridge was the quickest way to the smiddy for two legs but four had to be led round the shop and Post Office built against the north gable of the salt-house, across the head of the jetty and round the corner of the smiddy to stand in the sun, sheltered from the north and west, facing the steps, with the burn on the left and the sea nuzzling a stretch of gravel less than fifty yards behind at high water. There were iron rings let into the wall for tethering the horses. Coll always wore a long leather apron reaching from his chest almost to his ankles; the horses seemed to like having their great hairy feet cradled in his lap while the shoes were carefully fitted and the hoof filed smooth and neat. They didn't seem to mind or be a bit afraid when the hot shoe

was put on and I thought the smell of burnt hoof quite delightful. If a young or nervous horse was to be shod we were all, young and old alike, banished to the bridge and told to keep quiet and still, no one was allowed near except the horse's own man and I have seen him sent packing on occasion. Coll had infinite patience and his strong hands were so gentle that he soon had a young horse's confidence.

The most exciting smiddy work was putting an iron tyre on a cart wheel. First a bit of the shingle as near the burn as possible was cleared of big stones. Then the circumference of the wheel was drawn out in the cleared space and a ring of peats set on it and the already-prepared tyre laid on them and more peats set up over it, a continuous circle of wigwams, and the whole thing set alight. The old men were allowed to help, armed with tongs, but we were sent out of the way to the bridge once more. When the peats were just a fiercely glowing ring and the tyre was almost white hot, it was lifted with the tongs and dropped over the wooden wheel and quick as lightning hurled into the burn with a great splash and gush of steam; relieved of tension we skipped and giggled. I would dearly have loved to have been allowed nearer to see exactly what was done but this was all I could see.

Of course other things were made and mended in the smiddy, but horse shoes were what I liked best. They may hold good luck but they do hold skill. No wonder smiths of old were considered to be versed in magic. Turning uninteresting bars of iron into horse shoes of all shapes and sizes with fire, water and a hammer or two was magic enough for me.

....oOo....

AN OLD TARBERT WELL RECOVERED. F.S.Mackenna

When removing dense scrub in my policies in 1977 an old well came to light. After clearing out the infill of silt it is a roughly oblong basin some 36" from front to back, 24" across and 18" deep. It is let into a steep slope and is roofed with overlaid slabs, with another slab as the right-hand wall and the natural water-bearing rock as the back. A setting of stones leads downhill as an overflow channel. In spite of the drought it filled to the brim in three days. It is completely unknown locally and cannot have been used for perhaps a century. It is now recorded in the new Ordnance Survey map as TIOBAIRT AN PREIS CHALLTUINN.

THE SKIFF FISHERMEN OF KINTYRE

Angus Martin

LIGHTING THE FORECASTLE. Illumination in the forecastles of the early skiffs was by candles and stable-lamps. A single broad candle would be stuck on the mantlepiece - or brace - that spanned the open face of the stove-box, a foot or two from the deck-head. Additional light could be provided by a stable-lamp hung on a bent nail to the bulkhead. Before the skiff got under way, the globe would be removed for safety. These lamps were also hung on the mast when lying to drift-nets, to avert collision in open waters.

These were generally replaced about the turn of the century by a single paraffin lamp fixed to the bulkhead on the port side, between the biscuit box and the cupboard. It was weighted at its base with lead and mounted on a swivel-pin, so that it rocked with the motion of the boat. A bright sheet-metal reflector could be inserted at the back of the lamp to increase the light, but was not a general feature. The wick was usually screwed low when the boat was at sea or else the flame extinguished.

When the globe was cracked (often caused by an unevenly-trimmed wick, which caused the lowe, or flame, to shiver the glass, or by a drip of water - perhaps from a leaky deck - striking the hot glass) the pieces were covered over with a strip of newspaper moistened with condensed milk, which bound the whole when the heat took effect. The paper tended to turn brown with the heat, so the repaired side of the globe was usually turned aft, and thus the dimness was directed against the bulkhead.

A fragmented globe could not, of course, be repaired, so, lacking a replacement globe the following curious resort might be adopted. A specially conserved bottle, of a particularly suitable girth, would be brought out. A length of oakum (loose fibre obtained by picking old ropes apart) would be soaked in paraffin and wound round the bottle several inches from the base, and the end tucked in. The oakum was then set alight and when fully aflame the bottle was dipped into a ready bucket of sea-water. The sudden immersion caused the bottle to cleave cleanly in two, and the upper part would be inserted on to the lamp. (That practice must surely have been rare, and probably not much of a success, because, of the fishermen the writer enquired with, just two were able to describe it.)

STOVES. In the middle of the bulkhead a small stove was fitted. A section of the bulkhead, perhaps two feet broad and extending from the platform to the deck-head, was cut out, and a three-walled box constructed to cover the stove-pipe. That cover, termed the stove-box, was formed externally and thus was a feature of the hold rather than of the forecastle. The stove was set entirely into it, so that the front of the stove was almost flush with the interior of the bulkhead. By avoiding having the stove protruding outwards into the 'den', the fishermen conserved valuable space.

The original stoves were crudely manufactured, utterly unsuitable for cooking on, and a fire hazard moreover. Hugh Macfarlane of Tarbert remembered that, on the family boat, the Britannia, the stove regularly set the box alight, so close against the wood was the funnel. In that event a bucket of water would be poured down the lum. In later years, when the forecastles increased in size, the funnel would be fitted to the stove with a gap of several inches between it and the back of the box; and asbestos or sheet tin fixed to the interior of the box also diminished the possibility of fire.

A strange and effective measure against fire was employed on some smacks, but seems not to have been carried on to the skiffs. Coarse salt was packed damp into the box around the funnel, and, when it set hard, protected the box from heat.

With the original stoves, to boil water the kettle had to be placed inside the stove and on to the burning coals. The kettle was, said Hugh Macfarlane, "as black as the lum itsel'", and would become so hot that it could only be removed from the stove on the end of a poker. The kettle - or fish-pan if a meal of herring and potatoes was to be cooked - was kept secure within the stove by jamming the door closed against it.

About the turn of the century 'Jack Tar' stoves became popular. These were of improved design, and incorporated a ring on the top for cooking upon, and a guard-rail for containing the pot and kettle. Later still, a second 'Jack Tar' model appeared, offering two rings for cooking purposes, but the first was of more suitable size and remained in use on many of the smaller skiffs until the final years of that class of vessel.

SEA-BISCUITS. Prior to the advent of motor power (1907-1910), great quantities of hard sea-biscuits were carried on the skiffs. The smallest kind of biscuit was rimmed round its circumference, which earned it its name 'bulwark biscuit'. Quite a lore exists about these sea-biscuits, undoubtedly because the fishermen relied upon them if becalmed or storm-bound remote from any port or accessible village. When the store of loaves was exhausted, the biscuits would be resorted to, though a few fishermen claimed to have preferred biscuits to bread, especially if the bread was becoming stale.

The biscuits were commonly contained in wooden boxes or galvanised tanks, which were attached to the bulkhead on the port side, close to the stove-box, so that, assured of regular warmth, the biscuits retained their crispness. The tanks were often secured to the after side of the bulkhead, and a round hole would be cut into the bulkhead, large enough to allow a man's fist through. The aperture was covered by a metal disc which could be swung to the side on a nail if biscuits were wanted. Biscuits could also be contained in a bag of fine-meshed netting suspended on a nail from the bulkhead. If purchased in large quantities, perhaps for a trip to the Hebrides, they were, on certain skiffs, stored in a small barrel in the hold, from which the tank was refilled when necessary.

Not every baker could produce acceptable biscuits, though the ingredients were simply flour, water, sugar, salt, and - optionally - lard. Inferior biscuits could be dipped in sea-water to soften them, and then dried on the stove. One fisherman suggested, however, that the practice may have had the purpose of improving the taste by addition of salt.

WATER. In the sailing skiffs water was usually contained in wooden casks, which were topped up at every opportunity. Water was a precious asset, and before motor power relieved the fishermen's dependence on favourable weather they were constantly alert to the possibility of being storm-bound or becalmed, and observed all the precautionary rules available to them. The importance of carrying a heavy stock of sea-biscuits has already been mentioned. Water was equally important, and if a skiff was moored close to a burn of good water, the cask would

be carried ashore and refilled.

When fishing in 'strange places' - such as the Hebrides - the fishermen would ascertain, before watering at a burn, that the flow was clean, and that no farms were in the locality. Along the Kintyre shores, however, they had the advantage of knowing where the wells and springs were situated, and they could row their skiffs into the very beach-head at certain places. The Black Bay was a favourite spot of the Campbeltown fishermen - the bow of the skiff could be put into the shore, with an anchor out astern, and the water there emerged "oot o' the solid rock". Another place where the water rose bright and untainted from the shore below high water-mark, was the Sruthlag (little stream) north of Saddell.

The Tarbert fishermen, when they ranged south along the shore between their village and Skipness, could refill their casks at a well near a big rock which the old fishermen called an Biobull (the Bible), owing to its square shape and the leafed appearance of its worn sides. There were wells also at Camus an Tobar (the bay of the well) and at the Red Wharf.

The type of cask Hugh Macfarlane was familiar with was constructed of wood in a narrow barrel shape, tapering at each end and strengthened by three metal hoops. A metal flap-handle was attached at each end, and the cask lay on its length in the hold, stabilised by its flattened form. Its capacity was about five gallons, but a smaller cask, of similar construction, was also carried and it could be lifted to the mouth easily. The casks John McWhirter of Campbeltown remembered lacked handles, but were otherwise similar. These were carried ashore in herring-baskets, a man to each handle, though "a very few could put wan on his shooder (shoulder)". A thirsty fisherman, by removing the bung and inserting an end of a rubber tube about two feet long, could take a drink from a cask without having to lift it.

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METEORS AT KILBERRY

Marion Campbell

John Campbell, 4th of Knockbuy and 9th of Kilberry, was the father of 'Old Kilberry' whose diaries have already been quoted in KIST. He was born at Knockbuy (Minard) in 1803 and died at Kilberry in 1861. On his father's death in 1838 he was faced with providing for numerous younger brothers and sisters, and decided to sell the unentailed estate of Knockbuy and move to the older family home of Kilberry, which had been entailed two generations before. The move necessitated rebuilding Kilberry Castle, damaged by fire in 1772 and thereafter left semi-derelict (KIST 9).

Although he undoubtedly founded his son's habit of diary-keeping, his own diaries are 8vo. notebooks filled, in a difficult handwriting, with brief notes on the weather, shooting and fishing, and activities on his farms, and only occasionally blossom into fuller entries. Natural phenomena clearly interested him keenly, and the three extracts that follow are among the longest entries recorded in the series that survive; three pocket-books covering the period 1848-61 and beginning soon after he moved his family into the restored castle.

2nd November 1849.

Fine day but Muggy and rather drizzly in the forepart of the day - afternoon wind checkd round from SW light to NW fine breeze, but very cold. About five PM saw a Meteor - which appeared to be about a Mile or nearly so above the earth, in the form of a large Star shaped body of fire, travelling slowly or at least Moderately so, in Comparison with the flight of a rocket, which it resembled, but on a very large Scale. It left a train of large sparks behind it. I saw it for about 15 or 20 seconds, when its flight became very slow, when it exploded, or disappeared, leaving sparks behind it - it exploded I thought about half way between this house and the Stack yard, and It was quite near enough to the earth for me to apprehend danger to the Stack Yard from the sparks.

12th February 1852.

...fine day after Noon - Wet before then ...S to N light air. in returning home at 7 PM, saw a beautiful Meteor which appeared near the ground - was in the shape of a

large ball of fire & travelld slowly from E to W - after travelling some distance it afsumd an elongated form - & then a line of fire - when it dispersd into large sparks.

13th April 1854.

Fine day with light breeze at SSE. N.B. This night at ¼ past 11 - on opening the house door to look at the Night - was startled on seeing the place as if surrounded by a great fire - the Moon was about its full, but the light was of a Much Brighter description than that of the Moon - on looking up, I saw A large body of bluish coloured fire, travelling rapidly, about across the path of the Moon - but in about a transverse direction - in a few Seconds after I saw it, its rapid pace was arrested, it appeared to remain stationary for a Moment - and throwing out a Plume of sparks from its Westermost end, difsapeared - the sparks appeared to be all of the Same Size, and each larger than the largest planet. The Night was beautiful, and cloudless.

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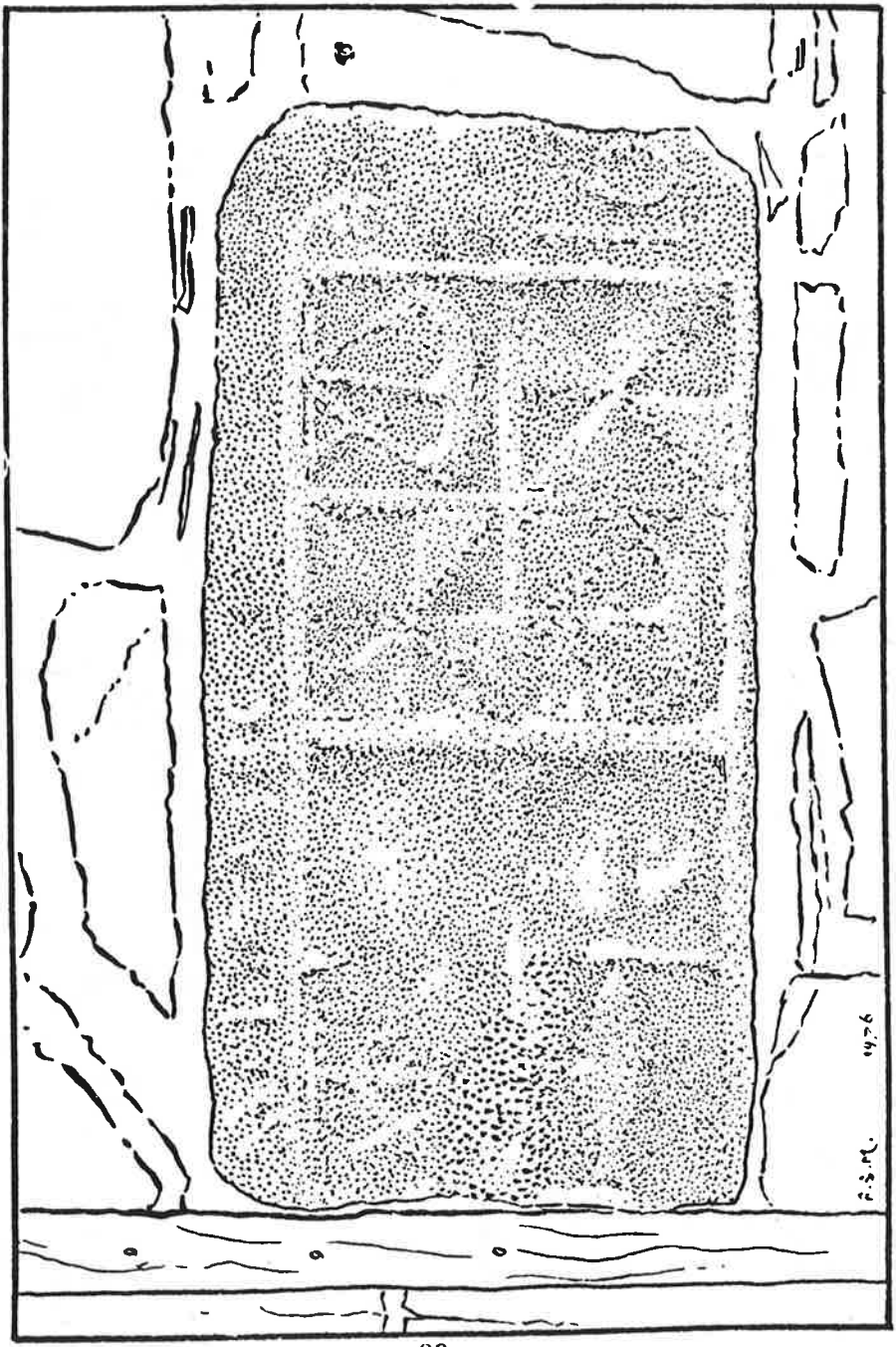
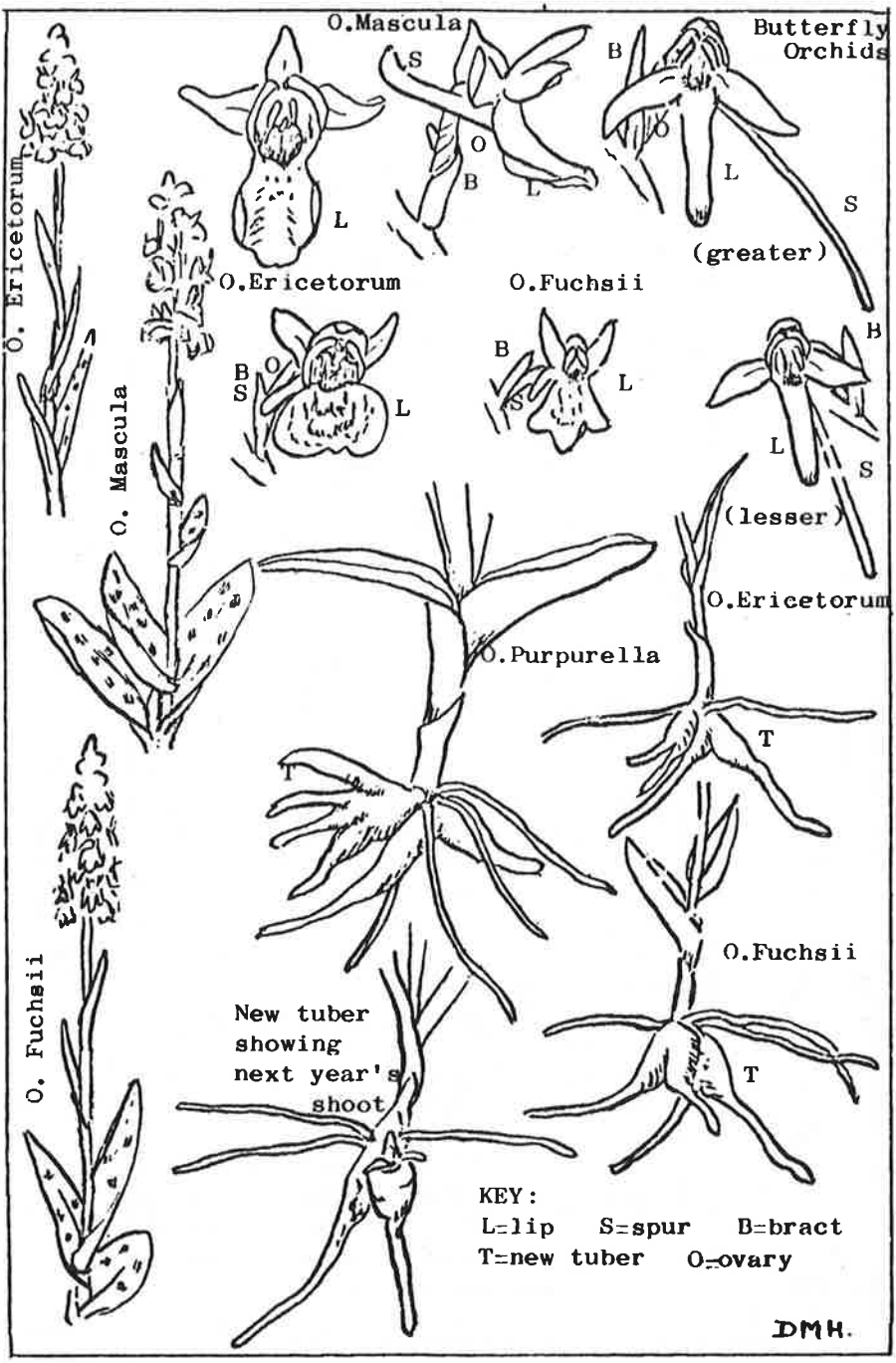
AN UNRECORDED ARMORIAL STONE

F.S.Mackenna

The carved armorial stone shown opposite was overlooked by the Royal Commission on the Ancient and Historical Monuments of Scotland when compiling the Kintyre volume of Argyll, and although it is not sited in our area of Mid-Argyll it is on property occupied by by one of our members Mr Ian MacDonald, at Portachaolain (the Kintyre side of the Clachan-Ardpatrick ferry), built into the wall of an outhouse. Apart from the obvious Argyll arms the remainder is still under active investigation and it may be possible eventually to effect an identification. The date, almost certainly (16)16, is a help. One inclines towards considering the old Loup House as its origin, and it may have been a man-and-wife building commemoration rather than a marriage stone.

The writer wishes to acknowledge Mr MacDonald's kindness in permitting this announcement, and also the help he received from our member, Mr Jim Andrews, during a long afternoon's vigil to secure the optimum light for photographing the stone, which measures 29¼" x 15¾". The drawing has been done to scale from the best of our prints.




O.Mascula
S
O
B
L
Butterfly Orchids
B
L
S
(greater)
O. Ericetorum
L
O.Ericetorum
O.Fuchsii
B
O
B
S
L
B
L
S
B
L
S
(lesser)
O. Mascula
O.Ericetorum
O.Purpurella
T
T
O. Fuchsii
O.Fuchsii
New tuber showing next year's shoot
T
KEY:
L=lip S=spur B=bract
T=new tuber O=ovary
DMH.

ORCHIDS IN MID-ARGYLL

D.M.Hooton

I have found twelve species of Orchid in Mid-Argyll so far, and always live in hopes of adding to my list. The four that are commonest, the Spotted Orchids and Marsh Orchids, are classified in the Genus Orchis, Subgenus Dactylorchis. They are variable and where they grow together have quite distinctive characteristics. Botanists have been renaming the Orchids in recent years. In the Dactylorchis group a number of Subspecies or geographical groups have been recognised. I use the Flora of the British Isles, by Clapham, Tutin and Warburg.

The pale Spotted Orchids grow everywhere in Mid-Argyll. They start flowering about mid-May, reach their peak in June and are to be found till early August. They grow in the open or in shade, on peat, on loamy soil, everywhere except in cultivated or recently ploughed pasture. Typically the spurred flowers grow in a pyramid-shaped spike, are a pale lilac colour and the lower lip is mottled with lines of darker spots. The leaves are spotted with purply marks. The height varies from three or four inches to two feet or more. Formerly named Spotted Orchis (Orchis maculata) these plants are now divided into two species. The Narrow-leaved Spotted Orchis (Orchis ericetorum) is the earliest to flower. All the leaves are narrow and the spike of flowers is quite short; the lip of the flower is wide and more or less marked with crimson dots; it is three-lobed, the centre lobe being smaller and usually shorter than the sides. It grows in the open, in wet or dry situations, mainly in peaty soil. The Broad-leaved Spotted Orchis (Orchis fuchsii) is usually taller, with wider leaves at the base of the stem; the flower spike is usually longer, containing more flowers; the lip is three-lobed but the centre one is longer than the sides and triangular; it is marked with darker lines or spots. It is often found on richer soil, in shadier places. It flowers later and may be seen till August. Both species vary much in height and the colour may be anything from near white to deep lilac, and the leaf spotting varies from mottled all over to plain green. There is a strain of Orchis fuchsii which is almost pure white with no dark spots on the flower, has no leaf spots, is tall and slender with

an oblong instead of pyramidal spike of flowers. I have found this form in flower in August and as late as September in open woodland.

There are two Marsh Orchids, the Dwarf Purple Orchis (Orchis purpurella) and Common Marsh Orchis (O. strictifolia). Both grow in really wet ground and flower in early June. Orchis purpurella is short, with spreading unspotted leaves and a dense spike of bright dark purple flowers; the lip is flat and wide with darker markings. I have found this in many places but not in the most acid bogs. Orchis strictifolia is much less frequent. I have found it mainly near the sea where salt spray has made the marsh less acid. It has unspotted leaves, a little hooded at the tips, a dense flower spike with leafy bracts and flowers of a brick red or deep flesh colour. The lip appears at first glance to be quite narrow because the sides are turned downwards. It is marked with curved dark lines. In marshes to the south of Tayvallich these two species occur together, and flowers are to be found which are intermediate in colour and to some extent in form, in various shades between purple and crimson. Crosses can occur between these marsh orchids and between them and the spotted orchids which are also abundant here, and there are many plants which can only be explained as crosses.

The Early Purple Orchis (O. macula) is the first of our orchids to flower, and comes soon after mid-May. The flower, though purple, is lighter and redder in colour than the Marsh Orchid. It has spotted leaves and flowers in a lax spike. Each flower has a wide lip which is paler at the base, and a spur which is at least as long as the inferior ovary, rather longer than those of the previous four species. It likes a well drained situation. It is to be seen at the roadside in many places in North Knapdale, and on the banks of the Crinan Canal.

Both species of Twayblade are to be found, but not easily, as both are very well camouflaged. Look for the Lesser Twayblade (Listera cordata) first. It appears at the end of May in this area. In Perthshire I have found it growing under heather at a much higher altitude and still in flower in early July. Here it seems to prefer an open site, in tussocks of Sphagnum moss at the edges of bogs. It is very hard to see and it is only recently that I have learned how to look for it and now realise

that it is quite widespread and growing in sites ranging from fifty feet above sea level almost to the summit of Cruach Lusach. Often only three or four inches high, with a pair of opposite light green leaves about the size of a ½p piece each, and a spike of a few tiny browny coloured flowers, it takes some finding. The Common Twayblade (L. ovata) is a comparatively big plant, two feet high or more, with a pair of rounded leaves well up the stalk and a long spike of greenish flowers which open slowly over a period of two or three weeks. It can be found in June and July. There is a good patch near Dùn Mhuirich. Elsewhere I have noticed it once or twice, but much eaten down by sheep.

The Fragrant Orchid (Gymnadenia conopsea) is the most delightful June flowering plant. It is strongly scented, with a dense cylindrical spike of small lilac-pink flowers; the spur is long and slender. It is widespread by the roadside and in undisturbed pasture but does not flower regularly or in any great quantity in this area.

Both the Butterfly Orchids flower in July, the Lesser (Platanthera bifolia) at its best a week or two before the Greater (P. chlorantha). They are much alike, with flyaway flowers of greeny-white in an open spike, both strongly scented and with long spurs curving back behind the flowers, adapted for fertilisation by very long-tongued insects. Plenty of both grow in old pasture near Danna. The Greater Butterfly Orchid seems more widespread elsewhere, and may be found in any old pasture land where the sheep have spared it, and in quantity on the Crinan Canal banks. As it grows on my own front "lawn" I am well acquainted with its habits.

The Frog Orchid (Coeloglossum viride), a small greeny-brown thing, grows in short pasture on Danna, I believe, and maybe more widely in dry turf. Though not seen every year there are a few plants on the limestone on Eilean Mór which have been there since 1932 - at least!

The Small White Orchid (Leucorchis albida) grows on a hillside above Barbreck. This is a plant with insignificant small white flowers. No doubt there is more of it waiting to be noticed.

My interest in the Orchis began during the 1939-45 War. A hillside at Kilmory Knap which sheep had grazed for many years was fenced for ploughing. Two years later a stony undisturbed corner of this field produced many tall

spikes of the Greater Butterfly Orchid, standing up like great heads of greeny-white hyacinth among the seeding grasses. These plants must have been there always, but had been eaten down regularly by sheep.

All orchids have storage roots where the food made by the leaves one year is stored over winter in tubers to supply the wants of the plant for the next year's flowering. Any damage to the leaves one season will thus affect the flowering a twelve months later, and a plant in pasture might live for years without producing more than leaves. Reproduction is a very slow process. Twayblades (Listeras) have running roots which can send up new shoots, thus reproducing vegetatively, but the others on my list reproduce almost entirely by seed. Orchids produce vast quantities of extremely small seed. After germination it may be a year or two before even a leaf appears; the germinating seed being nourished first by a kind of fungus in the soil called Mycorrhiza. Then it may be some years before a new plant is big enough to flower. I have found Orchis purpurella in flower only five years after the site was last cultivated, so that species does not take so long. I have had a plant of Platanthera chlorantha in a pot for eight years, lifted with its surrounding soil. There are now two plants. I saw the second as one leaf only three years ago. It is now as big as the first one though neither flowered this year. Till now the original plant has flowered each year, whether I let it set seed or not, so it is definitely a perennial plant. Affected by the hot weather last year it died back early. I hope for two flowers next year. However I do not know when the second plant germinated and it may have been in the soil when it was put in the pot. Each year the ripe seed is shaken into the pot and a record will be kept if more germinates.

Some orchid species are supposed to die after seeding, and then a number of years must elapse before the next generation flowers. This may happen to Orchis strictifolia, which I can never be sure of finding. Last year eighteen flowers appeared in a patch of wet grass above the shore at Kilmory Knap. I have never seen them at Knap before and this year I have not been able to find even one leaf that looks like an orchid.

Certain places to the south of Tayvallich are particularly rich in orchids. Eight species can be found within

yards of each other. Because of the limestone present and the proximity of the sea, the ground is not so acid and there are areas which have not been disturbed by cultivation where they grow in hundreds and hundreds. So long as this ground is only grazed they should be perfectly safe, whether they flower or not.

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CLASSIFICATION according to Clapham, Tutin & Warburg

Listera ovata	Twayblade
Listera cordata	Lesser Twayblade
Coeloglossum viride	Frog Orchid
Gymnadenia conopsea	Fragrant Orchid
Leucorchis albida	Small White Orchid
Platanthera chlorantha	Greater Butterfly Orchid
Platanthera bifolia	Lesser Butterfly Orchid

ORCHIS. SUBGENUS ORCHIS

Orchis mascula	Early Purple Orchis

SUBGENUS DACTYLORCHIS

Orchis fuchsii	Broad-leaved Spotted Orchid
Orchis ericetorum	Narrow-leaved Spotted Orchid or Heath Orchid
Orchis strictifolia	Common Marsh Orchid
Orchis purpurella	Dwarf Purple Orchid

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