



native woodlands  
discussion group

newsletters 1-12

**NEWSLETTER**

**NUMBER 7**

**SUMMER 1979**

NATIVE WOODLANDS DISCUSSION GROUP

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## NATIVE WOODLANDS DISCUSSION GROUP

### NEWSLETTER NUMBER 7 - SUMMER 1979

This issue of the Newsletter, the first since the group expanded its interest to cover all the different types of native woodland in Scotland, includes an account of last year's field meeting in the Dornoch Firth Area, a text of a talk given at that meeting by Mr Ogilvie, a report on the entomology of one of the sites visited and proposals for this year's field meeting to be held in Deeside. Finally, there is a revised mailing list of group members.

Those members who were present at the Discussion Group's first annual field meeting in 1974 will recall Finlay Macrae's enthusiasm when a visit was made to the magnificent native pinewood area of Glen Affric. This enthusiasm recently received international recognition when Finlay was presented with the American travel writer's award for his contribution towards the conservation of the Glen Affric Pinewoods.

Members will have heard with regret of the death, shortly after the Dornoch Firth meeting which he attended, of Chris Christie of the Forestry Commission's Inverness office. He regularly attended the Group's field meetings and made a valuable contribution to its discussions.

#### 1979 FIELD MEETING

As agreed at the field meeting last year, this year's meeting is to be held on Deeside between October 4th and 6th. An outline programme and application forms are enclosed with this Newsletter. Please note that application forms should be returned, by August 20th to -

Mr P R Marren  
Nature Conservancy Council  
17 Rubislaw Terrace  
ABERDEEN

R Goodier  
Nature Conservancy Council  
12 Hope Terrace  
EDINBURGH EH9 2 AS

JULY 1979

#### 1978 MEETING AT DORNOCH

The meeting was held on 5-7 October and based at the Burghfield House Hotel, Dornoch.

#### GENERAL

On the evenings of 5 and 6 October wide ranging discussions were held on a variety of topics from the future of the Discussion Group to the presentations made by individual members.

Following up the discussions at the 1977 meeting at Ballochulish views of all members on the mailing list had been sought on the future of the Discussion Group and a clear majority of those responding had expressed their support for widening the remit of the Group to include discussion on all native woodlands in Scotland, while still maintaining a strong interest in the native pinewoods.

Richard Ogilvie gave an interesting account of his recent visit to Norway to study the maintenance of native Scots Pine forest by natural regeneration, under the guidance of the Norwegian Institute for Forestry Research. (Text included in this Newsletter).

Eric White described the results of a study of Scots Pine growth over Britain related to site factors.

Bob Bunce gave a preliminary account of the survey of Scottish Broadleaf woodlands being currently carried out by the Institute of Terrestrial Ecology on contract to the Nature Conservancy Council.

#### FRIDAY 6 OCTOBER

In the morning a visit was made to the AMAT NATIVE PINEWOOD. This is a NCR Grade 2 Site of Special Scientific Interest described in the Nature Conservation Review (Vol 2 p. 113) as follows:-

"This wood lies at 105-275 m on three sides of a low spur of Moine Schist lying between two main branches of the River Carron west of Ardgay. It consists of a mixture of Scots pine and birchwood occurring over mainly fairly acidic soils, but with richer brown earths in flushed places. Most of the bigger blocks of pine have been felled in recent years, and the remaining woodland is predominantly birch. The climate in this part of East Ross is rather similar to that in the Affric-Cannich-Strathfarrar pine and birch woods, ie mid-way between the extreme oceanicity of Loch Maree and the more continental conditions of the Cairngorm flanks (the other two important pinewood areas). There is thus only a moderate representation of Atlantic plants.

The pinewood has a few areas of fairly old trees, and the field layer varies as usual from the Vaccinium-moss type where the shade is heavy, to the more prevalent Calluna-moss type where the canopy is more open (the moss layer may be dominated either by Sphagnum quinquefarium or hypnaceous species). There are also stands of bracken and flush bogs with Sphagnum spp and grasses. Pine regeneration appears to be very sparse in the older stands. The birchwood is extensive and is mostly of the type with a grass-Vaccinium field layer containing a moss carpet. On rocky slopes, especially with a northerly aspect, the mosses become dominant, and form luxuriant cushions, but there are fewer oceanic liverworts and ferns than in most western birchwoods, such as that at Strathbeg, Sutherland."

The section visited is the major block of pine in this area, though cutliers of varying size occur in the Alladale areas to the west.

The main stand is on the south-facing slopes. To the SE a number of flushes run

through the wood, and the margins of these are dominated by birch. To the north the steep valley side overlooking Strath Cuileannach consists of almost wholly mixed deciduous wood.

Much of the main pine stand was felled (1964) and has subsequently been replanted, mostly with exotics, though fragments of the old wood survive.

There is virtually no natural regeneration in the wood though seedlings are obviously present. The deer pressure in this area is severe. Red, Roe and Sika are all present, the latter in high density.

The owners are keen to ensure survival of the resource and it is hoped that using FC and NCC grants, planting of indigenous seed and fencing to encourage regeneration will soon be undertaken.

On the Friday afternoon a visit was made to the MOUND ALDERWOODS NATIONAL NATURE RESERVE and the nearby TORBOLL WOODS SSSI.

The MOUND ALDERWOODS, an NNR and NCR Grade 1 site is described in the Nature Conservation Review (Vol 2, p 110) as follows:-

"In 1816 an embankment (called the Mound) was built across the head of Loch Fleet. This sealed off an expanse of estuary which became colonised by alder and willow to form the present mixture of dense alder carr and open fen. The few ridges, which have probably always stood above the highest tides, have an open growth of Scots pine with a dry type of field layer. Apart from a few cattle and deer, little disturbance occurs. The alderwoods have dry and swamp facies and Salix atrocinerea is locally plentiful in both. In the former Deschampsia cespitosa is most abundant with Juncus effusus locally dominant. Other characteristic

species include Carex remota, Agrostis canina and Holcus lanatus, but in general this type is species-poor. The swamp alderwoods have a much richer field layer with many herbs (including some hydrophytes) such as Senecio aquaticus, Hydrocotyle vulgaris, Galium palustre and Filipendula ulmaria. The vegetation of the swamp is mainly a mesotrophic fen, dominated by Carex nigra, or locally by Eleocharis palustris, and containing an abundance of Potentilla palustris, Galium palustre, Succisa pratensis, Pedicularis palustris, Eriophorum angustifolium and Juncus articulatus. 'Brown' mosses are well represented and form a carpet in places. There are no rarities present, but Carex serotina is a local species. In less frequently flooded and less basic situations there is more acidophilous mire community with Myrica gale, Molinia caerulea, Hydrocotyle vulgaris, Carex echinata and Ranunculus flammula.

Towards the embankment, conditions become brackish and halophytes appear in the fen vegetation, and there are a few residual patches of salt marsh just inside the Mound. The area is of ornithological interest, especially when considered in conjunction with the adjoining estuarine Loch Fleet, which is an important winter wildfowl haunt."

As mentioned above the area was formed by the construction of the Mound embankment in 1816 shutting off all but a small amount of saline water. The woodland invaded, but seems at present to be in a situation of regression with dieback of both alder and willow. Nearer the coast alder scrub is at present finding difficulty in surviving in an area where a crop of mature Scots pine was felled some 30 years ago.

There seems to have been, according to local accounts, a gradual wetting of the area, with higher water tables probably contributing to the changing ecology.

TORBOLL WOODS adjacent to Mound Aderwood, consists of mixed deciduous trees (birch, hazel, oak, wych elm, rowan, bird cherry, willow and aspen) which tend towards the stunted forms more common further north. The age structure is diverse unlike most woods of its size in the area, and a rich ground flora is present. The gorge of the Allt Loch Tarvie is particularly important. Though north facing no pine is found here.

At present the wood is lightly to moderately grazed by cattle and sheep from the Torboll crofts and by deer. Management to encourage regeneration (e.g. limited fencing) may be necessary.

#### SATURDAY 7 OCTOBER

In the morning the Group visited the MONADH MORE NCR Grade 1 Site of Special Scientific Interest on the Black Isle and, in the afternoon the nearby DRUMMONDREACH OAKWOOD nature reserve of the Scottish Wildlife Trust.

The MONADH MOR is a Nature Conservation Review Grade 1 Site of Special Scientific Interest. Its description in the NCR (vol. 2, page 242) is as follows:-

"The Monadh Mor originated as a zone of glacial deposition which developed numerous deep channels. The area now supports a complex of pine woodland, mires and large oligotrophic ponds more akin to the Scandinavian wooded bogs than anything else in Britain. Most of the mire communities are associated with the valleys within which local conditions depend on the extent of hydroseral succession. Some of the deeper channels retain open water but most are now dominated by oligotrophic swamp communities. The site includes a pine-grown raised-mire with Sphagnum filled hollows set in a dry facies of raised mire vegetation dominated by lichens.

The gentle morainic ridges are largely covered by Scots pine, with a ground

layer of Vaccinium myrtillus, Calluna, Empetrum nigrum and a fairly continuous and varied bryophyte carpet including Sphagnum rubellum, Pleurozium schreberi, Hylocomium splendens, Hypnum cupressiforme and Aulacomnium palustre. Lichens, especially Cladonia impexa, are also abundant.

Several species of duck breed in the area, beside waders such as curlew and redshank. The woodland avifauna includes crested tit and capercaillie, and roe deer are numerous."

Although this area was not among the native pinewood sites listed by Steven and Carlisle there is good evidence that the present pinewood formation that characterises much of the area is at least semi-natural.

The important SWT oakwood reserve at Drummondreach is described as follows in the NCC's prospectus for nature conservation within the Moray Firth Area:

"This oakwood is of great botanical importance and is the only one of its kind in the Moray Firth. It is quite different from the Ledmore Wood and has a much richer ground flora. It is also little grazed and is thus more valuable since most wooded sites in the area are subject to fairly heavy grazing.

The main oak wood has a mossy floor with common bent grass and wavy hair grass. Honeysuckle is abundant. The oak trees are mature and there are many seedlings and saplings but few trees of middle age. Birch forms a major part of the understorey with trees of all ages present as well as seedlings and saplings. Other trees and shrubs forming the understory include alder, elder, hazel, gean, blackthorn, broom, whin and juniper. Oak woodland forms the major part of the site but there is to the south-west an area of beech with some very substantial trees and a much poorer

ground flora. There is little regeneration here although beech seedlings occur elsewhere within the wood. A small area of ash occurs and ash seedlings and saplings occur abundantly throughout the wood.

One interesting feature is a dense thicket of bird cherry and there is plenty of willow. The flora is interesting and includes some rarities. Moschatel grows in the banks of the burn valley which cuts through the middle of the wood and there are fine spring carpets of wood anemone and lesser celandine. Common enchanter's nightshade, chickweed wintergreen, common cow wheat and the hard shield fern also occur. The wood is not wholly natural but is almost certainly on the site of an old oakwood. Some unselective felling takes place during the winter but the wood is very well preserved and is one of the most valuable woodland sites in the Moray Firth area."

#### SCOTS PINE REGENERATION IN NORWAY

R OGILVIE  
(Fountain Forestry)

Following my paper on 'Forest Systems Applied to the Management of Native Pinewoods' in last year's Newsletter, I visited Norway where under the guidance of the Norwegian Institute for Forest Research I looked closely at their experience in the maintenance of native Scots pine forest by natural regeneration.

The original paper suggested a group selection system for our native pinewoods, which would use existing and felled groups as a basis for natural regeneration.

The total area of groups felled and regenerated each year being the total forest area divided by the years of the rotation.

The attraction of this system is that it is based on silvicultural techniques, but provides a situation where there is minimal interference in the trees natural response to its environment. Trees can regenerate naturally within the groups, and as the removal of trees was done by area there is no human bias from the conscious selection of seed trees.

However, the subtleties which influence the outcome of natural regeneration are not yet fully appreciated, and the visit to Norway was made to tap the depth of their experience, and gain a fuller understanding of the salient factors.

Naturally, it is unwise to make direct comparisons between two countries of differing geography, but the international variations are no greater than variations within our own country, and it is axiomatic to assume that factors which have an effect on the course of natural regeneration in Norway, will have a similar influence on Scots pine anywhere.

The detailed trial plots studied are in Eastern Norway near Elverum, on glacial gravels, Rainfall 600 mm per annum, surface vegetation moss lichen association with Calluna and Vaccinium species.

The crop was mature Scots pine between 150 and 200 years old.

The trials were initiated in 1966 when the crop density was reduced from 400 per ha to 140 ha. From an average pre felling production of 8 cones per tree, this increased to a peak of 420 cones per tree in the fourth year after felling, and was still 200 per tree five years later.

Seedfall rose from an average of four seeds per square metre in the year of felling, only 40% of which were viable, to 270 per square metre 4 years later, 65% of which were viable.

In parallel with the rise in seed production, the numbers of seedlings rose from 6000 per ha at the time of felling to 31000 per ha by the year following the peak in cone and seed production.

A bonus came in the enhanced increment of the seed trees. From a pre felling diameter increment of 1.6 mm pa, this rose to 3.2 mm pa average for the ensuing 10 years, and from graphic projection will not drop to its pre felling level until 15 years after cutting.

The effects of the seedling felling were much enhanced by fertilising, nitrogen being applied as ammonium nitrate. In the trials 150 kg/ha were applied to part of the felled area. Cone production was 71% higher in the peak year over the unfertilised areas, and remained at 33% higher for a further 5 years.

Whereas in fertilised sites the number of seedlings rose from 6000 per ha at time of the seedling felling to 31000 per ha, where nitrogen was applied this rose to 42000 per ha.

In addition, where tree diameter increment rose by 200% following felling, on the fertilised site increment rose by 256% the period of enhanced increment remaining around 15 years.

As well as measuring the quality and quantity of seedfall, the trials included testing the effect of surface conditions. In summary they have demonstrated that regeneration is most successful on exposed interfaces between the humus layer and mineral substrate.

In the years in which cone production and seedfall peaked, the percentage of viable seeds which produced seedlings ranged from 49% to 32% on small mattock screef whereas on undisturbed sites only from 2.5% to 0.5%.

Of these, 75% of the seedlings on the screef sites were surviving after 8 years, those on intact vegetation showed very few losses.

The indications from these results are self evident. However, the most significant lesson is in the fact that while trying different ways of regenerating our native pinewoods, little attempt has been made to actually assess the precise effects our



techniques are achieving.

It is important, yet relatively simple, to maintain funnel traps for seed, and monitor the levels of viable seed under our various systems.

With the knowledge of the availability, or lack of, viable seed, it quickly becomes apparent in which direction our efforts should be applied.

Trials of this sort are to be set up by Fountain Forestry and the results will be made available in due course.

COLEOPTERA COLLECTED AT MOUND  
ALDERWOODS NNR, SUTHERLAND, ON  
27 JULY 1972

R C WELCH

Although a recurring "slipped disc" prevented me attending the last Native Pinewoods Discussion Group meeting in October 1978, I had spent a couple of hours at one of the sites visited during that meeting, namely the Mound Alderwoods, in the company of Dr M G Morris, in July 1972. Receipt of the draft of F A Hunter's report on wood-boring and fungus-feeding beetles which he recorded from the five localities visited prompted me to sort out my material and determine those specimens which had not been identified. Dr M G Morris provided me with details of the four species of weevils he collected which included two additional to my own records. The following combined list comprises 58 species of Coleoptera most of which are common, widely distributed species, although many are characteristic of marshy areas.

Two species of Elmidae were collected by sweeping or beating sallow. Species of this family are essentially aquatic and are more commonly collected from the undersides of stones etc on the beds of flowing water. However, Holland (1972) describes how the final instar larvae leave the water to pupate in the banks between June and September. It is thus possible that the specimens I collected were newly emerged

and/or a dispersing element of the population. Holland provides distribution maps of all British Elmidae and both these species are widely recorded from as far north as the Orkneys.

The record for Phalacrus substriatus slightly extends its known range in Britain. Thompson (1958) records this species on smutted Carex spp, and in the flowers of Narthecium ossifragum (L.) Huds. from 7 English, 2 Irish and 6 Scottish counties as far north as Inverness, Banff and Aberdeen. Although Joy (1932) regarded Telmatophilus caricis as common, he only recorded it from southern Scotland, and this may well prove to be its most northerly record to date. Six species were recorded on a dead roe deer, including the phytophagous weevil Phyllobius pyri which must have dropped off an overhanging branch. Leptusa norvegica was added to the British List by Last (1951) and, although recorded from England and Scotland, it is more common in the north.

Nomenclature in the following list follows Kloet & Hincks (1977).

#### REFERENCES

- Holland, D G (1972). A Key to the larvae, pupae and adults of the British species of Elminthidae. Freshwater Biol. Ass. Sci. Publ. No. 26, 58 pp.
- Joy, N H (1932). A Practical Handbook of British Beetles, 2 vols, London.
- Kloet, G S & Hincks, W D (1977). A Check List of British Insects, 2nd Edition: Coleoptera and Strepsiptera. Handbk. Ident. Brit. Ins., 11(3), R. Ent. Soc. London, 105 pp.
- Thompson, R T (1958). Coleoptera: Phalacridae. Handbk. Ident. Brit. Ins., 5, Pt. 5(6), 17 pp.

CARABIDAE

Bembidior (Metallina) properans Steph. single specimen on mud in dried-up pond.

Agonum gracile Sturm single specimen under bark of dead Alnus.

DYTISCIDAE

Hydroporus memnonius Nicol. 11 among aquatic plants in dried-up pond.

H. obscurus Sturm single teneral specimen in dried-up pond.

HYDROPHILIDAE

Cercyon atomarius (F.) single specimen in deer dung.

C. haemorrhoidalis (F.) 4 in deer dung.

C. unipunctatus (L.) single specimen in deer dung.

Cryptopleurum minutum (F.) single specimen on dead roe deer.

HYDRAENIDAE

Limnebius truncatellus (Thunb.) 1♂ 1♀ at roots of water plants.

SILPHIDAE

Thanatophilus rugosus (L.) single specimen on dead roe deer.

STAPHYLINIDAE

Stenus clavicornis (Scop.) 1♀ at roots of water plants.

S. juno (Pk.) 1♀ by general sweeping.

S. pallitarsis Steph. 1♀ by sweeping near ox-bow lake.

Philonthus fimetarius (Gr.) 1♀ at roots of water plants.

Lordithon trinctatus (Er.) single specimen by general sweeping.

Tachinus signatus Gr. single females by general sweeping and on dead roe deer.

Leptusa norvegica Strand 1♂ under bark of dead Alnus.

Boreaphila islandica (Kr.) 1♀ on mud in bottom of dried-up pond.

Atheta (Philhygra) melanocera (Th.) 1♂ 3♀♀ by general sweeping.

A. (Mocyta) fungi (Gr.) 1♀ by general sweeping.

A. (Acrotona) aterrima (Gr.) 1♂ on deer dung.

A. (Acrotona) parvula (Mann.) 1♀ by general sweeping.

A. (s.str.) graminicola (Gr.) 1♂ 2♀♀ at roots of water plants.

A. (Dimetrota) atramentaria (Gyll.) 2♀♀ on deer dung.

Oxytoda elongatula Aubé 1♀ on mud in bottom of dried-up pond.

Aleochara lanuginosa Gr. 1♂ 1♀ on deer dung.

SCARABAEIDAE

Aphodius sphacelatus (Pz.) single specimen on dead roe deer.

SCIRTIDAE

Cyphon coarctatus Fk. 1♂ 1♀ by general sweeping.

C. ochraceus Steph. 1♂ 3♀♀ by general sweeping; 2♀♀ among vegetation in bottom of dried-up pond.

C. padi (L.) 1♀ by general sweeping.

ELMIDAE

Elmis aenea (Muell.) 2 beating low branches of Salix.

Oulimnius tuberculatus (Muell.) single specimen sweeping near ox-bow lake.

ELATERIDAE

Selatosomus incanus (Gyll.) single specimen by general sweeping.

CANTHARIDAE

Rhagonycha testacea (L.) single specimen by general sweeping.

Malthodes guttifer Kies. 3♂♂ 4♀♀ by general sweeping at different sites including near ox-bow lake.

CLERIDAE

Necrobia violacea (L.) 4 on dead roe deer.

NITIDULIDAE

Brachypterus urticae (F.) 2 on nettles near railway.

CRYPTOPHAGIDAE

Telmatophilus caricis (Ol.) 1♀ by sweeping near ox-bow lake.

Micrambe vini (Pz.) single specimen beaten from Ulex.

PHALACRIDAE

Phalacrus substriatus Gyll. 1♂ by general sweeping.

COCCINELLIDAE

Coccidula rufa (Hbst.) single specimen in bottom of dried-up pond.

SCRAPTIIDAE

Anaspis rufilabris (Gyll.) 2♂♂ 4♀♀ on flowers of Umbelliferae near railway.

CHRYSOMELIDAE

Plateumaris sericea (L.) single specimen in bottom of dried-up pond.

Prasocuris phellandrii (L.) single specimen at roots of water plants.

Phyllodecta vitellinae (L.) single specimen by general sweeping.

Galerucella nymphaeae (L.) 3♀♀ by general sweeping.

Phyllotreta vittata (F.) 1♂ by general sweeping.

Longitarsus suturellus (Duft.) 1♂ 2♀♀ by general sweeping.

Crepidodera transversa (Marsh.) 1♀ by general sweeping.

#### APIONIDAE

Apion (Perapion) curtirostre Germ. recorded by Dr. M.G. Morris by general sweeping.

A. (Perapion) violaceum Kirby single specimens by general sweeping at two different locations; also recorded by Dr. M.G. Morris, sweeping Rumex sp.

A. (Exapion) ulicis (Forst.) 2 beaten from Ulex.

#### CURCULIONIDAE

Phyllobius pyri (L.) single specimen on dead roe deer.

Hypera plantaginis (Deg.) single specimen by general sweeping.

Dorytomus rufatus (Bed.) single specimen beaten from Salix.

Notaris acridulus (L.) recorded by Dr. M.G. Morris by general sweeping.

Gymnetron beccabungae (L.) by general sweeping; also recorded by Dr. M.G. Morris.

#### SCOLYTIDAE

Phloeophthorus rhododactylus (Marsh.) single specimen beaten from Ulex.

R. Colin Welch

February 1979

