trip included interesting records of ferns, a stand of old juniper trees and a number of rare flowering plants including the lesser butterfly orchid (*Platanthera bifolia*), the frog orchid (*Dactylorhiza viridis*), lesser twayblade (*Listera cordata*) and starry saxifrage (*Saxifraga stellaris*) (Anon, 1880).

Most of the ferns including beech (*Phegopteris connectilis*) and oak ferns (*Gymnocarpium dryopteris*) were still present though no sign could be found of adder's tongue fern (*Ophioglossum vulgatum*) and moonwort (*Botrychium lunularia*). Sadly none of the rare flowering plants was found though the northern marsh orchid (*Dactylorhiza purpurella*) was a welcome addition to the species lists. Like so much of our local upland grassland the area around the Touch reservoirs has suffered from heavy grazing by sheep which has disastrous effects on the flora.

The junipers (*Juniperus communis*) which were considered ancient 130 years ago were still present (Plate 5) though there were significant numbers of dead stumps. At a distance these plants look like 1-3 m high vigorous young bushes. Closer examination reveals that many are very old with the tufts of green vegetation growing from the ends of 2-3 m long horizontal trunks concealed beneath bracken litter.

The earliest record we have of junipers at Touch is 1831 (Forrest, 1831) and it seems quite possible that some of the current trees survive from this period. A number were found with trunk diameters of 35 cm and it was hoped to use knowledge of the annual growth increment to date them. Counts of the annual rings in sections of 15 dead side branches revealed that the growth rates were too variable to be particularly useful. For instance the age of branches with diameters between 10-11 cm varied from 39-108 years (Plate 5).

Juniper has been selected as a 'Priority Species' in both the UK and Stirlingshire Biodiversity Action Plans so further trips were made to survey this Touch population. The 217 juniper trees on this 150 hectare site were mapped using Global Positioning System receivers and found to be largely restricted to steep sided north facing burn sides and small cliff faces created where a layer of harder basalt outcrops on the escarpment sides. Measurements of the lengths of a sample of 130 trees showed that this was an ageing population with little regeneration. Only 32 seedlings (ie plants <30 cm) were found on the entire site and 72 % of trees were classified as old ( ie >2-3 m long). Where they were present the fleshy cones (berries) on the female trees seemed to contain quite good numbers of seed. Of the seedlings 24 were within areas fenced to exclude sheep and the rest were on rock crevices which were inaccessible to them. All the seedlings were found within 7 m of a cone bearing female tree and all were on very shallow soils less than 2 m from bare ground (Basely, 2006). Both these findings are completely consistent with Ward's generalisation (Ward, 2004) that juniper seedling establishment is very intolerant of shading and very susceptible to winter sheep and deer grazing. During the study period a bracken fire killed a number of these venerable old

trees, an additional significant factor in the dynamics of local juniper populations.

Juniper is very scarce in the Central Belt south of the line of the rivers Forth and Allan although large colonies can be found further north particularly around Comrie (Forbes and Proctor, 1986). Although our surveys are far from complete we have only found a few other junipers on the Gargunnock Hills, two near the falls on the Gargunnock Burn (NS 709 927) and others at the Spout of Ballochleam (NS 652 900). So far only one plant has been discovered in the Ochils on the walls of Glen Tye (NN 8348 0198) though they are being widely planted in the Woodland Trust's new forest in Glenquey. One would have to agree with Ward's conclusion *In the West Central Belt of Scotland juniper is rare with practically no regeneration. Its status is therefore precarious, although the decline is from a low base. Intervention is necessary to conserve and expand all juniper populations.*

Juniper berries are used as a spice in a wide variety of culinary dishes but are best known as the primary flavoring in gin. The wood's highly aromatic smoke is used to preserve fish, game and ham and could have been kept on the Touch estate for these purposes. According to Mabey (1996) *The oil distilled from juniper has an ancient reputation as an abortifacient (which may have echoes in the Victorian belief in gin for the same purpose). In Lothian in the medieval period, giving birth 'under the savin tree' (savin is an alterernative name for juniper) was a euphemism for a juniper provoked abortion.* In some versions of the famous ballad the *Four Maries*, Mary Hamilton, who according to the legend had conceived the king's child, unsuccessfully attempts an abortion:

> She's gane to the garden gay
> To pu of the savin tree;
> But for a' that she could say or do,
> The babie it would not die.

**Records from Vice County 87**: *VC 87 (or West Perth) includes the western end of the combined Victorian Counties of Perthshire and Clackmannan as well as half the modern county of Stirlingshire. It covers the watershed to the north of the Forth from Loch Lomond in the west to Culross in the east. The BSBI recorders for the area are Liz Lavery (*contact: lavery@carnbo.freeserve.co.uk*) Jane Jones and Paul Stanley.*

The Early Marsh Orchid: An attempt was made by the group to re-locate colonies of the early marsh orchid (*Dactylorhiza incarnata*) from past records (Table 2). This beautiful orchid (Plate 6) in its common form is easily identified by its characteristically flesh coloured flowers (hence its specific name). In addition it can be distinguished from the other local spotted orchids because the main petal or labellum of the flower is folded back from the midline and the two lateral sepals are held vertically as if it is holding its arms up in surrender (Plate 6). The tips of the upper leaves are keeled and hooded at the tip like the prow of a boat. Colouration can vary from pale pink to magenta and