# Centre News

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www.offwell.info
National Grid for Learning

*Centre Director's Report - Autumn 2004*

## Autumn Opportunities

Autumn is a time of opportunity. The seasonal change marks the ending of summer, but this does not mean that either the wildlife or activities at the Centre reduces.

For example, there is still plenty of time to see some of the Centre's wonderful dragonflies. As spring changes to summer and autumn arrives, different species of dragonflies and damselflies can be seen.

If spring is marked by the appearance of iridescent Beautiful Demoiselle damselflies then autumn is remarkable for dragonflies such as the Southern Hawker dragonfly. These large dragonflies are strong fliers and remain active on warm autumn days, even if it is overcast. They can be seen around the lake and the many ponds which are at the Centre, hunting the insects which frequent these areas. The green males with their abdomens marked with delicate light blue, also patrol their territory waiting for a female to come to the water to breed.

Whilst they hawk up and down their chosen flight path hunting for insects, they keep a watch for any marauding male. Woe-betide the intruder, as the resident male will immediately intercept the interloper and it is not at all uncommon to hear the noise of physical impact as the insects collide. The winner claims the territory - for the moment!

However, if the intruder turns out to be a mature female Southern Hawker, mating takes place. This typically lasts for seconds and the partners then split up and go their separate ways. The female will now lay her fertilised eggs. Unusually for British dragonflies, this may not be in the water but alongside it, in a rotting stump or the bank-side. On one occasion I even observed a female laying in the stonework of the outlet to Monument pond. From these unlikely places, the larvae must find the water where they will spend several years, before emerging one summer to complete their life cycle.

The first autumn frosts will put an end to the Southern Hawkers until next year. However the Common Darter dragonfly may yet be seen, as they are more

*This autumn, look out for Southern Hawker dragonflies.*

hardy and can survive a light frost. Even as late as December, it is not unusual to see the remaining worn specimens sunning themselves on the southern edge of the 50 acre reserve which makes up the Woodland Education Centre.

Autumn is of course synonymous with fungi. This is because of the large number of fruiting bodies which appear as mushrooms or toadstools at this time. Throughout the year, the main part of the fungus exists beneath the ground, within rotting wood or in the leaf litter, as fine thread like strands known as hyphae. It is remarkable to think that as one walks through the Centre there are thousand and thousands of miles of fungal hyphae beneath one's feet. Indeed, just one gram of soil can contain hundreds of metres of fungal hyphae.

So far, about two hundred species of fungi have been recorded at the Centre. They play a vital part not only in the recycling of nutrients but also in benefiting plant growth.

This occurs when the fungal hyphae form an association with the roots of various plants. These associations are known as mycorrhizae and they play an important role in plant nutrition. The plants are able to benefit from the extensive network of fungal hyphae to gain better access to nutrients such as nitrogen and phosphate. The latter can be especially difficult for plants to obtain directly from the soil. The fungi may also benefit the plant by conferring a degree of drought, pest or disease resistance. Plants may have

*A pupil from Trinity Hill primary school discovers a fungus!*

mychorrizal associations with as many as 15 different species of fungi. In return the fungi are able to gain access to carbohydrates from the plants, which they are not able to manufacture themselves.

Plants which form these associations with fungi therefore obtain a competitive advantage. Many of the plant/fungal relationships are species specific. This probably explains why the seedlings of a particular plant can grow successfully in a specific area, while the seedlings of other plants, which one might expect to grow in the same habitat, fare less well. To complicate matters further, there will also be competition between the soil fungi.

Anyone wishing to find out more about fungi should come to the Fungus Forays which are held at the Centre every autumn. These are organised by Offwell Environment Link (OEL) which is a local charity which actively supports the Centre.

For those with Internet access there is a comprehensive introduction to the ecology and different types of fungi on the Trust's website (www.offwell.info). The section which relates to fungi is in reality a separate website within the umbrella of the parent website. The parent contains 50 of such websites, each dedicated to a topic about Britain's natural history. During term-time about one million hits are received per month from schools, colleges and universities from throughout Britain and the rest of the world.

The autumn school visits to the Centre have included both 'A' level and primary schools. Two students from Axe Valley Community College are also doing project work at the Centre. One project is investigating the distribution of heather in the strips of the Heathland Restoration Project. Each strip receives differing management and consequently the establishment of heather varies. The other project is looking at nitrate levels in the stream at the Centre and at selected points down the Offwell valley. The results will be published on the website in due course.

Several moth evenings were held over the summer and will continue into the autumn. It is interesting to see how the species change throughout the year. Unfortunately the multi-trap event which was held in the village, was abandoned after a short while because of the wet weather. It will be held again next year.

*A wet moth trapping event was held in Offwell village.*

These moth evenings are an ideal time to use the Centre's bat detector to listen to the different species which live at the Centre. The detector turns the inaudible, ultra-sonic sounds which the bats use to navigate, into sounds audible to the human ear. Each species either transmits on a different wavelength or makes a series of subtly different sounds. The Johnston family from Wales have recently donated a professionally recorded and annotated CD of the sounds of Britain's bats. This will be invaluable in helping to identify the species at the Centre.

*Students from Colyton Grammar School learn about woodland ecology.*