

NATURE SOCIETY NEWSLETTER

Now including Bee & Mammal news

November 2018 Issue 22



NATURE SOCIETY
Making a real difference



AUTUMN

'The season of mists and mellow fruitfulness' a phrase that usually springs to mind when we mention autumn. A very visible sign of this season is the wonderful colour of the leaves. Why and how do they change and where do the different colours come from? Surprisingly the source of the colours depends on the species of tree.



Firstly, a little more about leaves. They are nature's food factories. Plants take water from the ground through their roots. They take carbon dioxide from the air. The tree then uses sunlight to turn water and carbon dioxide into oxygen and glucose. The way they do this is called photosynthesis. That literally means "putting together with light" A chemical called chlorophyll helps make this happen and gives plants their green color.

As the days get shorter, hormonal changes in the trees signal to "know" it's time to begin getting ready for winter. There is not enough light or water for photosynthesis. The trees live off the food they stored during the summer and begin to shut down their food-making factories. As the bright green fades away, we begin to see yellow and orange colors. Small amounts of these colors have been in the leaves all along. We just can't see them in the summer, because they are covered up by the green chlorophyll.

The bright reds and purples we see in leaves are made mostly in the autumn. In some trees, like maples, glucose is trapped in the leaves after photosynthesis stops. Sunlight and the cool nights of autumn cause the leaves to turn this glucose into a red color.



The brown color of trees like oak is made from wastes left in the leaves.

Some colour changes are also affected by the acidity of tree sap, producing a range of hues.



The changes in the weather also causes hormonal changes which trigger certain cells to 'cut' the leaves from the branches.

In the winter, food production slows down, so there is little to no use for leaves using up energy to produce food. Trees also lose water through pores in their leaves, so in the cold, dry months when water retention is critical, leaves prove to be inefficient.

If leaves remained on trees, the water in the leaves would freeze. Frozen solid, the leaves would die. That means when spring rolled around again, the tree would have nothing but dead leaves, so it would die as well. Hence, the cycle of losing and growing back leaves prolongs a tree's lifespan.



All about chemicals it may be but let's enjoy and make the most of Nature's Spectacular display.

LEAF LITTER

So, when the leaves have fallen are you one of those people who love to walk through them and kick them around? Those leaves are actually home to a wide variety of plants and animals!

Leaves, twigs and pieces of bark that have fallen to the ground make up leaf litter. This is an important component of healthy soil. This layer provides food,



shelter and nesting materials to a diverse array of creatures – birds use leaf litter to source nesting materials and find tasty insects to feed their young, amphibians and small mammals seek out hiding places in the leaves, some insect larvae overwinter in leaf litter, etc.

Most surprising are the vast numbers of small invertebrates, bacteria and fungi that call leaf litter “home.” Creatures like slugs, snails and millipedes feed on the litter and break it down into smaller pieces. Many of these are important invertebrates and microorganisms, including spiders, harvestmen, mites, springtails, sowbugs, pseudoscorpions, water bears, and other fascinating creatures you may not have heard of.



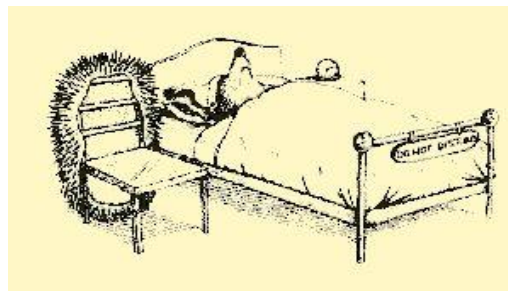
Worms, springtails, mites & pseudoscorpions.

Tiny organisms, including bacteria and fungi, then decompose the small pieces of leaf litter into soluble chemicals and minerals – nutrients that are recycled again and used as food by trees and other plants. The decomposers themselves also serve as food for other creatures. This “nutrient cycling” is essential to healthy woodland repeats itself again and again.

HEDGEHOG HIBERNATION

There have been a few sightings of Hedgehogs this year. Primarily around the cottage garden area. This of course does not mean that there not many others around which have just not been seen.

Autumn is also the time of year when our little prickly friends seek out hibernation.



Hibernation, however, is more than just sleeping for a long time. The hedgehog, to some extent, puts itself into a type of suspended animation. Hibernation begins for most hedgehogs in October or November. They can be seen wandering about, however right up until Christmas or even after, especially if the hog has not managed to collect enough food to see itself through the winter. They can also be upset by a warmer spell of weather and will wake up and perhaps go for a forage for food. With the climate changes and our warmer winters, many hedgehogs are not going into hibernation until well into January when the frosts & cold weather is at its worst.



Whilst the hedgehog is in hibernation, a number of odd things happen to it.

- The hedgehog stops being a warm-blooded animal since this uses up too much energy. Its body temperature falls to match that of the surrounding environment. However, the surrounding temperature must not be below freezing (the ideal temperature in the nest for successful hibernation is about 5° c) and if it rises too much, the animal’s blood flow will increase and start to use up too much stored fats.
- The hedgehog becomes cold to the touch.
- The hedgehog stops moving.
- The breathing stops for long periods of time
- The heart rate drops to around 20 beats per minute.
- Internally, the chemistry of the blood and the major organs all alter to avoid using too much of the stored fats.

So, in the hibernation state, the hedgehog’s body tries its best to conserve as much of the stored body fats as it can. In order to wake up the hedgehog needs to metabolise fat which warms the body and begins to get the blood flowing again. The hedgehog may help itself along by

shivering. This can all take from 1/2 to 1 hour to complete. Only then does the hedgehog have a normal body temperature and can again venture out into the world.

Obviously, successful hibernation depends a lot on the surroundings being of an acceptable temperature to allow the body to evenly use up the body fats. To achieve this, the hedgehog will have built a nest somewhere in the weeks leading up to it's hibernation. Hedgehogs do wake up every now and again though, usually due to a warm spell of weather or if, perhaps the nest has become water logged. Only at the start of spring will the hedgehog start to become fully active again.

IS HIBERNATION NECESSARY?

No, hedgehogs don't have to hibernate, Indeed the hedgehogs taken into care due to injuries or being under weight, do extremely well and are all the more fit and healthy for missing it. As mentioned before, hibernation is one of the most dangerous times for a hedgehog in the urban environment. In warm weather they have no problem finding sufficient food but as the weather gets colder the insects on which they feed, become scarcer and more difficult to find. The hedgehog can use up more energy looking for food than it gets from eating what it does find.



A hedgehog needs to weigh at least 600 grams in order for it to survive hibernation

If you find a hedgehog weighing less than this in the period between late September and early March, then it needs help. Bring it in and contact 01584 890801, British Hedgehog Preservation Society. They will give advice and local numbers for you to call.



Can you spot the hog?

Please be careful when out and about not to disturb too

much of the undergrowth and leaf litter, it may be a hog is sleeping there.

HogWatch 2018: When Did You Last See a Hedgehog? The Mammal Society Autumn Survey

Each year the Mammal society run a Hedgehog Survey which gives valuable information about the state of the UK's hedgehogs. To join in please visit The Mammal Society website, select Projects & Surveys, Get Involved. A very simple to use form even if you have not seen a hog or only dead ones. PLEASE HELP.

SPECKLED BUSH CRICKET

After reporting a sighting of one of these creatures last month a number of people have asked what on earth is it. Often when we think of crickets we picture quite a chunky, often ugly and scary brown insect. Well this guy is totally different and quite charming.



Male

The Speckled Bush-cricket is green with a covering of tiny black speckles, and an orangey-brown stripe down its back. It has a humpbacked appearance and very short wings. The female has a distinctive scimitar-shaped ovipositor. 10 - 20mm (plus 10mm ovipositor in the female)

They are herbivorous, feeding on a range of shrubs and other vegetation. The Speckled Bush-cricket prefers rough vegetation, scrub and hedgerows, and is also found in gardens. It can be seen perching on bushes, window ledges, flowers and leaves, particularly Bramble. Speckled Bush-crickets emerge as nymphs in May and moult into their adult form during later summer. Adults present from late July or early August until November. Most active at dusk and during the night, males call to attract females by rubbing their wings together, but their 'song' (a high-pitched 'chirp') is barely audible to human ears. Females lay their eggs in late summer in the bark of a tree or a plant stem; here, they overwinter, ready to emerge next spring.



Female (note the curved ovipositor)

The one found here was on a shelf in FB1. He was gently picked up and put outside under the buses. Very tickly in the hand he just jumped off when the hand was opened. When seen they tend to look quite fragile but are pretty sturdy especially if handled gently.

ANIMALS IN WW1



We all know that horses, dogs, pigeons etc were massively employed during the Great War. However, many wild animals were also used in incredible ways.

Probably the most common was as mascots or companions. This fox cub was famously photographed sitting on a plane with an RAF pilot.

SLUGS

By the time soldiers noticed the presence of mustard gas on the battlefield, it was often too late. It was discovered that slugs could detect mustard gas well before humans could. The slugs would visibly indicate their discomfort by closing their breathing pores and compressing their bodies, and soldiers in the trenches would quickly put on their gas masks to protect themselves from harmful levels of gas. The "slug brigade" ended up saving many lives.



GLOWORMS

One of the most unlikely nonhuman contributions to World War I was made by the European glowworm, which emits light through bioluminescence. Huddled in dank, dark trenches, enlisted men and officers alike turned to the incandescent insects for help, collecting them in jars by the thousands. These instant but ephemeral lanterns allowed soldiers to examine intelligence reports, study battle maps or simply read comforting letters from home.



According to a 2010 study, just 10 glowworms can provide the same amount of illumination as a modern-day roadway light.

THE NEXT NATURE SOCIETY COMPETITION

The last competition we had was Animalagrams and proved very popular. So, this time it takes the form of a Quiz and is a mixture of questions, anagrams, pictures, largest/smallest. books etc. Available from the office for £1 as usual all proceeds will go towards the Nature Societies wildlife charities. Please have a go it will run for the month of November so plenty of time to get in there.



Many boaters and lodge owners have families who live in more conventional dwellings with gardens. If they are planning a bonfire evening please make sure they are aware of the impact on wildlife. I know this sort of advice comes out every year but it is easy to overlook in the excitement of the event.

This is why the British Hedgehog Preservation Society urges people to only build their bonfires on the day it is to be lit, and to also check that there are no hedgehogs snuggled in what they believe to be a cosy pile of leaves.

Other animals, such as amphibians, could also take refuge in a pile of woody debris, so checking carefully with a torch is very important. Remember to that bonfires can remain hot for some time after burning, all threatening the wildlife in these areas.

Burnt-out tubes and cartons left over from rockets can trap animals. Spent wire sparklers and wire frames left over from Chinese lanterns are another potential hazard.

While always remembering our wonderful wildlife have a happy and safe bonfire night.

