

YounGnats Newsletter March 2016

Waking from hibernation

The first warm days of spring are a signal for many animals to awake from hibernation; but what is hibernation? Different species hibernate in different ways but basically it is the way some animals and insects survive the winter. Hibernation differs from sleep, as when you sleep your senses take a rest but your heartbeat continues as usual. During hibernation however, this slows down too, reducing energy needs so that energy supplies will last the winter.

As mammals are warm blooded which is called **endothermic**, they use energy to generate their own body heat. Of the British mammals that hibernate, the hedgehog is the best known. It hides in a nest of leaves, curled up. Its heartbeat falls from 190 beats per minute to just 20 and its body temperature falls from 35°C to 10°C, a drop that would normally kill it. This behaviour is known as **torpor**. The common dormouse also hibernates so by late October, it has retreated into its nest. Our 17 species of bat hibernate in caves, lofts, tree holes, and cavities, their respiration slowing to five breaths per minute. Most hibernating mammals will wake a few times over the winter, to nibble some food or move to a warmer nest.



Dormouse in a state of torpor

Reptiles and amphibians are **ectothermic**, which means they are cold-blooded, and rely on external warmth for their body heat. Hibernation in reptiles is called **brumation**. Snakes curl up in insulated frost-free dens such as compost heaps. Frogs, toads and newts, hibernate in sheltered places such as piles of leaves or rotting logs. Amphibians are able to absorb oxygen through their skin so some may even hibernate in the mud at the bottom of ponds. This can be risky though if the water is not sufficiently oxygenated or it freezes over completely.

Some insects and other invertebrates also survive winter by hibernating, including some species of butterflies. Brimstones may shelter in ivy and small tortoise-shells in a shed or outhouse. Earwigs can tunnel 1.4m below the ground, ladybirds cluster tightly in crevices and queen bumble bees burrow into earth banks. Other invertebrates pass the winter as eggs, larvae or pupae.

As spring starts, different species emerge from hibernation at different times. Unfortunately some will not have survived, if they did not put on enough fat in the autumn, or were disturbed during the winter. Waking from hibernation itself is risky too, as most species have to wait several hours for their body temperatures to rise, during which time they are vulnerable to predators, and some just don't have enough strength.

In February frogs start to emerge. Males make their way immediately to their breeding ponds and start croaking to attract females. On warmer days earthworms start to make their way up from their burrows deep underground. By March, brimstone butterflies can be seen on sunny days, males waking up first. Adders can also be seen basking in the sunshine to warm up. Hedgehog males awake in April shortly before the females, and can travel up to two miles a night in search of food and a mate. Pond skaters hibernate on land but return to the water in April to lay their eggs at the water's edge.

If you made our Minibeast Hibernation Home, <http://www.bnhs.co.uk/youngnats/to-do/make-a-minibeast-home/> now is a good time to gently tap the end of the tube onto a sheet of white paper to see what is inside. Be gentle with anything you find and make sure you return the creatures to the place you find them! Also if you have a hedgehog hotel in your garden perhaps put a bowl of meat based cat or dog food and some water close to it, to feed the hedgehogs as they come out of hibernation.

Hibernation word search

See if you can find the list of creatures, on the right, that hibernate hidden in the puzzle, the words are horizontal, vertical and diagonal.

W	J	L	U	T	T	H	W	O	H	Y	E	F	M	adder	
L	T	U	T	A	X	E	K	U	P	N	E	R	R	M	bat
B	Q	O	B	F	N	U	M	V	K	B	Q	I	O	P	brimstone
D	A	D	A	G	K	E	P	E	N	J	D	J	G	L	dormouse
X	O	X	P	D	C	K	W	O	A	D	D	E	R	V	frog
J	M	R	B	R	I	M	S	T	O	N	E	O	H	X	grass snake
U	R	D	M	G	R	A	S	S	S	N	A	K	E	L	hedgehog
O	U	L	Z	O	M	M	Z	S	I	Y	C	Z	D	F	ladybird
D	F	V	A	D	U	K	Z	T	Y	S	F	P	G	W	newt
P	V	T	E	D	M	S	J	Y	U	I	G	E	E	P	peacock
T	E	R	Z	Z	Y	D	E	R	F	E	K	A	H	D	red mason bee
H	N	C	L	J	W	B	Y	F	G	G	W	C	O	A	toad
Z	I	G	P	W	X	R	I	E	C	C	N	O	G	R	
M	E	H	E	L	A	W	K	R	O	G	L	C	U	J	
Z	V	C	Y	E	S	X	J	L	D	C	U	K	H	Z	

Have you been to one of our YounGnats events? The next one you may like to come along to is:

- Saturday 16th April – Pond dipping at Harrold Odell Country Park, 2 – 4pm meet at visitor centre car park MK43 7DS.

This event is FREE, why not bring along your friends.

You can also submit your records via the BNHS website at www.bnhs.co.uk using the Living Record facility.

See www.bnhs.co.uk/youngnats/ for more details and remember to sign up for email updates so you get the latest information.

Feedback

Dear parents, we would really appreciate some feedback on the 'family friendly' events and newsletters we have been producing to see if we can make any improvements. There is quite a wide age range of YounGnat members so although we appreciate that the activities will require assistance we wanted to try to ascertain if they are age appropriate and whether YounGnats are finding them interesting and enjoyable.

Please complete and return in the enclosed SAE.

1	Do you & your children find the newsletter interesting?	YES/ NO
2	Have you done any of the activities?	YES/ NO
2a	If YES what was your favourite and why?	
3	Were any of the activities not suitable (too difficult/ instructions unclear etc.)?	YES/ NO
3a	If YES, please give details.	
4	Have you attended any BNHS events advertised as 'family friendly'?	YES/ NO
4a	If YES what was your favourite and why?	
4b	Have any event times been unsuitable or activities not appealing, please give details.	
5	Are there any topics or activities you would like to be included in the newsletter in the future?	
6	If you have any other comments regarding YounGnats please write them below.	

Thank you for your feedback.