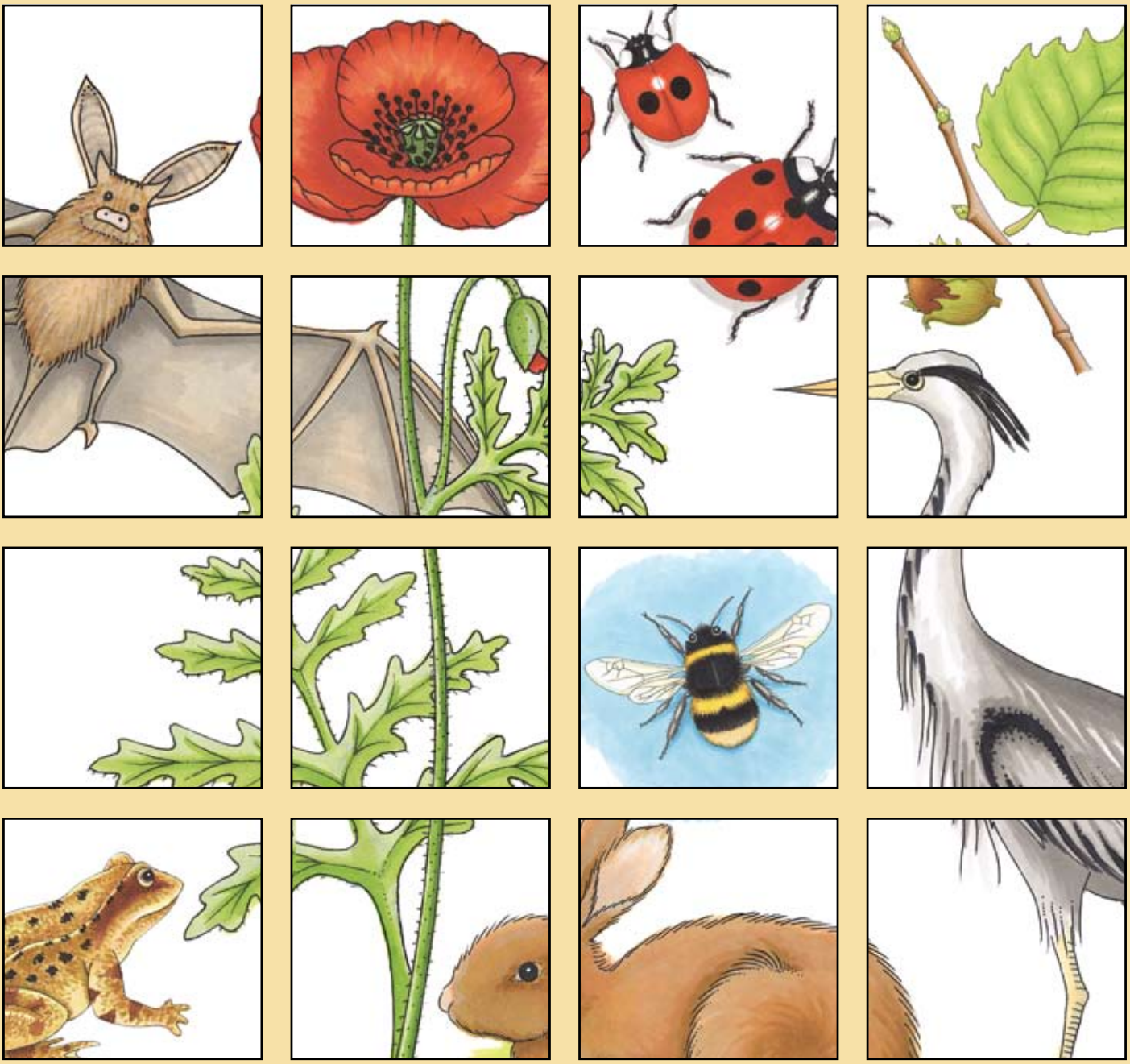
Wild Things at School

A book for Primary School Teachers



by

Éanna Ní Lamhna

Illustrations *by* Christine Warner

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An Chomhairle Oidhreachta
The Heritage Council

Dedication

I dedicate this book to my father — Peadar Ó Lamhna — who taught me in Fifth, Sixth and Seventh class in St Nicholas' Primary School in Stabannon in Co. Louth.

Foreword

Counties Laois, Meath and Monaghan have come together to develop this book for Primary School teachers called *Wild Things at School.*

"If only the kids learnt even three plants or animals each year . . ." This statement from the naturalist, author and broadcaster Éanna Ní Lamhna was picked up by us as the basis for this publication. We are delighted that Éanna agreed to write the book. With her usual style, flair and knack of picking out snippets of information, she has written fabulous thought-provoking accounts of all the plants, animals and creepy-crawlies identified for study in the book.

These accounts are well matched by beautiful illustrations from Christine Warner.

Connie Scanlon and James Fraher of Bogfire have brought it all together with their design.

The County Heritage Plans for each of our counties have actions relating to education and for building awareness of our heritage, including wildlife. The Heritage Council has co-funded this book with Laois, Meath and Monaghan County Councils.

We hope that this book will provide an opportunity for every child in Primary School to participate in a nature studies programme which helps them identify common plants, trees, animals, birds and creepy-crawlies. This will make it easier for them to take up ecology modules in the science programme in Secondary School, and help them to know their own local environment.

Our hope is that *Wild Things at School* will encourage children to develop a respect and love of nature that will stay with them all their lives.

We hope that you find it useful.

Catherine Casey, Heritage Officer, Laois County Council
Shirley Clerkin, Heritage Officer, Monaghan County Council
Loreto Guinan, Heritage Officer, Meath County Council

Acknowledgements

Full credit for this book must go to Catherine Casey of Laois County Council, who put it up to me to write a book which would be used to teach the basic plant and animal species to school children, instead of lamenting the fact that they did not know more than daisies and dandelions in Sixth Class. Thanks, too, to Shirley Clerkin of Monaghan County Council and Loreto Guinan of Meath County Council for enthusiastically supporting this project.

I must also thank the Primary School teachers of Ireland who have invited me into their classrooms over the last 35 years to talk to their pupils under such varied schemes as Heritage in School, the Ringo Project, or judging various school garden projects, or indeed as an inspector for trainee primary teachers. The interaction with their pupils has inspired me during the writing of the book.

I particularly want to thank Christine Warner, whose accurate and beautiful colour illustrations and line drawings have brought life so vividly to the words on each page.

I want to thank Connie Scanlon and James Fraher at Bogfire who have designed and laid out the pages of the book and made such a harmonious whole of the project.

My thanks also go to the sponsors — Laois, Meath and Monaghan County Councils and to the Heritage Council.

Finally, I would like to thank my husband, John Harding, who bore stoically the time filched from days off and weekends together, which I needed to complete the writing and proofreading. His reward will be great!

— Éanna Ní Lamhna, July 2009

Introduction

If you ask pupils in Junior Infants what wild flowers they know, they will tell you “daisies, dandelions and buttercups”. If you go into Sixth Class and ask the same question you will get the same answer. They know three species in infants and they know the same three eight years later. Yet, with no difficulty, they could learn two wild flowers every year, and a tree, and a mammal, and a bird and indeed a creepy-crawly. So, with relatively little effort, each pupil would leave Primary School knowing, recognising and realising the importance of 48 native Irish species. A co-ordinated effort on the part of their teachers would ensure this.

But how to do it? Which species to teach each year, where to find them, and what pupil exercises to carry out? How does the school ensure that each year the wildlife knowledge of each Class is built on and improved? How do the teachers find out themselves all about the chosen species? What practical work can they carry out with the class to ensure that the teaching is carried out to conform with the Living Things Strand of the Science Curriculum?

This book is the answer to such questions. The 48 species that every child should know are outlined in the following pages. Many of them occur in the school grounds (so the pupils can have firsthand experience of them); others are found in the hedgerows which may be round the school field or nearby. None are rare or endangered. The objective is that if pupils and teachers know all about common species, then they will be in a position to appreciate the value and importance of species that are less common and that require different habitats in which to live.

The book is divided into eight sections — one for each year of Primary School from Junior Infants to Sixth Class. The six species to be taught each year are described. The descriptions are all written for the teachers to absorb and then to teach to the class at whatever standard the class can learn. The “To do” section is geared however at the standard of the class being taught. The ideas are given and again the teacher uses these ideas to carry out the practical work in a way that suits their particular class.

When teachers have Planning Days to work out what the teaching schemes for the year will be, this book will be invaluable. Each year the six species listed for that class are taught. The teachers know what their class has been taught in earlier years and can revise and build on this.

So I look forward to the day in eight years time when I ask a Sixth Class what flowers they know and they can rattle off 16 species of wild flowers, complete with details of what they look like, where they grow and what folklore is attached to them.

Bainigí taithneamh as.

In the end we will conserve only what we love;

we will love only what we understand;

and we will understand only what we are taught.

—Baba Dioum, 1968

Taken from a speech made in New Delhi by the Senegalese Environmentalist Baba Dioum to the International Union for the Conservation of Nature (IUCN).

List of helpful publications

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Third Class

Robin-run-the-hedge

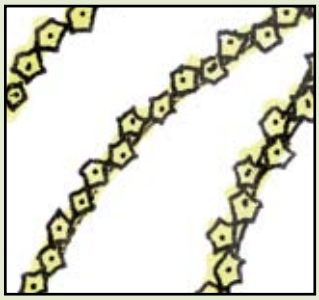
Nettle

Hawthorn

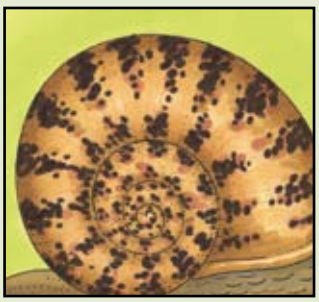
Frog

Swallow

Snail





Robin-run-the-hedge

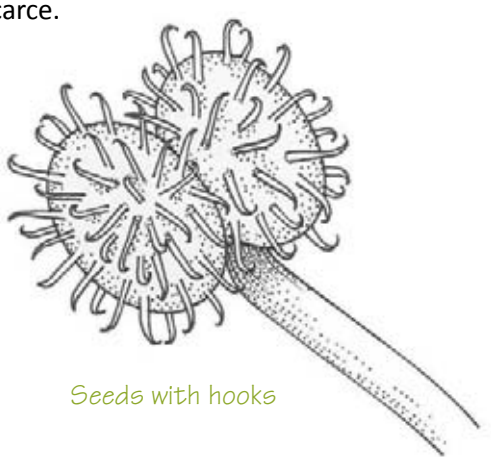
Latin name – *Galium aparine*
Irish name – *Garbhlus*

This is a very common hedgerow plant and one that children like very much when they become aware of it. It is an annual plant and grows anew from seeds shed the previous year. It springs up in April and thrives in shady places because it is able to climb up to the light. It can grow up to 2 metres high in the right conditions. It is able to do this because it is covered with minute hooks all over its stem and leaves and these allow it to stick to anything close by and climb up using it as support.

The stems carry the leaves in whorls of six to eight at regular intervals all along the stem. In June the flowers appear. These occur in tiny white clusters both at the top of the stem and at the leafy whorls along the stem. The seeds are carried in pairs of rounded green balls which occur where the flowers were. These little balls are covered in hook-like bristles that stick to anything that brushes against them. Any passing mouse, fox, bird — not to speak of humans in long trousers — gets thoroughly covered in these sticky balls which are groomed off later, thus spreading the plant.

This method of seed dispersal is particularly effective in wooded areas where there would be very little wind to disperse them. Close examination of the seeds or indeed the leaves with a magnifying glass is well worthwhile as the hooks can be seen. A Swiss naturalist — George de Mestral — did exactly that in 1948 when he noticed that these were all stuck to his clothes after a walk. He noticed the sharp hooks and decided that a fastener to rival a zip could be invented from this. After much trial and error he manufactured the hooks on a nylon strip and they connected to a soft fabric — and so Velcro was invented. The fastener was patented in 1955 — the name is a cross between crochet and velour.

The plant has many common names, goosegrass because it was fed to geese long ago, cleavers because it stuck — from the old verb to cleave — robin-run-the-hedge from the English magician Robin Goodfellow, sticky backs etc. All these folk names show how well known it was. The seeds were roasted to make “coffee” in the eighteenth century and the whole plant could be eaten — well boiled — as a form of spinach in early spring when fresh greens were scarce.



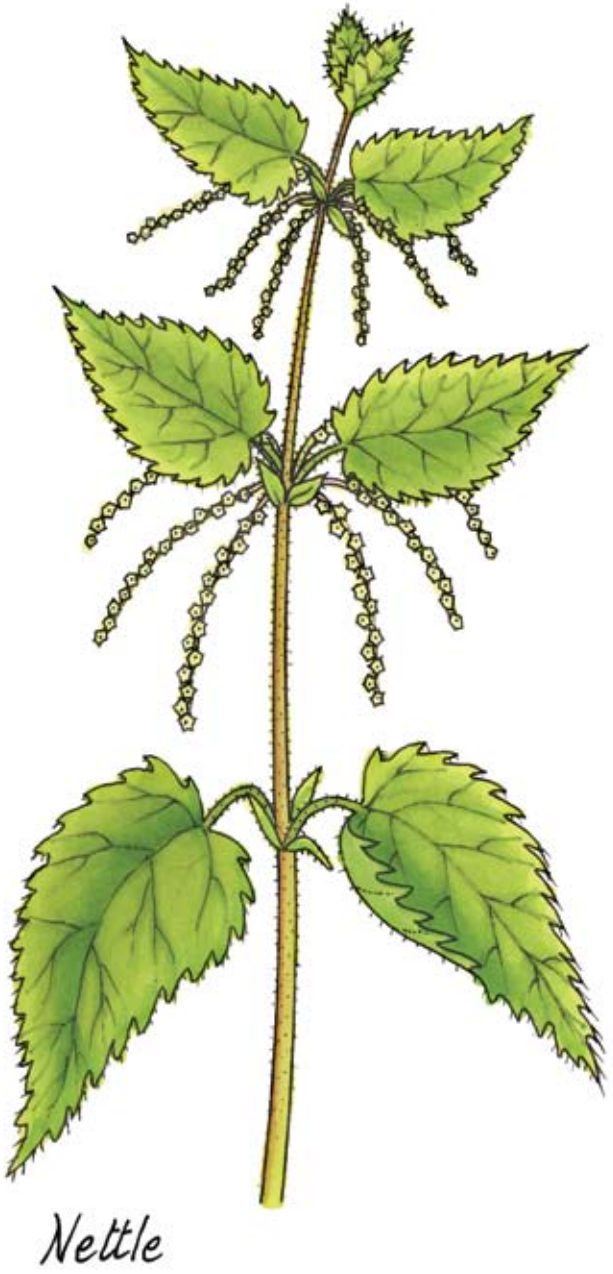
Seeds with hooks

To do with Third Class

- Bring the class out to look for robin-run-the-hedge in the hedge or in rough neglected areas. It should be there from April till the end of September. Show how it can stick to its surroundings and indeed to the pupils’ clothes. Gather the seeds when they form and plant in yoghurt pots in the window of the class and watch how quickly they grow as compared to flowers that are desired. Weeds always grow faster to get a competitive edge and this plant can be a scourge in cultivated gardens.

Nettle

Latin name – *Urtica dioica*
Irish name – *Neantóg*



To do with Third Class

- Read them the fairy tale — "The wild swans".
- Collect nettles and make nettle soup early in May. It is made exactly as spinach soup except well-washed, finely chopped young nettles are used instead. Go out and look for nettles in June or in September. Sweep a net on a long pole through them to sweep off whatever creatures are feeding on them. In June there should be lots of caterpillars, in September hordes of greenflies.

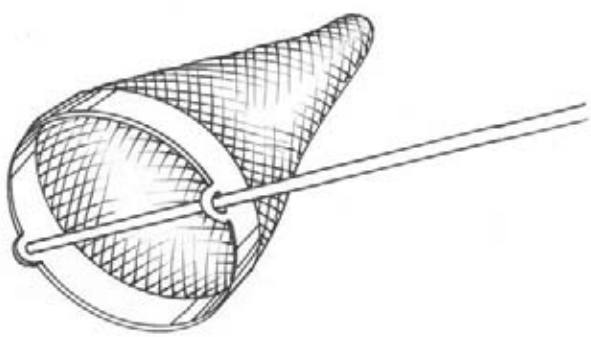
The nettle is a familiar plant to everyone — sometimes alas from the experience of getting stung by it. However it is a plant that has been highly valued in this country for hundreds of years. It first appears in early spring when the fresh green shoots are seen to emerge in ditches, hedges and waste places. It grows where the soil is rich in phosphate as it needs lots of this nutrient for growth. It can grow up to 100 cm high and can occur in dense clumps.

The leaves are opposite each other on a square stem and are covered with stinging hairs. The flowers are small and green and they hang down from the leaf axils in long spikes from June to September. There are separate male and female flowers and they are borne on different plants. There are no petals to attract insects nor indeed is there nectar to lure them in. The plant is pollinated by the wind which shakes the flowers and blows the pollen to other flowers. Seeds are formed singly and are shaken from the plants to germinate nearby, thus making the clump larger.

They are unpopular among the unwary because of their sting. This happens when they are touched lightly. The tip of the hair breaks off leaving a sharp spike that penetrates the skin and injects an irritating mixture of histamine and formic acid. It is widely believe that a dock leaf will cure the sting. Dock leaves usually grow nearby as they like soil rich in phosphate too but the relief they offer is because a large cool leaf is being applied to the stung area — a large damp tissue would give the same ease. If you grasp a nettle firmly however the hair is completely flattened and cannot sting. However, it was believed that nettle stings were good for rheumatism and inflamed joints.

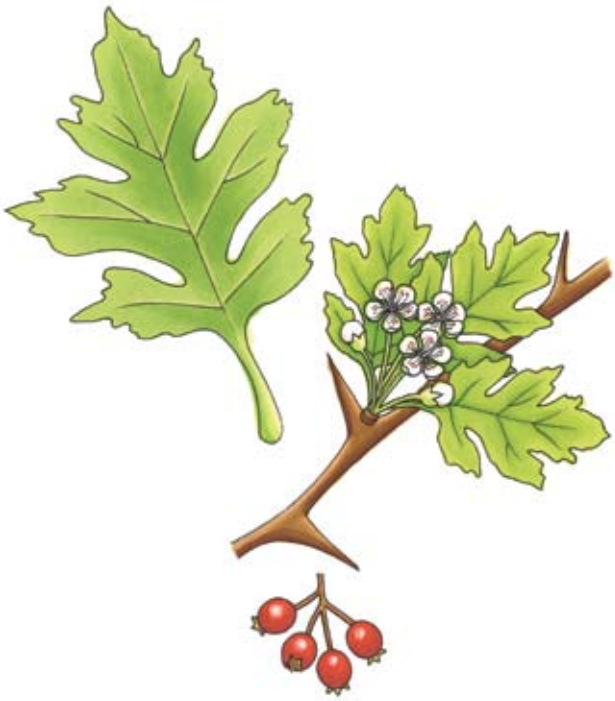
They are edible early in the year and were traditionally gathered (while wearing gloves!) to make a soup full of vitamins at a time of year when native vegetables were scarce. The stings disappear entirely in the cooking. The stalks contain strong fibre which used to be gathered, extracted and woven into cloth in Ireland since Bronze Age times. In the Hans Anderson fairy tale "The wild swans", the princess had to weave shirts from nettle fibre to restore her brothers from swans to humans.

They are wonderful food for insects as well. The caterpillars of small tortoiseshell and peacock butterflies love them as do lots of types of aphids.

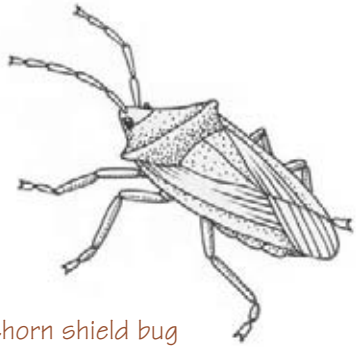


Hawthorn

Latin name – *Crataegus monogyna*
Irish name – *Sceach gheal*



Hawthorn



Hawthorn shield bug

To do with Third Class

- Read the book *Under the Hawthorn Tree* by Marita Conlon-McKenna.
- Bring the class out to find hawthorn trees in the local hedge. Study the tree throughout the year — noting when the leaves open, when the blossoms are out and what the haws are like. Gather haws and plant the stones to germinate new trees.

The hawthorn is also known as the whitethorn or the May bush. It is a native Irish tree and is found commonly in hedges all over Ireland. Leaves come on the hawthorn tree in the month of April. This is followed by bunches of creamy white, musky smelling flowers in May — the May blossom. These lovely flowers attract copious numbers of insects. The bees gather pollen and nectar from them and in doing so fertilise the flowers. By late summer the berries are beginning to form.

The berries are called haws and are bright red when ripe. Each berry contains a hard stone which is the seed. Hawthorns rely on birds to eat their berries in order that new hawthorn trees can grow. Birds, who have no teeth, must swallow the berries whole. They can digest the soft berry food surrounding the stone but the stone itself is too hard to be digested. They excrete the stone in their droppings and it then can germinate and a new hawthorn tree can grow.

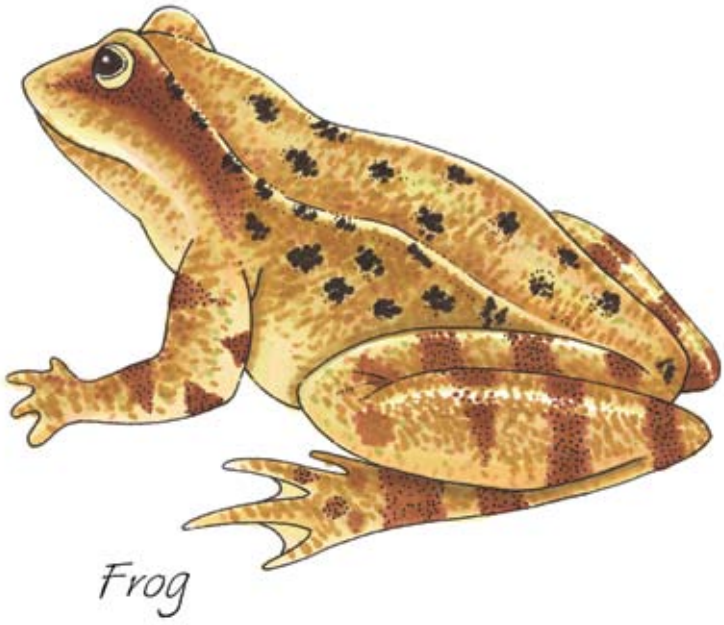
Hawthorns are small trees, which rarely grow taller than 15 metres high. Because they have thorny branches and adapt well to being trimmed and lopped, they are very frequently planted as hedge boundaries along the edges of fields. When kept trimmed and bushy they are good stock boundaries so many of our Irish fields are bounded with hawthorn hedges, and May blossom is a glorious sight at that time of year.

Hawthorn will also grow as lone trees too and there is a great deal of superstition attached to such trees. It is said that such trees were beloved of the fairies and that very bad luck would befall anyone who chopped one down. People believe this to this very day and are very reluctant to remove lone hawthorns. This bad luck also attaches itself to the flowers — it is believed that death will follow if they are brought indoors. The smell of the blossoms indoors is associated with the smell of dead tissue because actually the same chemical is present in both cases — so maybe the old wives' tale had something going for it! Hawthorn trees are also associated with holy wells. Offerings are often left on the trees and the water in the well taken for cures. Such customs go right back to pagan times two millennia ago.

Being native trees, hawthorns contain a great variety of insect life. In particular, the hawthorn shield bug is a common inhabitant and can easily be dislodged by shaking the tree into an upturned umbrella.

Frog

Latin name – *Rana temporaria*
Irish name – *Frog*
(No Irish name as frogs were introduced to Ireland around 1600)


Frog

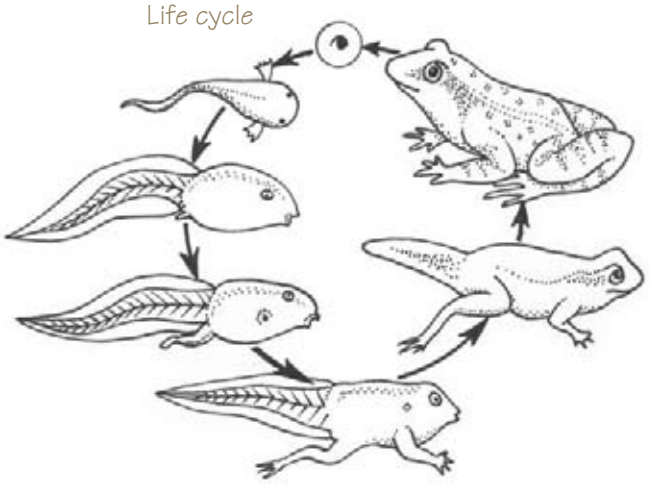
Frogs belong to the animal group amphibians. These are cold-blooded creatures that cannot control their own body temperature but are affected by environmental temperatures. Another distinguishing characteristic is that they are able to take in oxygen in two separate ways. They have lungs, which they fill with air which they inhale from the atmosphere. However when they are hibernating at the bottom of ponds in winter, they are able to absorb enough oxygen from the water through their skins to keep them going.

In February frogs wake from hibernation. Males hibernate at the bottom of ponds and females hibernate in separate quarters at the bottom of wet ditches around fields. These female frogs, upon wakening, hurry to the ponds where the males are encouraging their arrival with loud croaking. The females and males both enter the water where mating takes place. The male climbs on to the back of the female and holds her with his nuptial pad — a very well developed thumb. When she produces her eggs in a cloud into the water, he immediately squirts sperm all over them and fertilisation takes place in the water. The fertilised eggs swell up and float in a jelly-like mass called frogspawn. The couple then disengages and they go their separate ways. Frogs spend the rest of the year in wet fields and meadows and in gardens feeding on flies which they catch with their long sticky tongues. They never go back to the pond until hibernation time in October when the males return. The eggs are left to fend for themselves.

Meanwhile back in the pond, the black eggs in the transparent jelly become larger until they finally hatch out into tadpoles. These are completely aquatic creatures, with gills on their long tails and they get all their oxygen requirements from the water through these gills. They are carnivorous creatures and indeed if they are short of food will even eat each other as many the owner of a tank of frogspawn will testify. Frogs are protected under European legislation because they are scarce in Europe in general. However, they are not endangered in Ireland so a general licence has been issued to all Centres of Education in Ireland to collect and study frogspawn in class in tanks, etc., without individually having to apply for a licence to the National Parks and Wildlife Service.

Tadpoles slowly develop into small frogs, growing first their legs and then finally losing their tails. If they are kept in a tank the water must be changed regularly as a buildup of enzymes from the tadpoles prevents them from developing into frogs. They can be fed with fish food — daphnia — which is sold for goldfish. When they have all four legs and lose their tails, they will leave their watery environment and hop around grassy meadows catching food for themselves. In turn, they are food for birds such as herons.

Life cycle



To do with Third Class

- Note the date when first frogspawn is seen, to build up a series of records over the years. Bring in frogspawn to class (or into the school pond) and observe the stages of growth. Release the frogs back to the wild when fully grown.

Swallow

Latin name – *Hirundo rustica*
Irish name – *Fáinleog*

Swallows are Irish birds because they are born here in Ireland in summer. The nests are built from mud which both parents scoop up in flight as they fly over muddy ground in rural areas. They are lined with feathers which the swallows pluck from themselves. The cup-shaped nests are always built indoors in sheds and barns. (Mud nests fixed to the outsides of houses and on gables are built by a different bird — the house martin, swallows' nests are always indoors.)

The female lays three to six white eggs with red-brown speckles and they hatch after fifteen days. The nestlings are fed by both parents and are able to fly after 20 more days. They then fledge, leave the nest and don't return to it again. Swallows are carnivores. They feed on aerial insects which they catch in their large gaping mouths. They cannot eat anything else so as the days shorten after the equinox in September, they gather in colonies on telegraph wires and suddenly all fly south to Africa to spend the winter. Irish swallows spend the winter in South Africa where it is warm enough to have sufficient aerial insects to feed them. Long ago, people didn't know that they migrated to Africa in winter. When they couldn't see them flying around they were sure that they hibernated in the mud at the bottom of ponds. This of course doesn't happen.

When the days lengthen in March they set out once more for Ireland as the longer days in Ireland in summer means that they have up to eighteen hours of daylight to catch insects to feed their young — something that couldn't happen in Africa as summer days there are much shorter. Their arrival in Ireland depends on weather and prevailing winds — in 2009 the first swallows were recorded here on 16 March. But one swallow doesn't make a summer and usually the main group do not arrive until April.

There is a lot of folklore associated with swallows. Long ago there was a belief that ailments could be cured by treating them with something that resembled the ailment. Thus, because swallows twittered (rather than sang) they could be used as a treatment for stuttering and for epilepsy. This involved eating the flesh of the swallow, something we wouldn't dream of doing now as swallows are a protected species. Swallows are seen as birds of good luck. It will bring good fortune if they nest on your property. Or it is a sign of good weather if they are flying high in the sky. They are also considered specially favoured by God so it is really unlucky to kill one.

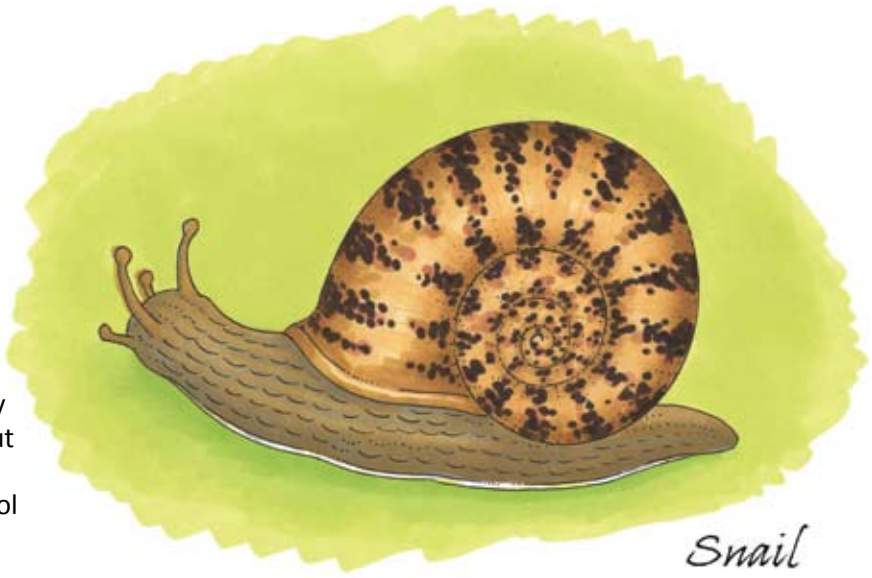

Swallow's nest

To do with Third Class

- Record the date when the first swallow is seen. Over the years this will give an indication of whether they are arriving earlier each year because of climate change. Go out in May to look for swallows flying in the sky. Ask the pupils to look inside sheds and barns to see if there are swallows nesting.

Snail

Latin name – *Helix aspersa*
Irish name – *Seilide garraí*



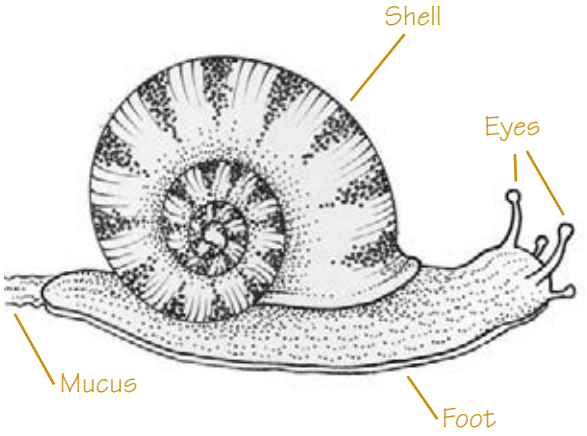
Snails belong to a group of minibeasts called Molluscs. They all carry a shell made of calcium, which is part of their body. They cannot be detached from their shell without fatal injury. A very common snail found in fields, gardens, parks, hedgerows and school grounds is the garden snail.

This is a large snail, with a shell up to 40 mm across. The shell is yellowish brown in colour with up to five spiral bands. The snail inside has a dark brown body which it can extend so that its head stretches forward, with four horns visible. The two large horns carry the snail's eyes and it is able to sense and smell with the two smaller lower horns. It secretes mucus though the flat underside of its body — known as the foot and it slides along on this mucus. It needs lots of water to keep its soft body from drying out and to manufacture enough mucus to slide along. Therefore, when the weather is hot and dry for a time the snail becomes dormant to save energy, goes right back into its shell and seals the entrance with quick-drying mucus.

It prefers warm, wet nights when it can emerge and slide around gardens and parks looking for food. Snails are herbivores and they really love to feast on small delicate garden plants such as newly planted seedlings, strawberries and courgettes. They have teeth all over their tongue — which is called a radula, and each one can do considerable damage at night in a newly-planted garden. When morning comes they hide away from danger and to protect themselves from drying out — often in communal roosts at the bottom of walls or under the overhang of window sills.

Snails are all hermaphrodite, which means that they carry both male and female organs — there are no separate males or females. However, one must meet another one to mate with, before they both go off to lay eggs. Each snail can lay up to a hundred white pearly eggs in the soil. No wonder there are so many of them during wet summers. They hibernate when winter comes, retreating into their shells and sealing off the entrance.

They are a favourite food of hedgehogs. Thrushes are able to eat them by bashing open their shells against a stone (called a thrush's anvil) and gobbling the contents. Magpies are very good at finding them and crunching them whole. The garden snail is edible for humans as long as they are kept fasting for a while before cooking so that they excrete anything they may have eaten that would be poisonous to humans — such as ivy. Poisoning them with blue pellets is very bad for the environment as birds and hedgehogs that eat snails poisoned in this way will be adversely affected. Beer on the other hand kills snails but does not affect creatures higher up on the food chain.



To do with Third Class

- Go out to the school grounds and look for snails. Search in the usual places. Mark each snail with a small dab of nail varnish. Repeat the exercise a week later and see how many of the new batch found is marked. By putting out sheets of old carpet or such like areas of cover, the chances of finding snails are increased.

About the Author

Éanna Ní Lamhna

Éanna Ní Lamhna is best known for her environmental expertise as a broadcaster on the radio programme *Mooney Goes Wild*. Her Co. Louth accent gives her one of the most instantly recognisable voices on radio. Her ability to bring her subject to life is legendary and her no-nonsense approach to romantic views about wildlife is well known.

She is first and foremost a botanist with degrees in both botany and ecology from University College Dublin. Her interest in the environment has expanded with her work over the years, to include birds, mammals and in particular creepy-crawlies whose doings hold a particular fascination for her. Her ability to awaken enthusiasm for these creatures in her listeners is exemplified by the remark made to her lately, "Whenever I see a spider I always think of you and put it outside instead of stamping on it."

She began work in 1974 in the Biological Records Centre — in its first incarnation in An Foras Forbartha. She quickly realised that if she was to receive any biological records from the Irish public she would first have to go and teach them about Irish wildlife. So began a career of teachers' courses, radio programmes, lecturing at third level, field trips with Secondary School pupils and most significantly of all, visits to Primary Schools to teach the pupils and indeed the teachers there, about the wildlife around them.

Her publications include *Talking Wild, Wild and Wonderful*, *Straight Talking Wild* and *Wild Dublin*. She has just completed a five-year term of office as President of An Taisce and is currently the Vice-President of the Tree Council of Ireland.

About the Illustrator

Christine Warner

Christine Warner is an illustrator and calligrapher working mostly in the field of education. She provides full colour illustrations, line diagrams and cartoons for textbooks, workbooks and posters. She has worked for many educational publishers and also for Dúchas, Forfás and Trócaire.

While she illustrates material on a wide variety of subjects, she specialises in science, having science degrees from University College Dublin and Trinity College Dublin. She particularly enjoys producing wildlife illustrations and cartoons. She has been an environmental activist for many years. Christine may be contacted via email at cwarner1@gmail.com

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