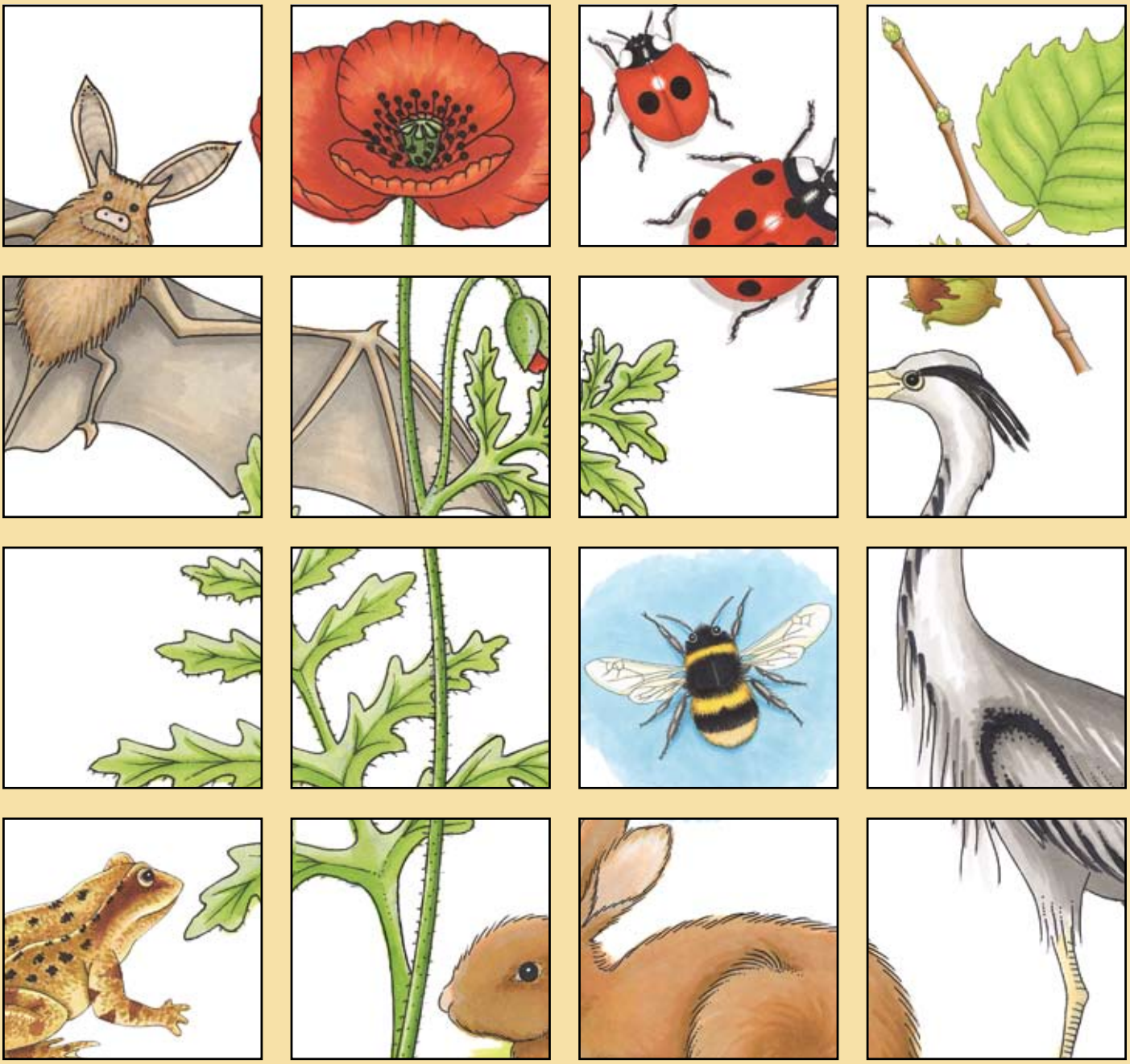
Wild Things at School

A book for Primary School Teachers



by

Éanna Ní Lamhna

Illustrations *by* Christine Warner

Wild Things at School

Wild Things at School

A book for Primary School Teachers

by

Éanna Ní Lamhna

Illustrations *by* Christine Warner

Published by Meath County Council
County Hall, Navan, Co. Meath
in association with
Laois and Monaghan County Councils

ISBN: 978 1 900 923 118

Graphic design by Connie Scanlon and James Fraher, Bogfire. www.bogfire.com

Typeset in Calibri, Cambria, Souvenir and Technical.
Printed in Northern Ireland on recycled paper.

This publication has been supported by the Heritage Council.

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

Browne, J. (2005) *Ireland's Mammals.* Browne Books. Calverstown, Kilcullen, Co. Kildare.

Cabot, D. (1995) *Irish Birds.* Collins.

Chinery, M. (1997) *Garden Wildlife of Britain and Europe.* Collins Nature Guide.

D'Arcy, G. (1981) *The Guide to the Birds of Ireland.* Irish Wildlife Publications.

Dempsey, E. and O'Clery, M. (2007) *Finding Birds in Ireland–the complete guide.* Gill and Macmillan.

Dempsey, E. and O'Clery, M. (2002) *The Complete Guide to Ireland's Birds.* Gill and Macmillan.

Hayden, T. and Harrington, R. (2000) *Exploring Irish Mammals.* Town House.

Hickie, D. (2002) *Native Trees and Forests of Ireland.* Gill and Macmillan.

Mac Coitir, N. (2003) *Irish Trees, Myths, Legends and Folklore.* The Collins Press.

Ni Lamhna, E. (2008) *Wild Dublin.* O'Brien Press.

Phillips, R. (1977) *Wild Flowers of Britain.* Pan Books.

Sterry, P. (2004) *Complete Irish Wildlife.* Collins.

Webb, D.A., Parnell, J. and Doogue, D. (1996) *An Irish Flora.* Dundalgan Press.

Fifth Class

Poppy

Speedwell

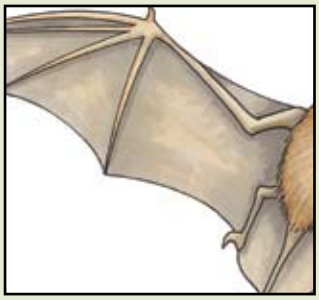
Hazel

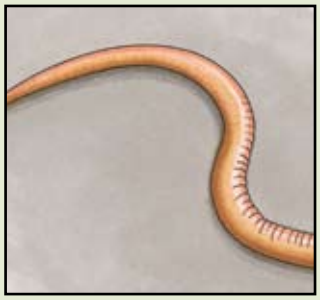
Bat

Kestrel

Earthworm

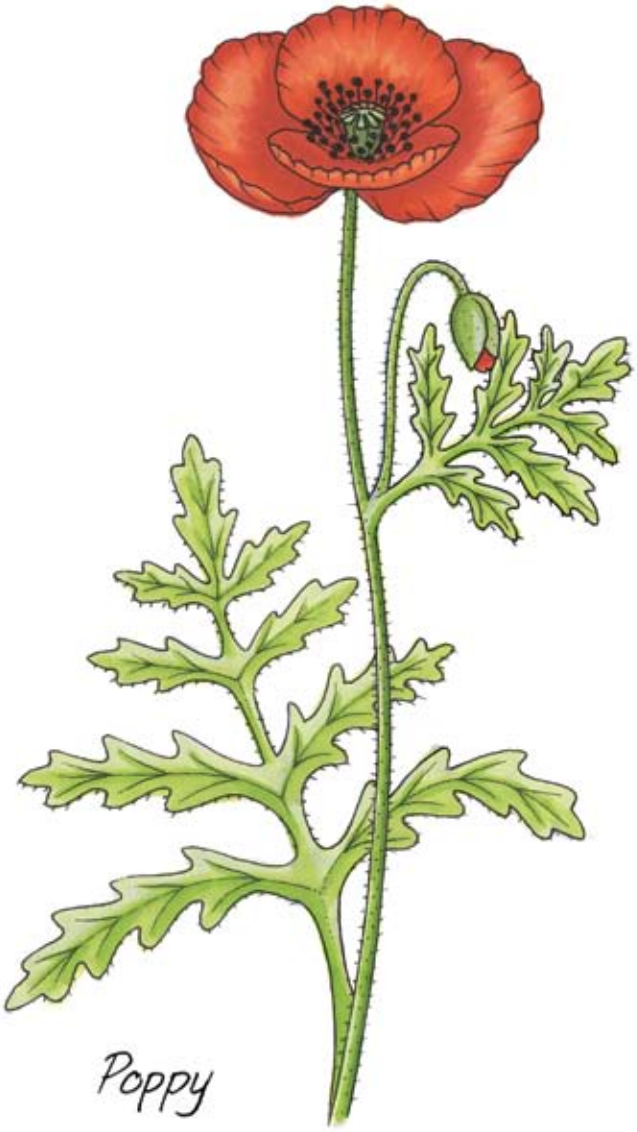




Poppy

Latin name – *Papaver rhoeas*
Irish name – *Caithleach dearg*



The poppy is a large, red wild flower that grows where soil has been disturbed. It flourishes along the sides of motorways for a year or two when the motorway is new, before other plants become established. It was a common weed of grain fields, as the seeds germinated when the soil was ploughed to plant the grain. Careful management of grain crops and spraying with selective weed killers has meant the cornfield full of poppies is no longer a common sight in the cereal-growing regions of rural Ireland.

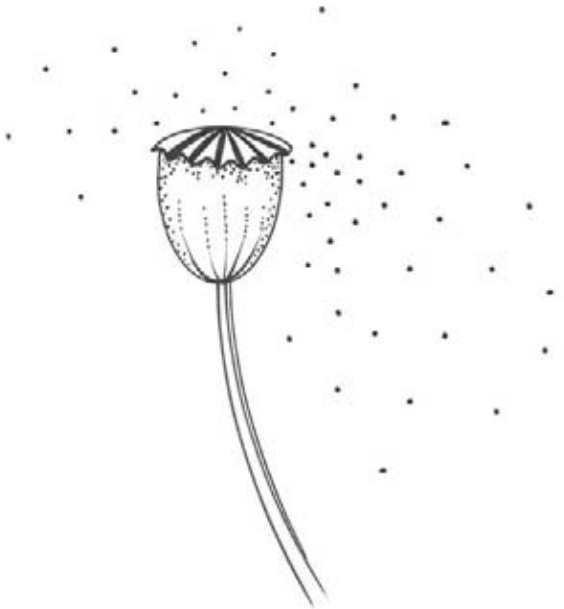
The poppy flowers from June till August. It carries a red flower and red flowers are really uncommon among naturally occurring wild flowers — hence their popularity with gardeners. The colour red signals danger and the poppy itself carries substances which makes its leaves unpalatable to herbivorous insects. The colour thus acts as warning to keep away. The plant carries its flower in a green bud formed by two closed sepals. The four red petals emerge from this and the green sepals immediately fall off when the flower opens. It thus seems that the flower has four petals and no sepals. The seeds are carried in a grey-brown cannister-like capsule with holes near the top, through which the seeds are shaken by the wind for distribution.

Because the seeds of the poppy can lie dormant in the soil for up to 40 years, a crop of red poppies grows when the soil is dug up after a long period of undisturbed grassland. So when, during the First World War the numerous casualties were buried in plots newly-dug for graves, the poppies flowered because the soil was now disturbed. “In Flanders fields the poppies blow, /Between the crosses, row on row”. So the poppy as a remembrance of the horror of war was in the first place an ecological consequence.

The opium poppy is a different plant — it has purple petals. It is a native of Turkey and was grown originally in Ireland since the Bronze Age because it contains the narcotic and sedative opium. It is no longer cultivated here for this purpose but the odd wild plant still grows on sandy soils in the central part of the east coast.

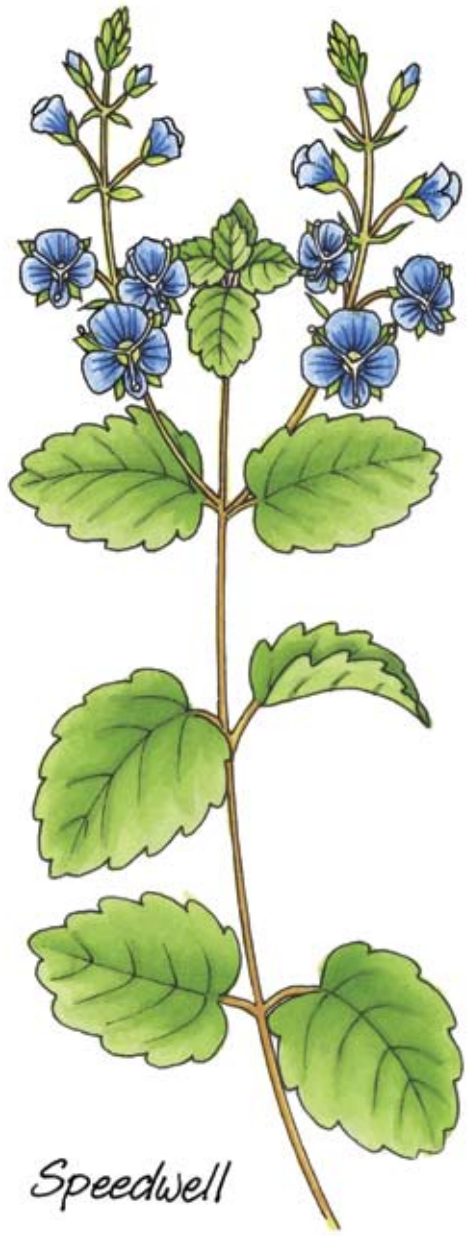
To do with Fifth Class

- Discuss with the class where poppies might occur in the local area. Where is there recently opened ground — roadside, field, building site, waste ground? Bring the class out to look for poppies following this brainstorming session. Try digging a piece of the school field or lawn which hasn’t been disturbed for years and see what plants germinate and grow in the disturbed soil. If this is done in mid-May the new plants will be up before the school holidays at the end of June.



Speedwell

Latin name – *Veronica chamaedrys*
Irish name – *Lus cré*



The speedwell is a very common bright blue flower that occurs in unmowed parts of the school lawn or the school field. There are quite a few Irish species of speedwell but one of the most obvious ones is the one illustrated here– the germander speedwell. It is a perennial plant, which means that it grows up each year in spring and summer, dies back in autumn and re-appears the following year without having to be re-sown.

It is a low, straggling plant — reaching 50 cm at maximum length and often much lower than this. The stems are often reddish brown and have two distinct lines of hairs. The leaves are oval with a toothed edge. It is the flowers that attract the eye. These can appear as early as April and the plants flower all summer long until September. The pretty flowers are bright blue in colour and can be up to 12 mm across. There are four petals — three the same size and one slightly smaller. There are two stamens displayed prominently and the pollen is formed in the white anthers at the ends. The petals are all joined together at the base and if one is pulled they all come off together in a crown with the stamens attached. Examined carefully, the female part can be seen sticking up from the centre of the flower. Later in the year seeds will form in a flattened capsule on the stem.

Pupils in school will be familiar with the rosette-leafed flowers of the school lawn such as daisies, dandelions and ribwort since their junior classes. They now must seek out a flower that grows there under slightly different management conditions and realise that the very technique of mowing determines what wild flowers will exist in an area of grassland. A good diversity of wild flowers is important so that there is a good biodiversity of insect life as well. Thus, by leaving perhaps just a small area unmown, the variety of flowers in the school's grassy areas can be increased enormously.

This plant was familiar to Irish people in olden times and it was important in folk medicine. It was used by nursing mothers to soothe sore breasts. It was boiled with other herbs and the resultant liquor fed to cows with calves to protect them from ill luck and it was traditionally sewn into the garments of people going on a journey to protect them from accidents.

To do with Fifth Class

- Observing, noticing, describing are all important skills that scientists must have. Having spoken about this plant in class, send out the pupils to find and bring in specimens. They must then write a scientific description of their plant with reference to flowers, petals, stamens, stem, hairs, leaves, where found and perhaps why. Writing this description requires that the pupils examine the plant for the scientific detail required. Use of a magnifying glass may be helpful.

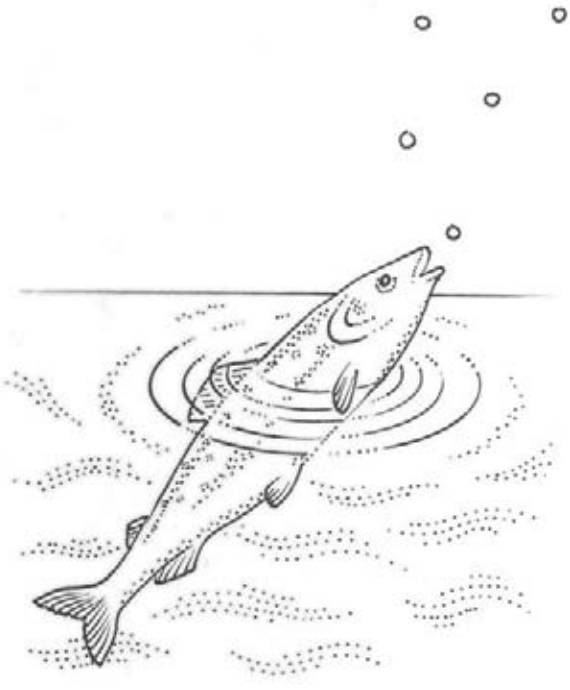
Hazel

Latin name – *Corylus avellana*
Irish name – *Coll*

Many Irish place names such as Collon are called after the hazel tree.

The hazel tree is the tree of wisdom. It is a native Irish tree and grows particularly in limestone soils. It is a low tree with a trunk consisting of many stems. Very early in the year, in February and March, before the leaves come on the tree, the catkins appear on the twigs. These are the flowers of the tree and they are wind-pollinated. There are two sorts of catkins. The male ones are long and pendulous and contain lots of pollen. The pollen is blown by the wind to the female catkins which have no stalks and are very small and budlike.

The leaves burst open in April and are particularly soft and downy. In August the hazel nuts are formed and they are ripe by early September. They are a great source of food for a variety of animals and birds such as squirrels, mice, jays and rooks. Squirrels hide them away to eat later on in winter, but if any are dropped they will germinate into new hazel trees.



The Salmon of Knowledge

Tradition has it that the hazel is the tree of wisdom and that the Salmon of Knowledge got his wisdom from eating the nuts that fell into the water from the hazel trees that grew on the banks of the River Boyne. Certainly the hazel tree was one of the most useful trees for householders long ago. Apart from eating the nuts as food, they used small forked branches — known as scoilbs — to hold down the thatch on a roof. These would have to be repaired from time to time hence the seanfhocail "ní hé lá na gaoithe lá na scoilbe". Larger forked branches are used to this day to divine water.

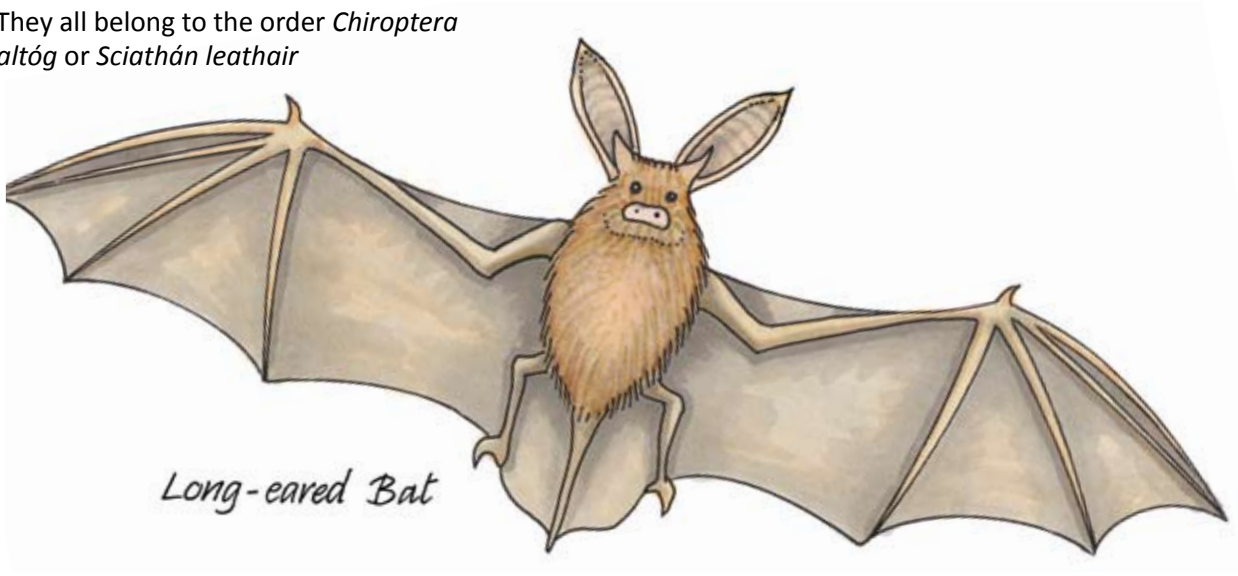
The straight poles formed by the many stemmed trunks were very valuable for building walls, they were woven together and plastered with clay plaster — clay and wattle walls. To be sure of a continual supply of such hazel rods, the trees were coppiced — which means cut across the stems so that new poles would grow. In such a way the life of a hazel wood could be prolonged indefinitely.

To do with Fifth Class

- Find a hazel tree in the vicinity of the school which can be studied throughout the year — catkins, leaves, nuts, buds, bark etc. If there are no hazel trees, one should be acquired for the school grounds and planted and cared for.

Bat

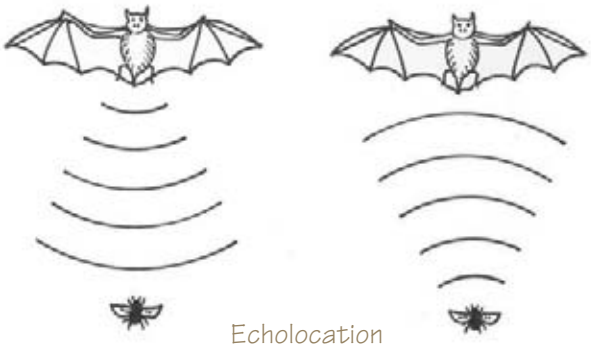
Latin name – They all belong to the order *Chiroptera*
Irish name – *Ialtóg* or *Sciathán leathair*



Bats are a much maligned group of mammals. They are not blind. They will not fly into your hair. They will not suck your blood. They are not in league with the devil. Because they can fly so expertly at night without crashing into things, it was thought that they must be in league with the forces of darkness. Science, of course, has revealed the true picture.

Bats are not blind; they are perfectly well able to see. However as they fly at night and catch aerial prey, they have a special means of detecting this flying prey — echolocation. They emit very high-pitched sound waves which bounce off whatever object they hit and are reflected back to the bat at a slower speed. This is translated as a drop in sound frequency, so the bat can build up a picture of where all the objects are in front of it. These high pitched sounds are above our hearing range (30–140 kHz) although children can hear some of them, as they can hear higher sounds than adults.

Bats catch insects that fly at night. They are particularly fond of moths, midges and mosquitoes. A small pipistrele bat can catch up to 3000 midges of a night. Each species emits a particular type of ultrasound that allows them to specialise in particular types and sizes of insects so that several species can co-exist in the same area.



Echolocation

In Ireland we have ten different bat species — all of which are highly protected under Irish and European law. Ireland holds the largest European populations of the Lesser Horseshoe Bat — a bat that only occurs in limestone areas in Mayo, Galway, Clare, Kerry and Cork. Other species such as the Pipistreles and the Long-eared Bat are widely distributed over the whole country.

Bats go into hibernation in caves or in hollow trees from mid-November till the end of March because there is no insect food available for them to feed on. During hibernation their body temperature drops to as low as 5 degrees Celsius from a normal summer high of 35 to 40 degrees. They need a lot of energy to raise up their temperature again, so if their hibernating roosts are disturbed they may not have enough energy to survive the rest of the winter. In April they wake and move to summer roosts in roof spaces and attics and here their young are born in June or July — one baby per female. These remain in the nursery roost while the mother is out hunting at night and she returns to suckle them. By three weeks of age they can fly and by six weeks they can hunt independently. By the end of August they are weaned. They can live for up to fifteen years.

To do with Fifth Class

- Using school books on mammals, the school or local library or indeed the internet, find out the names of all ten bat species that occur in Ireland. Invite an expert into school under the Heritage in School scheme to demonstrate bat detectors. Erect bat boxes in the school grounds. These will provide summer roosts for bats and should be placed high on trees in a hedge or wooded area. A bat box has a slit for an opening rather than a hole as in a bird box.

Kestrel

Latin name – *Falco tinnunculus*
Irish name – *Pocaire gaoithe*

The kestrel is our most common and abundant bird of prey. It flies by day and is very easy to see and identify. It hovers in the air with fast-beating wings surveying the ground below for prey. It has really good vision and when it spots a large insect or a mouse, a pygmy shrew or indeed — in Counties Tipperary and Limerick — a white-toothed shrew — it drops like a stone on the unsuspecting prey. It hovers quite a lot looking for prey so it is easy to see high up in the air. No other Irish bird of prey behaves like this.

Modern road development has actually resulted in an increase in kestrels. This is because the roadside verges and roundabouts are habitat for the rodents and the shrews that it feeds on. These areas are not disturbed by humans, and are mowed infrequently and the kestrels of course are not at all disturbed by traffic. Thus, any journey along a motorway will yield at least one sighting of a kestrel.

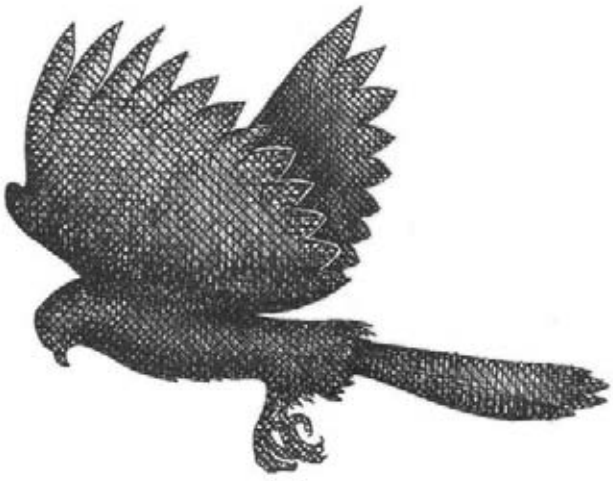
They do not build a nest of their own but the female will lay three to five eggs on a cliff ledge, a high building or indeed an abandoned nest of a hooded crow. The nestlings are fed by both parents and fledge 30 days after hatching. Males and females are different in colour — males have a grey head and a grey tail, whereas females have a streaked brown head and dark stripes on a brown tail.

Birds of prey gobble their food whole and later (usually at the roost site), cough up undigested bits in the form of a pellet. By collecting these pellets and analysing them, scientists can work out what food the bird has been eating. Recent work on kestrel pellets in Co. Tipperary revealed that the birds had been eating white-toothed shrews — a species not known until then to occur in Ireland. The nearest record until then of these shrews had been Alderney in the Channel Islands.

Kestrels were often kept near dovecotes in medieval times as it was known they kept away sparrowhawks but would not attack the doves themselves.

To do with Fifth Class

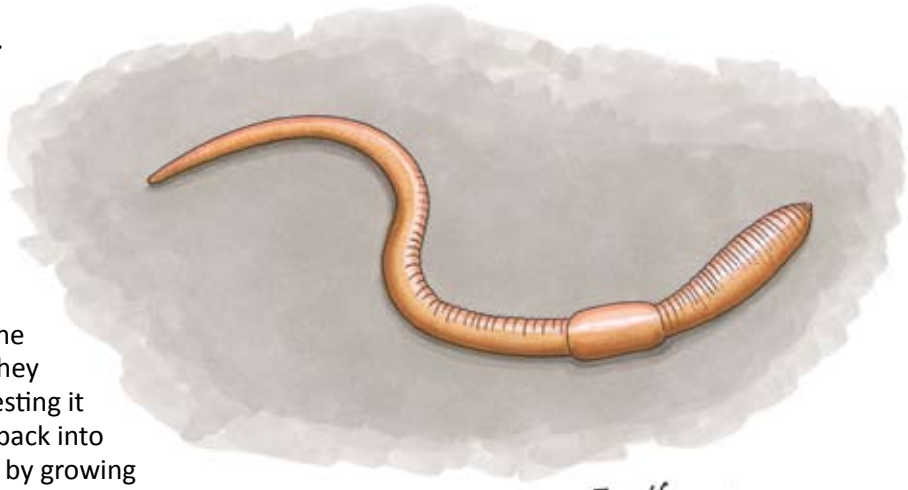
- A project on the Irish birds of prey — kestrel, sparrowhawk, merlin, peregrine falcon, buzzard, hen harrier and marsh harrier — and the re-introduced golden eagle, red kite and sea eagle. Their importance at the top of the food chain should be emphasised. If their prey is poisoned then the poisons spread right up the food chain, harming those at the top. So a healthy population of kestrels means that the whole biodiversity of its food chain is in place.



Hovering kestrel

Earthworm

Latin name – *Lumbricus terrestris*
Irish name – *Péist talún*



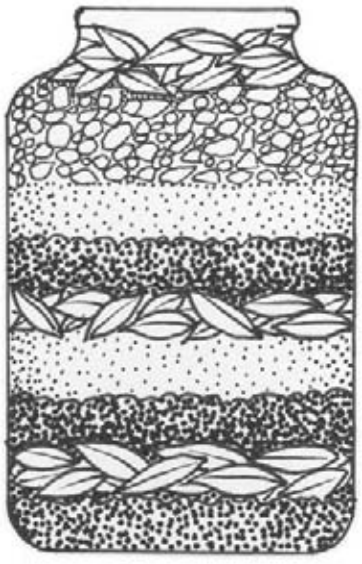
Earthworm

The earthworm is one of our most valuable creepy-crawlies. They live in the soil and feed on dead plant material. They recycle this dead plant material by digesting it and returning the nutrients contained back into the soil in a form that can be absorbed by growing plants. As they tunnel through the soil, they form small tunnels which aerate and drain the soil and add to its fertility. Farming and gardening would be next to impossible without earthworms.

The common earthworm is 30 cm long and is pink in colour. Its body is composed of segments — up to 150 of them and it has stiff hairs called chaetae on the underside of its body which help it to move. They have no eyes so they cannot see, which doesn't matter as they live surrounded by soil which contains their food. They swallow soil through their mouth and as it passes through their body they digest any organic material in it. The undigested soil itself passes through their body and is deposited as a worm cast.

On warm nights worms will come up to the surface of the soil and pull down dead leaves into their burrows for digestion. They will also often use the opportunity to find another worm with which to mate. As worms are very abundant in Irish soils this does not present too much of a difficulty although each worm makes sure to keep its tail in its own burrow so that it can conduct a speedy retreat if danger threatens. Like snails and slugs, worms are hermaphrodites — each has male and female organs — but they must mate and exchange sperm before each can lay eggs. During cold winter months worms burrow deeply into the ground and become dormant.

They are food for many creatures higher up the food chain. Birds such as thrushes and blackbirds love them, they form up to 40% of the diet of badgers, and rooks and jackdaws are expert at finding them in grassy fields. It is not true that if you cut a worm in half you will have two worms. Worms have a head with a rudimentary nervous system and seven hearts at one end and just a tail at the other. If you cut one in half you have a live, foreshortened worm and a wriggling tail that soon stops wriggling as the nerve endings die. So this cruel practice should not be carried out. Earthworms work in compost bins, but another species, the tiger worm (brandling worm) is even more effective.



Wormery

To do with Fifth Class

- Set up a wormery. Get a large transparent jar such as a large sweet jar. Make layers in it of soil, leaves, soil, sand, leaves, soil, sand, a white chalk layer perhaps, right up to the top. Put a final layer of leaves on top. Dampen the whole. Put in some earthworms and close the jar. Cover with black plastic to exclude light and leave for a week. When uncovered the tunnels of the earthworms may be seen. Do not leave uncovered however, as earthworms will move into the centre away from the light. Keep dampened and uncover every few days or so, to see how the layers get mixed up as the worms move about.

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

ISBN 978-1-900-923-118