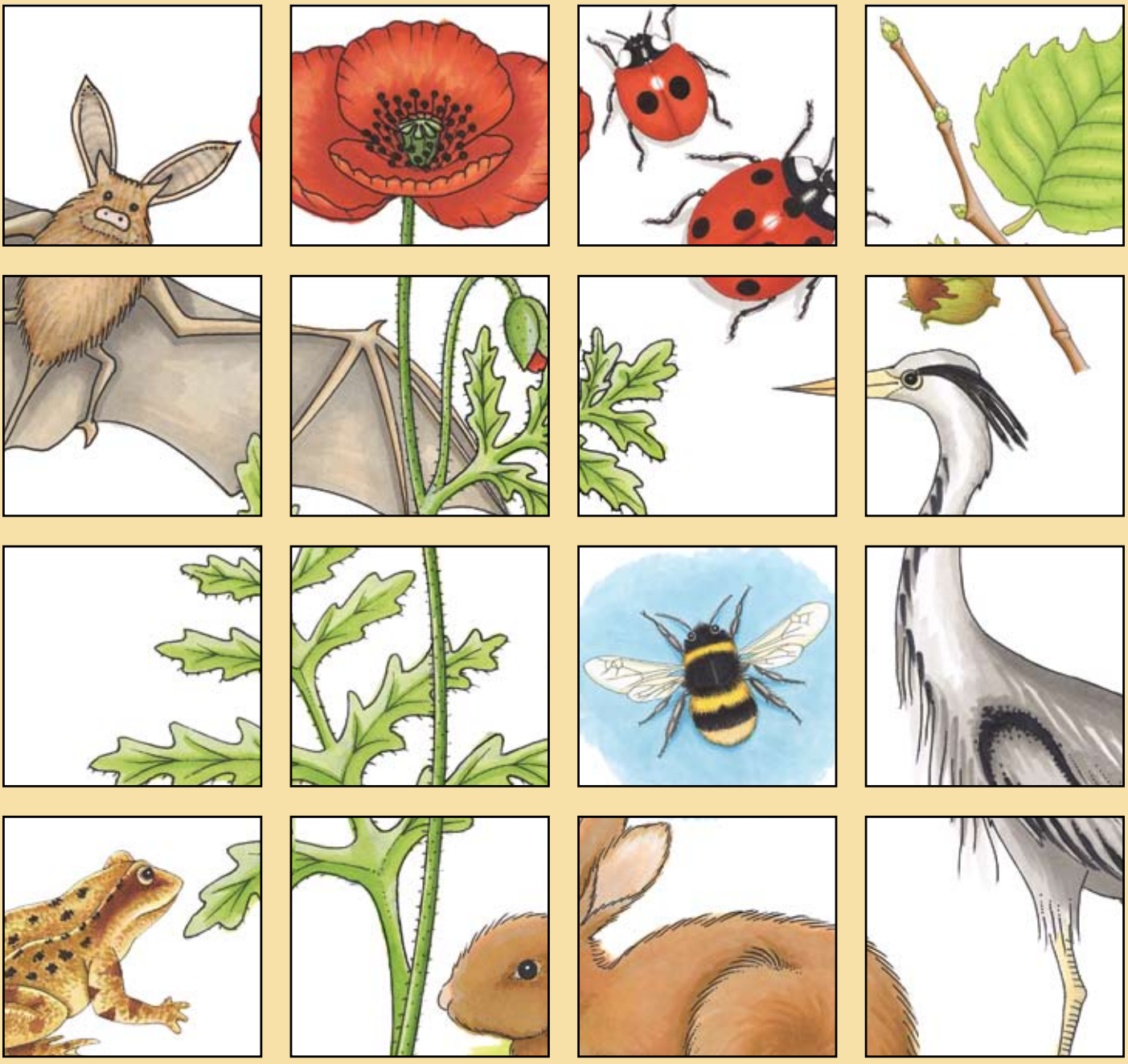
Wild Things at School

A book for Primary School Teachers



by

Éanna Ní Lamhna

Illustrations *by* Christine Warner

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Published by Meath County Council
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in association with
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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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Fourth Class

Lords and Ladies

Vetch

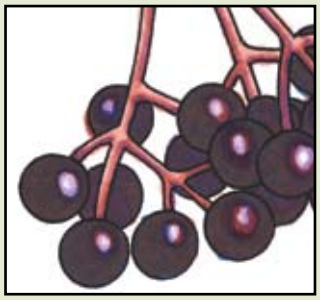
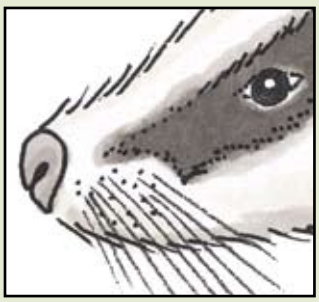
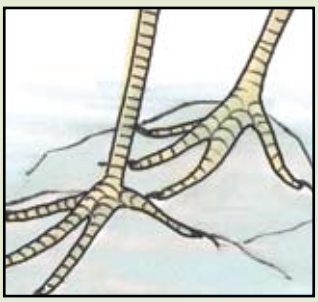
Elder

Badger

Heron

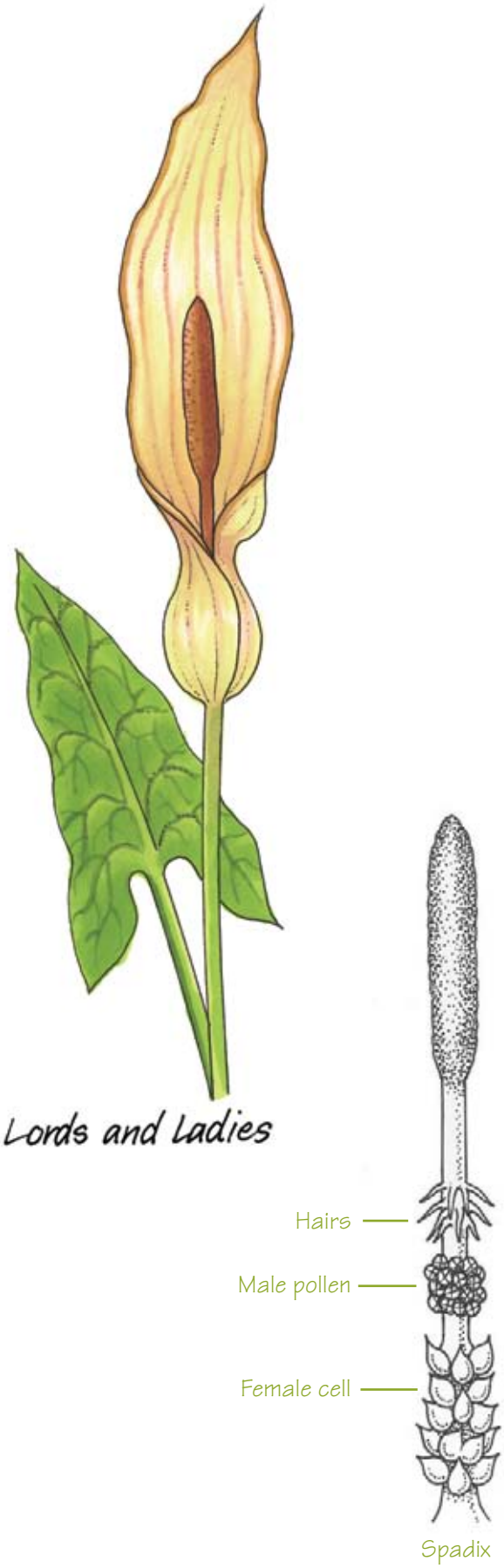
Butterfly




Lords and Ladies

Latin name – *Arum maculatum*
Irish name – *Cluas chaoin (among others)*



Lords and Ladies is one of the many names given to the arum lily — a most unusual lily-like flower that appears in our hedgerows and woodlands in April and May. Plants need light in order to grow and in woodlands the canopy of the trees captures most of the available light. So, many woodland plants flower early, before the canopy closes and Lords and Ladies is one of these.

The arrow-shaped large green leaves appear first and then these unroll to reveal a most peculiar-looking flower. It consists of a yellow hood called a spathe with a pointed fleshy swollen brown or purple stalk called a spadix inside. This spadix is the top of the complicated flower arrangement that this lily has. When ripe, the fleshy spadix, gives off a smell like rotten meat. This attracts flies which come along expecting food.

They buzz around and try to find the food which seems to them to be hidden in the depths of the spathe. Down they go into an opening that is guarded by a defence of hairs that only bend one way — downwards. Once the flies enter, they are trapped in a chamber where the top layer is of stamens containing pollen while below in the bottom of the same chamber are the female parts. These are ripe and are waiting to be fertilised — not by the pollen of their own flower, but by that of another. Eventually a fly arrives covered with pollen from a different lily. This fertilises the waiting cells. Following this the male parts produce their pollen, the guard hair cells collapse and the flies can escape — all now thoroughly dusted on the way out by the pollen of the flower in which they have been trapped.

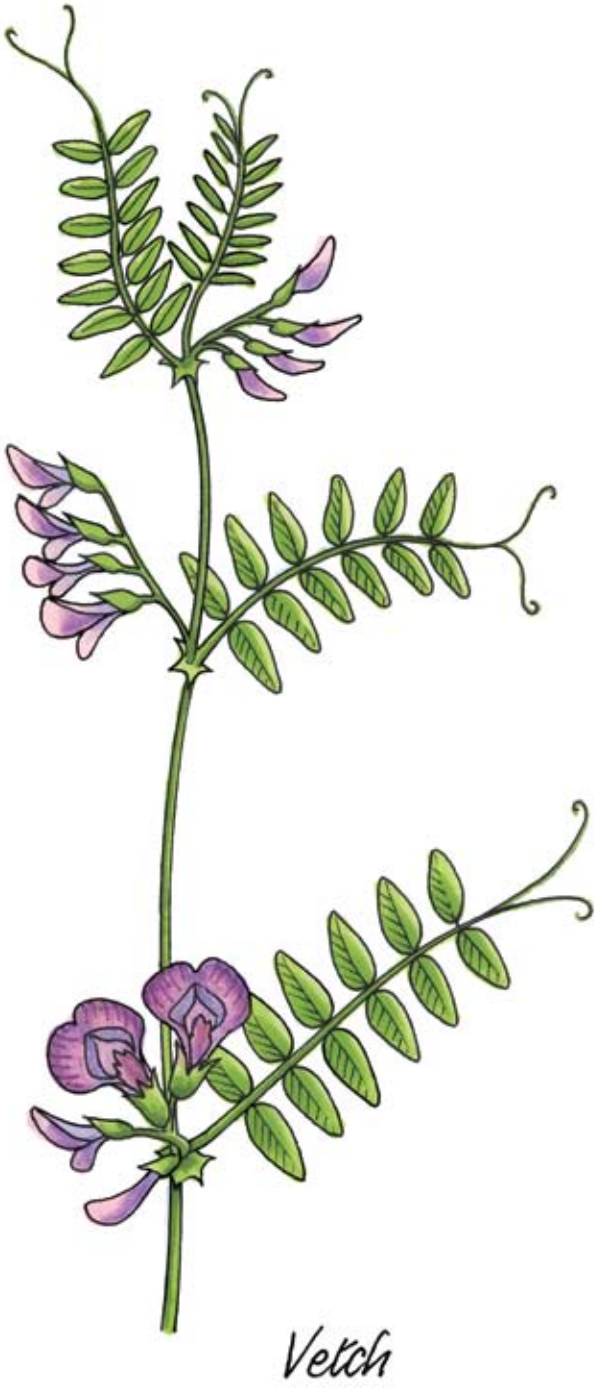
And indeed some of them enter another lily, fertilise the female cells there and so contrive the escape of the foolish flies there. The whole spathe and spadix then collapse, their purpose having been served and the fertilised female cells swell and ripen into red berries. Indeed the stalk with a cap of red berries is a familiar sight in autumn, the berries poisonous to us humans but not to the wild creatures that eat them and spread the seeds by way of their droppings. The pointed spadix reminded people of earthier things in earlier times as the names cuckoo pint or the Irish Bod Gadhair, reveal.

To do with Fourth Class

- Bring them out to the school hedge to look for these plants in late April. Check how many can smell the spadix as it is an inherited ability and not everyone can. Open the spathe to observe the hairs and the trapped flies. Look for the stalk with the red berries in autumn but do not pull it or touch it — just observe.

Vetch

Latin name – *Vicia*
Irish name – *Peasair capaill*



The vetch is also a plant that grows in shady areas. It uses a different strategy to survive in a habitat where light is restricted — it can climb up towards available light. It is a member of the pea family — the legumes. Like the sweet pea that flowers in gardens, it produces tendrils at the end of its leaves. The leaves are positioned alternately along the stem and each leaf consists of a number of opposite pairs of leaflets. At the end of each leaf however, is a set of stringy tendrils which seek for something to catch onto. In the wild hedge this is usually other plants such as brambles, or grasses. With this support, the plant is able to assist its passage upwards towards the light.

As a result, it can flower later than hedge flowers with no such support and the purple flowers of the vetch can be seen in hedges right up to the end of July. As it is a member of the pea family, the flower is typical of this family. It is described as being irregular — the petals are not symmetrical around a centre but are of different sizes and shapes and form a closed hood over the male and female parts. As a result, the flower is self-fertile and pollination occurs inside the closed flower.

The seeds are carried in pods similar to those of a pea but much smaller and these turn black when ripe. The pods then split open suddenly and the seeds inside are shot out by the force. They settle further away and a new plant can then germinate.

All members of the legume family including vetches are, unusually among plants, able to fix nitrogen directly from the air. Plants need nitrogen for growth and cell formation, and normally plants absorb it from the soil in the form of nitrate. Vetches however have nodules on their roots which are formed in conjunction with special soil dwelling bacteria and these nodules are able to absorb nitrogen in a gaseous form directly from the air around the roots. When the plants rot back into the soil after death, the nitrogen is released as nitrate and thus leguminous plants enrich the soil in which they grow for other plants. This is why gorse can grow so well on poor soil or why farmers used to plant clover — another member of the legume family — in their pastures to improve conditions for grass growth.

To do with Fourth Class

- Go out to hedges in May and June and look for this plant. Observe its tendrils holding on to other plants. Grow vegetable peas and sweet peas in the school garden or in pots in the classroom window and watch how they grow and climb.

Elder

Latin name – *Sambucus nigra*
Irish name – *Trom*
(The town of Trim in Co. Meath is Beal Atha Trom)

The elder is a very common native tree. It grows naturally in hedges and in neglected city gardens. It is a small tree, not exceeding 15 metres in stature. A deciduous tree, it gets its new leaves early in the year, usually at the start of April. These are compound leaves. Each leaf has between five and nine oval leaflets in opposite pairs with one terminal one. The lovely creamy bunches of elderflowers open in June and attract myriads of insects. In their efforts to collect nectar these insects pollinate the flowers. The bunches of purple elderberries are formed in September. These are feasted upon by many species of birds — in particular, the woodpigeon. They void the hard seeds in their droppings and these quickly germinate into new fast-growing elder trees again.

The timber of the elder tree is very soft — the centre of the twigs and branches is composed of pith, so that it does not have much value as timber. Because of its hollow twigs it is called the boo-tree or bore-tree in the Ulster Scots dialect and the word is used commonly in Co. Monaghan for elder trees.

There is a huge amount of superstition associated with this tree. It was considered to be the tree on which Judas hanged himself and so has been cursed by God. This is why the leaves smell so horribly rank (try them) and the timber lacks strength (so no one would ever hang themselves from this tree again). It would be exceedingly unlucky to use the timber when making a cradle or a boat as very bad luck would befall the occupants. It was also believed that if a child was struck with an elder stick, they wouldn't grow any more.

This bad luck did not extend to the blossoms from which beautiful sparkling white wine can be made, or to the berries which can be made into red wine. The tree itself is full of insect life all summer long and these can be easily dislodged and examined.

To do with Fourth Class

- Bring them out to find an elder tree and study it with them through the four seasons — leaf burst, leaf smell, leaf shape, blossoms, berries, bark rubbings, examination of foliage for insect life. Look for associated fungi at the base of elder trees — a jelly-like rubbery one known as *Jew's Ear* is quite common.

Badger

Latin name – *Meles meles*
Irish name – *Broc*
Many Irish place names are called after them i.e. Clonbrock, Pollbrock

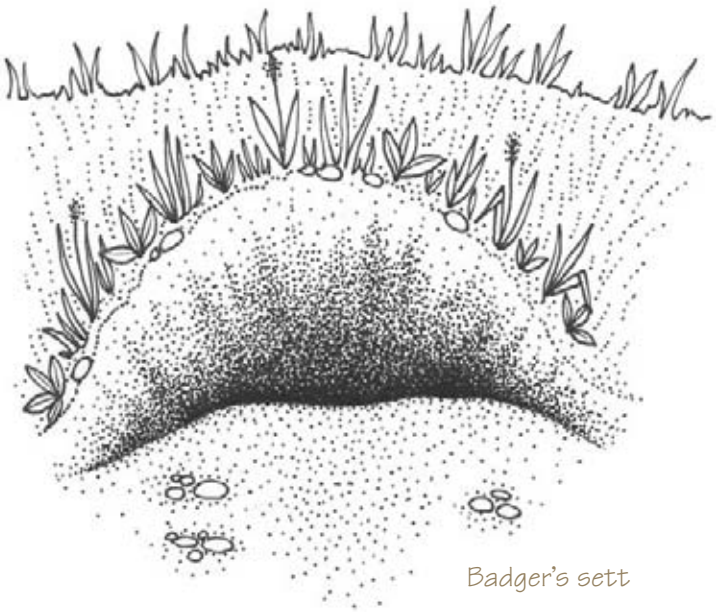
Badger

The badger is a large nocturnal mammal. It is very common in Ireland, but is rarely seen as it is nocturnal. It has a white head with a black nose and two broad black stripes running down its face. The rest of its body is grey. It is a native Irish species — earliest records are from a wedge grave at Lough Gur in Co. Limerick.

Badgers live in setts which they excavate underground. These may be very old indeed and consist of many tunnels underground with several entrances. A family group will live here and defend its territory against neighbouring badger groups. There is usually a dominant male in each group and several females. Mating takes place in April and May but because of delayed implantation of the fertilised egg the young are not born until the following February or March. Pregnant females prepare a birth chamber by removing all the old bedding and airing it up in the open air and then it is returned together with fresh material to make the new bedding material. After birth the three to five cubs stay underground for eight weeks. They then venture above ground, but their mothers will continue to nurse them for another three months. By the end of the year they are fully independent. Young males then disperse widely, whereas young females stay close to home.

Badgers are omnivores — which means that they can digest both plant and animal food. The most common item in their diet is the earthworm and they will eat up to 200 earthworms in a single night. They often dig up lawns and fields to get at the earthworms. They also eat beetles, slugs, snails, frogs, rabbits, mice, rats and hedgehogs. They are also partial to blackberries, elderberries, apples, acorns and fungi. With such a wide range of food no wonder they are so abundant. It is estimated that there are up to 250,000 badgers in Ireland.

Badgers suffer from tuberculosis, which they pick up from cattle and indeed can pass on to cattle. A vaccine to eradicate this disease in badgers is currently being developed. They are a totally protected species under Irish and European legislation, so it is completely illegal to hunt them, trap them, block up their setts or interfere with them in any way.



Badger's sett

To do with Fourth Class

- Contact the local wildlife ranger for the county and ask where the nearest badger sett is. Bring the class on a visit to see this. (Local knowledge may also provide this information.)

Heron

Latin name – *Ardea cinerea*
Irish name – *Corr réisc*
(also Máire Fhada, Nóra na bportach, Síle an phortaigh)

The heron is Ireland's tallest bird. Standing up to 98 cm tall, it waits patiently all day in areas of fresh water, waiting for a fish to pass so that it can pounce on it for a meal. It has a long, yellow bill; long, narrow legs and a grey and white body with black wing tips. In flight it is unmistakeable as it flies with its head drawn back and its long legs trailing behind.

Remarkably, for a bird that stands all day by shallow water, it builds its nest at the top of a tall tree in a colony called a heronry. There are usually less than fifty nests per colony, made from sticks or reeds by the female and three to five light blue eggs are laid. After 25 days incubation the young are fed by both parents with fish, beetles, frogs and rats. One parent always stays on guard while the other is away feeding and catching food for the young.

They are not able to swim so they must stand patiently until an unwary fish swims over their feet. If the fish is small they can swallow it whole, taking care of course to swallow it head first so that the scales do not get stuck in its throat. If the fish is too large for this, they will kill it with repeated stabs of the beak and then bring it to the bank to pick off the flesh. They are one of very few creatures to eat frogs, as most creatures find them distasteful. Even the heron doesn't like the ovaries of the female frog and will cough these up on the bank where they swell most amazingly in the rain and present a mystery to nature watchers who find them and are not in the know.

Herons were very familiar in Ireland long ago as was a larger wading bird — the Crane — which is now extinct here because of habitat destruction. So our grey heron is sometimes called the crane as it resembles this earlier bird. The wealth of names in Irish that exist for it show how well known it was (place names such as Corlough mean the lake of the heron). It was thought that a heron flying south is a sign of good weather.

To do with Fourth Class

- Make out a food chain — or indeed a meal menu for a heron. As there are up to 10,000 breeding pairs in Ireland an expedition to a river/lake/wetland/town park with pond should bring a sighting.
- Use the internet to look up the delightful poem — "The herons on Bo Island" — which could then be learned as part of a poetry anthology.

Butterfly

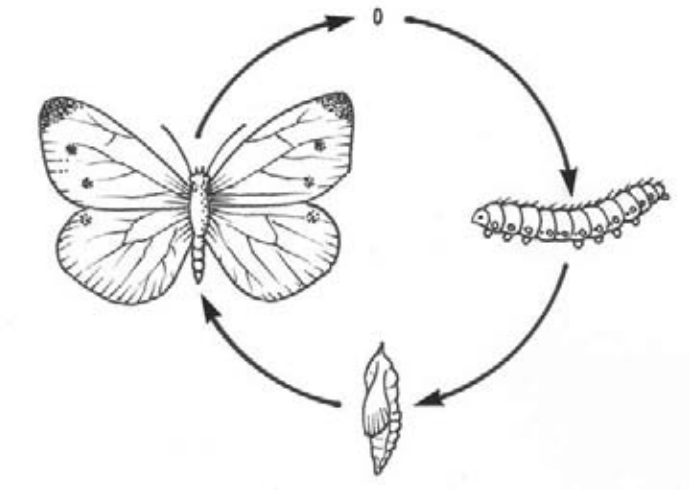
Latin name – *Aglais urticae*
Irish name – *Ruán beag* (Small tortoiseshell)


Tortoiseshell Butterfly

Butterflies are members of a group of insects known as Lepidoptera — which means wings with scales. There are 32 species in Ireland — some very common indeed. The colourful adults fly during periods of sunshine in summer. They meet members of the opposite sex, mate and then the females lay their eggs on very specific food plants. For example, the cabbage white will lay its eggs on cabbages, the small tortoiseshell and the peacock will lay their eggs on nettles.

The eggs hatch out into caterpillars which feed voraciously on the food plant. As they have all their soft parts on the inside surrounded by a tough skin, they must burst this skin in order to grow. Each time they burst, the new, bigger, caterpillar emerges with a hairier, spikier skin. By the time they have burst for the fourth time they are very spiny indeed and are distasteful to birds.

These "hairy mollies" then crawl away from the food plant to spin a chrysalis around themselves and change into a fully formed butterfly. Wings and reproductive parts are formed. The newly-formed butterfly emerges from the chrysalis with four beautiful wings, six legs, two antennae on top of its head and a long tongue, which is normally coiled up, and which it extends to take a sip of nectar when it visits flowers. All the energy they need as an adult, they got while feeding as a caterpillar so they will never eat again — the adult butterfly has no intestines and never excretes again.


Life cycle of the small white butterfly

These adults then fly around looking for a partner with which to mate. Once this has happened and the female has laid the eggs, both adults will die and the cycle continues through the eggs. Adult butterflies can live for several weeks in Ireland but the larger species in tropical areas, who expend much more energy in flight, might only live for one day as a beautiful, glorious adult.

Irish butterflies hibernate during the winter. Mostly, they hibernate in the chrysalis stage. However, the rare brown hairstreak overwinters as an egg, while the common small tortoiseshell comes indoors as an adult just when it emerges from its chrysalis in autumn. It hibernates in corners, in curtains, in the hot press — anywhere in fact it feels that it will not be disturbed.

Butterflies are eaten by birds, who catch them and strip off their wings and by spiders if they blunder into their webs.

To do with Fourth Class

- Rear butterflies in class. Collect the eggs or caterpillars of cabbage white butterflies from cabbage plants in the garden. Put them with the cabbage leaves into an empty fish tank or some such and cover. Change the leaves and clean out the droppings as required. Watch the eggs hatching and the caterpillar's bursts, then put in a few sticks so that they can climb up and pupate. Do let them go when they finally turn into butterflies.

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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