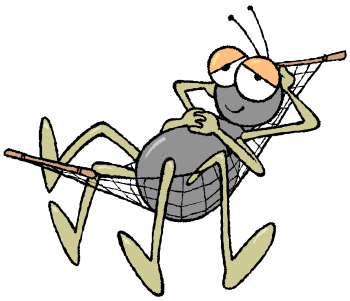
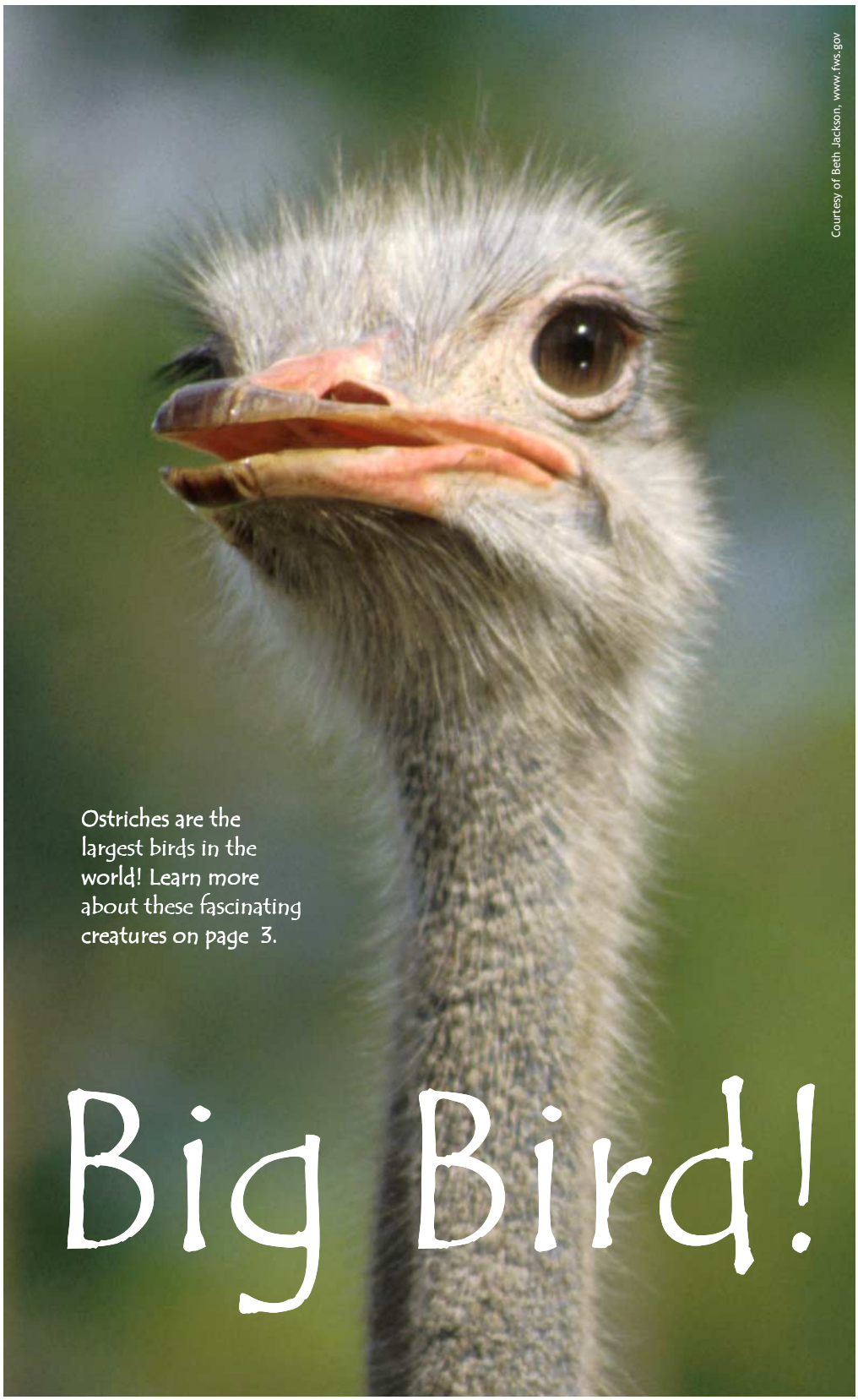


Nature's Web

Issue No. 15 Autumn 2009

Inside This Issue...



Courtesy of Beth Jackson, www.fws.gov

Ostriches are the largest birds in the world! Learn more about these fascinating creatures on page 3.

Big Bird!

Editor's Page

Heading South!

Many of the birds we see everyday make their permanent homes in Ireland, but there are some birds which only visit us for parts of the year. One such bird is the swallow.

In March, swallows make an unbelievable journey from South Africa to Ireland (and Sherkin!), travelling nearly 9,656 km (6,000 miles).

Photo courtesy of Robbie Murphy

Swallows

It's wonderful to see some of the first swallows arriving in spring, and all through the summer months we see them dipping and swooping around the laneways on Sherkin Island. Not being experts at identifying birds, it's very satisfying to be able to recognise these birds from a distance, as they are so distinctive. Their long forked tail feathers, elegant lines and blue, white and rust colouring are easy to pick out.

As in other parts of Ireland over the summer months, swallows build their nests and have their young. Now that autumn has arrived, they are gathering together to begin their journey back to South Africa to spend the winter in a warmer climate. We'll be sad to see them go, but it's amazing to think that they will be back next spring, completing the lengthy journey once again, and gliding along the roads of Sherkin before we know it!

Seafood Recipe

Smoked Mackerel Tortilla

What's Needed:

- 200g smoked mackerel, flaked
- 4 medium potatoes - peeled and cut in thin slices
- 1 tablespoon olive oil
- 1 large onion finely chopped
- 1 clove garlic finely chopped
- 1 red pepper finely chopped
- 6 eggs - lightly beaten
- Little salt & pepper

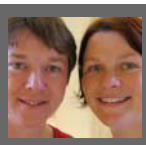
What to do:

- Preheat oven to 180°C/Gas 4
- Heat a little oil in a heavy-based ovenproof pan
- Fry potato slices over a medium heat until lightly browned on each side. Remove and drain on kitchen paper
- Heat remaining oil in pan, add onion, garlic and red pepper, cook gently until softened. Add potatoes and gently mix in mackerel
- Pour eggs over and stir gently
- Place the pan in the oven and cook for 15 minutes
- Serve with green beans or mangetout

Photo: © BIM

Brought to you by BIM. www.bim.ie.

Welcome to the Autumn Edition of Nature's Web!



Dear Reader,

Welcome everyone to the autumn issue of Nature's Web. In this issue we learn about the work of Daniel Buckley, a researcher in the Centre for Irish Bat Research (see page 7). We also look at bats in general (page 5) and discover that they are not as frightening as one might think!

We take a closer look at mushrooms and fungi, some of which can be deadly and we find out exactly what makes the seasons what they are! Check out nature news from around the world on page 11 and enjoy a giggle on page 13.

We would love to hear your views and comments and suggestions for future articles. Have a good read!

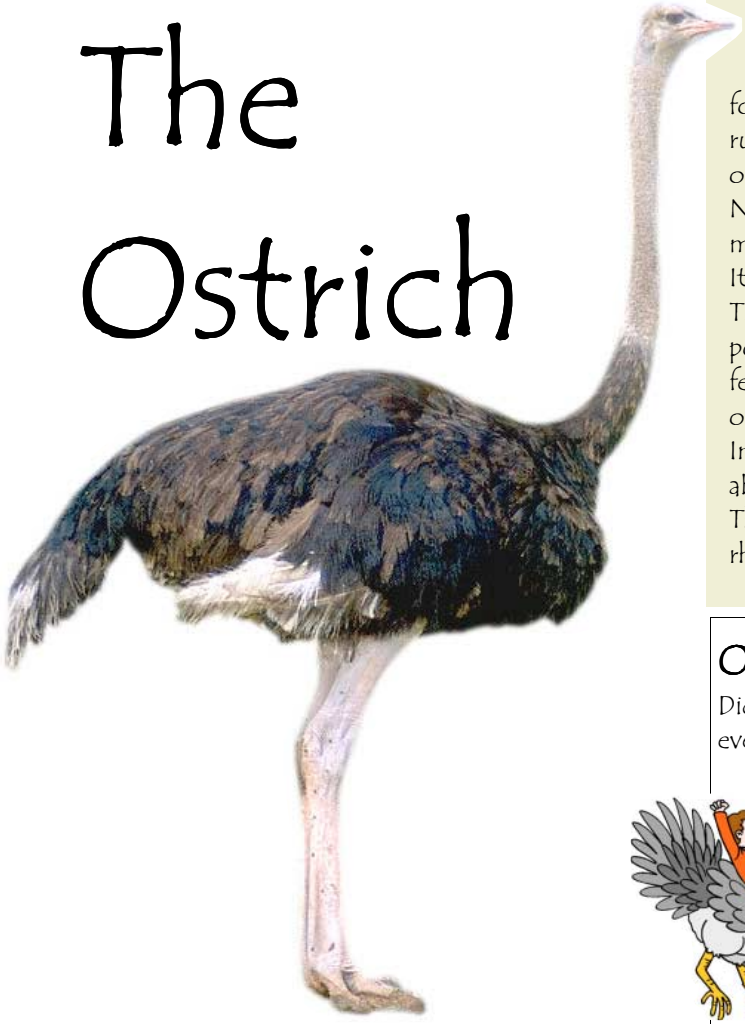
Susan & Audrey

Email:
editor@naturesweb.ie
Web: www.naturesweb.ie

Editors:
Susan Murphy Wickens
& Audrey Murphy
Layout and Design:
Susan Murphy Wickens
Photographs & Clipart:
Copyright © 2009 Sherkin Island Marine Station & its licensors. All rights reserved.

Foreign Correspondent:
Michael Ludwig

The Ostrich



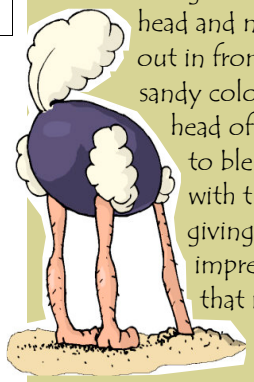
The ostrich is the largest bird in the world. It cannot fly, as it is too heavy. Its wings are used for courtship display and also to help balance when running. An ostrich can run very fast, reaching speeds of up to 70 km per hour.
Native to Africa, the ostrich in the wild can be found mostly in eastern and southern parts of the continent. It is however, farmed in other parts of the world.
The ostrich has a long bare neck, a small head, long powerful legs and a huge body covered in feathers. It has excellent eyesight and is the only bird to have two toes.
In captivity, the ostrich has a lifespan of about 40 years.
The ostrich's nearest relations include the emu, rhea and kiwi.

Ostrich Racing!

Did you know there are even ostrich races, with human riders? Riding an ostrich is a dangerous sport and considerable skill is need to stay on!

Does an ostrich burying its heads in the sand?

It is often said that an ostrich buries its heads in the sand when it is frightened. This is actually not true. When frightened it either runs away or lies on the ground with its head and neck flat out in front. Its sandy coloured head often seems to blend in with the sand, giving the impression that its head is buried.



Farming Ostrich

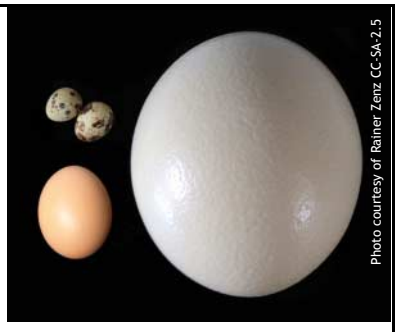
Ostrich is farmed for a number of reasons. Ostrich meat is considered a 'red meat' and looks and tastes similar to beef, but contains less fat. It can occasionally be found in supermarkets or in fancy restaurants!
Ostrich skin can be turned into leather to make bags and belts.
Its feathers can be used to make feather dusters and the large tail feathers and those on the end of the wings, make attractive feathers for ladies' hats and as trim for clothing.

Fact File

Plumage Colour: Black and white plumages in males; grey or brown in females.
Height: 2.1 – 2.8 m
Diet: Mostly plants, but sometimes insects and lizards. (Occasionally they eat stones to help with digestion!)
Habitat: Dry savannahs of Africa.
No. of eggs: 40-100 per year.

Egg-stra-ordinary!!!

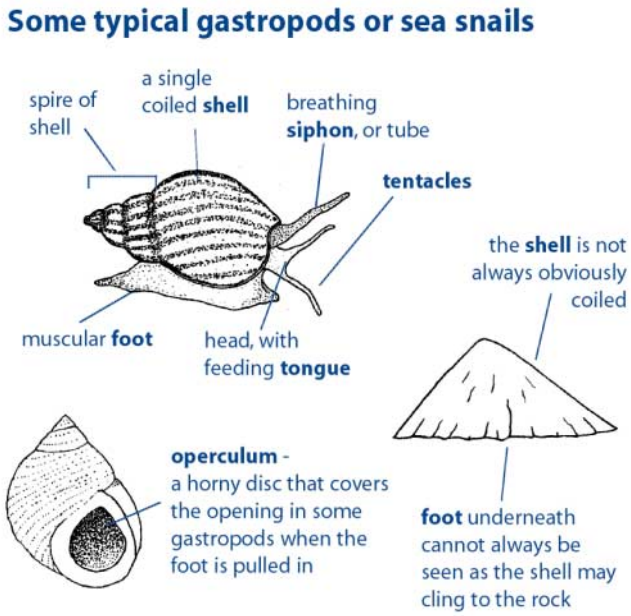
The ostrich lays huge eggs. One ostrich egg weighs the same as 24 chicken eggs. Imagine how many omelettes you could make with that!
Several female ostriches lay their eggs in a single nest or hallow in the sand. Sometime a hallow will contain as many as 30 eggs, with the females taking turns to look after them during the day and the males taking their turn at night.
Usually the males will look after the chicks once they have hatched.



The ostrich egg (right) with a normal hen egg (bottom left) and quail eggs (top left).

Photo courtesy of Paul Kay

The Dogwhelk feeding on barnacles.



Illustrations courtesy of *"A Beginner's Guide to Ireland's Seashore"*

Sea Snails

On the seashore you'll find many animals that live in **shells**. Known as molluscs, these animals have a soft body which is protected by the hard shell. Some animals have two shells but many only have a single shell and it is these that are known as the sea snail (or gastropods). Sea snails often, but not always, have a shell that is coiled into a spiral.

The shell of a sea snail has a single opening through which the muscular **foot** comes out. This foot is very useful. It may be used as a suction disc to prevent the animal being washed off the rocks, or as a spade for burrowing into sand or mud. It is more likely, however, that when you find a sea snail the foot will have been pulled inside the shell and, in many cases, the hole will be covered with a horny disc. This disc is called the **operculum**; it stops the animal drying out when out of water and also gives it protection.

When the tide is out, most sea snails hide away under rocks and seaweed or bury themselves in the sand and mud. When the tide comes back, in they start searching for food. Many of the sea snails found on the shore are herbivores, which eat plants only. They strip tiny seaweeds off the rock with a **tongue** that is covered in teeth. Others are active predators feeding on worms, barnacles and other animals. Some are even able to drill through the shells of other molluscs to get at the flesh inside.

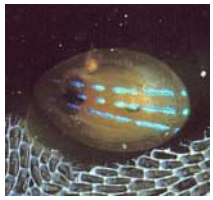
Examples of sea snails that are found on the seashore:

Flat Periwinkle

Limpet

Edible Periwinkle

Topshell



Blue-rayed limpet

Photo courtesy of Paul Kay

Land snails

Land snails are also gastropod molluscs. Just like their cousins in the sea, they have a soft body, which is protected by a hard shell. They can be found in all parts of the world, where there is vegetation. They glide along on their foot, producing a slime as they do so. This slime eventually hardens and sometimes you see these glistening trails on the ground or on a flower pot – evidence that a snail has been around!

Snails in the garden can be a real pest. They love fresh new growth and often eat small plants before the garden has time to blink!

Courtesy of Macrophile CC-SA-2.0 Generic

Bats

Bats in Ireland

Bat are found on every continent of the world, except Antarctica. The highest number of species are found in warm countries around the equator. There are many different types of bat and their diets can vary. Bats in the tropics eat many different foods: fruit, fish, insects, pollen, frogs and even other bats! Here in Ireland, where there are ten different species, bats only eat insects. Common and Soprano Pipistrelle bats are the smallest bats in Ireland, weighing only a few grams and measuring 33-48 mm in length. Leisler's bats are the largest, though in comparison to bats elsewhere in the world, they are not very big (50-69 mm).

Groups such as Bat Conservation Ireland and the Cork County Bat Group carry out bat conservation work in Ireland. Find web links on page 10.

Vampire Bats

Vampire bats are the only bats to eat blood. They feed on cattle, horses, pigs and large birds. However, they don't actually suck the blood. First they make a small hole with their two sharp incisor teeth and then lap up the blood as it pours out (the bat's saliva prevents the blood from clotting). Don't worry, there are no vampire bats in Ireland and they are not in Transylvania either! They are native to Central America and South America.

The largest colony of bats in the world!

Bracken Cave, near San Antonio in central Texas, is home to over 20 million Mexican free-tailed bats. It is the largest colony of bats in the world. Bats that overwinter in Mexico, return there in March and April to produce their young. As they give birth, the cave becomes packed with life, with over 5000 bats per square metre!

Bats are the only mammals that can truly fly. Their wings, which are like webbed hands, have membrane stretching out over extended finger bones. These wings can change shape quickly and so help the bat steer and brake. Being mammals, bats are warmed-blooded and have bodies which are covered in fur. They can be as large as a small dog or as small as a bee. The large flying fox has a wingspan of over 1.5m, while the tiny hog-nosed bat has a head and body length measuring only 2.5-3.0 cm.

In Ireland, as the temperatures begin to warm up in late spring and summer the bats become more active and begin searching for food at night. Female bats come together in a nursery roost, forming a colony. Nursery roots must be warm, undisturbed and close to a source of insects. Bats don't build nests. Instead, they hang upside down or else hide in cracks and crevices. They give birth in June or July to a single baby, which will suckle its mother for milk. A baby bat, known as a pup, is born blind and without fur. It weighs a third of the weight of its mother.

As food is less plentiful during the winter, bats hibernate. Males and females move into a hibernation roost. There they lower their body temperature and heartbeat and go to sleep. They wake occasionally during mild spells to eat and drink.

The average lifespan of an Irish bat is 7-8 years, though some live for up to 20+ years.

Images courtesy of Mnolf CC-AS-A-2.0 Generic

The Common Pipistrelle Bat - Ireland's smallest bat.

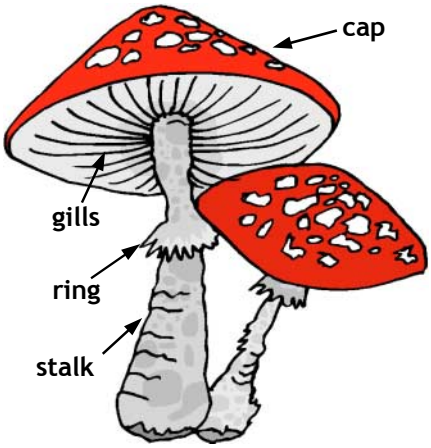
Bats and Echolocation

The saying "Blind as a Bat" is far from true. Though bats are born blind they gain eyesight after about 8 or 9 days. Some species of bats have great eyesight and some not so good. Bats use echolocation to help them catch food at night. As they fly, they emit a high-pitch sound (too high for humans to hear), which bounces off objects and returns back them as an echo. From this they are able to create a picture of their surroundings in their minds.

Mushrooms & Fungi

by Jenna Poole

Mushrooms and toadstools are types of fungi. They are the fruiting bodies of much more complex organisms. These organisms are made up of hidden networks of hair-like strands (called **hyphae**), which send up the more obvious fruiting bodies when reproducing.



All fungi lack the chlorophyll that makes plants and trees green, and they reproduce by spores, instead of pollen-fertilised ovules, which become seeds.

Once called non-flowering plants, fungi now have their own Kingdom (in the same way as animals and plants do). As well as mushrooms and toadstools, this Kingdom also includes yeasts and moulds.

Fungi actually have a very important role within most ecosystems. They break down organic matter such as leaf litter and dead wood, which helps create fertile and healthy soils. Man uses a number of fungi species to make medicines, most famously penicillin, which Sir Alexander Flemming discovered in 1928.

Hunting for Mushrooms!

Excursions to look for mushrooms are known as a "Fungal Forays". Most of our large mushrooms and toadstools emerge in late summer and autumn and can be found in woodlands and unimproved grasslands (those without too much fertiliser or pesticide applied). Species are identified by the presence of gills or pores, the size and colour, and even the smell!

Mushrooms should never be collected without help from a knowledgeable fungus expert, as many species can be DEADLY POISONOUS!

The Spore-droppers

In the most basic way, fungi can be divided into two distinct groups. The first group are the **Basidiomycetes**. These are species that drop their spores and rely on the wind to distribute them. This group includes the easily recognised mushrooms and toadstools, as well as some lesser-known forms.

The **toadstool-type fungi** are further divided into those with gills (like those found on mushrooms you buy in supermarkets) and those with pores (many tiny holes under the cap instead of gills).

Bracket fungi are like toadstools only they tend to be crescent-shaped and attached to the trunks of trees or dead logs instead of having their own stalks.

Puffballs are solid and often round fungi of varying sizes. The spores often escape from a hole at the top.

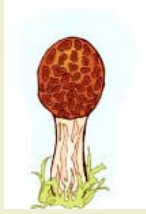
Coral and **club fungi** are simply fungi shaped either like marine coral or clumps of tiny clubs.

Jelly fungi have an almost transparent appearance and flexible texture, such as the Jelly Ear, so called because it really does look like a human ear!

The Spore-shooters

This group is known as the **Ascomycetes**, and they produce spores in sacks just below their surface. When ripe, these spores are released by hydraulic pressure and move faster than a speeding bullet! This group contains some of the stranger looking species of fungi, with some of the most interesting names. There are morels and cup-fungi, saddle and ear fungi, disc fungi and Dead Man's Fingers!

The tasty species of truffle (one of which is featured on the Up-close page 12) are also in this group, as are the spot and crust fungi.



Morel

All in a Day's Work

Daniel Buckley, Researcher, Centre for Irish Bat Research

Daniel Buckley is a researcher working for the Centre for Irish Bat Research, a cross-border project between National Parks and Wildlife Service, University College Dublin and Queens University Belfast.

Photos courtesy of Daniel Buckley

Have you always been interested in what you do?
I have always been fascinated in bats. I grew up on a farm in West Cork and we would often see bats flying around the place at night. I remember a very memorable occasion where a Leisler's bat flew into my room. I was scared at first but when I finally saw it up close I was amazed at its cute little face and incredible wing design. From that moment on I was hooked.

What training did you do to get where you are today?
In my teenage years I got involved with Cork County Bat Group. During this time I learned how to catch bats, identify the different types of Irish bats in the hand and with a bat detector, how to survey buildings for bats and how to deal with members of the public who have concerns with having bats in their houses.
I then pursued a degree in Applied Ecology in University College Cork where I learned how to think and write like a scientist. I was lucky enough to do my final year thesis looking at the habitat preferences of Irish bats.

What is a day in your life like?
The work I am involved with at the moment is looking at three of Ireland's rarest bats, the whiskered, Brandt's and Natterer's. This work takes me all across the island, surveying some amazing places, such as Tintern Abbey in Wexford or Killarney National park. My days are quite varied. I could be crawling around the attic of a house, surveying caves and mines or netting in woodland for bats. We also conduct radio tracking studies, where we tag a bat and follow it to see where it's going and what habitats it likes to hang out in.

What is the best thing about my job?
The best thing is getting to work with animals that I feel so passionate about. I also love the fact that I get to do this while travelling around and working in some of the most beautiful parts of Ireland.

What is the worst thing about my job?
The night time shift can be very tough on you, especially if you are radio tracking a bat all night. It is also depressing to meet people who really hate bats and can't be convinced otherwise no matter how much facts you throw at them!

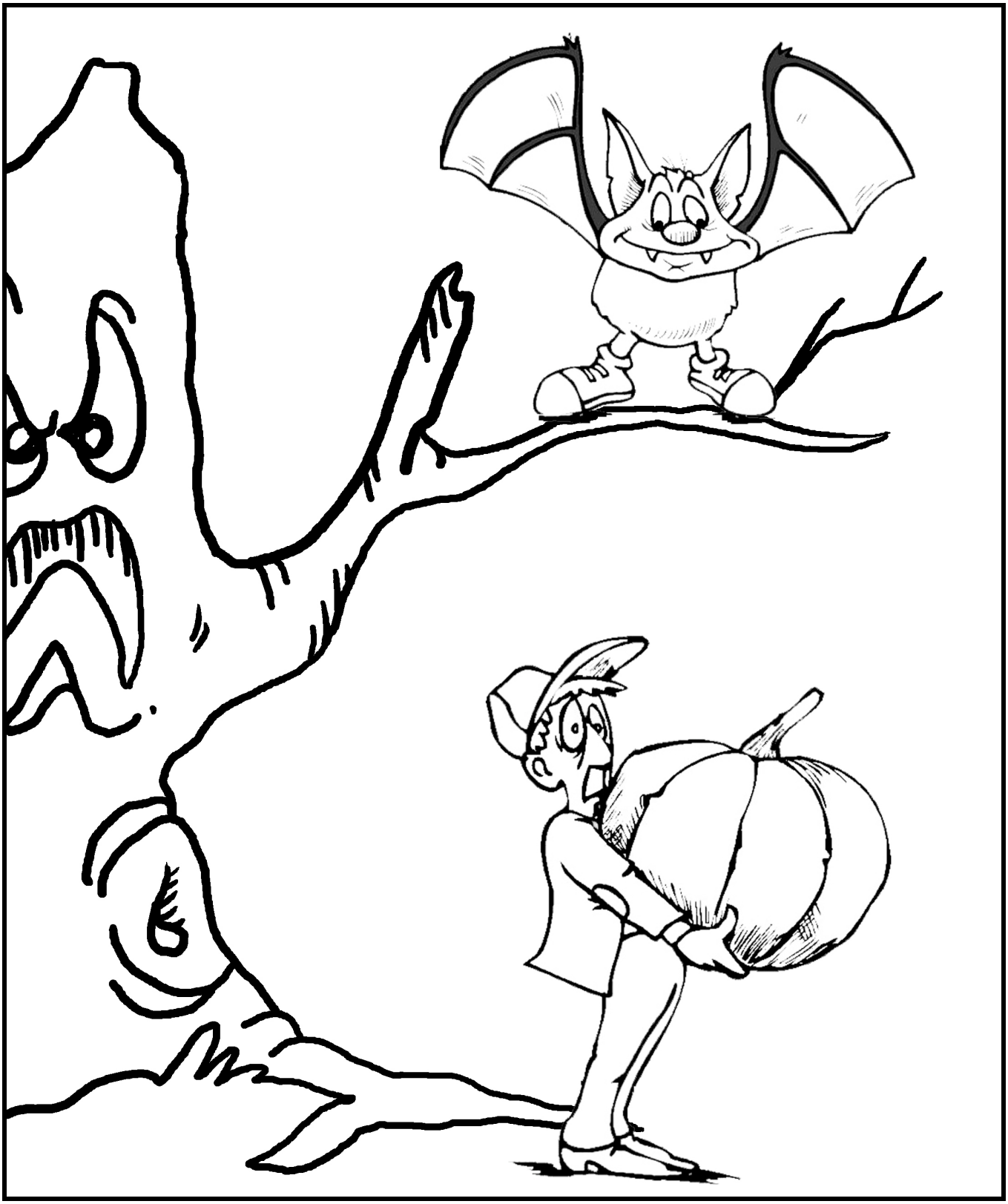
What advice would you give someone wanting to do your job?
There are some very good books out there now about bats. I would recommend getting some of these to give you a good introduction to bats and their ecology. There are now lots of opportunities for hands-on experiences working with bats. Bat Conservation Ireland, a charity solely dedicated to the conservation of bats in Ireland, run a number of volunteer bat monitoring schemes, which are good fun and a great introduction to bat work. They also run an annual bat detector workshop where you will be given lessons on how to identify bats using a bat detector as well as in the hand. There are also lectures on bat ecology and bat surveying techniques. I would also highly recommend pursuing a degree in Zoology or Ecology in a university.

Above: **Setting up data loggers to survey bats in woodland.**

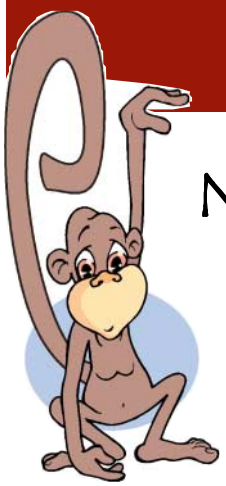
Right: **Whiskered bat.**

Photos courtesy of Daniel Buckley

Scary, Scary Night!



Nature's Web Wordsearch



Nature's Web Autumn 2009 Wordsearch

Try out this giant wordsearch containing words found in this issue of the newsletter.

D	O	L	I	S	S	H	W	V	S	O	I	L	Z	L	M	Y	S
X	L	J	E	U	L	O	N	A	H	L	I	F	V	L	O	E	E
R	N	E	M	R	L	I	L	N	P	L	K	Y	I	R	O	L	A
X	E	M	H	L	E	A	A	Z	S	X	A	X	Q	E	R	K	B
Q	E	T	A	U	M	K	S	N	V	E	H	W	L	W	H	C	E
R	R	W	N	A	Z	T	C	D	S	C	A	A	X	P	S	U	D
U	S	E	N	I	A	B	L	A	K	A	H	S	R	M	U	B	S
Q	U	D	B	B	W	E	E	Q	M	W	E	M	O	Z	M	L	U
O	E	O	S	T	R	I	C	H	K	D	E	S	B	N	Z	E	R
R	N	M	U	T	U	A	S	C	K	G	E	A	C	A	S	I	V
R	E	D	R	E	H	T	A	O	G	Y	E	K	N	O	M	N	E
S	I	O	U	U	I	B	R	S	J	O	K	R	O	N	J	A	Y
P	G	G	H	G	P	R	F	C	C	O	O	N	V	M	O	D	C
R	N	I	F	M	R	E	H	C	T	A	C	G	O	F	S	H	T
I	U	H	U	E	C	H	O	L	O	C	A	T	I	O	N	A	A
N	F	H	A	Z	O	Y	E	B	Z	E	I	M	I	K	X	H	O
G	R	H	N	V	K	Z	E	A	O	N	T	T	F	F	W	G	L
P	C	W	B	N	D	N	E	J	F	N	N	L	U	T	I	S	G

Autumn

Bats

Daniel Buckley

Echolocation

Fog Catcher

Fungi

Humpback Whale

Monkey Goat Herder

Mushroom

Ostrich

Salamander

Seabed Survey

Sea Snails

Seasons

Smoked Mackerel

Spring

Summer

Swallow

Winter

SOLUTIONS *(Over,Down,Direction)*: Autumn (7,10,W); Bats (5,8,NE); Daniel Buckley (17,13,N); Echolocation (5,15,E); Fog Catcher (15,14,W); Fungi (2,16,N); Humpback Whale (3,16,NE); Monkey Goat Herder (16,11,W); Mushroom (16,8,N); Ostrich (3,9,E); Salamander (10,1,SW); Seabed Survey (18,1,S); Sea Snails (13,9,NW); Seasons (10,4,SE); Smoked Mackerel (16,14,NW); Spring (1,12,S); Summer (6,1,SW); Swallow (2,7,NE); Winter (6,8,NW).

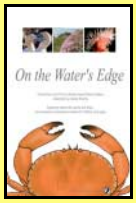
Learn More

A Beginner's Guide to Ireland's Wild Flowers

Have you ever wanted to put a name to the wild flowers you see about you every day, or while on a walk, or on holiday? With the help of this pocket-sized guide, you will be able to do just that. Beginners of all ages will be introduced to the many common wild flowers found around Ireland. *206pp*

Only €8.50 including postage

Sea Life DVD: *"On the Water's Edge"*



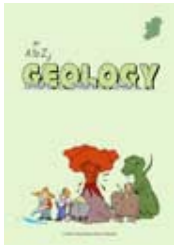
Sherkin Island Marine Station has launched a dvd called *'On the Water's Edge'*. It is made up of a short film on life beside the sea and is presented by Audrey Murphy. It includes 6-10 hours of interactive material for children of all ages. *Available from: Sherkin Island Marine Station, Sherkin Island, Co. Cork. €13.30 including postage.*

A Beginner's Guide to Ireland's Seashore is a pocket-sized guide, suitable for beginners of all ages. This book will help you to explore the wonders of marine life found on the shores around Ireland.

Only €8.00 including postage

Only €2.10 each including postage or €12.00 for all seven! *32pp each*

Sherkin Island Marine Station has published a range of colouring books, guides and activity books for children. Each 32-page *Colouring & Guide Book* gives you the chance to colour, identify and learn about the wildlife around Ireland. *My Nature Diary* contains lined pages to fill in a daily record of sightings and nature news.



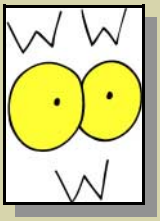
"An A to Z of Geology" explores the fascinating world of rocks and geology – a world of volcanoes, tsunamis, earthquakes, diamonds, gold and even dinosaurs! Produced by Sherkin Island Marine Station, in association with the Geological Survey of Ireland, the book aims to highlight the importance of geology in our everyday lives.

Only €5.99 plus €1.00 postage

To order books, send your name and address along with a cheque or postal order made payable to Sherkin Island Marine Station to:

Sherkin Island Marine Station, Sherkin Island, Co.Cork. Ireland.

Visit: www.sherkinmarine.ie



Useful Web Addresses

There are lots of websites to be found on the internet that will give you further information on topics we have covered in this newsletter. Here are a few that may be of interest:

Swallows: http://www.birdwatchireland.ie/KidsZone/TheMigrationWebsite/tabid/265/Default.aspx
http://www.rspb.org.uk/wildlife/birdguide/name/s/swallow/index.asp

Ostrich: http://www.sandiegozoo.org/animalbytes/t-ostrich.html http://www.ostriches.org/

Sea Snail: http://www.marlin.ac.uk/education.php

Bats & Daniel Buckley: www.batconservationireland.org www.corkcountybatgroup.ie/home www.bats.org.uk

Mushrooms & Fungi: http://www.nifg.org.uk/home.htm http://www.fungi4schools.org/KS2-3_resources.htm

Salamander: http://www.beec.org/projects/salamanders.php

Fog Catchers: http://news.nationalgeographic.com/news/2009/07/090709-fog-catchers-peru-water-missions.html

Humpback Rescue: http://www.iwdg.ie/article.asp?id=2270

A Monkey Herding Goats: http://news.nationalgeographic.com/news/2009/07/090728-shepherd-video-ap.html

Humans Using Sound to "See": http://www.worldaccessfortheblind.org/
http://www.newscientist.com/article/mg20227031.400-echo-vision-the-man-who-sees-with-sound.html?full=true

Seabed Survey: http://www.marine.ie/home/services/surveys/seabed/home.htm
http://www.gsi.ie/Programmes/INFOMAR+Marine+Survey/

Captain Bligh: http://www.clontarfonline.com/bligh.htm

Seasons: http://www.astronomy.org/programs/seasons/index.html

We cannot be responsible for the content of external websites, so please observe due care when accessing any site on the internet.

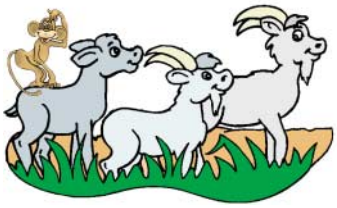
The World Around Us

"Foreign Correspondent" Michael Ludwig reports on some strange goings on in the natural world.

Helping the Salamanders

Salamander numbers are declining around the world. In Vermont, USA, they are trying to do something about it. On one night each spring, these amphibians make a journey from the woody upland habitats to lay their eggs in seasonal pools on lower land. While making this journey they have to cross a number of roads, which results in many fatalities. Local volunteers come out on the night of the migration to help as many salamanders as possible to cross the roads safely. They also check how many salamanders make the crossing and how many don't. The state is considering installing tunnels under the roads to help these amphibians and other small animals make safer crossings!

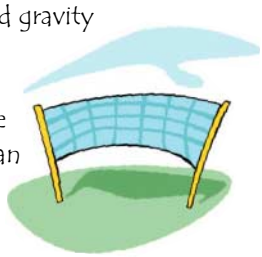
A Monkey Herding Goats!

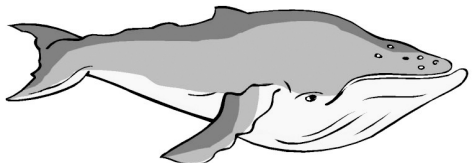


You may have heard about sheepdogs herding sheep, but on the Palagapandi Estate in India they have a unique shepherd for their goats – a monkey! Three years ago workers on the estate nursed an injured monkey, which they named Mani, back to health. Once recovered, instead of leaving, Mani began to herd the goats, devising her own way of controlling the flock. Where once humans took the 75 or so goats out to graze around the plantation each day, now Mani shepherds them all on her own, returning them safely home each evening!

Fog Catchers!

Here in Ireland we can often take rain for granted. It fills our reservoirs and provides us with a plentiful supply of water. But in some parts of the world, that's not the case. On the outskirts of Lima, in Peru, many people live on steep slopes on the edge of the city. There water is scarce and rain rarely falls. Only about half an inch (1.5 cm) of rain falls in Lima every year! The city gets its water from Andean lakes, which are a long way away. But for the people living outside of the city on the hill sides, they have to find water elsewhere. Every winter (which is from June to November), heavy fog sweeps in from the Pacific Ocean. Villagers have started collecting the tiny droplets of fog using large volleyball-like nets. As the droplets hit the coarse weave of the net, they join together to form water drops, and gravity pulls them down into a gutter, where they collect in tanks. A single net can collect more than 150 gallons (568 litres) on a good day!





Lifeboat Rescues a Humpback Whale!

Early this summer in Hook Head, Co. Wexford, divers preparing for a dive spotted a 30 ft humpback whale tangled up in a lobster pot line. Surfacing every five minutes or so, the divers could see that it was in need of help. The coastguard were contact and soon the Fethard inshore lifeboat came to the rescue. They managed to cut the rope, which was wrapped around the tail, and once the string of pots were removed the exhausted whale gave two blows, sank into the water and headed out to sea. You can read more about this story and about humpback whales at the Irish Whale & Dolphin Group website www.iwdg.ie.

Humans Using Echolocation to "See"?

We read on page 5 how the bat uses echolocation to "see" in the dark. The bat bounces sound off objects, which returns to it as an echo, letting the bat know where objects are.

Now it appears that humans who cannot see might also be able to use this technique to help them get around. One such person, Daniel Kish, lost his sight when he was a young child. He taught himself to "see" by clicking his tongue, which has helped him ride a mountain bike, play games and go hiking, all without using traditional aids!

Fungi

It is estimated that there are around 100,000 species of fungus worldwide. Due to the fact that most species are either hard to find or need to be identified using a microscope, it is impossible to say how many fungi actually exist. Here are just a few! Note: Some fungi are DEADLY POISONOUS. Mushrooms should never be collected without help from a knowledgeable fungus expert.

Fly Agaric – *Amanita muscaria*

This toadstool is perhaps the most well known fungus in the world, and is classically the species used in illustrations with fairies perched on top! Its striking red and white-spotted cap makes it one of the most attractive fungus species. The name comes from its use in the past for fly traps, where the cap is broken up and placed in milk or sugar solution to attract and poison flies in the home. This fungus grows in birch woods and is deadly poisonous.

Courtesy of Tony Wills CC-A-3.0 Unported

Giant Puffball – *Calvatia gigantea*

This is one of the largest species of fungus, and can grow larger than a man's head. They are solid, white and ball-shaped and were once common in pastures around Ireland and Britain. The improvement of such habitats has led to a slight decrease in numbers. The spores, which can number as many as 1,000,000,000,000 per mushroom, are highly inflammable and were once used to smoke out bees and produce stage lighting effects!

Courtesy of Digonal Richard

Honey Fungus – *Armillaria mellea*

This is a parasitic fungus that grows in clusters, with toadstools reaching up to 12 cm across and 15 cm tall. However these yellow-brown fruiting bodies are just the tip of the ice-berg, quite literally. The bootlace-like strands of the hyphae of this species creep under the bark of living trees, stealing their food and energy, before killing them. An extraordinary feature of this fungus is that the infected wood of its hosts glows with a chemical reaction causing **bioluminescence**. This effect is so extreme that soldiers in the First World War attached pieces of the wood to their helmets to avoid collisions in the trenches!

Courtesy of Tocekas CC-A-3.0,2.5,2.0-1.0

Cultivated Mushroom – *Agaricus bisporus*

This mushroom is uncommon in the wild but is widely cultivated and available in every supermarket in Ireland. It is closely related to the larger Field mushroom that can be found widely in unimproved pastures to this day. The Cultivated mushroom reaches 10 cm across and 5.5 cm tall and is white with pink gills, turning dark brown with age. Mushroom farms use spore-filled bags of manure in large, humid polytunnels to encourage large numbers of mushrooms.

Courtesy of Andrew Bossi CC-BY-SA-2.5

Black Summer Truffle – *Tuber aestivum*

This is a 'spore-shooting' fungus and a rather unattractive one at that. These small mushrooms are found underground in beech woodlands on chalky soils. They only reach 7 cm across and are black and warty in appearance. They were once common but are now quite rare and are an expensive culinary treat (more than Euro 100 per kg). Traditionally pigs and dogs were used to search for these strongly scented fungi, a practice still occasionally used today where they are found in parts of southern Britain. They are still widespread in France and Italy.

Text by Jenna Poole

Courtesy of Poppy CC-BY-SA-3.0

Fun Page

How much did you learn?

The answers to all these questions can be found in the newsletter...see if you can remember!

1. When it's Spring in Ireland, what season is it in Australia?
2. Name the disc that some sea snails have to seal their shell and help prevent them drying out.
3. Daniel Kish uses echolocation to get around. When did he lose his sight?
4. What type of fish is used in the BIM seafood recipe?
5. What mammal does Daniel Buckley study?
6. What precious liquid do fog catchers catch in the hills of Lima, Peru?
7. Which continent are ostriches native to?
8. Some mushrooms are deadly poisonous. True or false?
9. What type of whale was rescued by the lifeboat in Co. Wexford earlier this summer?
10. Which animals are good at finding truffles?
11. Vampire bats come from Transylvania. True or false?
12. How big is Ireland's underwater territory?
13. Where do salamanders lay their eggs?
14. Name the infamous Captain of the ship the *HMS Bounty*.
15. Which type of bat once flew into Daniel Buckley's room?
16. Swallows that have spent the summer in Ireland. Where do they go for the winter?
17. What is the name of the monkey that herds goats in India?

Answers: (1) Autumn (2) Operculum (3) When he was a young boy (4) Smoked Mackerel (5) Bats (6) Water (7) Africa (8) True (9) Humpback Whale (10) Pigs & dogs (11) False (12) 220 million acres (13) Seasonal pools (14) Captain Bligh (15) Leisler's bat (16) South Africa (17) Mani.

What am I saying....?

Have fun with your friends making up a title for this picture of a mallard duck.

Courtesy of Alan D. Wilson www.naturespicsonline.com

Nature Jokes

What do you get if you cross a road with a safari park?
Double yellow lions.

How do you milk a mouse?
You can't, the bucket won't fit underneath.

What did the bat say to the witch's hat?
You go on ahead. I'll hang around for a while!!

What reads and lives in an apple?
A bookworm.

What do you get if you cross a dog and a vampire?
A were-woof!

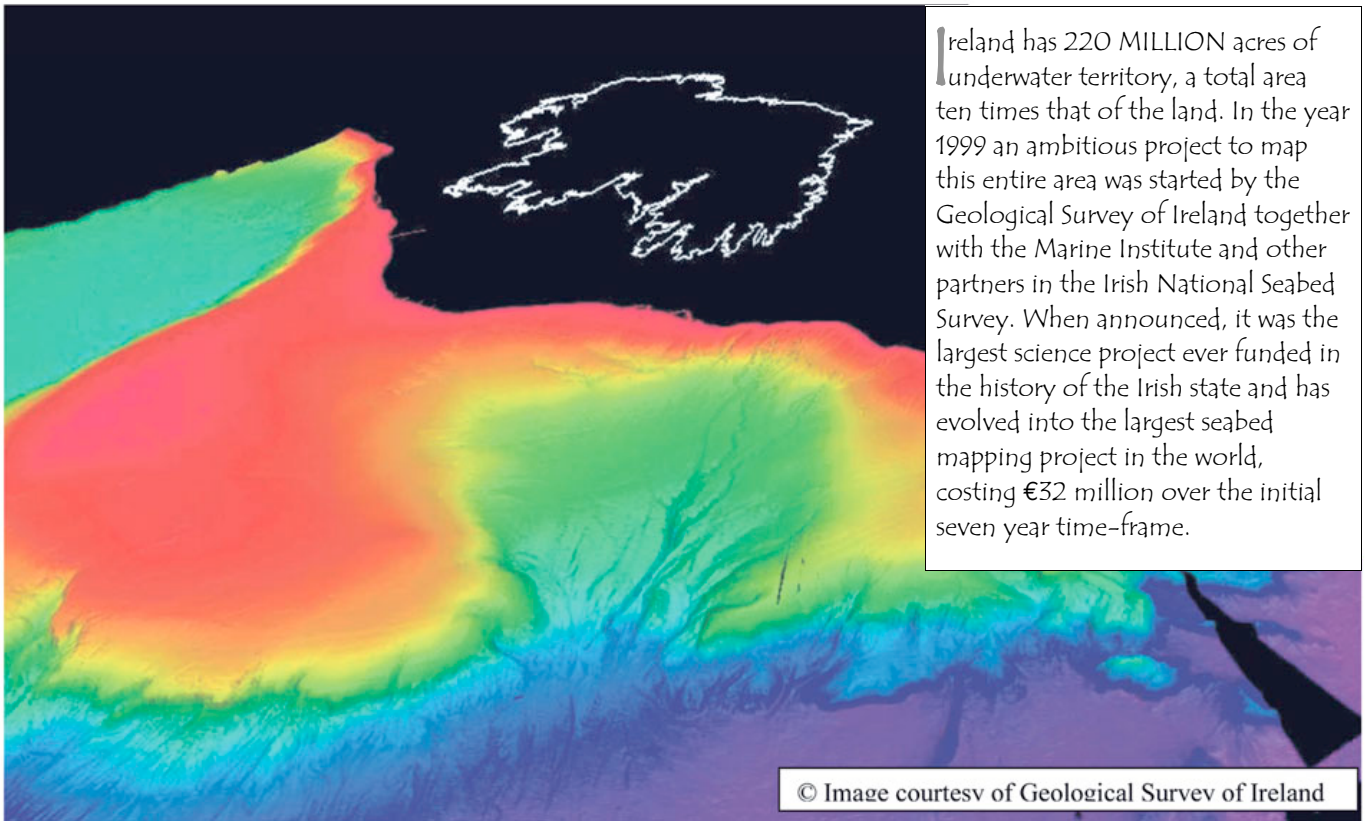
How do hens dance?
Chick to chick.

What has six legs and can fly long distances?
Three swallows.

Why is the snail the strongest animal?
Because it carries a house on his back.

Spot the five differences!

220,000,000 Acres Under the Sea...



Ireland has 220 MILLION acres of underwater territory, a total area ten times that of the land. In the year 1999 an ambitious project to map this entire area was started by the Geological Survey of Ireland together with the Marine Institute and other partners in the Irish National Seabed Survey. When announced, it was the largest science project ever funded in the history of the Irish state and has evolved into the largest seabed mapping project in the world, costing €32 million over the initial seven year time-frame.

Until recently, most of the charts around the Irish coast dated back to the time of Captain William Bligh, commander of the infamous HMS Bounty. Bligh was a master mariner and compiled many of the charts of Irish waters, including detailed maps of Dublin Bay.

Captain Cockle's Log

Welcome aboard shipmates! Together, we'll be taking a look at the world's greatest natural resource -- the sea!

Words & pictures by John Joyce
www.captaincockle.com

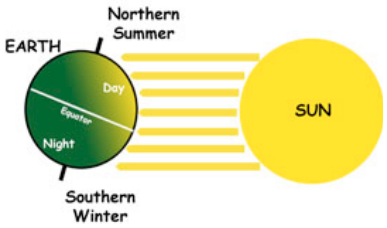
Plumbing the depths . . .

In Captain Bligh's day, depths were measured with a rope with a lead sinker at the end. Sometimes the lead weight had soft grease on the end to pick up a sample of the bottom and tell if it was rock, pebbles or sand. Nowadays depths are measured by bouncing sound waves off the bottom to give a detailed three-dimensional picture of the seabed. Sound pictures from the bottom can tell surveyors not only how deep the water is but what the bottom is made of.

Check out these cool websites:
The Irish National Seabed Survey www.gsiseabed.ie
The Marine Institute www.marine.ie
Captain Bligh: www.themagicofcornwall.com/Pages/history/bligh.htm

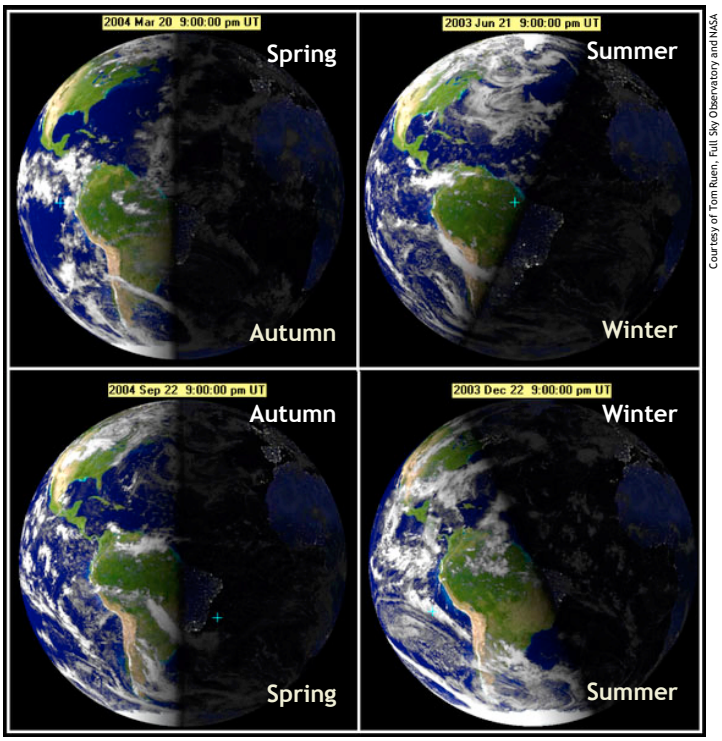
Seasons

Every 24 hours the Earth rotates full circle. As sunlight hits the Earth, daylight is created on one side (day), while the opposite side is covered in darkness (night). At the same time, the Earth is also revolving around the Sun, a journey that will take one year.



In Ireland we have four seasons – spring, summer, autumn and winter. These seasons are created based on the way the Earth revolves around the Sun. Imagine an orange as the Earth and a pencil as the Earth's axis. Stick the pencil straight through the orange, from top to bottom. Keeping the pencil on the table, tilt it slightly. Now imagine the Earth revolves around the sun in this position. Because the axis is tilted, different parts of the Earth are turned towards the Sun at different times during the year.

In summer the sun's rays are hitting the Earth at a more direct angle than in winter, giving us warm weather and more daylight. In winter, when the sun's rays are lower in the sky, the days are cooler and there is less daylight.



Courtesy of Tom Ruen, Full Sky Observatory and NASA

The Sun's rays lighting up the Earth through the different seasons. The seasons in the Northern Hemisphere and the Southern Hemisphere are reversed. For example, when it's spring in the Northern Hemisphere, it's autumn in the Southern Hemisphere.

The Shortest & Longest Days

When the sun reaches the most northerly and southerly positions on the Earth, these are known as the solstices. The **winter solstice** (which is the shortest day of the year) is around 21st December. The **summer solstice** (when we have the longest day) is on 21st June. Twice each year there are days when day and night are of equal length. Known as the **equinoxes**, these occur when the sun crosses the celestial equator. One equinox occurs in late March and the other in late September.

Other 'Seasons'

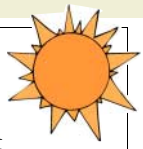
In places near the Equator, light varies very little.The seasons there are not as obvious as they are here in Ireland. Many areas near the Equator have 'wet' and 'dry' seasons – periods when they either have lots of rain or hardly any at all.

In some parts of the world the word 'season' is used to describe the occurrence of special events, such as hurricanes, tornadoes and wildfires. For example, the Atlantic hurricane season is from 1st June to 30th November each year.

Spring

When Spring arrives, temperatures begin to rise. The North Pole is tilting towards the Sun as the Earth spins around it. Daylight hours are increasing as the sun rises higher in the sky.

Summer



Summer is the hottest and driest season of the year. During the summer, the sun is at its highest point in the sky, gives the most direct sunlight and also makes its longest appearance.

Autumn

Temperatures start to cool when autumn arrives. As the Earth revolves around the Sun, the North Pole is tilting away from the Sun, so the number of daylight hours decreases.

Winter

Winter is the coldest season. As the Sun is very low in the sky, there is less heat from its rays. The Sun also makes its shortest appearance in the sky, meaning winter has the least amount of daylight hours.

Autumn 2009

Sherkin Island Marine Station would like to thank PharmaChemical Ireland for their support in making this newsletter possible. We would like to thank those who have contributed to this newsletter especially Daniel Buckley, Gerry Griffith, John Joyce, Peter Lennon, Michael Ludwig, Robbie Murphy, Matt Murphy, Jenna Poole and Jez Wickens.