

East Lothian Council Countryside Rangers



MUD in your EYE

July/August 2021



Wildlife

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Poetry



Heavens above



Uniformitarianism



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Welcome to the 52nd Edition of
'Mud in Your Eye'

We'd love to hear from you!
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 @ELCrangers

 East Lothian Countryside
Ranger Service

Published by East Lothian Council's
Countryside Rangers

Editorial

Welcome to our summer edition of Mud In Your Eye. We have quite a mix of articles this time, from things washed up on the shore today to fossils formed millions of years ago. In between we have things to look out for in the night sky, dolphins, environmental art, a reminder of the work of East Lothian Conservation Volunteers and our usual poetry corner. Finally, and more importantly, we welcome our new Countryside Ranger, Meryl Norris to the fold.

Enjoy.

*Right: Our new Ranger, Meryl Norris.
Below: Fossilised tree bark at Gullane.*



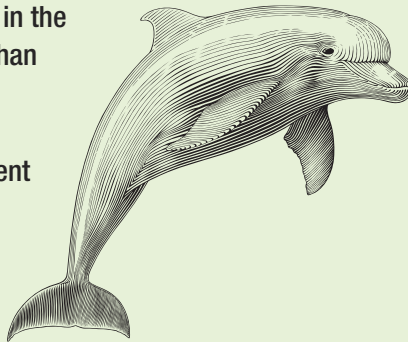
Poetry Corner

The Dolphin – by Charl JF Cilliers

Nearby you see him in air
cavorting in twistings of light
that part of him that you share
in a brief unusual flight.
But he falls back into the deep
and waters close over him there
where his secrets are larger than sleep
and distances far from the shore.
You try to keep what you saw
of him there in a moment so brief
a moment you think of as yours.
But gone is the shape in the
light growing fainter than
your belief that you
know what was there
in that one brief moment
in dazzling sun.



Charl Cilliers is a South African author and poet.



Bottle nose dolphin.



A Warm Welcome to Our New Ranger

We are pleased to announce a new Countryside Ranger to our team. Meryl Norris joins us just in time for the busy summer season, and comes to us with a wealth of experience in natural history, as well as countryside ranger work.



Our new Countryside Ranger, Meryl Norris.

Since graduating with a degree in marine biology in 2010 Meryl has worked on a variety of community based projects focused on controlling invasive non-native species with Rivers and Fisheries Trusts across Scotland and with North Wales Wildlife Trust. Meryl joins us having worked for the City of Edinburgh Council in the Pentland Hills Regional Park for the past 4 years. She has worked on projects involving a variety of stakeholders and volunteers and is looking forward to meeting the many volunteers across East Lothian's coast and countryside sites. She

is happy to be returning to the coast having grown up on a farm on the Atlantic coastline in the North West of Ireland. After many years in the city the call of the coast and countryside was too strong so she moved to East Lothian in late 2020, and the stars aligned with the Countryside Ranger post becoming available in 2021! Meryl will be out and about getting used to the various coast and countryside sites across the county before concentrating her time on the coast from Longniddry to North Berwick. Be sure to say hi if you meet her during your visits.

Visiting dolphins

It has taken a while this year as sea swimmers will testify, but the Forth is gradually reaching the warm summer temperatures that entice schools of fish such as mackerel and herring in from the deeper water where they spend the winter. Following on their tails, and bringing delight to the most seasoned of sea-watchers, dolphins are now gracing our coast.



A large pod of common dolphin.

A variety of species can turn up, but the most common, and most familiar, especially to those whose memories include a certain 60s American telly show are bottlenose dolphins. Ranging into the Forth from as far away as the Moray Firth where there is a resident population, their more uniform blue-grey tones are obvious if you are lucky to see them powerfully and spectacularly taking to the air. They will occasionally form large pods, but are also likely to be seen in smaller groups inshore. With their 'hourglass' yellow/light blue combination, the striking common dolphin are even more acrobatic, but are more likely to be encountered in open water.

Rarer cousins, such as white-beaked and Risso's dolphins, both of which are more common further north, will also occasionally turn up.

Dolphins can be told apart from the much smaller and invariably solitary harbour porpoises by size, and the significantly smaller dorsal fin that even Bud Ricks would struggle to get a decent grip of. And on that subject, these wild animals should be left so. Certainly don't try to swim with them, let alone touch them, and if in a boat see NatureScotland's guide to watching cetaceans responsibly.

Seashore Safari

The sea can sometimes seem a mysterious place. The creatures of the deep are hidden from us, and as we seldom see them we know very little about them. Sometimes though, the elements can work in such a way that what was once under the sea ends up on the shore.



Sea wash ball, or whelk egg case.

The obvious signs are the empty shells of molluscs found along the strandline. In amongst them though, you may find one or two of the following.

Necklace shell sand collar – These are sometimes washed ashore on sandy beaches around the coast. The eggs are laid in a mass of jelly and sand grains that forms a collar shape. The snails themselves are found on the sea bed where they feed on other shellfish.

Sea wash ball – This is made up of egg capsules of the whelk *Buccinum undatum*. Each capsule can contain hundreds of eggs, but usually only a few emerge as juveniles, the other eggs being eaten by the developing whelks. The name sea wash ball apparently comes from sailors using them as sponges to wash themselves.

Seashore Safari – Continued

Mermaid's purse – These tough pouches protect a developing shark or skate embryo. In East Lothian they are usually the egg cases of spotted dogfish, small shallow water sharks about 75cm in length.



Sea squirts.

Sea squirts – We sometimes get reports of shells washed ashore with bizarre growths on them. What they turn out to be are sea squirts. The larval form will settle out on any hard surface on which it then grows into the adult. Adults look like small bags of jelly with two holes at one end, through which they suck in and squirt out water, filtering off any food that gets drawn in. Although they don't look like much, they are distantly related to vertebrates like us.



A dogfish egg case, or 'Mermaid's purse'.

Moon jellyfish – Often washed ashore during the summer months, these small, plate-sized jellyfish are transparent with four purple rings, which are the reproductive organs of the jellyfish. They have a series of small tentacles, each with a nematocyst at the end which can sting their prey.



Above: A moon jellyfish washed ashore.

Left: Necklace shell sand collar

Heavens Above

As we are moving into the main summer months, and with the nights gradually getting longer (sorry about that!) it's worth mentioning the summer triangle which will be visible in the night sky from now until well into autumn. It is actually formed from three bright stars from different constellations; Deneb in Cygnus the swan, Vega in Lyra the lyre or harp, and Altair in Aquila the eagle. It appears overhead around midnight in summer, with Deneb and Vega the highest in the sky and Altair below them (see picture).

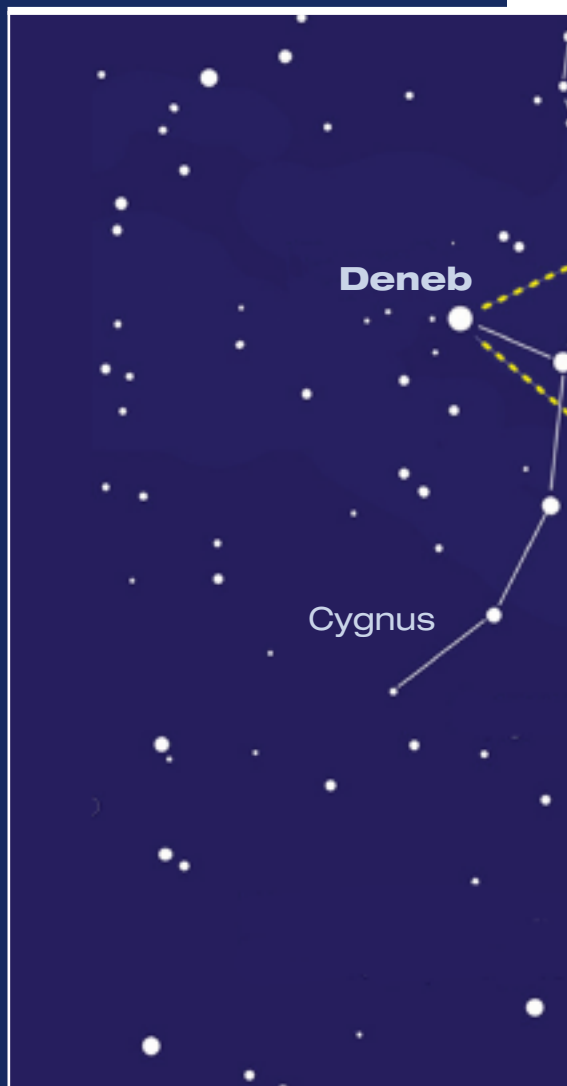
Vega and Altair are relatively close to us, cosmologically speaking anyway, at 25 and 17 light years away respectively. Deneb on the other hand is at least 1500 light years away (no-one seems to agree exactly how far!). It appears so bright in the sky because it is a blue giant, about 200 times the size of our own sun and 196,000 times brighter.

August is the month to see the best meteor shower of the year.

The Perseid meteor shower peaks on the 12th August when up to 75 or more meteors an hour may be seen.

The shower occurs because the Earth passes through a trail of debris left by the comet Swift-Tuttle.

Deneb in the
Summer Triangle.
Overhead, August
evenings.



Heavens Above – Continued

The meteors appear to radiate from the constellation of Perseus, hence the name. This will be observable in the eastern sky just below and to the left of the W-shaped constellation of Cassiopeia.

The meteors can be bright, can flare up and will often leave a train. Although you can see the meteor shower from almost anywhere, it is best to find a dark spot away from street lighting for the best views.



Uniformitarianism

There is an important principle in geology called Uniformitarianism. This is the idea that processes which took place in the dim and distant past were similar to those which we can see taking place today. It's often summarised in the expression, "the present is the key to the past". So, it's possible to look at a particular rock type and, by examining its minerals and structures, to draw conclusions about the conditions under which it was formed.



Brachiopod fossils at Barns Ness.

Critics of this theory point out that it's based largely on assumption and it's fair to say that the further back in time you go, the more difficult things become. However, as a broad principle it has proved invaluable to the science.

As a result, the study of rocks and fossils is a little like detective work. So, if we find a rock that contains fossilised corals and shells, then we can go full-on CSI and conclude that we've got a rock that was formed in marine conditions. Similarly, a rock containing fern or tree fossils can be assumed to have originated in a more terrestrial setting. Both of these examples can be found, along with many others, in East Lothian.

The coast between Whitesands and Barns Ness is rightly renowned for its fossils.



Ormiston 330 million years ago.

The rocks here date back to around 330 million years ago (during the Carboniferous Period), and consist of limestones, sandstones and mudstones. Fossilised corals can be found all over the place – in fact you'd have to work hard at not finding them. The rocks also contain fossils of brachiopods (a group of almost extinct shellfish) and crinoids (relatives of sea urchins and starfish).

Uniformitarianism – Continued

So, not only do we have an array of marine organisms, but we can go a step further and say that these species indicate a warm, shallow sea.



Fossilised corals at Barns Ness.

Further west in the county there are fewer limestones, but more sandstone and a lot more coal. Coal is a sedimentary rock formed from plant material which has undergone a long, slow process of burial, followed by physical and chemical alteration. Not only does this take time, but it also requires a lot of plant material to produce productive coal seams. The best places for this process to occur are tropical swamps, which produce huge amounts of vegetation and then have the right

conditions for the preservation of plant material. So, getting back to our Uniformitarianism, it's a reasonable conclusion to think that our ancient history included these swamps.

The coal seams often appear cyclically in amongst layers of limestone and sandstone, which provides further clues as to how past environments changed over time. If the coal represents swampy conditions, the sandstones are thought to indicate rivers or estuaries within those swamps. This all conjures a picture of low lying coastal wetlands, which were repeatedly inundated by the sea, as evidenced by the layers of limestone.

These changes in (relative) sea level clearly occurred time and time again, over the course of thousands or tens of thousands of years, to produce the strata that we see today.

So, perhaps the study of the earth and its processes is just like detective work. Or perhaps it's more like a very complicated jigsaw. Maybe it's a bit of both – anyone fancy a 5000 piece puzzle featuring Columbo?



Limestone, coal and sandstone strata

Accessible Art?

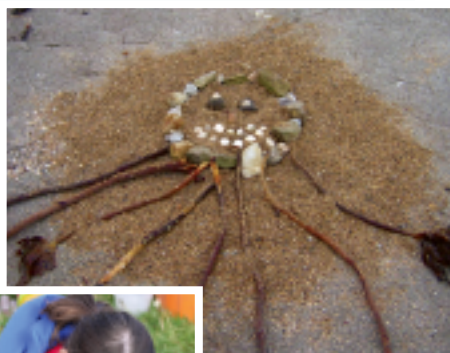
In this digital age, it is fairly easy to point our smart phone camera, take a pretty picture and apply a filter to capture a moment in time in nature. Not that I am saying that it is always that easy, but certainly technology is making it easier and easier to create art.



is it art? Spiral shapes.

The wonder of nature has always been an inspiration for artists of all kinds but it is not uncommon to hear a passing comment from either someone you know or a complete stranger that they 'wish they could draw like that' or 'I would love to be able to paint'. So have you ever thought about using natural materials to explore your artistic expressions?

There are many way of getting colour from nature. You can grind down soft rocks to create a paste with a tiny bit of water to make your own rock art. Why not trying crushing leaves and the odd petal either to create a natural paint. Even bashing them with a hammer between a piece of cloth can make some beautiful patterns. Another lovely option to try with the family is to stick double-sided tape to a piece of card, and then gather different colours or shades of natural objects to stick to your natural artist's palette! Finally if you are exploring the shoreline, how about getting creative with the materials you find there to make a sea sculpture?



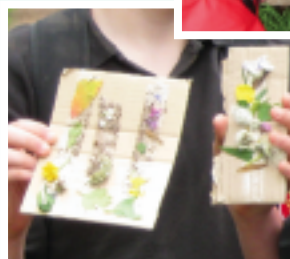
Guess the animal.



Artist at work.



Cave art.



Palette artwork.



ELCV - What is it?

ELCV is short for the East Lothian Countryside Volunteers.

It is a registered Scottish charity, born out of the Path Wardens charity set up years ago by Duncan Priddle (remember him?).

Our main objective is to help volunteer groups develop conservation projects and to secure funding for them. We also aim to publicise the work of volunteers in order to stimulate community interest, and to provide them a collective voice.

Because money is a key part of our work, we need to follow all the standard charity procedures, which includes a constitution, trustees (currently 13 of us), AGMs, and committee meetings.

We have a website at **www.elcv.org.uk** with comprehensive information about all aspects of our work, and a facebook page at **www.facebook.com/groups/elcvposts** which anyone can contribute to.

We always work closely with the ELC Countryside team. One major on-going project is the Aberlady Reserve Volunteer Hub, which is a space for volunteers to meet and work on monitoring. Led by the warden John Harrison, several volunteers are part of the working group, which has successfully obtained thousands of pounds

of funding, and organized the delivery and installation of the physical hub. Other projects have included buying various tools for path wardens and removing Giant Hogweed from the River Tyne - for which we won an award.

In the future we plan to be more involved in helping the council organise and fund other projects, like a boardwalk by North Berwick Law, or new information boards about the county.

Roughly half of the 330 council volunteers are members of the charity. Legally this allows them to vote at meetings, but the main benefit is that the more members we have, the more clout we have when seeking funding.

It's free to join! - contact

Jenny Hargreaves

jhargreaves@eastlothian.gov.uk

or Colin Ballantyne

colin.bal@outlook.com

for more information and to get signed up!

A selection of volunteers doing 'Community Service'.

