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Geology





Hedgehogs

Mud In Your Eye January - February '23

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Editorial

Welcome to our first edition of MIYE for 2023!

In this edition we have articles on hibernating hedgehogs, The Herring Road, rural crime, the regular look at the night sky and our new geology section focusing on the Caledonian Orogeny.

We'd love to hear from you!

Email ranger@eastlothian.gov.uk 🗹 or follow us...

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- f East Lothian Council Countryside Rangers 🗹

Mud In Your Eye is published by East Lothian Council's Countryside Rangers



Welcome

Hogging the Hedgelines

As we turn to thoughts of winter and festivities, many of our wild neighbours have prepared for the cold months in a quite different way. Hedgehogs will be hibernating by the time this article reaches you.

But do you know where and for how long these creatures hibernate? It can be right through until April, and they could choose to sleep winter out in your garden. So, to ensure their peace is not disturbed, and when they wake up, that all is well, here are 2 suggestions;

1. Do not burn hedgehogs!

Sadly, many perish each year as that pile of leaves and logs that you are thinking of making a bonfire out of mimics exactly the kind of place hedgehogs like to hibernate. If you must have the bonfire, check carefully at the base for any hedgehogs before lighting.

2. Do not disturb hedgehogs.

Akin to not lighting fires, leave any piles of leaves and logs and ensure your cat / dog is not left to explore them. When the hedgehogs waken next year, they'll be cold and hungry.

Hedgehogs are having a really tough time now, with habitat fragmentation, agricultural intensification and urban spread the main causes for a dramatic decline in their numbers.

We need to help what few hedgehogs remain.

(cont. over)

Hedgehogs

Hogging the Hedgelines (cont)

There are excellent websites...

www.britishhedgehogs.org.uk 🖒 www.hedgehogstreet.org 🖒

...that gives you loads of information about them and simple things you can do, including;

- Allow hedgehogs to wander by cutting a 13cm x 13cm gap in your fencing. Hedgehogs roam a couple of km each night and solid barriers are an impassable obstacle for them
- 2. Stop using chemicals in your garden. A resident hedgehog will make a better job of controlling slugs than toxic pellets which are indiscriminate in what they kill
- 3. If you want to feed hedgehogs, they like cat food
- 4. Leave a corner of your garden wild. Easy one for us all to do if we have a garden!
- 5. If you have a pond, ensure some sides are shallow to allow hedgehogs to get out. They like water, but cannot climb steep sides
- 6. Make an artificial hibernation house for hedgehogs for next year!

New Year Quiz

East Lothian Countryside & Coastal Sites Anagrams

Something to occupy the little grey cells over the new-year period.

The following are ten anagrams of East Lothian landmarks – but what are they?

- 1. Aprawn trail
- 2. Orcs bask
- 3. Heavenly abb
- 4. A la unrecoverably bleareyed rats
- 5. Beagle launch
- 6. Trendy blondings
- 7. Chirrupy roam not junk
- 8. Banshies watched
- 9. Neighborless sun hats
- 10. Unshaved gnashers

ANSWERS

1. Traprain Law: 2. Bass Rock: 3. Belhaven Bay: 4. Aberlady Bay Local Nature Reserve; 5. Gullane Beach: 6. Longniddry Bents; 7. John Muir Country Park: 8. Whitesands Beach: 9. Barns Ness Lighthouse; 10. Ravensheugh Sands



New Year Quiz

Heavens Above

January is a great month for observing the night sky. If we have enough clear skies that is! Some of the clearest constellations and other astronomical features are easy to spot, and in 2023 there will also be some easy planet watching too.

The familiar constellation of Orion is a good place to start. In the late evening it will be high up in the southern sky.

The Orion Nebula, a massive area of gas where new stars are forming is situated just below Orion's belt. It can be seen as a white smudge in the line of stars that forms Orion's sword. Orion's Belt itself acts as a pointer up to Taurus, where you should be able to see the bright reddish looking star Aldebaran that marks the bull's eye.

Continuing along the line from the belt, look for the white smudge of the Pleiades or Seven Sisters, a star cluster that is well worth looking at through a pair of binoculars (for further details see the last issue of MIYE #60).

Below and to the left of Orion is Sirius, the Dog Star, which is the brightest star in the night sky and therefore easy to spot.

High above Orion and to the left are the two brightest stars in Gemini, Castor and Pollux (The names of the mythological twins). As mentioned in a previous article, Castor is the higher of the two stars and is actually part of a six star system. Our solar system has just the one star and may be unusual in that respect.





As winter falls, and the longer hours of darkness take a grip this can bring with it an increase in acquisitive crime in rural areas. There are preventative measures you can have in place to deter thieves:

- Ensure any vehicles are properly secured, and store keys away from the vehicle in a secure place
- Consider locking quad bikes and plant machinery in a shed where they are out of sight, and never leave keys in vehicles
- Keep outbuildings locked and well maintained to prevent unauthorised entry
- Be aware of any suspicious vehicles or people in the area
- Keep your property locked, ensuring windows are closed in the evenings
- Consider motion activated external lighting, or dusk til dawn lighting that comes on automatically

elparc Hare Coursing

While the fields remain empty over the winter, there is the possibility of hare coursers. Tackling hare coursing is a priority for ELPARC.

This is a barbaric and cruel act, and is illegal. Hare coursing involves individuals with whippet typed dogs, who will attend at fields where hares are likely to be. The dogs are kept on a slip lead so they can be easily and quickly released to chase and kill the hare.

If you witness or are suspicious of hare coursing in your area, try to get as much information as you can from a safe distance, such as descriptions of individuals, vehicles and dogs. Try to provide as accurate a description of the area to police - consider using What3words

Call 101 to report to police, or 999 if it is an emergency.

Using dogs to hunt hares is not a sport, it's a crime.

Ind Waddie Come. For more information on how o moort Wildlife Crime unit scotland police or

elparc / Rural Watch

Personal Climate ACTION PLAN ✓

We all benefit from a healthy environment and planet clean water, stable climate, food security, ecosystem services, biodiversity, access to nature and green spaces, healthy oceans and no pollution.

We all have an impact on our environment and planet food waste, transport, over-consumption, plastic waste, energy demand.

Together we can help our planet, our climate and biodiversity climate action, climate justice, biodiversity action, community support, conservation, circular economy, just transition and empathy and kindness for each other and our environment.

Are you a Climate Champion?

Complete our questionnaire on pages 8-9. Count the number of ticks and see what score you get. Are you a Climate slacker or a Climate Champion?



0-4: A Climate Slacker:

Every little helps and every action has an impact on our climate and environment. So now is the time to start your climate action journey. Try ticking a few more actions off.

5-9: A Climate Novice:

Welcome to the climate action club, you have done great in taking those first steps and thinking about your everyday behaviours. But keep going and you'll be a climate soldier in no time.

10-14: A Climate Soldier:

It is great to see you have awareness about the climate and nature emergency. Keep going to become a climate warrior.

15-19: A Climate Warrior:

You care for the climate and nature emergency and this reflects in your

actions! You have more fight in you to keep those actions going and push yourself to be a climate hero.

20-24: A Climate Hero:

Your actions are admired and inspire others, spread the word about what you are doing and keep going! You may get a few more under your belt. You are so close to being a climate champion.

25+: A Climate Champion:

You are taking tremendous actions, while reducing your carbon footprint and helping biodiversity. There are many more actions that you can take that are not on that list. Is there any extra actions you can think of to keep the great work going? You could try contact an MP about climate change or biodiversity loss. Pledge a flight free year or even take part in some activism.

List of actions you can do to help respond to the climate emergency and nature emergency. Tick ones that you have done.

Get involved	Volunteer in conservation work.				
	Volunteer or support a local climate action group.				
	Join an environmental/climate or wildlife society.				
	Complete a wildlife survey.				
		1998			
Food	Grow your own vegetables and fruit. (Less waste, air miles & energy).				
	Buy locally grown food (reduces air miles, supports local businesses).				
	Introduce a plant based meal in your weekly meal plan.				
	Choose sustainably sourced seafood.				
	Compost any wasted food. (vegetable scraps, bread, egg shells) Dairy cannot be composted!				
		er y u i			
Energy	Insulate your home.				
	Solar panels/or other renewable and sustainable home energy sources.				
	Turn off plugs and lights when not in use.				
	Reduce use of high energy consuming appliances. (Washing machine, dishwasher, and oven).				
	Use eco-modes and low temperatures on your high energy consuming appliances.				
	Use energy efficient light bulbs.				

		•		
Waste	Repair items that can be fixed, don't throw them out! (try a repair café)			
	Donate items you have no more use for (charity, marketplaces, a neighbour, family or friend).			
	Recycle - reduce the amount of things going into your general waste and landfill.			
`	Buy less to waste less. (Only buy what you need this week.			
	Don't buy plastic this week.			
8. N. 38				
Transport	Active travelled this week (walk, wheeling and cycling).			
	Used public Transport this week (bus, train).			
	Car shared this week (sharing a journey to reduce the need for more than one car).			
2.0 ×				
Garden	Avoid pesticides.			
	Install a Water butt (saves rainwater and help water security).			
	Use Peat free compost (saves on emissions and saves peatland habitat).			
	Plant native species that attract wildlife.			
ur ag un Nr				
Other	Buy local, sustainable and ethical products. (Slow fashion, second hand, technology, FSC wood products).			
100				
Shout out about it!	Have a climate conversation with a friend, family or colleague.			
	Talk to a friend, family or colleague about local biodiversity that interests you.			
TOTAL	Add up your score here. How well did you do? Go back to page 7 to see what else you can do to help.			

Personal Climate Action Plan

The Herring Road

The Lammermuirs lie within easy reach of Edinburgh and the busy coastline of East Lothian, yet the charms of this stunning area of high moorland and gentle hills are hidden from the modern road network and often overlooked.

The most famous old way across the Lammermuirs is the 50-km Herring Road. The route was used by local fishwives carrying huge creels of herring from Dunbar to the markets of Lauder, and by folk travelling to Dunbar to get a stock of salted fish to see them through the winter. Today, occasional small stones still stand as waymarkers for hillwalkers following in the footsteps of the fishwives.

Records of the inland trade in fish go pretty far back (Roy's Military Survey of Scotland [1745-1755] shows a route labelled as Muir Road from Dunbar to Lauder) but it's thought to have been mainly in use during the 'herring boom' of the 18th and 19th centuries – a period of economic recovery in rural Scotland following the clearances, most famously recalled in Neil Gunn's bestselling novel The Silver Darlings, which was released to popular acclaim during WWII.

unbar Historic Societ

Herring were caught relatively easily off the coast of Scotland, and there were up to 30,000 vessels involved in fishing the east coast at this time, with winter and early spring the peak season.

As the century progressed, the numbers continued to grow until the Scottish fishing industry became the largest in Europe. Local Fishwives © John Gray Centre

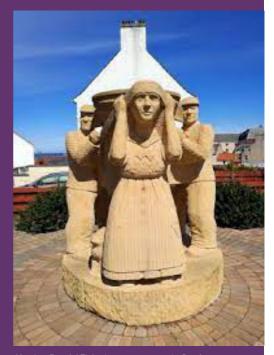
Government bounties and a captive continental market (which considered 'the silver darling' a delicacy) helped buoy the market, but it was local demand that fuelled the fishwives hard journey o'er the hills on the Herring Road.

Throughout the boom, the Scots 'fisher lassies' were an integral part of the fisheries landscape at any port where herring was landed. They began gutting and packing the silver darlings at the age of 15, and travelled throughout the season.

WWI interrupted the growth of the industry when fishermen, with their unique knowledge of the seas, became the backbone of the Roval Navv Reserve. They returned to a declining industry which was further interrupted by the outbreak of WWII in 1939. After 1945 much of the effort became concentrated on whitefish with an additional sector exploiting shellfish. Technical developments concentrated fishing in the hands of increasingly fewer fishermen operating ever more efficient vessels and, although the annual value of catches continued to rise, the number of people working in the industry fell.

Today, the Herring Road is designated as a Scottish Heritage Path (alongside some 500 coffin, kirk and pilgrimage routes, military roads, Roman roads and other drove or trade routes scattered across the country) and as such it is a pertinent reminder of the 'herring boom' and the crucial role performed by generations of women working in the fishing trade.

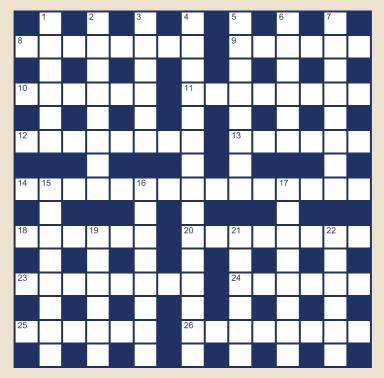
Herring Road to Dunbar 14½ miles via Whiteadder Reservoir 2 miles



Herring Road / Fishwives monument in Dunbar

Quick(ish!) Crossword

The answers here are the same as the Cryptic Crossword (p17) – so if you get stuck you could always look at those clues! You can also click HERE \square to complete online. (The solution is on p18)



Across

- 8 Outside in Italy (8)
- 9 Choice (6)
- 10 Last act (6)
- 11 Became nervous, tight (6,2)
- 12 A round handle (8)
- 13 Open up (6)
- 14 Volunteer leader (5,10)
- 18 Ironworks (6)
- 20 Once covered East Lothian (3,5)
- 23 Reflex (reaction) (4-4)
- 24 What Leuchie House gives carers (6)
- 25 Prestonpans and Pinkie for example (6)
- 26 Runners and jumpers are (8)

Down

- 1 Has no colour (6)
- 2 Test drive (5,3)
- 3 Behind (6)
- 4 A laccolith (5,7,3)
- 5 Conservationist (4,4)
- 6 Fresh-water mammals (6)
- 7 Fill with life (8)
- 15 Cheese (8)
- 16 Allergy in the country (3,5)
- 17 Greek with bad foot (8)
- 19 Small bird sounds (6)
- 21 Crude like nature (6)
- 22 Covers a small part of the face (6)

Crossword Corner

Woods in Winter

by Henry Wadsworth Longfellow

When winter winds are piercing chill, And through the hawthorn blows the gale, With solemn feet I tread the hill, That overbrows the lonely vale.

O'er the bare upland, and away Through the long reach of desert woods, The embracing sunbeams chastely play, And gladden these deep solitudes.

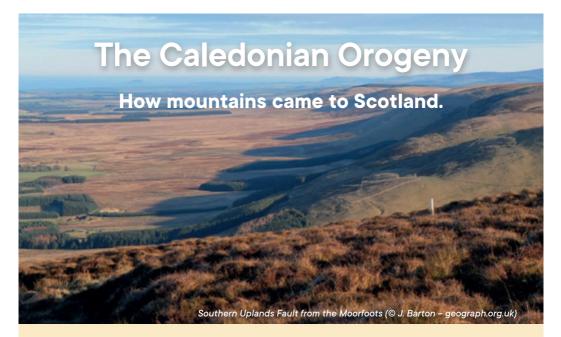
Where, twisted round the barren oak, The summer vine in beauty clung, And summer winds the stillness broke, The crystal icicle is hung.

Where, from their frozen urns, mute springs Pour out the river's gradual tide, Shrilly the skater's iron rings, And voices fill the woodland side. Alas! how changed from the fair scene, When birds sang out their mellow lay, And winds were soft, and woods were green, And the song ceased not with the day!

But still wild music is abroad, Pale, desert woods! within your crowd; And gathering winds, in hoarse accord, Amid the vocal reeds pipe loud.

Chill airs and wintry winds! my ear Has grown familiar with your song; I hear it in the opening year, I listen, and it cheers me long.

Poetry



In the last couple of articles I've talked about how tectonic plate movements and long (very long) stretches of time can lead to massive changes in landscapes. This time around we're going to look at how these processes have affected Scotland, with particular reference to the Caledonian Orogeny (an orogeny is a period of mountain building).

750 mya (million years ago) the world was a very different place, but then it would be wouldn't it? Much of the Earth's landmass was joined together in the super-continent known as Rodinia (from the Russian for "motherland", a slightly unfortunate name given current events). Gradually, Rodinia broke up into a series of smaller continents, including three of particular interest to us here - Laurentia, Avalonia and Baltica. What is now Scotland was mostly found on Laurentia, along with much of North America and Greenland, Avalonia was made up of modern England and Wales, attached to sections of mainland Europe (no Brexit in those days). Baltica, not surprisingly, includes Scandinavia and much of Central and Eastern Europe. These continents were separated by a body of water called the lapetus Ocean*.

By the late Cambrian Period, about 500 mya, the lapetus had reached its maximum width of over 5000 km. At this point the seafloor spreading reversed and the three landmasses started to move together. As this happened, sections of the oceanic crust were subducted beneath the approaching continents, causing lots of volcanic activity near the plate margins.

* In Greek mythology lapetus was the father of Atlas, after whom the Atlantic Ocean is named. The lapetus Ocean is widely regarded as a precursor to the Atlantic, so the naming makes some degree of sense.

Geology



Above: Closing of the lapetus Ocean c. 450mya. Right: Major faults resulting from the Caledonian Orogeny

By about 450 mya Baltica and Avalonia began to collide. Continental collision sounds dramatic, but remember that this is a long, drawn-out process over millions of years. A little later (about 425 mya), Laurentia joined the party and the three continents finally came together. The next 25 million years or so, saw the main phase of the Caledonian Orogeny. During this time sedimentary rocks, including those on the sea-floor of the lapetus, were caught up in the convergence and deformed, mangled and altered by the massive forces at work. If you feel the need for an analogy, imagine the results of squeezing layers of soft plasticine between two bricks. Okay, it's not a perfect analogy, but hopefully it gives the general impression. The result of all this was the formation of a chain of mountains the remains of which can be found in Scandinavia Greenland eastern USA and of course Scotland

Since then the mountains have been eroded and the Atlantic Ocean has

opened, but the outcome of the Caledonian Orogeny can still be seen in the Highlands, the Lake District, Wales and elsewhere. Closer to home, the rocks exposed in the cliffs at St Abb's Head are the folded and tilted sediments of the lapetus Ocean.

A further result of this mountain building is a series of major faults (fractures in the crust) which cross the country, trending roughly NE-SW. To the north lie the Great Glen Fault and the Highland Boundary Fault. Then there's the Southern Upland Fault (between Dunbar and Ayrshire), which separates the older rocks to the south, from the rocks of the Central Belt. formed after, and unaffected by the Caledonian Orogeny. A quick glance to the south shows the resulting change in landscape, as low-lying East Lothian gives way to the Lammermuirs. It's amazing to think that these are the foothills of a mountain chain which stretched for thousands of kilometres and was formed over 400 million years ago.

Encouraging wildlife to your garden

January

oneaster in sno

While it might be tempting to cut back and tidy up our garden just now, first have a think about the invertebrates that could be overwintering in the piles of leaves or the old flower stems. Do you really need to tidy up yet? Also, if you have ivy in your garden, don't cut it back until it has flowered. Ivy is one of the very first plants to provide nectar for early emerging invertebrates. It is not unusual to see a queen bumblebee on a warm January day and winter flowering plants are a lifeline to these wee beasties.

Shrubs that have berries are fundamental to a wildlife garden. How about planting a cotoneaster, its red or orange berries will be a firm favourite with blackbirds and other thrushes?

February

Bee on ivy

February is a great month for staying in and putting your feet up with a good seed/plant catalogue. Choosing plants for wildlife is straightforward once you consider a few things.

Year round nectar and pollen sources, so go to the garden centre or plant nursery every month to pick up right plants at the right time (channelling *Gardener's Question Time's* Christine Walkden there!)

Complicated double/triple blooms might look stunning, but are difficult for our native insects to find the food in, so avoid these. Look for open flowers that have the same kind of shape as native plants like daisies, buttercups or foxgloves. The insects know how to feed from these so copy nature!

Useful links: RHS: Plants for a wildlife garden \Box | RHS: Plants for pollinators PDF \Box

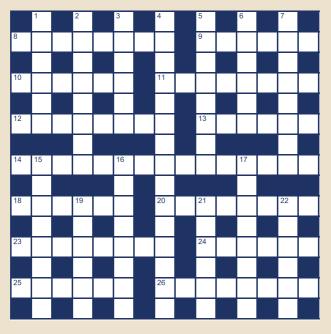


One insect that may be easily but unnecessarily overlooked are moths. Moths are important pollinators, but they are an important food source themselves for birds in the garden. Did you know that not all moths are night flying? Some fly in the daytime and can be seen visiting plants like sedums, asters and ivy flowers. However, in the early evening and at night, other species love to explore night-scented plants like nicotiana, jasmine and honeysuckle.

Wildlife

Cryptic Crossword

The answers here are the same as the Quickie Crossword (p12) – so if you get stuck you could always look at those clues! You can also click HERE \square to complete online. (The solution is on p18)



Across

- 8 Outside a large French-Spanish company (8)
- 9 Choice of potion mixer (6)
- 10 Last act by a novice in fine form (6)
- Became nervous as ten sectarian startups joined Irish party (6,2)
- 12 All-round opener heads off disaster: out of runs, knocks nicely over boundary (8)
- 13 Open water in a French lake (6)
- 14 Volunteer leader broke navygreen jar she had (5,10)
- 18 Beginners somehow mould iron to horseshoes - yes here! (6)
- 20 Once covered Scotland with cheese it may appear (3,5)

- 23 May be keen on Caribbean cooking - its a reflex reaction (4-4)
- 24 Respite from embossed sculpture (6)
- 25 Nocturnal mammal let out to fight (6)
- 26 Act lithe? Runners already are! (8)

Down

- 1 Colourless metal bin or container (6)
- 2 Turn left, turn right A1 test drive (5,3)
- 3 Master navigator keeps ship back (6)
- 4 With pole and hot brew I can start to walk up hill (5,7,3)

- 5 Naturalist uses American toilet on heathland (4,4)
- 6 Hogweed spotter survey includes freshwater mammals (6)
- 7 Live in an area of modern music - university is behind the times (8)
- 15 I'm backing crazy cheese (8)
- 16 Happy start to the end of January. Beginning of February always results in an allergic reaction (3,5)
- 17 Aches, sick inside, has bad heel (8)
- 19 Messages from ET in the Wild West (6)
- 21 Coarse like soil (6)
- 22 Every year starts with idle chatter about covering part of the face (6)

Crossword Corner

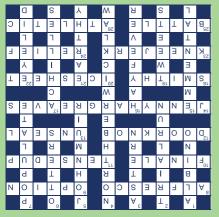


Remember to save the date!

Where	Day	Date	Time	Action
Yellowcraig	Thu	5 Jan	10:00-15:00	ТВС
North Berwick	Thu	12 Jan	13:00-15:30	ТВС
Dunbar	Wed	25 Jan	10:00-13:00	ТВС
Levenhall Links	Tue	31 Jan	10:00-13:00	Litter pick, site maintenance
Yellowcraig	Thu	2 Feb	10:00-15:00	ТВС
North Berwick	Tue	9 Feb	13:00-15:30	ТВС
Dunbar	Wed	22 Feb	10:00-13:00	ТВС
Levenhall Links	Tue	28 Feb	10:00-13:00	ТВС

For information on all events please contact ranger@eastlothian.gov.uk

Crossword Solution



Get in touch

We'd love to hear from you!

Email us at ranger@eastlothian.gov.uk

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