Wolfstone

Butterfly Orchid

Chequered Skipper

Meadow Thistle

The Kist 87

EDITORIAL

One cannot live in Argyll without noticing its rich biodiversity, so we are pleased that this issue has a natural history theme. Carl Farmer, who is to lead our June walk, makes an eloquent plea for us to start recording. We all make a mental note of what we see when we are out and about; Carl points out that this is valuable information which becomes much more valuable when it is shared with others by means of a records scheme.

To whet your appetite we have contributions on moths, thistles, orchids and wolves (the latter of course, you will not see nowadays in Argyll but they play an important part in our cultural history).

Kist 60 reported on a bloomery at the Point of Knap (bloomeries are iron smelting pits). In this issue Fiona Campbell Byatt describes another bloomery at Carse, Loch Stornoway. I was with Peter Quelch several years ago when he discovered a big pile of slag in the Mealdarroch woods near Tarbert, presumably the site of another smelting pit. Bloomeries are important sites because they tell the story of how smiths obtained their iron before the days of power furnaces.

CORRECTIONS TO KIST 86

The obituary to Ian MacDonald was written by Elizabeth Marrison and the obituary to Sheena Carmichael by Phil Holt. Thanks to them both for informing us about two remarkable people and apologies for the omission.

Biological Recording In Argyll

Carl Farmer

Every natural history observation is a potential biological record, the birds at your bird table, the butterflies that visit your garden, the flowers you see on your daily walk. You notice them, but will future generations know that they were there? Will those who see them in 20 years time be able to tell if they have increased or declined? Will the habitats on which they depend have been managed sympathetically? Will planning authorities take them into account when considering development proposals?

A biological record can achieve all this and more. Without biological records we would know little about species distribution beyond anecdotal evidence and subjective impressions. Biological recording is citizen science. The vast majority of records are contributed by amateurs, and a good proportion of these are from people who don't consider themselves experts in any way.

Your recording activity benefits the plants and animals themselves, and also benefits other naturalists and conservation workers. Above all, your own enjoyment acquires an added dimension, as you study your growing collection of records and gain a picture of how the different species are faring, whether they are moving into new areas or deserting old ones, appearing earlier or later

than in past years, favouring certain foodplants. When you share your records with your Local Records Centre, they in turn can supply you with relevant records made by others, enabling you to put your observations in context.

Unfortunately Argyll and Bute is one of the very few areas of Scotland without an official Local Records Centre (LRC).1 This is an unacceptable situation for our region given the crucial role played by LRC's in collecting biodiversity information and making it available. Consequently, Lorn Natural History Group has taken upon itself the role of an LRC, and has been accepted as such by the National Biodiversity Network who now show our records on their distribution maps which can be viewed online via the NBN Gateway.2

Though still at an early stage in our career, we have already changed the look of the national maps for many species. For anything more obscure than a flowering plant, bird or butterfly, it was all too common to find the map showing a huge blank space in the region of Argyll while the rest of Britain was peppered with dots, due to the greater number of recorders in the more populated areas to the south and east, and the assiduous work of the Highland Biological Recording Group in the north. There must have been many occasions when this misled people into thinking that a given species was genuinely absent from Argyll.

For some species, particularly among the fungi and invertebrates, this situation has now been reversed, and they show up as particularly numerous in Argyll due to our records. We are literally putting Argyll on the biodiversity map.

As a voluntary group with no paid staff and no external funding, we are not a typical LRC, but we make up in enthusiasm what we lack in resources. We now have members all over Lorn and beyond who regularly send in records of species that not long ago they had never heard of, and who provide us with photos or specimens which we attempt to identify for them.

Our main area of operation is the region known as vice-county 98, which, as far as the overlap with NHASMA is concerned, includes all territory to the north and east of the Crinan Canal. However we are more than happy to receive records from other parts of Argyll and beyond.

Chequered Skipper - furthest south record, 2011

You don't need to be an expert to contribute valuable records. Some of the most conspicuous and easily recognisable species are of critical importance to conservation policy. Top target species from the Argyll and Bute Biodiversity Action Plan include Adder, Otter, Red Squirrel, Marsh Fritillary, Chequered Skipper, Narrow-bordered Bee Hawkmoth, Hazel Gloves, Juniper, White-faced Darter and many others which are extremely easy to learn to recognise and are unmistakable once known, together with a list of 36 birds of which most readers of this article could already identify a good many by sight or sound. On a national level, even birds like Robin, House Sparrow and Herring Gull have conservation designations.

Many other familiar species are the subject of national surveys as their ranges expand or contract due to climate change and other factors. At any natural history event you will see cards and leaflets urging you to send in sightings of common and easily recognised butterflies, bumblebees, ladybirds, frogs and toads, and so on. The recording schemes are very keen to get these records. They fill gaps on maps and they provide valuable information about flight times, food plants, behaviour, distribution and abundance. A given species may have a very different lifestyle in Argyll to what it has in Surrey, and all too often the former, if not known, is assumed to be the same as the latter.

This can result in inappropriate management schemes where action is necessary to protect a population. The problem with submitting these records to all the national recording schemes is that there are so many of them! The Biological Records Centre lists 17 recording schemes for various kinds of beetles and 20 for different groups of flies.3 Not to mention the fact that several families of flies and beetles don't have a recording scheme at all.
At the other end of the scale, popular groups such as butterflies, moths and vascular plants do have broad-based recording schemes, but have a different recorder for each vice-county. Not so good if you happen to live on the border between one vice-county and another, or if you're in the habit of jotting down the odd sighting while travelling around the country.

This is where your Local Records Centre comes in handy. You can send them all your records in a single batch, and they will pass these on to the various recording schemes, as well as getting the records onto the NBN Gateway a lot quicker than most of those recording schemes will do. Many recording schemes have yet to submit any records to the NBN at all.

LRC's are increasing in importance compared to traditional recording schemes based on taxonomic groups. One reason for this is that present-day natural history enthusiasts tend to be interested in all the wildlife of their local area, whereas a naturalist of the old school might

have had an obsession with, say, all the beetles of the British Isles and total scorn for anything that's not a beetle.

A more compelling reason is that records need to be taken into account when assessing development proposals. Typically when a planning application is made, the site will be surveyed by environmental consultants who make a limited effort to obtain existing records for the site and the surrounding area. As I know from personal experience, these consultants rarely bother to ask the county botanical recorder for records, so one can imagine how seldom they request data from the more obscure recording schemes. Instead, they tend to approach the Local Records Centre, who can provide them with records from all taxonomic groups in a single package.

Another very important function of recording is to help monitor the spread of non-native invasive species which represent such a threat to our ecosystems. Biological recording is the most democratic of activities, one that a complete beginner can jump straight into with immediate success. On our monthly recording walks, everyone has an equal chance of finding something rare or unusual. It may take someone else to identify it, but if you are the finder the record is credited to you! These field trips are great fun and a good way to share tips and techniques about nature photography, use of GPS and other equipment, as well as learning identification skills and

Hazel Gloves fungus: first Lismore record, 2013

discovering secret spots of scenic splendour.

We frequently find species that have not been recorded before in the vice-county, particularly during the fungal season. Fungal experts are few and far between in Argyll, and visiting mycologists can't survey a locality systematically in the way botanists can, since fungi are so erratic in their appearance. A mushroom may not show for years, and when it does it is gone again in a few days. So if you happen to come across one during its short window of visibility, record it while you have the chance!

Fungal identification is as demanding as it is addictive, but we have a library of books and a network of experts to help out.

All are welcome to join our field trips or send in records or photo queries from their own excursions. I will be leading an introductory recording walk for NHASMA in early summer 2014.

Here is a small selection of the significant records we have made:

- Chequered Skipper at Balindore 2011, at the time the furthest south ever recorded in Scotland.
- 24-spot Ladybird at Ardchattan, the furthest north ever recorded, and a later find even further north at Port Appin.
- Hazel Gloves, many new sites, extending its known range in all directions.
- Marsh Fritillary, many new sites.
- New sites for Mountain Ringlet and Forester Moth. The first Lismore record of Large Heath butterfly.
- New sites for rare dragonflies Northern Emerald, Brilliant Emerald, Hairy Dragonfly, Variable Damselfly and Azure Damselfly.
- New sites for Bog Orchid, Western Marsh Orchid, both Twayblades, both Butterfly Orchids, Broad- and Narrow-leaved Helleborines and Birdsnest Orchid.
- The mushroom Conocybe sulcatipes, found by Liz Buckle on Lismore, second ever British record.
- The gall-midge Rabdophaga rosariella, Ganavan 2008, first British sighting since 1932.
- The fungus Cucurbitaria piceae, found by Rob Lightfoot in Jan 2014, first British record since 1974 and second ever Scottish record.
- The first West of Scotland record of the millipede Cylindroiulus caeruleocinctus, found near Kilmartin.
- A number of new vice-county records from our moth trap, which we are happy to run in anyone's garden on request.

Notes:

1. http://www.brisc.org.uk/Sources.php
2. http://www.nbn.org.uk/
3. http://www.brc.ac.uk/recording_schemes.asp

Bog Iron Smelting in Argyll
A Bloomery at Carse

Fiona Campbell Byatt, FSA Scot.

The bloomery at Sean ghleann ("the old glen") is quite close to the old smithy forge at Ardpatrick, which we used to visit as children to watch the big Clydesdale horses being shod. It was exciting to watch the bellows blowing the fire to a sudden blaze, sparks flying, the iron shoe red hot in the coals, the shock and sizzle of the metal being plunged into the tub of water and then heated again before being clamped onto the patient horse's hoof creating a pungent burning smell. Then the hammering and adjusting of the shoe until it fitted perfectly. The noise of the hammering and the ring of the metal seemed to bring the past into focus and one could imagine the smelting of bog iron taking place at the bloomery up on the hill in the long ago.

Iron smelting was practised in Scotland from the very earliest times.i The term bloomery is used to describe a shallow pit filled with burning charcoal. These primitive

Loch Stornoway Bloomerie.
Side view looking NW. 18 April 1937

hearths were built facing the prevailing wind. A pit was dug and a structure built of boulders and clay to hold the charcoal and the ore-bearing boggy sludge.

A hole at the bottom would create the draught, produced by human breath, a fan or perhaps an inflated pig's bladder. In this "direct" form of iron-ore smelting, the bloomery was filled with layers of charcoal and ore sludge and the opening was sealed with stones and clay. Recent experiments show it took some time to burn down, but once the pit was opened a spongy mass of red slag or bloom was found containing nodules of iron.ii The spongy mass was plunged into water and hammered with a wooden mallet, then reheated and hammered, again and again, until a billet of iron was produced and the slag was removed. It was a long and wasteful process but did produce a useable amount of bog iron to make knives and agricultural implements.

Tests performed on samples taken from the slag heaps of these early bloomeries show a high residue of iron. The

melting point in the kiln was roughly 1100 to 1300 centigrade in the experiment quoted, and it took 12 hours to make a 4lb red oxide bloom that was forged down to make a 1lb iron bar.iii Where the streams flowing from nearby hills through a peat bog stagnate, bog iron can almost always be found. Dissolved iron is concentrated by two processes. Firstly, since the bog is acidic, a chemical reaction forms insoluble iron compounds. Secondly, bacteria growing in the bog concentrates the iron so that when the bog is dug, pea-sized nodules of iron can be found and smelted. It was therefore a renewable source.

Loch Stornoway Bloomerie.
Looking up the glen in a NE direction showing the 'blast' end of the furnace. 18 April 1937

Bloomeries are dated using remnants of charcoal and the results range from the second century BC to the early Middle Ages when water-powered bellows began to be used to heat the blast furnace to a much higher temperature and smelt crushed iron ore, which was imported from more distant sources. Scotland's earliest

dated bloomery was recently excavated at Forres, Morayshire.iv The origin of the word bloomery (sometimes blomarie, bloomerie) is not possible to find, although the word "bloom" is used to refer to the spongy mass found at the end of the heating process.v But we do have some Gaelic words still in place-names in Argyll: Alt na caerdaich (Loch Eck, Argyllshire) means the burn of the iron-worker (English pronounciation "cardack"), and Port na caerdaich, the port of the iron-worker. Scottish iron smelting seems to have arrived with the Celtic peoples and sites have been found in Arran, Argyll, Dumbarton, Stirling, Perth and Inverness. Some of these bloomeries have been recently excavated and studied.vi At Saint Columba's cave at Ellery, Marion Campbell found the remains of a slag pit in 1972 which she thought might go back to Viking times. This, she thought, might have been a bloomery.vii

Bloomery bellows being used to forge a sword. Part of doorway of Hylestad Stave church, Norway, 12/13th Century. Image courtesy pitt.edu

In 1934-35 Douglas MacCallum reported on a bloomery at the Point of Knap, Loch Sween. He

writes that the site is half a mile from the sea, measured 14 feet across and stood about 18 inches high. Pieces of dark brown, partly fused ore were found, some were molten and appeared glassy and others were covered with expanded gas bubbles.viii My father, Ian Coats, must have been aware of the presence of the bloomery at Sean ghleann, Carse, and asked for the samples to be tested in the research laboratories at J&P Coats in Paisley. By coincidence Douglas MacCallum's son John worked there and he visited the site and took photographs in April 1937. In a letter, dated 23 April that year, John MacCallum mentioned that his father would be most interested to see another bog iron bloomery. Sadly, there is no record that this visit took place.

From the photographs of Sean ghleann taken in 1937 a scattering of slag is seen but very little indication of the shape of the hearth or pit is visible. Two samples were sent to Paisley for analysis. The following is an extract from the letter received:

"The samples received were darkish brown black in colour, the smoother of the two being blacker. They both have the appearance of being partially fused and on breaking have in places an ash-like structure and in other places a short, close fracture. They crush fairly easily, but have a hard scratch, e.g. marking soft glass. The powder is very slightly magnetic. The iron is present as the mixed

ferrous and ferric oxides, and there are probably traces of carbon, lime, magnesia, etc."

John MacCallum also wrote that he had "no doubt that the remains are those of a bloomerie. The conditions for draught, the nearness of the fuel [birch] are all suitable and in one of the specimens which I obtained on my visit, a piece of wood charcoal is embedded."

This type of bloomery or kiln did not change for thousands of years. The Bible speaks of Tubal-Cain being a "forger of bronze and iron" (Genesis 4:22) and King David speaks of "Goliath's spearhead of iron". Pieces of worked iron were found in the Black pyramid of Abusir built around 3,000 BC. Assyrians also used smelted iron for tools found in tombs and recent excavations in the Middle East. Perhaps we can say that the blacksmiths of my childhood were worthy successors to our ancestors who worked these primitive yet useful bloomeries.

Acknowledgements: A special note of thanks to my sister-in-law, Sarah Coats, who drew my attention to my father's correspondence about the bloomery at Sean ghleann. I am also grateful to my daughter for her help in researching and writing this article.

i) *Macadam, W I (1887) "Notes on the ancient iron industry of Scotland", Proc Soc Antiq Scot, vol.21, pp. 89-131; Barry*

Cunliffe (2004), Iron Age Communities in Britain: An Account of England, Scotland and Wales, pp. 495-496

ii) The Wealdon Iron Research Group have carried out one such experiment, reporting the results on their website: http://www.wealdeniron.org.uk/Expt/bloom.htm

iii) Tylecote, R.F. (1986) The Prehistory of Metallurgy in the British Isles, revised edition, London

iv) The site at Tarras Farm, by Forres, was excavated by GUARD, Glasgow University Archaeological Research Division. See report on SASSA website http://www.sasaa.co.uk/case%20studies%2025.htm

v) OED: the etymology of the word "bloom" is traced to the Old English word blóma.

vi) SASAA, Scottish Analytical Services for Art and Archeology, carried out technical analyses of the metallurgical waste from a number of sites excavated in association with GUARD, the archaeological field unit of Glasgow University, and as part of a study funded by Historic Scotland (1996-1998). Details of these project reports on their website www.sasaa.co.uk

vii) Letter from Marion Campbell to Robert Stevenson, 24 April 1975, in Christopher Tolan-Smith, The Caves of Mid Argyll, Edinburgh 2001, p. 27.

viii) Douglas A. MacCallum (1934-35) "Notes on a Pre-historic Iron Bloomerie found at Point of Knap, Loch Sween", West of Scotland Iron and Steel Institute, pp. 29-32.

THE WOLF STONE

ED TYLER

The wolf has a unique place in our imagination. Those of us who live in its natural range continue to be fascinated and afraid in equal measure, long after we have caused them to become extinct.

The possibility of reintroducing the wolf back to Scotland is the subject of much debate, with passionate arguments on either side.

With this in mind, I wanted to find out more about the place of the wolf in Argyll folklore. I had read the tale by Marion Campbell in Kist 2 of a woman who was attacked by one whilst walking between Auchindrain and Inverleacainn. She managed to kill it with the spindle she was carrying but died of shock as a result of her traumatic experience.

Remarkably, the site of this event is still accessible to walkers thanks to those who have compiled the Leacainn Walk, copies of which can be obtained from the shop in Furnace. A circular path between Furnace and Auchindrain, it includes Clach a' Mhadaidh: the wolf stone.

A Sitka Spruce plantation now shields it from the A83. In the midst of the uniformity of the cloned, even-aged stand of conifers, the rock is unmistakable. Walking around it as it sits in a pool of light surrounded by the shade of the

trees, I could easily see how this feature became associated with the wolf tale.

As with all tales, there are different versions. The one mentioned in the walk leaflet talks about the animal being shot as it stood baying at the moon. I can imagine it standing on top of the rock, surrounded by men with guns and dogs determined to finish it off. However, I prefer the story of the heroic woman who defended herself with a humble spindle.

Marion Campbell points out that every Highland community had its own tale of the passing of the wolf. They called it "madadh allaidh", the fierce dog; "madadh gul", the wailing dog; or "madadh glas", the grey dog. Sometimes he was known simply as "the beast". She continues:

"It was as Madadh Glas that Auchindrain remembered him when winter winds swept the thatch and turned the peat-reek back down the wicker chimneys."

Moving to another part of Argyll, in "A Description of the Antiquities and Scenery of N. Knapdale" (Published in 1830) by Archibald Currie, "the last wolf seen in the county was killed in Glenorchy about 70 years ago." Wolf stories run deep in local tradition. Ian Macdonald wrote in Kist 68 that it is said that the first burial in the current ground near Kilberry Church was of a little girl who was seized by a prowling wolf.
He continues:

"At the time she was on the harvest field of the farm of Bloomfield east of the present-day Kilberry Castle. The wolf was forced to give her up above Breckvar but she was badly injured and later died. Her rescuers decided not to return her to the grieving parents at Kilberry so she was buried at Lergnahension."

Today, in 2013, wolves have been reintroduced successfully in several European countries and are fanning out from their original places of introduction. In a remarkable turnaround, the protected "conservation" wolf has now become for many a cherished symbol of the wild:

a creature to seek out rather than flee from. People will deliberately holiday in areas where they stand a chance of hearing its howl, or pay to follow its tracks.

Perhaps, in our modernised, urbanised world, there is not enough danger in our lives: at least, the kind of danger associated with remote areas where ecosytems are still rich and diverse and humans few and far between. This kind of danger engenders awe as well as fear.

Children, it is said by adults, "love to be frightened". Do adults too? Speaking as an adult, I think it is a question of how real the danger actually is. When we are reading a crime novel or watching a horror movie part of us is frightened but another part knows that it is not happening to us.

When folk heard the tale of Madadh Glas in the blackhouses of Auchindrain, they must have wondered if the wolf was truly extinct in Argyll. After hearing about the terrifying attack they might have thought twice about travelling on foot alone. For them, without a shotgun to defend themselves, the danger was still very real – or, at least, it must have seemed so to them at the time.

Thanks to Ian Morton and Pat Doughty, for helping me track down the wolf in Argyll; thanks also to Marion Campbell and Ian Macdonald who are sadly no longer with us.

Are There Elephants In The Garden? Some Interesting Moths from Kilmartin, Mid-Argyll

David Jardine

During visits to Colonsay over the last few years I had started to develop an interest in moths thanks to my friend Ian Fisher who had brought a moth trap during our visits. So not long before I left the Black Isle I had acquired a small Ultra Violet light trap and my confidence in identifying moths was increasing. So, when we moved to Kilmartin in May 2012 I decided to try to catch on a more consistent basis and to submit my records to the local recorder.

Moth identification has been transformed during the last decade; digital cameras allow voucher photographs to be taken quickly and easily, new field guides have been published for both macro- and micro-moths, and emails allow quick verification of records through the sterling support of the local moth recorders.

So, what has turned up at the trap? Since May 2012 I have put out the trap on about 55 occasions, and it has caught moths every month of the year except December and January. Around a total of 165 species of moths have now been identified (see Appendix); it is likely that this list will continue to grow over the coming years as new

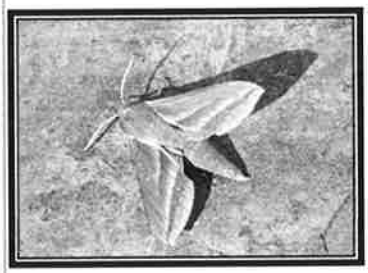
species continue to be added to the list on a regular basis.The large and charismatic species are amongst the easier to identify and are of most interest to visitors who are generally interested to see what is in 'the trap' in the morning when it is opened.

At present I usually set the light close to the house which is surrounded by the well-established garden, broadleaved woodland, felled conifer woodland and the hill grassland of Barr Mor. It is the composition of the surrounding habitat which influences the moths which are found at any site and as there is a good stand of Rosebay Willowherb nearby it was no surprise to find that there were Elephant (Hawk-moth)s in the garden as this is the food-plant of its larvae.

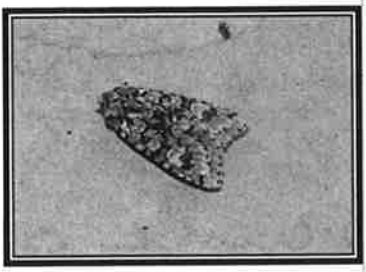
There are now a number of very good websites which assist the budding lepidopterist such as UK Moths (www.ukmoths.org.uk) and a Butterfly conservation webpage provides very helpful information on phenology and distribution in Scotland (http://eastscotland-butterflies.org.uk/mothflighttimes2013.html). There are relatively few people submitting moth records in VC 98 (Argyll - Mainland) and the distribution of moths is changing in response changing climates, so it is not surprising that some of the moths found in Kilmartin are adding to our understanding of moths in Argyll, with a number of notable records being found.

Swallow-Tailed Moth

Poplar Hawk-Moth



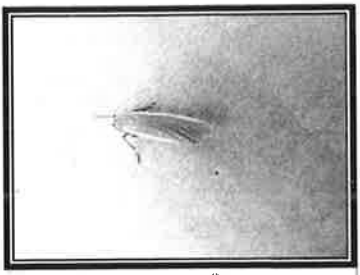
Elephant Hawk-Moth



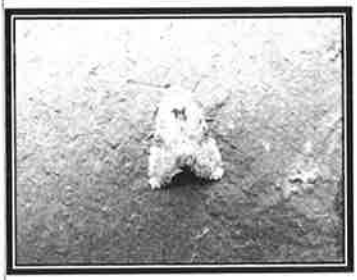
Merveille du Jour

I am indebted to the support provided by Andrew Masterman (the local moth recorder) who has encouraged me and through correction of my errors has helped my understanding of the moths of Kilmartin. Thanks also to Ian Fisher for kindling my interest in moths. David C Jardine, The Old Schoolhouse, Kilmartin, Lochgilphead, PA31 8RN

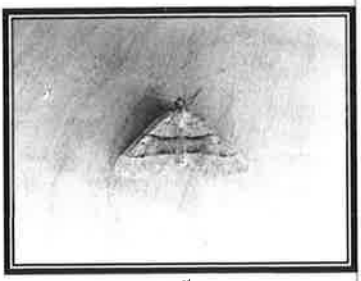
Frosted Orange - 4th VC record



Common Footman - 6th VC record



Slender Bridle - 1st VC record



Julie Belle - 3rd VC record

Check-list No	Common name	Scientific name	C' list No	Common name	Scientific name
18	Map-winged Swift	Hepialus fusconebulus	1722	Flame Carpet	Xanthorhoe designata
424	Bird-cherry Ermine	Yponomeuta evonymella	1725	Dark-barred Twin-spot Carpet	X. ferrugata
648	White-shouldered House Moth	Endrosis sarcitrella	1727	Silver-ground Carpet	X. montanata
670		Depressaria daucella	1728	Garden Carpet	X. fluctuata
672	Parsnip Moth	Depressaria heraclei	1732	Shaded Broad-bar	Scotopteryx chenopidata
688		Agonopterix heracliana	1734	July Belle	S. luridata

697		A. arenella	1738	Common Carpet	Epirrhoe alternata
1009		Philedonides lunana	1742	Yellow Shell	Camptogramma bilineata
1042	Rhomboid tortrix	Acleris rhombana	1742	Grey Mountain Moth	Entephria caesiata
1076		Celypha lacunana	1748	Beautiful Carpet	Mesoleuca albicillata
1197		Eucosma campoliliana	1750	Water Carpet	Lamptropery x suffumata
1288	Twenty-plume Moth	Alucia hexadactyla	1752	Purple Bar	Cosmorhoe ocellata
1293	Garden Grass-veneer	Chrysoteuchia culmella	1753	Striped Twin-spot Carpet	Nebula salicata
1294		Crambus pascuella	1756	Northern Spinach	Eulithis populata
1301		C. lathioniellus	1758	Barred Straw	E. pyraliata
1305		Agriphila tristella	1759	Small Phoenix	Ecliptopera silaceata
1313		Catoptria pinella	1760	Red-green Carpet	Chloroclysta siterara
1314	Pearl Grass-veneer	C. margaritella	1761	Autumn Green Carpet	C. miata
1338		Dipleurina lacustrata	1762	Dark Marbled Carpet	C. citrata
1345	Brown China-mark	Elophila nymphaeata	1764	Common Carpet	C. truncate
1388		Udea lutealis	1768	Grey Pine Carpet	Thera obeliscata
1392		U. olivalis	1769	Spruce Carpet	T. Britannica
1504		Platyptilia pallidactyla	1775	Mottled Grey	Colostygia multistrigaria
Check-list No	Common name	Scientific name	C' list No	Common name	Scientific name

1524		Emmelina monodactyla	1776	Green Carpet	C. pectinataria
1631	December Moth	Poecilocampa populi	1777	July Highflyer	Hydriomena furcata
1640	Drinker	Euthrix potatoria	1795	November Moth	Epirrita dilutata
1663	March Moth	Alsophila aescularia	1796	Pale November Moth	E. christyi
1702	Small Fan-footed Wave	Idaea biselata	1803	Small Rivulet	Perizoma alchemillata
1713	Riband Wave	I.. aversata			
1806	Pretty Pinion	Eupithecia blandiata	2008	Coxcomb Prominent	Ptilodon capucina
1807	Grass Rivulet	E. albulata	2038	Muslin Footman	Nudaria mundana
1830	Wormwood Pug	E. absinthiata	2050	Common Footman	Eilema lurideola
1838	Tawny Speckled Pug	E. icterata	2057	Garden Tiger	Arctia caja
1846	Narrow-winged Pug	E. nanata	2059	Clouded Buff	Diacrisia sannio
1852	Brindled Pug	E. abbreviata	2060	White Ermine	Spilosoma lubricipeda
1862	Double-striped Pug	Gymnoscellis rufifasciata	2061	Buff Ermine	S. luteum
1867	Treble-bar	Aplocera plagiata	2069	Cinnabar	Tyria jacobaeae
1887	Clouded Border	Lomaspilis marginata	2078	Least Black Arches	Nola confusalis
1902	Brown Silver-line	Petrophora chlorosata	2098	Flame	Axylia putris
1906	Brimstone Moth	Opisthograptis luteolata	2102	Flame Shoulder	Ochropleura plecta
1913	Canary-shouldered Thorn	Ennomos alniaria	2107	Large Yellow Underwing	Noctua pronuba

1917	Early Thorn	Selenia dentaria	2109	Lesser Yellow Underwing	N. comes
1921	Scalloped Oak	Crocallis elinguaria	2110	Broad-bordered Yellow Underwing	N. fimbriata
1922	Swallow-tailed Moth	Ourapteryx sambucaria	2111	Lesser Broad-bordered Yellow Underwing	N. janthe
1923	Feathered Thorn	Colotis pennaria	2117	Autumnal Rustic	Eugnorisma glareosa
1926	Pale Brindled Beauty	Phigalia pilosaria	2118	True Lover's Knot	Lycophotia porphyrea
1927	Brindled Beauty	Lycia hirtaria	2120	Ingrailed Clay	Diarsia mendica
1930	Oak Beauty	Biston strataria	2122	Purple Clay	D. brunnea
1931	Peppered Moth	B. betularia	2123	Small Square-spot	D. rubi
1937	Willow Beauty	Perobatodes rhomboidaria	2127	Triple-spotted Clay	Xestia ditrapezium
Check-list No	Common name	Scientific name	C' list No	Common name	Scientific name
1941	Mottled Beauty	Alcis repandata	2130	Dotted Clay	X. baja
1942	Dotted Carpet	A. jubata	2134	Square-pot Rustic	X. xanthographa
1955	Common White Wave	Cabera pusaria	2138	Green Arches	Anaplectoides prasina
1956	Common Wave	C. exantheremata	2139	Red Chestnut	Cerastis rubicosa
1961	Light Emerald	C. marginatata	2150	Grey Arches	Polia nebulosa
1962	Barred Red	Hylaea fasciaria	2158	Pale-shouldered Brocade	Lacanobia thalassina
1981	Poplar Hawk-moth	Laothoe populi	2160	Bright-line Brown-eye	L. olearacea

1991	Elephant Hawk-moth	Deilephila elpenor	2166	Campion	Hadena rivularis
1994	Buff-tip	Phalera bucephala	2173	Lychnis	H. bicruris
2003	Pebble Prominent	Notodonta ziczac	2176	Antler Moth	Cerapteryx graminis
2182	Small Quaker	Orthosia cruda	2335	Slender Brindle	Apamea scolopacina
2187	Common Quaker	O. cerasi	2340	Middle-barred Minor	Oligia fasciuncula
2188	Clouded Drab	O. incerta	2343	Common Rustic	Mesapamea secalis
2190	Hebrew Character	O. gothica	2345	Small Dotted Buff	Photedes minima
2193	Clay	Mythimna ferrago	2350	Small Wainscot	Chortodes pygmina
2198	Smoky Wainscot	M. impura	2361	Rosy Rustic	Hydraecia micacea
2232	Black Rustic	Aporophyla nigra	2364	Frosted Orange	Gortyne flavago
2243	Early Grey	Xylocampa areola	2368	Crescent	Celaena leucostigma
2245	Green-brindled Crescent	Allophyes oxyacanthae	2394	Anomalous	Stilbia anomala
2247	Merveille du Jour	Dichonia aprilina	2425	Nut-tree Tussock	Colocasia coryli
2258	Chestnut	Conistra vaccinii	2434	Burnished Brass	Diachrysia chrysitis
2263	Red-line Quaker	Agrochola lota	2439	Gold Spot	Plusia festucae
2264	Yellow-line Quaker	A. macilenta	2440	Lempke's Gold Spot	P. putnami
2265	Flounced Chestnut	A. helvola	2441	Silver Y	Autographa gamma
2269	Centre-barred Sallow	Atethmia centrago	2442	Beautiful Golden Y	A. pulchrina
2286	Light Knot Grass	Acronicta menyanthidis	2444	Gold Spangle	A. bractea

2305	Small Angle Shades	Euplexia lucipara	2450	Spectacle	Abrostola tripartita
Check -list No	Common name	Scientific name	C' list No	Common name	Scientific name
2306	Angle Shades	Phlogophora meticulosa	2474	Straw Dot	Rivula sericealis
2321	Dark Arches	Apamea monoglypha	2477	Snout	Hypena proboscidalis
2322	Light Arches	A. lithoxylaea	2484	Pinion-streaked Snout	Schrankia costaestrigalis
2326	Clouded-bordered Brindle	A. crenata	2492	Small Fan-foot	Herminia grisealis
2330	Dusky Brocade	A. remissa			

The Mysterious Case of the Meadow Thistle

Dave and Pat Batty

The distribution of some plants is a mystery. Why are they found in a few sites and not in other equally good and suitable habitats? Even more puzzling is the geographical spread of some species which appear to have an unusual or restricted distribution despite there being extensive areas of apparently suitable habitat. One such species found in Mid Argyll is the Meadow Thistle, Cirsium dissectum. This is found in only three sites in Mid Argyll which are also its only mainland Scottish sites. It is found on Islay and Jura in Scotland, Ireland, as

well as south west England, south coast of England and south Wales.

The Mid Argyll sites are the Kilberry coast, Point of Knap and Taynish NNR. They are all very close to or on the coast and none are far from Islay or Jura as the crow flies.

The Meadow Thistle is found in a range of habitats; generally moist nutrient-poor grassland and moorland. It is found in permanently damp sites with Purple Moor Grass (Molinia caerulea) grassland, a habitat widespread in Argyll and the west of Scotland. It is classed as an oceanic plant in the British Isles and so should be at home in Argyll. However it is not as oceanic as say the Hay-scented Buckler Fern (Dryopteris aemula) or the Pale Butterwort (Pinguicula lustitanica), both of which are common in Mid Argyll.

The plant itself is somewhat like the much commoner Marsh Thistle (C. palustris), with similar magenta-purple flowers but the underside of the leaves has a white cottony appearance and the stems are unwinged. The colonies in Mid Argyll are restricted in extent and the plant is only easy to find when it is flowering. It is very easy to overlook when just the rosette of leaves is present at ground level, especially amongst tall or dense vegetation. Two of the sites, Taynish and Point of Knap, have been found in recent times.

Overall the Meadow Thistle has declined in Britain due to habitat loss through drainage and succession of other species. The prickles on the leaves are soft and are not an effective grazing deterrent. The species is a long lived perennial and usually reproduces vegetatively from long rhizomes which produce more rosettes. It does not spread by seed very easily. The survival and subsequent growth of seedlings appears to be a rare event. The seeds are dispersed mostly only 1-3 metres from the parent and only occasionally over 20 metres, Simulations have estimated 1 in 10,000 seeds would be dispersed over 3.4 km under stormy conditions. Yet despite this it is present on the west coast of Mid Argyll; so how did it get here? One assumes it is just by chance that over the thousands of years it has been present on Islay, Jura and Ireland and with the number of westerly gales that on three occasions seed has been blown over and successfully established against the odds. This could account for its disjointed distribution.

However if it can colonise three times then it might have happened on more occasions but it is just that other colonies have not yet been found. The distance from Islay and Jura to the sites is some 15-20 miles.

I have heard the idea that the plant occurs at Taynish because Irish boats came across to the slate quarry on the Linne Mhurich and brought soil over as ballast which was

used at Taynish for improving the ground. The idea is that the soil contained rhizomes of the plant which then survived.

Lady Gainford does say that soil in the Taynish garden was said to have come from Ireland as ballast, however this would not explain the other two sites and that the plant is found in an unimproved area at Taynish.

It is quite possible or even likely that the Meadow Thistle might be found in other sites in Mid Argyll or in Kintyre, but as mentioned above it is difficult to spot and does not grow in habitats where botanists or walkers would be drawn to. It is definitely one of those species that has you asking why here and not elsewhere.

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Good Year for Butterfly Orchids in Mid Argyll

Dave and Pat Batty

Both the Greater Butterfly Orchid (Plantanthera chlorantha) and the Lesser Butterfly Orchid (P. bifolia) occur in Mid Argyll. The name would suggest that there is a size difference between the two species but the books have the Greater usually 20-40 cm tall and the Lesser 15-45 cm. So unfortunately this is not always a defining feature. However the flowering spike is bigger and taller in the Greater than the Lesser. The creamy white flowers of both are very similar in shape except for the pollinia in the centre of the flower which contain the pollen. In the Greater they are at a slight angle whilst in the Lesser they are more or less parallel.

Both orchids are white flowered and night-scented. The flowers have a down turned lip as a landing platform for insects and a long nectar spur. They are adapted to pollination by night-flying moths which hover to feed and inadvertently pick up the sticky pollinia on their long proboscises. Thus the pollen is taken to other plants for cross-fertilisation.

The Greater is found in a wide range of habitats, but usually on well-drained calcareous soils. It is rarely found on slightly acidic soils on moorland and wet heathy pasture (unlike the Lesser). In Mid Argyll we have seen them in unimproved grassland (i.e. where there has been no nitrogenous fertilisers and no reseeding with agricultural grasses) which can be damp or on road / track sides where they are surviving after the adjacent fields have been improved. Nationally the Greater has been lost from many sites during the twentieth century due to forestry activities and agricultural improvement of grassland.

In Mid Argyll we have seen them from Kilmichael Glen (unimproved fields and roadside), Cairnbaan (trackside) and Ardrishaig (unimproved fields and trackside). In the summer of 2013 we saw 400+ in a Kilmichael field and 200+ in an Ardrishaig field. In the former they were relatively easy to spot once you had your eye in as the big creamy white spikes were on plants 30+ cm tall in a field grazed by horses. The orchids were ungrazed but areas

around them were grazed bare. In an adjacent field where we have seen Greater by the hundred in subsequent years we found none. The management had changed with an application of fertiliser and a late cut of silage. It will be interesting to see whether the orchid survives what might be a temporary blip in the field's management and is found in future years. By contrast at Ardrishaig they were concentrated in parts of an ungrazed damp pasture where the surrounding vegetation was 30-60 cm tall. An adjacent field had been improved and none were seen but a few were present in the adjoining trackside.

We wonder whether the Greater Butterfly Orchid was present more extensively in unimproved pastures and meadows from Kilmichael Glen, through Cairnbaan to Ardrishaig in the past and their distribution has been reduced by changes in agriculture and forestry.

The Lesser is found in heathy pastures, grassland, moorland and scrub/woodland in both upland and lowland situations. It is present in both acidic and calcareous soils and is tolerant of considerable soil moisture on acidic bogs and calcareous fens. There are two forms in Scotland, ones on damp heaths and moorland with slightly acidic soils but also on drier tussocks on marshy ground and the other ones in woodland. The ones in Mid Argyll are on moorland and damp heath. There has been a considerable decline in the species in Scotland in upland populations through

increased grazing and in lowland ones through drainage, forestry and agricultural intensification.

In Mid Argyll we know the Lesser from the Puddle area (Tayvallich Estate) and Danna. Numbers vary from year to year and we thought the species was in decline here as we saw only a few plants in 2012. However the plant proved to be in robust health in 2013 with 320+ in flower at the Puddle area and 150+ at Danna. At the Puddle they are growing on wet heath with a wide range of other species including marsh orchids and Greater Twayblade (Listera ovata). However on Danna they are growing in what appears to be species-poor Purple Moor Grass (Molinia caerulea) heath with a limited range of other heathland species. The orchids here were quite large plants. There is concern about the decline of the Lesser Butterfly Orchid in Scotland and so the Mid Argyll population, seemingly healthy in 2013, is an important component.

It is likely that both the Greater and Lesser Butterfly Orchids are present elsewhere in Mid Argyll but despite their size and striking appearance in flower they can be easily overlooked. They are certainly species to look out for in June.

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