The Argyll Islands are home to some of the UK’s rarest and most threatened butterflies and moths, most notably Marsh Fritillary and Slender Scotch Burnet. This is primarily due to the continuation of traditional farming practices on the islands. This leaflet provides information on some of the islands’ key species and how, where and when, to look for them.
The day-flying Narrow-bordered Bee Hawk-moth
Rare or simply under-recorded?

As a result of the Earth Summit in Rio, in 1992, the UK Government published the UK Biodiversity Action Plan (UKBAP), which outlines proposals for species and habitats deemed most urgently in need of conservation action. In 2005 further species were put forward as candidate UKBAP Priority species. In addition, Local Biodiversity Action Plans (LBAPs) have been drawn up to help fulfil these national objectives, locally. Seven species of butterfly and day-flying moth fall into these categories that have important populations on the Argyll Islands.

They are:
- Marsh Fritillary butterfly
- Pearl-bordered Fritillary butterfly
- Slender Scotch Burnet moth
- Transparent Burnet moth
- Argent & Sable moth
- Narrow-bordered Bee Hawk-moth
- Forester moth

This leaflet focuses on these species.

Recording butterflies and moths is the foundation upon which their conservation is based. It is vital to know the distribution and abundance of each species in order to determine their current status, identify core sites and target sympathetic land management to increase the size and/or number of colonies. However, we are hampered by a lack of recorders in the Argyll Islands. This leaflet aims to encourage targeted recording of these species by providing information on identification and how, when, and where, to record them in the hope that both residents and visitors to the islands will be enthused and motivated to actively look for them.
How to use this leaflet

Information for each species is given under the following headings

**Adult flight period**
All species covered are day-flyers and have specific flight periods. They are rarely encountered as adults outwith these times. Look for them on warm days in sheltered, sunny locations with plenty of nectar plants. Flight periods for each species are tabulated opposite in brown.

**Also look for**
Some species can be found as caterpillars, extending the period when they can be recorded. For most species this is not so weather dependent, moreover, finding caterpillars confirms that the species is breeding in the area. Where appropriate the best time to look for the caterpillars/feeding damage is tabulated opposite in green.

**Wingspan**
Twice the distance from the centre of the body to the wingtip.

**UK distribution**
The current known UK distribution is described to put the Argyll populations in context.

**Distribution in Argyll Islands**
Distribution maps at 2km resolution are shown to encourage recording from new or under-recorded areas as well as identify core areas where each species can be seen. However, these maps come with a “health warning”, as they possibly do not show the true distribution due to a lack of records. So, don’t be too surprised if you see a species in an area not currently shown on the map! Older records (before the 1970’s) are only available at 10km resolution and are not plotted on the maps, but are mentioned in the text.
All species covered in this leaflet are habitat specialists and will only be found in or near to their favoured habitat.

**Adult ID**

Good views are essential to confirm identifications as there are often other similar species. For example there are four species of Fritillary and six species of Burnet moth in Scotland. Top-tips and key identification features are given. Identification from photographs is possible in most situations.

**Caterpillar foodplant**

The caterpillars of most habitat specialists only feed on one or two species of plant.

**Best methods**

Information is given on the best method(s) to record each species.

**Comments**

Additional information is given where relevant.
Marsh Fritillary

**Adult flight period** Mid May to mid July  
**Wingspan mm** male 30-42, female 40-50  
**Status** UKBAP Priority species, Argyll and Bute LBAP species, fully protected

**Also look for**  
The webs spun by the caterpillars in August and September and after hibernation in March and April.

**British Isles distribution**  
Extinct in eastern Britain but colonies survive in south-west England and Wales.

**Distribution in Argyll Islands**  
In Scotland only occurs in Argyll on the coast of the mainland and on the islands of Islay, Jura, Lismore, Mull and Oronsay.

**Habitat**  
Damp grassland and moorland where there are abundant patches of devil’s-bit scabious, the caterpillar’s sole foodplant, in a patchwork of short and tall vegetation (5-25cm).

**Caterpillar foodplant**  
Devil’s-bit scabious.

**Adult ID**  
More colourful than the other three species of Fritillary in Scotland which tend to be mostly orange and black. Marsh Fritillaries (front cover shot) have a characteristic checkerboard pattern of oranges, creams, browns and blacks.

**Best methods**  
As an adult on sunny days. It is also possible to monitor colonies during late summer/autumn by counts of their characteristic communal caterpillar webs. These also re-emerge in the spring after hibernation, when the occupants slowly disperse and can be found basking on sunny days.

**Comments**  
Marsh Fritillary populations fluctuate enormously in cycles of approximately 5-7 years between periods of boom and bust. This is due to poor weather and parasitic wasps whose grubs develop inside and eventually kill the caterpillars.
Pearl-bordered Fritillary

**Adult flight period** Early May to end of June

**Wingspan mm** male 38-46, female 43-47

**Status** UKBAP Priority species, Argyll & Bute LBAP species

**Also look for**

Their caterpillars in March and April but they are very difficult to find.

**British Isles distribution**

Rapidly declining in England and Wales surviving along the south coast of England, the Welsh border and Cumbria. More widespread in Scotland, particularly in Argyll, Lochaber and Highland.

**Distribution in Argyll Islands**

One known colony on the most southerly coast of Mull, only discovered in 2003.

**Habitat**

Associated with sunny, south-facing slopes, usually within or adjacent to woodland, with a mosaic of light bracken and violets. The latter being the caterpillar’s sole foodplant.

**Caterpillar foodplant**

Common dog violet, occasionally marsh violet.

**Adult ID**

Very similar to the more widespread Small Pearl-bordered Fritillary (SPBF). Best separated by close observation of the underside of the hindwing that has a smaller central black spot, two (not seven) white central cells and all cells have a pale and not blackish border.

**Best methods**

As an adult. Best looked for on sunny days, at sheltered sites with plenty of nectar plants.

**Comments**

Beware of confusion with SPBF from end of May to end of June when their flight periods overlap, both species can be found at the same site. SPBF is common on Mull and Jura, but scarcer elsewhere and is on the wing to early August.
**Slender Scotch Burnet**

**Adult flight period** Mid June to early July  
**Wingspan mm** 25-30  
**Status** Red Data Book species (RDB3 - Rare) - proposed for full protection, UKBAP Priority species, Argyll & Bute LBAP species

**Also look for**  
Their caterpillars by careful searching in May but can be difficult to find.  

**British Isles distribution**  
Only known from Scotland where subspecies is endemic.  

**Distribution in Argyll Islands**  
Only known from 5-6 sites on Mull & Ulva.  

**Habitat**  
South or south-west facing slopes/undercliffs near sea, on short (<25cm) herb-rich grassland, associated with basalt rocks.  

**Caterpillar foodplant**  
Common bird’s-foot trefoil.  

**Adult ID**  
Yellowish-brown legs, five crimson spots, (outer one kidney shaped), wings thinly scaled giving translucent appearance.  

**Best methods**  
As an adult flying on sunny days, though in dull weather can be found resting on stems.  

**Comments**  
Similar to the larger but more widespread Six-spot Burnet that has six separate crimson spots.
**Transparent Burnet**

**Adult flight period** Mid June and July  
**Wingspan mm** 25-34  
**Status** Nationally scarce - Na (ie occurs in 16-30 10km squares), Argyll & Bute LBAP species

**Also look for**  
Their caterpillars by careful searching in May but can be very difficult to find.

**British Isles distribution**  
Only occurs in Scotland from Skye to Jura and on the mainland around Oban, Ardnamurchan and the Mull of Kintyre.

**Distribution in Argyll Islands**  
Common on the western and southern coasts of Mull, also recorded from Lismore and the north of Jura.

**Habitat**  
Steep costal slopes with short turf (<10cm) and limestone areas inland.

**Caterpillar foodplant**  
Wild thyme.

**Adult ID**  
Unlike the other Burnets the spots are replaced by three crimson streaks. Wings are thinly-scaled giving translucent appearance. Confusion is most likely with the Cinnabar moth which shares the crimson colouration, but has thin, thread-like, antennae unlike the protruding, thickish, black antennae of Burnet moths.

**Best methods**  
As an adult on warm sunny days. In poor weather they rest exposed on stems and flowers.

**Comments**  
A different sub-species occurs in the Burren district of Ireland.
Forester

**Adult flight period** June to mid July

**Wingspan mm** male 25-31, female 22-25

**Status** Local, probably declining, Candidate UKBAP Priority species

**Also look for**
Feeding damage of the young caterpillars in July and August.

**British Isles distribution**
Local but widely distributed in England and Wales. Also occurs in the Oban area, in south-west Scotland around Dumfries and there are old records from the Borders.

**Distribution in Argyll Islands**
Recorded from the north of Jura, eastern Mull and Garbh Eileach in the Isles of the Seas.

**Habitat**
Damp meadows and coastal marshes.

**Caterpillar foodplant**
Common sorrel.

**Adult ID**
Scotland's only green day-flying moth with prominent antennae.

**Best methods**
By looking for adults on sunny days. In dull weather they rest on stems but have good camouflage. Their presence can also be betrayed by looking for characteristic feeding damage of the small caterpillars in July and August. They make mines and then nibble small holes in the leaves of their foodplant.

**Comments**
Well camouflaged and, therefore, easily overlooked. Probably far more widespread than map suggests.
Argent & Sable

**Adult flight period** Mid May to mid July

**Wingspan mm** 30-36

**Status** Nationally scarce - Nb (ie occurs in 31-100 10km squares), UKBAP Priority species

**Also look for**

Characteristic spinnings of the caterpillar in August and September.

**British Isles distribution**

In Scotland it has a mainly western distribution from Sutherland to Dumfries and Galloway. More localised in England and Wales.

**Distribution in Argyll Islands**

Recent records around Loch Don on Mull with older records elsewhere on Mull, and on Ulva, Lismore and Colonsay.

**Habitat**

Predominantly found on moorland with areas of extensive bog myrtle.

**Caterpillar foodplant**

Bog myrtle, however, caterpillars have also been found in Scotland feeding on the leaves of young birch trees.

**Adult ID**

Striking day-flying black and white moth that is unmistakeable if seen well. Could possibly be confused with the larger Magpie Moth but this has yellow markings on its wings and body.

**Best methods**

As an adult on sunny days. Also possible to look for the characteristic spinnings the caterpillars construct by fastening the leaves of their foodplant together. However, similar spinnings are made by other moths. Presence of a black "looper" caterpillar with fine golden or silvery markings along its sides is, therefore, essential for positive identification.

**Comments**

Searches for the characteristic spinnings can be undertaken in any weather!
Narrow-bordered Bee Hawk-moth

**Adult flight period** Mid May and June
**Wingspan mm** 41-46
**Status** Nationally scarce - Nb (ie occurs in 31-100 10km squares), UKBAP Priority species

**Also look for**
Their caterpillars by careful searching in July and August but can be very difficult to find.

**British Isles distribution**
Largely restricted to western Britain. More widespread in Scotland where there are also colonies in the east in the Cairngorms, Moray and Easter Ross.

**Distribution in Argyll Islands**
Fairly widespread on Islay and the south-east corner of Mull.

**Habitat**
Moorland, grassland and open woodland where its caterpillar’s sole foodplant, devil’s-bit scabious, grows in abundant patches.

**Caterpillar foodplant**
Devil’s-bit scabious.

**Adult ID**
Most likely to be confused for a bumblebee. However, the moth is more agile, flies in a straighter line and hovers when nectaring, whilst bumblebees land on flowers to feed.

**Best methods**
As an adult on warm, sunny days when nectaring at sheltered sites, particularly on lousewort and ragged robin. However, their swift darting flight and close resemblance to a bumblebee make them difficult to observe.

**Comments**
It is possible to look for their caterpillars, but this can take several hours even at sites where good numbers of adults are known.
Other species
The Argyll Islands are also home to several other scarce butterflies and moths including:

Chequered Skipper
This small fast-flying butterfly is on the wing from mid May to the end of June and is associated with open spaces within, and the edges of, damp woodland. Its entire UK population occurs in Lochaber and north Argyll, with unconfirmed sightings from Mull.

Grayling
A large, fast-flying coastal species that rests with its wings closed. Very well camouflaged. Most often encountered when flushed from bare ground on dunes, beaches and undercliffs. Flies during July to September.

Large Heath
This butterfly is restricted to wet, boggy habitats where its main foodplant, hare’s-tail cottongrass grows. It always sits with its wings closed and can be distinguished from the very similar Small Heath by its duller colour, larger size and spots on the underside of the hindwing, however, the spots are not always present. Flies from early June to early August.

Grey
Not as dull as it sounds! A resident of rocky coasts and shingle where its caterpillars feed on sea campion. Adults fly at night from June to September. Only known from the Isles of Man, Skye and Rum, the Ayrshire coast and the Argyll Islands.

Belted Beauty
A sand dune specialist restricted to machair in Scotland where the wingless females can be found on stems and fence posts in March and April. The males fly at night and are attracted to light. Their caterpillars can be locally abundant in June and July.

Dew Moth
A coastal species whose caterpillars feed on lichens growing on rocks and shingle. Adults can be found at rest on stems or rocks in June and July and fly in the afternoon as well as at dawn and dusk.
Want to know more?

This leaflet only provides summary information for each species. For more detailed information the following are recommended:

**Britain’s Butterflies**
David Tomlinson and Rob Still (2002).
A comprehensive photographic guide to the butterflies of Britain and Ireland, covering the 60 regularly occurring species.
ISBN No. 1-903657-01-6

**Pocket Guide to the Butterflies of Britain and Ireland.**
A handy, lightweight book with excellent illustrations and clear descriptions.
ISBN No. 0-953139-91-6

**Butterflies of South West Scotland**
Futter et al (2006)
A local atlas, produced by our south-west branch, giving detailed colour distribution and abundance maps at 5km resolution for the 32 species in the area (includes the Argyll Islands).
ISBN No. 1-902831-95-0

**The Millennium Atlas of Butterflies in Britain and Ireland**
A landmark publication that includes species accounts with full-page distribution maps at 10km resolution for all Britain and Ireland’s butterflies.

**The State of Butterflies in Britain and Ireland**
The first assessment of the changing status of butterflies in the 21st Century, updating the Millennium Atlas of Butterflies in Britain and Ireland.
ISBN No. 1-874357-31-5

**Colour Identification Guide to the Moths of the British Isles**
A comprehensive photographic guide to all macro-moths of the British Isles.
ISBN No. 0-670-87978-9

**Field Guide to the Moths of Great Britain and Ireland**
Illustrated by R.Lewington - shows all macro-moths in natural resting postures.
ISBN No. 0-953-13991-3
The following web sites can also help with butterfly and moth identification

www.ukbutterflies.co.uk
also covers where to watch butterflies.

www.butterfly-guide.co.uk
also covers European species.

www.ukmoths.org.uk

The following web sites will also be helpful

Butterfly Conservation’s web site:
www.butterfly-conservation.org
South West Scotland branch web site:
www.southwestscotland-butterflies.org.uk
Butterfly Monitoring Scheme website:
www.ukbms.org
National Moth Recording Scheme:
www.mothrecording.org.uk

Butterfly Conservation Scotland has produced a number of colour “Learn About...” leaflets that provide more detailed information on several of the species that are included in this leaflet or can be seen in the area.

These include
◆ Marsh Fritillary
◆ Pearl-bordered Fritillary
◆ Argent & Sable
◆ Narrow-bordered Bee Hawk-moth
◆ Scotland’s Burnet and Forester Moths
◆ Chequered Skipper
◆ Pearl-bordered Fritillary
◆ The Butterflies of Argyll
   - An Identification Guide
◆ Scotland’s Common Moths

Want to get involved?

We really need your help to find new colonies that are still awaiting discovery and monitor known colonies to see how species are faring on an annual basis. For example new sites have been found for Slender Scotch Burnet, Pearl-bordered and Marsh Fritillary in recent years. Remember that anyone can contribute, it is easy, great fun and can be very rewarding!

To record butterflies or moths you need to note the following information; species name, approximately how many you saw, location name, grid reference from an Ordnance Survey map, date, and your contact details. Specific recording and monitoring forms are available for Marsh Fritillary and Slender Scotch Burnet. To obtain these forms, or for more information, please contact our Stirling office (see details on back page).

Butterfly records should be sent to the regional butterfly recorder.
Richard Sutcliffe
68 Rowan Drive, Bearsden,
Glasgow G61 3HJ
Tel: 0141 942 1563.
Email: family@sutcliffe1989.freeserve.co.uk

Moth Records should be sent to the county moth recorder.
Jessie MacKay
Carsfad, St John’s Town of Dalry,
Castle Douglas, DG7 3SU
Email: mackay@entomology.freeserve.co.uk

Copies can be obtained from our Stirling office (see details on back page).
Why Not Join Butterfly Conservation?
Butterfly Conservation is the UK charity that takes action to save butterflies, moths and their habitats. You can directly support us by joining Butterfly Conservation. Annual membership entitles you to an informative welcome pack and our colourful magazine ‘Butterfly’ three times a year. It also includes membership of your local BC branch who organise field trips and talks. For a membership form or for further information, please contact us or join online at www.butterfly-conservation.org

Butterfly Conservation Scotland - What we do
We work closely with the Scottish Executive, Scottish Natural Heritage, local communities, landowners and conservation partners to safeguard Scotland’s butterflies and moths, by:
- Advising landowners on managing land for butterflies and moths.
- Carrying out surveys and monitoring of our most threatened species.
- Training volunteers to enable them to take action for butterflies and moths.
- Making recommendations to the Scottish Executive on its environmental policies.
- Encouraging everyone to cherish their butterflies and moths - in their gardens, parks, crofts, farms and urban sites.

Much of our work relates to the UK Biodiversity Action Plan and the Scottish Biodiversity Strategy. Our work in Scotland is overseen by a Scottish Committee.

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