

THE MOTHS OF CAITHNESS

THE MOTHS OF DUNNET FOREST CAITHNESS

A REVIEW OF THE MOTH SPECIES RECORDED
IN
DUNNET FOREST CAITHNESS
AS AT THE
31ST DECEMBER 2018

**NEIL MONEY
COUNTY MOTH RECORDER
CAITHNESS**

PURPOSE OF THIS REVIEW

The development of Dunnet Forest from the original Forestry Commission experimental coniferous woodland to a community woodland managed by the community through the Dunnet Forestry Trust has reached a stage where changes in habitat are starting to drive change in the moth species being recorded in the forest.

The purpose of this review is to

- detail moth species recorded up to 31st December 2018
- to provide a base line against which future change can be monitored

BACKGROUND

The original forest was planted by the Forestry Commission in the mid-1950s as an experiment in forestry planting on poor soils. The forest was acquired by Scottish Natural Heritage in 1984 and is part of the Dunnet Links Site of Special Scientific Interest.

Since 2003 the forest has been under the management of the Dunnet Forestry Trust (DFT) a community trust run by volunteers and employing two part time professional foresters.

Covering 104 hectares the original coniferous planting was of a range of species but dominated by Sitka Spruce, Lodgepole Pine, Corsican Pine and Mountain Pine. About half of the area developed into mature forest with the remainder become a mixture of open space, scattered trees and scrub woodland.¹

A CHANGING HABITAT

DFT have been pro-active in the managing the forest both as a recreational resource for the community and in diversifying the habitat. The shallow rooted mature conifers are very prone to being felled by high winds and the Trust has actively removed many of these and by doing so have opened up what was once a dense coniferous plantation. Open areas have been replanted with native deciduous trees and shrubs.

At a result of this management the forest is now a mixed habitat of the original coniferous forest, young native deciduous woodland, naturally regenerated conifers, scrub woodland and open areas. There is also a small pond.

¹ Reference: Dunnet Forestry Trust website www.dunnetforest.org

HABITAT CHANGE AND MOTH SPECIES

The dense conifer plantation would have supported mainly those species dependent on conifers for their life cycle some of which were accidentally introduced in to the County on imported trees and equipment. The margins and open areas would have held some non-conifer species.

With the creation of areas of native deciduous woodland and a greater number of open areas the forest is starting to be colonized by more moth species.

For example, in the last three years Clouded Border (larvae feed on alder, poplars, sallows and willows), Welsh Wave (larvae feed on rowans) and Currant Pug (larvae feed on currant bushes) have all made their appearance in numbers that suggest breeding. Also, Speckled Wood Butterfly is now common in clearings.

MOTH RECORDING IN THE FOREST

It has to be said that moth recording in Dunnet Forest has been somewhat *ad hoc*. There has been no co-ordinated survey strategy to ensure coverage neither through the year nor of all of the forest. Recording has been at the behest of individual recorders but with continuity of trapping sites used. As a result early Spring, late Autumn and Winter species are certainly under recorded and areas more distant from car parks have not been surveyed using light traps.

Records have been sourced through light trapping and daytime visits for day flying species. Light traps used have been mainly: Heath 8W & 40W actinic traps, Robinson MV250W traps and Robinson 20W actinic black light.

THE MOTHS

148 species have been identified in the forest up to 31st December 2018 plus 2 forms that have not been identified to species level.

A classified² and notated illustrated list of species follows below including a boxed note on the species status in Caithness and larval food plants³ which will give an indication of habitat requirements of each species. The numbers in parenthesis give the number of records in the forest and the number of moths recorded.ⁱ

Conifer species have been notated as such.

² Reference: Agassiz D.J.L, Beavan S.D. & Heckford R.J. 2013: A Checklist of the Lepidoptera of the British Isles

³ Reference: Waring P, Townsend M & Lewington R: Field Guide to the Moths of Great Britain and Ireland

Reference: Sterling P, Parsons M & Lewington R: Field Guide to the Micro Moths of Great Britain & Ireland

HEPIALIDAE

3.003 Map-winged Swift *Korscheltellus fusconebulosa*: (4 records 8 moths).



Common in open places – larvae feed on roots of bracken, red fescue and probably broadleaved herbs

3.005. Ghost Moth *Hepialus humuli*: (4 records 16 moths) ©ⁱⁱ



Common in over grown grassy and weedy areas – larvae feed on roots of grasses and herbaceous plants. Male easily found displaying over vegetation at dusk mid-June to mid-July

TINEIDAE

12.037 Monopis weaverella: (1 record 1 moth)



Only 15 County records of which 1 from the Forest. Larvae feed on animal matter including carcasses,

GYLPHIPTERIGIDAE

19.007 Cocksfoot Moth *Glyphipterix simpliciella*: (3 records 18 moths)



Abundant – larvae feed on seeds of Cocks-foot and Tall Fescue. Adults can be easily observed feeding on the flowers of Buttercup in June

PLUTELLIDAE

18.001 Diamond-back Moth *Plutella xylostella*: (6 records 13 moths)



Common, often abundant, migrant – larvae feed on species of the cabbage family.

OECOPHORIDAE

28.009 White-shouldered House Moth *Endrosis sarcitrella*: (3 records 4 moths).



Common – larvae feed on dead animal and vegetable matter

28.025 Pleurota bicostella: (2 records 3 moths).



Only 15 County records of which 2 from the forest – larvae feed on Cross-leaved Heath and Bell Heather

DEPRESSARIIDAE

32.036 Parsnip Moth *Depressaria radiella*: (5 records 6 moths)



Common – larvae feed on Hogweed and Wild Parsnip.

32.030 *Agonopterix nervosa*: (1 record 1 moth)



Fairly common – larvae feed on Broom and Gorse

BLASTOBASIDAE

41.002 *Blastobasis adustella*: (5 records 36 moths)



Fairly common – larvae feed on a variety of vegetable matter including dead Juniper leaves and empty seed pods of Gorse

41.003 *Blastobasis lacticolella*: (7 records 19 moths)



Common – larvae feed on an unrelated range of foods including rosehips, Hawthorn berries, moss and dead insects.

PTEROPHOROIDAE

45.004 Triangle Plume *Platyptilia gonodactyla* (5 records 8 moths)



Widely distributed in small numbers – larvae feed on Coltsfoot and possibly Butterbur

TORTRICIDAE

49.024 Chequered Fruit-tree Tortrix *Pandemis corylana*: (1 record 1 moth)



Scarce, 8 County records – larvae feed on a range of tree and shrubs including Hazel, Ash, Bramble and Honeysuckle

49.025 Barred Fruit-tree Tortrix *Pandemis cerasana* (1 record 2 moths)



Fairly common – larvae feed on a range of tree and shrubs including Alders, Sallows, Birches and Bilberry

49.031 Timothy Tortrix *Aphelia paleana* (1 record 1 moth)



Common – larvae feed on grasses (including Common Couch) and knapweeds, plantains & meadowsweets.

49.080 *Acleris hastiana* (1 record 1 moth)



Only one other County record – larvae feed on Sallows, White Poplar and Bog-myrtle

49.127 *Aethes cnicana* (2 records 2 moths)



Common – larvae feed on Thistles

49.166 *Celypha lacunana* (2 records 7 moths)



Common – larvae feed on many herbaceous plants and occasionally on trees and shrubs

49.249 *Epinotia ramella* (1 record 1 moth)



Rare, only 5 County records – larvae feed on birches

49.251 *Epinotia rubiginosana* (1 record 1 moth) **CONIFER SPECIES**



The only County record – larvae feed on Scots Pine and Stone Pine

49.265 *Eucosma cana* (5 records 7 moths)



Common – larvae feed on Thistles and Common Knapweed

49.269 *Eucosma campoliliana* (1 record 1 moth)



Fairly common – larvae feed on Common Ragwort

ZYGAENIDAE

54.008 Six-spot Burnet *Zygaena filipendulae* (5 records 10 moths)



Local: not proven to breed in the forest so may be wanderers from colony in dunes – larvae feed on Common Bird's-foot-trefoil

CRAMBIDAE

63.016 *Anania fuscalis* (5 records 25 moths)



Common – larvae feed on Yellow Rattle and Common Cow-wheat

63.033 *Udea lutealis* (20 records 102 moths)



Common – larvae feed on a wide range of herbaceous plants including Bramble, knapweeds and plantains

63.064 *Scoparia ambigualis* (2 records 10 moths)



Common – larvae feed on a wide range of mosses

63.067 *Eudonia lacustrata* (4 records 34 moths)



Common - larvae feed on mosses

63.069 *Eudonia angustea* (2 records 10 moths)



Fairly common – larvae feed on mosses

63.073 *Eudonia truncicolella* (5 records 21 moths)



Common – larvae feed on mosses

63.081 *Crambus pascuella* (1 record 1 moth)



Fairly common – larvae feed on Sheep's-fescue, Deergrass and possibly other grasses

63.086 *Crambus lathoniellus* (4 records 9 moths)



Common – larvae feed on various grasses

63.089 *Agriphila tristella* (3 records 4 moths)



Common – larvae feed on various grasses such as Wavy-hair Grass and meadow grass

63.093 *Agriphila straminella* (7 records 97 moths)



Common – larvae feed on various grasses such as Sheep's-fescue

63.100 **Pearl-band Grass Veneer** *Catoptria margaritella* (2 records 4 moths)



Common – larvae have been found feeding on the moss *Campylopus flexuosus*

DREPANIDAE

65.013 Common Lutestring *Ochropacha duplaris* (1 record 1 moth)



Local and scarce – larvae feed on Birches but also reported from Alder, Hazel and Oaks

SATURNIIDAE

68.001 Emperor Moth *Saturnia pavonia* (2 records 2 moths)



Widespread – larvae feed on woody plants including heathers, Meadowsweet, Alder Buckthorn, Hawthorn, Blackthorn, Sallows & Birches

SPHINGIDAE

69.003 Poplar Hawk-moth *Laothoe populi* (2 records 3 moths)



Common – larvae feed on poplars including Aspen, White Poplar, Black Poplar & Lombardy-poplar. Also Sallow & Willows particularly Goat & Grey Willows

GEOMETRIDAE

70.013 Small Fan-footed Wave *Idaea biselata* (4 records 5 moths)



Widespread in small numbers – larvae food little known in the wild. In captivity feeds on Dandelion and Plantain

70.41 July Belle *Scotopteryx luridata* (1 record 2 moths)



Local and scarce – in Caithness larvae probably feed on Gorse (+Dyer's Greenweed and Petty Whin in the south)

70.045 Shaded Broad-bar *Scotopteryx chenopodiata* (5 records 6 moths)



Common – larvae feed on clovers and vetches

70.048 Red Carpet *Xanthorhoe decoloraria* (1 record 1 moth)



Fairly common – larvae feed on Lady's Mantle

70.049 Garden Carpet *Xanthorhoe fluctuate* (2 records 2 moths)



Common – larvae feed on herbaceous plants of the cabbage family

70.053 Flame Carpet *Xanthorhoe designate*



Common – larvae food little known in the wild. In captivity feed on plants of the cabbage family

70.054 Silver-ground Carpet *Xanthorhoe montanata* (22 records 106 moths)



Common – larvae feed on herbaceous plants including cleavers and primrose

70.059 Yellow Shell *Camptogramma bilineata* (5 records 5 moths)



Common – larvae feed on low growing broad-leaved plants including cleavers, bedstraws, wormwoods, docks, sorrels and Dandelion

70.060 Small Argent & Sable *Epirrhoe tristata* (2 records 2 moths)



Local and uncommon – larvae feed on Heath Bedstraw.

70.061 Common Carpet *Epirrhoe alternata* (9 records 32 moths)



Common – larvae feed on Cleavers, Hedge Bedstraw, Lady's Bedstraw and other bedstraws

70.067 Streamer *Anticlea derivata* (1 record 1 moth)



Very local and scarce, only 8 County records – larvae feed on Dog Rose and probably other wild roses. More rarely on Hawthorn and Blackthorn

70.074 JULY HIGHFLYER *Hydriomena furcata* (6 records 12 moths)



Common – larvae feed on Hazel, willows, Creeping Willow, Bilberry and Heather. Also reported from Sitka Spruce and Lodgepole Pine

70.077 Pine Carpet *Pennithera firmata* (10 records 35 moths) **CONIFER SPECIES**



Common – larvae feed on Corsican Pine and Scots Pine

70.078 Chestnut-coloured Carpet *Thera cognata* (1 record 1 moth) **CONIFER SPECIES**



Local and scarce – larvae feed on Common Juniper

70.079 Spruce Carpet *Thera britannica* (4 records 9 moths) **CONIFER SPECIES**



Common – larvae feed on many coniferous trees including Sitka Spruce, Norway Spruce and Western Hemlock-spruce

70.081 Grey Pine Carpet *Thera obeliscata* (15 records 68 moths) **CONIFER SPECIES**



Common – larvae feed on many coniferous trees

70.085 Barred Yellow *Cidaria fulvata* (1 record 2 moths)



Fairly common but has possibly declined – larvae feed on Dog Rose, Burnet Rose and probably other wild and cultivated roses

70.087 Purple Bar *Cosmorhoe ocellata* (6 records 26 moths)



Common – larvae feed on Bedstraws

70.091 Northern Spinach *Eulithis populata* (1 record 2 moths)



Common – larvae feed on Bilberry

70.093 Barred Straw *Gandaritis pyraliata* (6 records 11 moths)



Common – larvae feed on cleavers and other bedstraws

70.094 Small Phoenix *Ecliptopera silaceata* (5 records 7 moths)



Fairly common – larvae feed on various species of willowherbs including Rosebay Willowherb

70.095 Red-green Carpet *Chloroclysta siterata* (1 record 2 moths)



Fairly common – larvae feed on the leaves of various broad leaved trees including Blackthorn, Rowan, birches and possibly Ash

70.097 Common Marbled Carpet *Dysstroma truncata* (6 records 13 moths)



Common – larvae feed on many woody plant species

70.098 Dark Marbled Carpet *Dysstroma citrata* (8 records 20 moths)



Common – larvae feed on many woody plant species

70.100 Green Carpet *Colostygia pectinataria* (12 records 58 moths)



Common – larvae feed on Hedge Bedstraw, Heath Bedstraw and other bedstraws

70.101 Mottled Grey *Colostygia multistrigaria* (2 records 2 moths)



Common – larvae feed on Lady's Bedstraw, Heath Bedstraw and probably other bedstraws

70.103 Water Carpet *Lampropteryx suffumata* (3 records 5 moths)



Local – larvae feed on Lady's Bedstraw, Hedge Bedstraw, Cleavers and Heath Bedstraw

70.115 Welsh Wave *Venusia cambrica* (1 record 15 moths)



Local and scarce – larvae feed on Rowan

70.131 Twin-spot Carpet *Mesotype didymata* (1 record 1 moth)



Common – larvae feed on a wide range of plants including Bilberry, Heather, willows, Red Campion, willow-herbs and Cow Parsley

70.132 Rivulet *Perizoma affinitata* (1 record 1 moth)



Local and scarce – larvae feed on flowers and seeds of Red Campion

70.133 Small Rivulet *Perizoma alchemillata* (1 record 1 moth)



Fairly common – larvae feed on flowers and seeds of Common Hemp-nettle and Hedge Woundwort

70.137 Grass Rivulet *Perizoma albulata* (2 record 4 moth)



Local – larvae feed on seeds of Yellow-rattle

70.138 Sandy Carpet *Perizoma flavofasciata* (1 record 4 moth)



Local – larvae feed on flowers and seed of Red Campion and less often White Campion and Bladder Campion

70.141 Double-striped Pug *Gymnoscelis rufifasciata* (3 records 3 moths)



Common – larvae feed on flowers of many plants including Gorse, Rowan, Broom, Heather, Holly and Ivy

70.160 White-spotted Pug *Eupithecia tripunctaria* (1 record 1 moth)



Local – larvae feed on Elder flowers

70.161 Golden-rod Pug *Eupithecia virgaureata* (2 records 5 moths)



Local – one generation only
and food plants have not
been resolved

70.168 Narrow-winged Pug *Eupithecia nanata* (2 records 2 moths)



Fairly common – larvae fed
on flowers of heather

70.171 Ochreous Pug *Eupithecia indigata* (1 record 1 moth) **CONIFER SPECIES**



Rare, only 4 records – larvae
feed on Scots Pine,
Lodgepole Pine and larch

70.179 Wormwood Pug *Eupithecia absinthiata* (1 record 3 moths)



Local – larvae feed on the
flowers of the Asteraceae
family including Mugwort,
Yarrow, ragworts and
Michaelmas-daisy

70.182 Currant Pug *Eupithecia assimilata* (1 record 50 moths)



County status unclear as
food plant usually in private
garden – larvae feed on
Black and Red Currant and
Wild Hop

70.183 Common Pug *Eupithecia vulgata* (3 records 5 moths)



Common – larvae feed on
leaves of various trees
including Hawthorn &
sallows, ragworts, Yarrow &
Hogweed

70.190 Grey Pug *Eupithecia subfuscata* (1 record 1 moth)



Local – larvae feed on many herbaceous & woody broadleaved plants including Blackthorn, Hawthorn, sallows, Aspen, knapweeds & Yarrow

70.205 Magpie Moth *Abraxas grossulariata* (9 records 87 moths)



Common – larvae feed on a variety of trees & shrubs including Blackthorn, Hazel, currants and Heather

70.207 Clouded Border *Lomaspilis marginata* (5 records 9 moths)



Locally scarce to common – larvae feed on Aspen, poplars, sallows and willows

70.214 Tawny-barred Angle *Macaria liturata* (4 records 9 moths) **CONIFER SPECIES**



Recorded from only 4 sites – larvae feed mainly on Scots Pine, & Norway Spruce. Recorded from other conifers including Corsican Pine & Sitka Spruce

70.226 Brimstone Moth *Opisthograptis luteolata* (6 records 24 moths)



Common – larvae feed on Rowan, Blackthorn and Hawthorn

70.237 Early Thorn *Selenia dentaria* (2 records 3 moths)



Fairly common – larvae feed on Blackthorn, Hawthorn, Hazel, birches, Alder Honeysuckle and other woody broadleaved plants

70.240 Scalloped Hazel *Odontopera bidentata* (8 records 43 moths)



Common – larvae feed on a wide range of woody plants including Hazel, birches, Hawthorn, Blackthorn willows and conifers

70.264 Satin Beauty *Deileptenia ribeata* (9 records 52 moths) **CONIFER SPECIES**



Recent colonist first recorded 2009 – larvae feed on various conifers

70.266 Dotted Carpet *Alcis jubata* (12 records 127 moths)



Common – larvae feed on Bearded Lichen and probably other lichens

70.276 Bordered White *Bupalus piniaria* (20 records 226 moths) **CONIFER SPECIES**



Common – larvae feed on conifers including Scots Pine, Corsican Pine, Lodgepole Pine and Larch

70.277 Common White Wave *Cabera pusaria* (7 records 18 moths)



Common – larvae feed on
Downy and Silver Birch,
Alder and willows

70.278 Common Wave *Cabera exanthemata* (3 records 3 moths)



Widespread in small
numbers – larvae feed on
Goat & Grey Willow and
other willows, Aspen and
other poplars

70.283 Light Emerald *Campaea margaritaria* (5 records 15 moths)



Common – larvae feed on a
range of broadleaved tree
and shrubs

70.284 Barred Red *Hylaea fasciaria* (24 records 93 moths) **CONIFER SPECIES**



Common – larvae feed
mainly on Scots Pine and
Norway Spruce but recorded
from other conifers including
Larch

70.292 Grey Scalloped Bar *Dyscia fagaria* (1 record 1 Moth)



Rare, only 4 County records
– larvae feed on Heather,
Bell Heather and Cross-
leaved Heather

NOTODONTIDAE

71.013 Pebble Prominent *Notodonta ziczac* (1 record 1 Moth)



Widespread in small numbers – larvae feed on willows, aspens and poplars

71.018 Lesser Swallow Prominent *Pheosia gnoma* (1 record 1 Moth)



Local and scarce – larvae feed on Silver and Downy Birch

71.021 Coxcomb Prominent *Ptilodon capucina* (4 records 4 Moths)



Fairly common – larvae feed on a wide variety of broadleaved trees including birches, Hazel, Alder, Aspens, willows, Hawthorn and Rowan

EREBIDAE

72.003 Snout *Hypena proboscidalis* (8 records 22 moths)



Common – larvae feed on Common Nettle

72.025 Wood Tiger *Parasemia plantaginis* (5 records 7 moths)



Very local most recent records from Dunnet Forest and Dunes – larvae feed on a range of herbaceous plants including Bell Heather, Ribwort and Greater Plantain and Groundsel

72.026 Garden Tiger *Arctia caja* (1 record 1 Moth)



Common – larvae feed on a wide variety of herbaceous plants including Common Nettle, Broad-leaved Dock, and many garden plants

72.061 Pinion-streaked Snout *Schrankia costaestrigalis* (7 records 17 moths)



Common following first record in 2009 and range expansion – larvae food plants are unknown in the wild

NOCTUIDAE

73.001 Spectacle *Abrostola tripartita* (1 record 1 Moth)



Common – larvae feed on Common Nettle

73.012 Burnished Brass *Diachrysia chrysitis* (5 records 7 moths)



Common – larvae feed most frequently on Common Nettle but also other herbaceous plants

73.015 Silver Y *Autographa gamma* (2 records 6 moths)



Common migrant – larvae feed on many low growing wild and cultivated plants including bedstraws, clovers, Common Nettle, Garden Pea and Cabbage

73.016 Beautiful Golden Y *Autographa pulchrina* (8 records 12 moths)



Common – larvae feed on herbaceous plants including Common Nettle, Common Ragwort, Hedge Woundwort, Wood Avens

73.018 Gold Spangle *Autographa bractea* (2 records 2 moths)



Widely distributed in small numbers – larvae feed on a wide range of herbaceous plants including Common Nettle, Ground-ivy, Bilberry and Honeysuckle

73 022 Gold Spot *Plusia festucae* (1 record 1 moth)



Common – larvae feed on Glaucous Sedge, Yellow Iris and Branched Bur-reed

70.045 Knot Grass *Acronicta rumicis* (2 records 2 moths)



Widespread and becoming more common – larvae feed on herbaceous and woody plants including Broad-leaved Dock, Common Sorrel, plantains, Bramble and Hawthorn

73.061 Anomalous *Stilbia anomala* (2 records 4 moths)



Local – larvae feed on Wavy Hair-grass and Tufted Hair-grass

73.123 Rosy Rustic *Hydraecia micacea* (2 records 6 moths)



Common – larvae feed on a range of low growing plants including Broad-leaved Dock, Ribwort Plantain, Field Woundwort and Potato

73.128 Ear Moth *Amphipoea oculatea* (1 record 1 moth)



Common – larvae feed on the insides of lower stems of grasses including Annual Meadow-grass and Tufted Hair-grass

73.144 Small Wainscot *Denticucullus pygmina* (3 records 3 moths)



Common – larvae feed on Sedges including Glaucous Sedge and cotton grasses

73.154 Dusky Brocade *Apamea remissa*



Common – larvae feed on grasses including Reed Canary-grass and Common Couch

73.156 Clouded-bordered Brindle *Apamea crenata* (6 records 13 moths)



Common – larvae feed on
grasses including Cock's-foot

73.162 Dark Arches *Apamea monoglypha* (7 records 28 moths)



Common – larvae feed on
grasses including Cock's-foot
and Common Couch

73.163 Light Arches *Apamea lithoxylaea* (3 records 9 moths)



Widespread in small
numbers – larvae feed on
grasses including Annual
Meadow-grass

73.171 Rosy Minor *Litoligia literosa* (1 record 1 moth)



Uncommon may have declined
– larvae feed on various
grasses including Lyme-grass
Marram, Cock's-foot and also
cereal crops and sedges

73.176 Middle-barred Minor *Oligia fasciuncula* (5 records 25 moths)



Common – larvae feed on
grasses particularly Tufted
Hair-grass

73.234 Brindled Ochre *Dasypolia templi* (1 record 1 moth)



Common – larvae feed on
Hogweed and Wild Angelica

73.241 Pine Beauty *Panolis flammea* (1 record 1 moth) **CONIFER SPECIES**



Uncommon – larvae feed on
needles of pine trees
including Scots Pine,
Corsican Pine and
Lodgepole Pine

73.244 Common Quaker *Orthosia cerasi* (1 record 1 moth)



Common – larvae feed on a
wide range of broadleaved
trees including oaks, willows,
birches, hawthorns and
Hazel

73.254 Antler Moth *Cerapteryx graminis* (10 records 27 moths)



Common – larvae feed on
hard-bladed grasses
including Sheep's-fescue,
Mat-grass and Purple Moor-
grass

73.264 Pale-shouldered Brocade *Lacanobia thalassina* (2 records 4 moths)



Common – larvae feed on a
wide range of woody plants
including oaks, hawthorns,
Apple, willows Aspen and
Honeysuckle

73.267 Bright-line Brown-eye *Lacanobia oleracea* (2 records 2 moths)



Common – larvae feed on a wide range of herbaceous and woody plants including Common Nettle, willowherbs, Hazel and Reed Sweet-grass

73.271 Broom Moth *Ceramica pisi* (1 record 1 moth)



Common – larvae feed on a wide variety of herbaceous and woody plants including Heather, Bracken, Broom, Bramble, Sallows and larches

73.273 Shears *Hada plebeja* (4 records 13 moths)



Widespread but thinly distributed – larvae feed on herbaceous plants including Smooth Hawk's-beard and Lucerne

73.276 Campion *Sideridis rivularis* (6 records 8 moths)



Widespread but local where food plant occurs – larvae feed on the seeds of White, red and Sea Campion and Ragged Robin

73.281 Lychnis *Hadena bicruris* (3 records 11 moths)



Widespread but local – larvae feed on seeds of Campions, particularly White and Red, and Sweet William

73.291 Common Wainscot *Mythimna pallens* (5 records 7 moths)



Common - larvae feed on various grasses including Tufted Hair-grass, Annual Meadow-grass, Common Couch and Cock's-foot

73.293 Smoky Wainscot *Mythimna impura* (6 records 62 moths)



Common – larvae feed on various grasses including Cock's-foot, Common Reed and Hairy Wood-rush

73.313 White-line Dart *Euxoa tritici* (1 record 1 moth)



Local and coastal – larvae feed on a wide range of herbaceous plants including Hedge and Lady's Bedstraws, Corn Spurrey and mouse-ears

73.317 Heart and Dart *Agrotis exclamatoris* (1 records 1 moth)

Photograph not available

Rare and appears to have suffered major local decline – larvae feed on wide range of herbaceous plants including Ribwort Plantain and Fat-hen

73.329 Flame Shoulder *Ochropleura plecta* (5 records 7 moths)



Common – larvae feed on a wide range of herbaceous plants including Groundsel, Ribwort Plantain and bedstraws

73.332 Purple Clay *Diarsia brunnea* (4 records 41 moths)



Common particularly in broadleaved woodland - larvae feed on range of herbaceous plants including Foxglove and woody plants including Heather, willows, birches and Brambles

73.333 Ingrailed Clay *Diarsia mendica* (9 records 20 moths)



Common – larvae feed on herbaceous plants including Primrose and violets and on woody plants including Brambles, heathers willows, Hawthorn and Blackthorn

73.334 Small Square-spot *Diarsia rubi* (8 records 79 moths)



Common – larvae feed on a range of herbaceous plants including Dandelion, docks and Foxglove and also Heather

73.338 True Lovers Knot *Lycophotia porphyrea* (1 record 1 moth)



Common – larvae feed on Heather and Bell Heather

73.342 Large Yellow Underwing *Noctua pronuba* (19 records 106 moths)



Common – larvae feed on a wide range of plants and grasses including docks, brassicas, marigolds and Annual Meadow-grass

73.345 Lesser Yellow Underwing *Noctua comes* (3 records 3 moths)



Common – larvae feed on a wide range of herbaceous plants including Common Nettle, Broad-leaved Dock and small trees including Hawthorn, Bramble, willows and Broom

73.348 Lesser Broad-bordered Yellow Underwing *Noctua janthe*
(3 records 11 moths)



Common – larvae feeds on a wide range of herbaceous plants including Broad-leaved Dock and Scentless Mayweed and shrubs including willows, hawthorns and Blackthorn

73.351 Double Dart *Graphiphora augur* (1 record 1 moth)



Fairly common – larvae feed on willows, Blackthorn, Hawthorn and herbaceous plants including Broad-leaved Dock

73.352 Green Arches *Anaplectoides prasina* (2 records 2 moths)



Widespread in suitable habitat – larvae feed on a range of herbaceous and woody plants including Primrose, docks, Honeysuckle and Bramble

73.353 Dotted Clay *Xestia baja* (3 records 11 moths)



Common – larvae feed on Herbaceous and woody plants including Common Nettle, willows, birches and Blackthorn

73.357 Square-spot Rustic *Xestia xanthographa* (12 records 27 moths)



Common – larvae feed on mainly grasses but also herbaceous plants such as plantains and cleavers

73.58 Six-striped Rustic *Xestia sexstrigata* (2 records 8 moths)



Common – larvae rarely recorded but reported feeding on Hedge Bedstraw, Ribwort Plantain, Bramble and Bluebell

73.361 Double Square-spot *Xestia triangulum* (1 record 1 moth)



Fairly common – larvae feed on mainly herbaceous and woody plants including buttercups, Primrose, Cow Parsley, Blackthorn, hawthorns and Raspberry

73.365 Autumnal Rustic *Eugnorisma glareosa* (3 records 5 moths)



Fairly common – larvae feed on low growing plants including heathers, bedstraws, Bluebell also willows and birch scrub

NOLIDAE

74.004 Least Black Arches *Nola confusalis* (2 records 2 moths)



Found in small numbers in deciduous woodland – larvae feed on a variety of broadleaved trees including Downy Birch, and Blackthorn,

APPENDIX 1

DAY FLYING MOTHS RECORDED IN DUNNET FOREST

The following moth species have been record flying in the daytime in Dunnet Forest which may be of interest to visitors

3.005. Ghost Moth: Males easily found when present displaying over rough grassy areas just before nightfall mid-June to mid-July

19.007 Cocksfoot Moth: Easily found feeding on pollen in buttercup flowers on sunny days in June, particularly in the afternoon

49.127 *Aethes cnicana*: Can occasionally be disturbed on thistles during the day from mid-June to mid-July

54.008 Six-spot Burnet May possibly be encountered on fine afternoon in rough grassy areas particularly around the carpark and the track running parallel to the road in July. Probably wanderers from the Dunes colony.

63.086 *Crambus lathoniellus*: Can be disturbed in areas of shortish grass in June and July

63.093 *Agriphila straminella*: Can easily be disturbed from area of shortish during July – often abundant

63.016 *Anania fuscalis*: Can be disturbed in rough grassy areas in June

63.033 *Udea lutealis*: Can easily be found feeding in flower heads from mid-July through August

68.001 Emperor Moth *Saturnia pavonia*: Male flies rapidly during the day late April to early May

70.045 Shaded Broad-bar *Scotopteryx chenopodiata*: Can easily be disturbed from its resting place in grass and low vegetation from end of July to late August

70.054 Silver-ground Carpet *Xanthorhoe montanata*: A very common moth easily disturbed from its resting place in grass and low vegetation during the day from mid-June to early August

70.060 Small Argent & Sable *Epirrhoe tristata*: Regularly flies on sunny afternoon in June and July keeping low.

70.061 Common Carpet *Epirrhoe alternata*: Easily disturbed in grassy areas in July and August

70.059 Yellow Shell *Camptogramma bilineata*: Flies close to the ground on sunny afternoon from the end of June to mid-August

70.131 Twin-spot Carpet *Perizoma didymata*: Can easily be disturbed in grassy scrubby area in the afternoon mid-July through August. It can be numerous.

70.137 Grass Rivulet *Perizoma albulata*: Flies close to the ground on sunny afternoon mid June to Early August

70.205 Magpie Moth *Abraxas grossulariata*: A common, sometimes abundant, moth which can often be seen flying in the daytime in July

70.207 Clouded Border *Lomaspilis marginata*: Flies in June and July up to head height along the margins of wider paths in the forest. Could be mistaken for a butterfly

70.276 Bordered White *Bupalus piniaria*: A common moth in the forest which can be encountered anywhere during the day from the end of June through July. Male sometimes gather in large groups if females are present

72.025 Wood Tiger *Parasemia plantaginis*: Flies during the day a low level during June and July. Most Caithness records come from Dunnet Dunes and Forest.

73.254 Antler Moth *Cerapteryx graminis*: Can be found feeding on flower heads on sunny days in July and August

73.176 Middle-barred Minor *Oligia fasciuncula*: Can be found feeding on flower heads on sunny days in July

73.015 Silver Y *Autographa gamma*: Can be found hovering over flowers to feed any when from late May to September. It can occur in high numbers in some years.

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ii GHOST MOTH PHOTOGRAPH © KAREN MUNRO