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Lakeland Naturalist

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Lakeland Naturalist

— *a journal of Cumbrian Natural History*

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– *a journal of Cumbrian natural history*

Lakeland Naturalist *publishes material on all aspects of the natural history of the Lake District, the wider county of Cumbria and its immediate environs*

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Notes for authors:
General articles, results of personal research, news items, records and items of relevance to Cumbrian natural history and naturalists, present and past, are welcomed. Material accepted for publication must not be submitted in a similar form to any other journal or magazine.

Material offered for publication should be in the formats used in this issue. Computer files should be in rich text format or Microsoft Word and e-mailed to the Editor, or submitted on CD/DVD accompanied by a paper copy. **Bold** and *italic* may be applied to text, but no other formatting should be applied. References should be given in full at the end of the article or note, and authors are responsible for their accuracy. Authority names for species, where given, should be in full. Line illustrations should be in black ink and must be originals. Good quality photographs are welcomed where these relate to submitted text. Each photograph, figure or table should be submitted as a separate file. Whilst every care will be taken of original art-work, the Editor can not be held responsible for any loss or damage. Authors of papers will be provided with PDF format copies on request. The Editor reserves the right to submit papers to a referee, and to reject items.

Opinions expressed in ***Lakeland Naturalist*** are not necessarily shared by the Council of the Carlisle Natural History Society or its Editorial Panel.

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Next issues: deadlines for final copy

1st March 2021 & 1st September 2021

Cover:
Marsh Fritillary, Eycott Hill CWT Reserve, 3 June 2020 © *Stephen Hewitt*

Carlisle Natural History Society – Winter Programme 2020/21

check website *www.carlislenats.org.uk* for updates

Coronavirus

At the time of publication, the UK remains in the grip of this epidemic. The Society will therefore not run an indoor lecture programme over the winter of 2020/21. The 'virtual programme' below has kindly been arranged by Donna Salter

All sessions will open at 7.15pm via emailed link
There will be a question and answer opportunity at the end of each talk/film

Wednesday 18 November:
Roy Atkins *Roy and Jane's Big Southern Plant and Insect Twitch!* [TALK with Q&A]

Wednesday 2 December:
David Clarke *In Search of Dragonflies* [FILM with Q&A]

Wednesday 16 December:
John Miles *Caithness - the part of Scotland most people miss!* [TALK with Q&A]

Wednesday 6 January 2021:
Katie Baker *Is rewilding the future for the Lakeland uplands?* [TALK with Q&A]

Wednesday 20 January:
Jane Orgee *Launch of Biodiversity Survey at Eva's Organics farm: initial invertebrate findings* [TALK with Q&A]

Wednesday 3 February:
Nigel Gilligan *Nature notes from around the Duddon estuary* [TALK with Q&A]

Wednesday 17 February:
Steve Hewitt *What Bugs Me About Cumbria* [TALK with Q&A]

Wednesday 3 March:
Suzie Collinson *How recording and investigating small populations of Amphibians and Reptiles can benefit larger conservation efforts* [TALK with Q&A]

Wednesday 17 March:
Frank Mawby *The Wild Goose Chase - 2020 Style!* [FILM with Q&A]

Wildlife Reports: 1 March – 31 August 2020

The following is based on records submitted by CNHS members or accepted as correct from non-members. All records are forwarded to CBDC at Tullie House.
(Names of species illustrated are highlighted.)

Weather

Until 17th March, it was changeable. Often windy and with rain most days (rain 54.8mm). From 18th it was dry, settled and often sunny with some frosty mornings. April began overcast, cloudy and cool but with little rain, from 7th it was generally sunny and warm with the occasional morning frost (rain 5 mm). May continued much the same with a cooler week and some rain between 17th and 23rd. the last frost noted was on 14th (rain 13.2 mm). After the first week of June there was a significant change with few dry days, often dull, windy and cool (rain 102.6 mm). July continued much the same but much warmer with a relatively dry spell mid-month and very wet spells in first and third weeks (rain 124.5 mm). August continued in much the same with brief spells of hot, sunny weather early in the month. The last week was extremely wet (rain 184 mm).

From mid-March, the Covid-19 pandemic significantly affected wildlife recording. Obliged to stay at home for several weeks with only limited outdoor activity many recorders switched to recording their garden wildlife or their immediate locality during the permitted exercise period. From mid-June the gradual easing of movement restrictions allowed us to return to regular sites. However, from the records received, it would seem nothing was missed; indeed, we have been inundated with records from all the usual sites.

The weather along migration routes appears to have had a significant impact on migrants. The early March arrivals were a few days late but the April arrival seemed to be similar to recent years, with the notable exception of Swallows, with JC noting passage birds passing Allonby in late May. Several observations noted nesting sites empty or with lower numbers.

Birds

Whooper Swan: 102 were on field by the R. Esk, Longtown 3 March (DJ) and a single remained on Tindale Tarn on 4 April (CH). At Levens, KM recorded 13 on 2 April. **Pink-footed Goose:** the total count on the S. Solway on 22 March was 17,000 (FJM *et al.*). A skein of 70 coming from the south and landing on the beach at Allonby on 12 April (JC) was an unusual occurrence. **Barnacle Goose:** many skeins were migrating over Longtown during the evening of 6 May (DJ). Five stragglers were at Anthorn on 11 May (AA). **Todd's Canada Goose:** was again seen with Barnacle

Geese, on Rockcliffe Marsh, 18 March (NF). **Shelduck:** RH noted over 500 in Moricambe Bay on 6 June and 583 were present on 5 July WEBs count (AA and FJM). Every year a notable pre-moult assembly occurs on the Solway in June and July. **Common Scoter:** migrating flocks were flying over Bowness-on-Solway during the evening of 7 April (DB), detected using 'Nocmig' equipment (nocturnal migration sound recording), and again on 12 April. A single bird was off Silloth on 7 June (RH). **Long-tailed Duck:** on the R. Eden near Rockcliffe on 6 July (NF). **Mandarin Duck:** MG reported a pair at Lanercost for the fourth consecutive year (2 April).

Black Grouse: lekking was noted at Geltsdale on 29 March (JM). **Red Grouse:** seen on Binsey, 18 July (DB). **Grey Partridge:** JC noted two at Blue Dial, Allonby on 28 March and FJM had two near Thornhill Moss NNR on 1 June. **Quail:** calling birds were at RSPB Geltsdale 21 June (CH) and Langwathby 23 June (RH). **Red-throated Diver:** seen off Bowness-on-Solway on the high tide on 3 May (RH and JM). **Manx Shearwater:** were passing Bowness-on-Solway on 5 July (CA). **Storm Petrel:** one passing Workington Harbour on 29 June (NF). **Great White Egret:** seen near Rockcliffe on 21 August (NF).

Osprey: there were a notable number of sightings this summer. One was regularly seen at Anthorn from 28 July (RA) to 12 August (NF). RH had one drifting south at Armathwaite on 28 July. On 11 August AE saw one from Glasson Moss and on 12 August NF had one at RSPB Campfield. **Red Kite:** one seen over A680 near Carlisle Airport on 18 March (CH), another over Bowness-on-Solway on 28 March (RH). JM reported one at Hayton for fifth consecutive day on 11 May and on 31 July DJ had another at Silverhill, Longtown following a tractor turning hay. **Marsh Harrier:** on Wedholme Flow on 8 August (SHM) and another over Burgh Marsh on 30 August (RA). **Goshawk:** seen near Spadeadam 10 August (CA). **Buzzard:** JM reported a migration movement of 15 over Jockey Shield on 1 May. **Merlin:** several Solway sightings included one at Wilkins Pool, Longtown, 3 March (DJ); one hunting Sanderling along Allonby beach, 22 April (JC); one at Wedholme Flow on 6 April and another, a female, on 13 April (FJM); one at Rogersceugh on 16 April (AA). A female at Spadeadam, 10 August was the only inland report (CA). **Hobby:** PH recorded one at Armathwaite on 10 and 24 Aug and RH saw another at Southwaite on 19 Aug. **Water Rail:** two heard by RH on north side of Glasson Moss, 24 March.

Little Ringed Plover: two on the R. Esk at Longtown (DJ) on 22 March. **Sanderling:** 800 on Allonby beach on 22 April (JC). **Little Stint:** two on Grune Point

Wildlife Reports 1 March — 31 August 2020

Long-billed Dowitcher *Guy Broome*

Long-eared Owl *Adam Moan*

on 29 May (JM). **Ruff:** three on Wedholme Flow on 22 March and four on 13 April, the males in breeding plumage (FJM). **Jack Snipe:** on Geltsdale, New Water on 3 March (SWM). **Bar-tailed Godwit:** passage noted by RH (23) and JM (84) on 20 May at Bowness-on-Solway. **Black-tailed Godwit:** a flock regularly seen at Port Carlisle from early July. RA counted 22 on 6 July and NF 60 on 29 July, most still in breeding plumage. **Whimbrel:** an early bird was at Allonby on 6 April (JC) and another 15 on 22 April and on same day RH saw 25 at Silloth. 17 were at Watchtree on 6 May (LS). The first returning bird was seen at Port Carlisle on 6 July (RA) with last report, of four, on Grune on 7 August (AA). **Spotted Redshank:** one in summer plumage at Port Carlisle on 7 July (RA) stayed several days. Another was on Grune Point on 9 Aug (RH). **Greenshank:** three were in Glasson Bay, 12 March (NF); there were several sightings of returning birds between 18 July to 26 August (NF CH). **Green Sandpiper:** one at Wilkins Pool, Longtown, 3 March (DJ), FJM had two on flood pools on the Saltcotes Marsh road on 23 Aug, and DJ noted one at Longtown on 31 Aug. **Common Sandpiper:** one on the R. Eden on 7 April (DC) and six on the R. Esk at Longtown on 10 April (DJ). Eleven return migration birds at Port Carlisle on 18 July (NF CA FJM) and was still present at Old Anthorn on 31 Aug (NF). **Wood Sandpiper:** one on the R. Eden near Grinsdale (see Note on p. 47) and another on Wedholme Flow on 16 June (CH). Long-billed Dowitcher: was seen on Wedholme Flow on 22 March and again on 13 April (FJM). A bird in full summer plumage was

located at Port Carlisle on 10 July NF whose last sighting of it was at Anthorn on 31 August. **Skuas:** JM had an Arctic Skua calling over him at Jockey Shield on 11 May and two flying east along the Solway at Bowness-on-Solway on 20 May. A **Pomarine Skua** flew past Bowness-on-Solway on 5 July (CA). **Mediterranean Gull:** a returning bird at Allonby 6 March (JC) and 14 on the beach opposite Crosscanonby junction on 2 July (AH) were the more notable of several records. **Little Gull:** PH saw a single near Brampton 20 April. **Sandwich Tern:** 45 at St Helens, Flimby on 9 July (JC) and nine at Port Carlisle on 18 July (NF).

Cuckoo: calling on Meathop Moss south Cumbria on 16 April (KM); others included Ambleside on 17 April (MR), Gowbarrow on 24 April (SH), Drumburgh Moss 30 May (SWM). Also variously reported from Wedholme Flow, Bowness Common and Finglandrigg Wood NNR. **Barn Owl:** had an early season with good numbers of young fledged by mid-July (FJM). Long-eared Owl: adults (with juveniles) photographed near Tindale village on 8 June (AM). **Short-eared Owl**: feeding young at Geltsdale, 13 June (RH). A very good breeding season reported from Geltsdale and NF reported several at Forest Head on 28 June. SWM recorded a single on Binsey on 20 May and another near Tindale village on 8 June. DB recorded another on Binsey on 18 July. **Swift:** early dates were two at Kirkoswald on 23 April (MT) and one at Warwick Bridge on 24 April (QC) and ten over Rockcliffe on 28 April (RH). The last record was of a single at Penrith on 31 August (SH). **Kingfisher:** two at Crofton Lake on 4 March (AR). One on the R. Eden near Rockcliffe on 31 March (RH). A breeding site on the lower Petteril was active on 3 August (reported to DC). **Green Woodpecker:** heard calling at Wood Close Wood, Skelton by JP on 26 March. FJR reported another near Wetheral on 3 May.

Willow Tit: FJM located two nests on the fringes of Glasson Moss; Great Spotted Woodpecker predated both, although some young fledged from one nest. **Sand Martin:** the first record was on 27 March from FJR on the R. Eden, Wetheral Woods. **Swallow:** on 23 March, DJ had a very early Swallow at Longtown and JC had another at Allonby on 5 April. The migration was patchy and staggered, with birds still coming by Allonby in late May. Many observers reported fewer nests or none at regular sites. Good numbers were passing by Allonby on 20 April (JC). **House Martin:** four were reported to DC at Cumwhitton on 5 April and two were at nests on FJM's house in Kirkbride on 10 April, where he had seven first-brood nests, with late arrivals making at least ten pairs – slightly fewer than last year.

Willow Warbler: a singing male was by the R. Eden near Rockcliffe on 31 March (RH) and another on 4 April in Rickerby Park (CA). **Chiffchaff:** were late arriving,

with first seen at Houghton Hall on 16 March (BO) and another at Kirkandrews on Eden on 17 March (AA). **Wood Warbler:** was noted 23 April Miltonrigg Wood (PH). **Blackcap:** a singing male was at Thurstonfield on 26 March (TM) and others on 29 March near Kirkbride (FJM) and along the R. Petteril (RH). **Garden Warbler:** singing male in Miltonrigg Wood on 23 April (PH). **Lesser Whitethroat:** was at Crosscanonby Carr on 15 April (JC). **Common Whitethroat:** JC noted five males on territory north of Maryport on 25 April. **Sedge Warbler:** RH recorded a singing male along the R. Petteril at Carlisle on 16 April. **Reed Warbler:** LS noted a singing male at Watchtree on 23 April. **Blyth's Reed Warbler:** another notable influx in the UK this year, with one found at Longlands Lake, Egremont on 27 June by a local birder and seen on 29 June by NF: it stayed a few days. **Grasshopper Warbler:** two 'reeling' males were heard by JC on 25 April near Allonby and TM had a single on 26 April at Cardew Mires.

Mistle Thrush: notable numbers were 21 at Lazonby on 21 July (RHJ) and 73 at Aiketgate in August (CH). **Starling:** a most unusual record was a brood of four white starlings at Clifton on 1 June (IR) and in late August a murmuration of at least 6,000 had formed to roost at Watchtree Nature Reserve (FJM). **Rose-coloured Starling:** a single was seen at South Walney on 24 June (AH) – an influx was noted from around the UK at that time. **Ring Ouzel:** JM recorded 9 on passage at Geltsdale on 13 April. **Fieldfare:** a flock estimated over 100 were near Cumwhitton on 5 April (DC) and 40 were seen feeding near High Hesket on 8 April (AE). **Redwing:** several were in a flock with **Fieldfare** at Low Hesket on 31 March (AE) and one was in Gelt Woods on 23 April (RH). **Black Redstart:** reported at Castle Carrock to JM on 10 April and one on Whitbarrow Scar on 15 April (KM). **Common Redstart:** one on Whitbarrow Scar on 10 April (KM) and another on 23 April Miltonrigg Wood (PH). There was a late bird at Longtown on 31 August (DJ). **Whinchat:** two females at Allonby on 27 April (JC); three on Walton Moss on 24 Aug (RHJ). **Wheatear:** was noted at Allonby on 5 April (JC) and another at Geltsdale (JM). **Spotted Flycatcher:** two were in Finglandrigg Wood NNR on 7 May (RH & SWM), one in Miltonrigg Wood on 20 May, one at Kirkoswald on 14 May (MT). A pair returned to breed successfully in a nest box at Watchtree, with four chicks fledged on 10 July. A late one was at Longtown on 31 August (DJ). **Pied Flycatcher:** PH noted one on 23 April at Miltonrigg Wood.

Yellow Wagtail: was seen at Carr Beds by the R. Eden near Rockcliffe on 21 April and a pair was at Cargo on 5 May (RH). One was on the R. Esk at Longtown on 7 May (DJ). Of particular note was one at Langwathby, recorded as 'Channel' Yellow

Wagtail, a *flava/flavissima* cross. It appeared to be paired and stayed to breed. Four were present in this area on 23 June (RH). One seen at Port Carlisle on 17 August (RA). **Tree Pipit:** a juvenile was recorded by RH at Spadeadam on 24 May. **Rock Pipit:** nests of this species are rarely found and JC was delighted with his find on 31 May (see Article on p. 56). **Twite:** NF had ten flying over on Rockcliffe Marsh on 15 March. **Crossbill:** a family group was found by RH at Spadeadam on 24 May. CA reported two in Finglandrigg Wood NNR on 10 July and another at Kirkbride Airfield on 9 July. NF noted a family group of seven at Lanercost on 1 August.

Mammals

Hedgehog seem to be doing really well (perhaps due to more garden observers and less traffic on the roads?). Examples came from Anthorn (AA), Cumwhitton (DC), Cumrew (GB), Dalston (DH) and Kirkbride (FJM). **Badgers** seem scarce after resuming activity this spring, with few reports of live individuals, trailcam sightings or road-kills. Reasons are as yet unknown but worth flagging up for future records. **Otter** have been showing well: a nice daytime photo from a pond near Brampton, 24 July (AM), was a mother and cub, probably the same individuals from trailcams on the R. Gelt and Cumrew Beck (GB). Other mustelids include **Stoat** at Geltsdale (AM) and **Weasel**, R. Gelt trailcam (GB). **Polecat Ferret** has regularly appeared on a trailcam in the Eden valley (GB). **Rabbits** seem to have bounced back in the Eden valley after last year's outbreak of Viral Haemorrhagic Disease. **Red Squirrels** have been hit hard in the east of the county but are holding their own in upper Geltsdale (JM) and are still regular in the Lake District (e.g. four at Caldbeck, DEC) and West Cumbria. A road-kill record was near Greystoke, 9 June (DC/SH). **Grey Squirrel** seem numerous and sadly ubiquitous. There have been two **Harbour Porpoise** records: mother and calf, Port Carlisle, 9 and 20 May (RA and RH). A **Northern Bottle-nose Whale** was found stranded and dead a mile off Ulverston on 30th August, as reported in local Press.

Reptiles and Amphibians

Adder sightings at the crucial post-hibernation time and the Natural England survey at Finglandrigg were curtailed by full Covid-19-related 'lock-down', making estimates of populations impossible, but two different females and a male were noted at Finglandrigg (DM and GB). **Common Lizard** seems to be doing well throughout the county (*).

Wildlife Reports 1 March — 31 August 2020

Butterflies

Spring and early summer species seemed to be thriving after a few years of good weather during their flight times, whilst later summer species seemed poor, likely owing to the extreme and unstable weather. **Orange-tip**, **Green Hairstreak**, **Small Copper** first brood, post-hibernation **Small Tortoiseshell** and **Peacock**, **Small Pearl-bordered Fritillary** and **Peacock** seemed abundant throughout the county (*). Double-brooded species such as **Wall** and **Speckled Wood** seem to be steadily increasing their ranges, **Wall** has been reported as far inland as Cumwhitton, Cumrew and Croglin (DC, GB and JO). **Speckled Wood** now seems common throughout Cumbria (*), whilst not long ago it was only found in the south of the county. **Holly Blue** was recorded in its usual haunts. Breeding was proved at Cumwhitton (DC). The not-so-common **Common Blue** was locally abundant with a transect count of 15 at Forest Head on 23 June (GB). The current summer-hatched generation of **Peacock** and **Small Tortoiseshell** at least in some locations seems far smaller than last year's that overwintered and remained abundant this spring. **Painted Ladies** were scarce compared to their abundance in 2019 with only the odd record, e.g. Watchtree 25 May (LS), Cumwhitton 24 August (DC). SH found a single **Marsh Fritillary** at CWT's Eycott Hill Reserve on 3 June (see cover). It is presumed to have arrived naturally from a local colony. SH noted **Mountain Ringlet** at three known sites: Grey Knott, twelve on 1 June, Esk Pike, *ca*. 20 on 6 July and Rampsgill Head, one on 18 July. Limited data is available for single-brooded summer species such as **Scotch Argus** and **High Brown Fritillaries** and it is hoped that the bad weather has not affected them. Numbers seem down for the recently arrived **White-letter Hairstreak** in its new north-east strongholds (PH). **Dark-green Fritillary** numbers seem average with records from Ullswater to Hallbankgate (NF and AM).

Moths

Trends from UV light trapping are uncertain at this early stage owing to the sheer number of species and recorders but here are some highlights, including day-flying species. **Boxworm Moth** (*Cydalima perspectalis*), a crambid new for Cumbria, was trapped by Lee Taylor-Wheal, visiting Milnthorpe on 2 August and kindly reporting his find to Cumbria Moth Group. The species is originally from Asia and only recently established in UK. *Catoptria furcatellus*, a distinctive lichen-feeding crambid, was photographed by JN on the peak of Esk Pike on 19 June at 885m altitude, the fifth post-2000 Cumbrian record of this rare species of montane habitats. **Bird's Wing** (*Dypterygia scabriuscula*), a noctuid moth in steep decline, was trapped in Brampton

on 18 July (RP): this was the first Cumbrian record for 48 years. Two species of **Tussock Moth** (Lymantriinae) have recently spread to Cumbria from the south, with 2020 producing their most northerly records. Other notables were **White Satin** (*Eucomis salicis*) at Cumrew 14th July and **Brown Tail** (*Euproctis chrysorrhoea*), Glasson Moss, 16 July (GB). A **Hummingbird Hawkmoth** (presumed the same individual) was variously present from 16 June until 11 August at Cumwhitton (DC). One was also noted by RG at Burgh-by-Sands, 8 July.

Dragonflies

The dry sunny spring produced many early emergence dates, such as **Beautiful Demoiselle** in the Lyth valley 6 May (KM). However, water levels were affected badly and dragonfly numbers often suffered. **Broad-bodied Chasers** were widely recorded, sometimes with proven local emergence or egg-laying in the north of the county, as at Eycott Hill, 30 May (SH) and Low Holme, 15 June (JM). There were interesting records of **Beautiful Demoiselle** at non-breeding locations – one near Aspatria, 1 August (JL) and another (for a second year) in Swindale, 15 & 24 June (SW). The same observer also saw a **Keeled Skimmer** in Riggindale, 10 July, a new area for this species. Over 50 **Southern Hawkers** emerged at RS's garden pond at Broadwath over four weeks from 19 June – a testimony to the productivity of this increasingly widespread dragonfly. A **Migrant Hawker** was briefly at a Kirkoswald garden in warm weather on 15 August (CG).

Other invertebrates

The following miscellany has been gleaned largely from our *Facebook* pages: KH found a Rhinoceros Beetle (*Sinodendron cylindricum*) at Mawbray on 18 May – interestingly a second recent record from coastal driftwood; **Musk Beetle** (*Aromia moschata*) noted at Manesty on 10 August (NG); JP had **Lesser Thorn-tipped Longhorn** (*Pogonocherus hispidus*) at Blencowe on 25 June – a beetle rarely recorded in the county. **Hairy Darkling Beetle** (*Lagria hirta*) was UV light-trapped at Cumrew on 10 August (GB), an unusual inland site for this coastal species; the distinctive red leaf-rolling weevil *Apoderus coryli* was found near Santon Bridge in Eskdale on 1st August (DM) – a new area for this very southerly species in the county; the rare cranefly ***Ctenophora flaveolata*** was noted for the second year running at Yewtree Tarn on 13 May (MR); AM recorded the large ichneumon 'Sabre Wasp' (*Rhyssa persuasoria*) – a parasitoid of the larvae of the Giant Wood Wasp – at Miltonrigg Wood, 31 July; one was also seen by DJ at Longtown on 9 August.

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Weevil
Apoderus coryli

Deb Muscat (p. 44)

Rhinoceros Beetle
Sinodendron cylindricum

Keith Hamilton (p. 44)

Sabre Wasp
Rhyssa persuasoria

Adam Moan (p. 44)

Micro-moth
Catoptria furcatellus

Jamie Normington (p. 43)

Notes on other unusual species appear on pages 48, 51, and 52.

Signal Crayfish was noted from the Caldew on 1 June (DH) and **White-clawed Crayfish** noted from Cumrew Beck on the same date, also likely the attraction for the two Otters seen there shortly after (GB).

Recorders

AA: Anne Abbs, CA: Colin Auld, RA: Roy Armstrong, GB: Guy Broome, DB: Dave Blackledge, JC: John Callion, DC: David Clarke, DEC: David Evan Cowan, QC: Quentin Cox, AE: Anita Evans, NF: Nick Franklin, MG: Mike Gardner, NG: Nigel Gilligan, KH: Keith Hamilton, SH: Steve Hewitt, DH: David Hickson, CH: Chris Hind, RH: Robin Hodgson, AH: Andrew Holliman PH: Peter Howard. DJ: David Johnston, RHJ: Bob Jones, JL: Jo Lister, FJM: Frank Mawby, SHM: Shelagh Mawby, TM: Trevor Merrington, JM: John Miles. KM: Kerry Milligan, AM: Adam Moan, SWM: Stephen Mott, DM: Deb Muscat, JN: Jamie Normington, BO: Bill O'Brien, JO: Jane Orgee, JP: John Parker, RP: Robert Picket, IR: Irene Redhead, MR: Mo Richards, FJR: Jeremy Roberts, AR: Ann Robinson, RS: Rob Shaw, LS: Liz Still, MT: Martin Thomas, SW: Spike Webb. (*) = multiple recorders.

Frank Mawby/Guy Broome

Richard Speirs

Orange-tip and Lady's Smock
Wetheral, 22 April 2020

Notes & Records

Wood Sandpiper on the river Eden, Carlisle

A single Wood Sandpiper was observed feeding for a few minutes on the edge of the River Eden near Kingmoor, Carlisle during the morning of 13th May 2020.

The bird arrived below the Sand Martin colony on the eastern bank of the River Eden. My attention was drawn by its unfamiliar call, a somewhat high-pitched *'tiff-tiff-tiff'*. At once I noted a most elegant, almost delicate, wader with a hint of Greenshank, but its smaller, neater size and often upright stance and high-stepping perfunctory feeding habit eliminated other '-shank' species. I wrote: *'very slender, with distinctive eye-stripe, long greeny-yellow legs with a distinctive chequer-board mantle and wings. Grey. Stands tall and petite ... extremely pleasing on the eye'*.

When the bird flew to the opposite bank the *'contrast between the white rump and the grey-brown wings was not marked'*. It remained feeding in the shallows off the far shingle bank for another few minutes before moving off. I began to think in terms of either a Green Sandpiper or the much scarcer Wood Sandpiper. Having seen Green Sandpipers in the autumn in Cumbria, I felt that this individual was slimmer and much livelier and therefore made a preliminary identification as a Wood Sandpiper. However, its white face before its eye gave me a cause for caution in fully identifying the bird until I had consulted field guides.

I circulated photos to several wader experts, who each confirmed my identification. Amongst them was Chris Hind who commented: *'Wood Sandpiper is a scarce passage migrant in Cumbria. Across Britain it is less frequent in spring than in the*

autumn. As birds migrate from their sub-Saharan wintering grounds to where they breed in the wooded bogs of northern Eurasia many pass to the east of Britain. The western counties of Britain consequently see the lowest numbers. The date and location of Stephen's bird is fairly typical in that Wood Sandpipers favour freshwater wetlands that are not too distant from the coast and most are found in the second and third week of May. They do not occur annually in the county during spring migration and many a year has gone by without any being recorded. The past six years have seen birds on only three of those years during springtime, with only one or two being recorded in any year'.

As it happens, my sighting followed a long period of strong easterly winds, which may well have brought this individual, and even others, across to this side of the country.

Stephen W. Mott, 106 Knowe Park Avenue, Stanwix, Carlisle CA3 9EN

The green lacewing *Chrysopa dorsalis* (Burmeister, 1839), new to Cumbria

When visiting Black Moss (SD2288) on 17 June 2019 I found what looked like an unusual green lacewing on a low shrub. It looked different from the relatively common lacewing *Chrysopa perla*, in that the head had a differently-shaped black area on the dorsal surface. I therefore took considerable care in taking photos from different angles, trying to get the best image resolution possible in the circumstances, yet without making the insect fly away.

I used the lacewings booklet by Plant (1997) to identify it, and decided it was either *Chrysopa perla* or *dorsalis*. However, my specimen appeared somewhat atypical, in that the vein Sc was neither green nor black, but a bit of both. Two other characters are relevant – the dark mark on the vertex of the head had within it a rectangular pale area (it can be oval also), as opposed to a small circular area, and therefore corresponds to *Chrysopa dorsalis*. Additionally, the tarsal claws were different. In *C. dorsalis* the claw is simple, and splays outwards, while *perla* has a claw which points more downwards, and has a tooth at the base. These are very small features, but the image resolution was sufficient to see the somewhat more bulky, simple claw. A useful comparison was also available: on the same day I found a good example of *Chrysopa perla* (identical conditions, and camera equipment), and was able to compare the claws. At extreme magnification, it was just possible to make out the tooth at the base of the claw belonging to *perla*. Regardless of that minute feature, at less magnification

Chrysopa dorsalis. Black Moss, Duddon, 17 June 2019

they look slightly different, with *perla* having a more delicate-looking claw, but *dorsalis* having a more robust one, which is splayed outwards rather than downwards. This gave me the confidence to pursue confirmation.

It became apparent that while reliable UK images are readily available on the web for *Chrysopa perla*, there are none for *dorsalis*. I could not get any helpful information or comments via specialist insect forums. There are 65 records on the National Biodiversity Network website atlas, the nearest (and northernmost) being near Southport. On the *iRecord* website there were only three UK records before mine, and none are confirmed. Again, there is no useful photographic resource here either. My submission to *iRecord* did not receive any attention. After many months I noticed that some other lacewing species had been confirmed by Steve Garland. He indicated that he had some regional autonomy to identify lacewings but would be checking with Colin Plant on this one. Subsequently I received notification in May 2020 that this record had been accepted.

The lacewings booklet states that *C. dorsalis* is *'Extremely local and usually rare, probably genuinely so. There is some evidence that south coast records may be immigrants; the species is widespread in most of Europe and we are probably on the extreme edge of its range. It is associated with pines.'*

Steve Garland (pers. comm.) said ' … *it has been recorded from S. Lancs – Ainsdale, where its likely association with pine trees would fit. ... Colin* [Plant] *seems to suggest that it may migrate – we had some exceptional periods of insect migration*

last year – did it coincide with one of those maybe?'

Black Moss is a relatively isolated unit (no. 17) within the overarching Duddon Mosses SSSI. The composite site has eight discrete areas of mossland, with a total area of 356 hectares. After the mosses of the south Solway Plain, this complex forms the most important group of lowland raised mires in Great Britain in terms of size and the diversity of habitats. It is classified as 'Fen, Marsh and Swamp' by Natural England, but some of the unit is drier and more accessible. To the west of the unit are blocks of woodland, with the area abutting the site being mainly pine.

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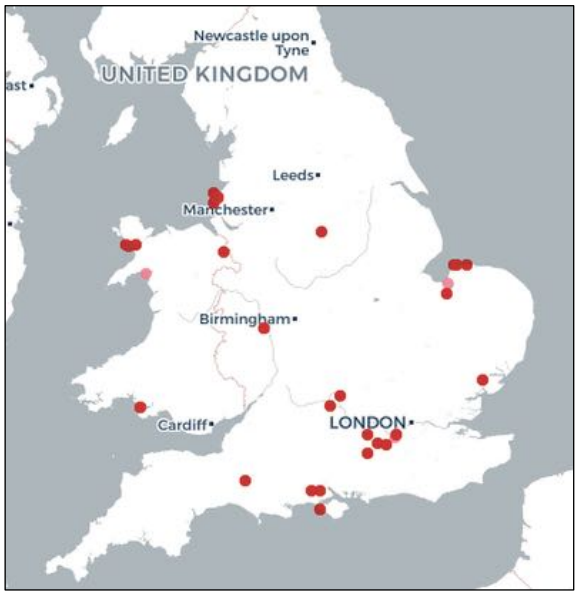

UK records of *Chrysopa dorsalis* on National Biodiversity Atlas

https://species.nbnatlas.org/species/NHMSYS0000869666

Accessed 20 September 2020

NBN Map ©OpenStreetMap; imagery ©CartoDB.

A recent record of the flower-beetle *Psilothrix viridicoeruleus* (Geoffroy in Fourcroy, 1785) (Coleoptera: Melyridae) from Cumbria

One example of this bright metallic blue-green, soft-winged flower-beetle was discovered on a dandelion head at Maryport beach (NY03) on 10th May 2020 by Keith Hamilton. According to the National Biodiversity Network atlas (on NBN website), the beetle is largely restricted to sandy coastal areas in Britain. It has been recorded mainly along the southern coastline of England, and also on the western side of the country from Anglesey, mainland Wales and the Isle of Man. This record would appear to be the most northerly to date in Britain. *P. virdicoeruleus* has previously been recorded from the county on only a few occasions. Day (1928) noted that the species was recorded by James Murray from Seascale (NY00) in 1921, though the Cumbria Biodiversity Data Centre database shows a late 19th century record from that area. Other records, including more from Seascale, are from Parton, north of Whitehaven (NX92), and Earnse Bay, Walney (SD17). The scatter of years suggests the species occurs as a rare resident in the county.

The beetle is associated with various species of herbaceous plants, in particular thistles (*Cirsium* and *Carlina*) and the adults, which frequent flowery grasslands, are usually found on the flower heads. The larvae are at first scavengers on dead insects and then later phytophagous, feeding within the stems of the host plants, where pupation also takes place.

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Psilothrix viridicoeruleus
Maryport, 10 May 2020
Keith Hamilton

Some recent records of the Finch Louse-fly *Ornithomya fringillina* Curtis 1836 from West Cumbria

The Finch Louse-fly (*Ornithomya fringilline*) Curtis 1836 is a diminutive, blood-sucking fly that lives ectoparasitically on small birds. In a previous publication (Sellers, 2008) I described 47 specimens of this fly obtained during ringing operations in my garden in West Cumbria. They had been found on nine species of passerine, ranging in size from the Coal Tit (*Periparus ater*) to the Greenfinch (*Chloris chloris*), all caught between early July and mid-October. Since then I have recorded *O. fringillina* on a further 53 occasions involving ten species of bird. Of particular note are the following three records:

1 on first year male Siskin (*Spinus spinus*), Gosforth (NY0703), 10 June 2012.
1 on first-year female Siskin, Gosforth (NY0703), 7 August 2015.
1 on first-year male Lesser Redpoll (*Acanthis cabaret*), Gosforth (NY0703), 20 June 2020.

Neither of these two species of bird is included in the lists of hosts by Hill (1962) and Maa (1969), though regrettably no more recent updates to these appear to have been published. Van den Broek & van Eck (1968) record an example of *O. fringillina* found on a Lesser Redpoll in the Netherlands, but the record above is the first I have been able to find for Britain.

Most of the 100 records collected to date in Cumbria have been on juvenile (that is recently fledged) birds, but all three of these new host records refer to birds which will have just completed, or be close to completing, their first breeding attempt. Two of these new specimens were found in June, before many birds of the year will have fledged or become independent of their parents, which perhaps goes some way to explaining why adults were involved. Furthermore, these two June records are several weeks earlier than any of the records reported in my 2008 article, though the 2008–2020 records include nine others from June, eight of them from 2020, reflecting in part the dry and sunny spring, but also that I was able to do much more ringing in my garden in 2020 than usual because of the restrictions due to the Covid-19 pandemic.

Hippoboscid fly
Sketch by Barbara Petorak/
North American Bird Bander

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The slime truffle *Melanogaster ambiguus* (Vittad.) Tul. & C. Tul., new to Cumbria

Truffles are hypogeous fungi, *i.e.* fungi that produce macroscopic fruit-bodies partially or completely embedded in soil. Probably the best known are the edible truffles which belong to the genus *Tuber.* There are also a number of 'False Truffles' which are often similar to the edible truffles but are not worth eating (although *Elaphomyces* is reputed to have aphrodisiac properties by some!). Most hypogeous fungi are to be found in woodlands where they grow as ectomycorrhizal fungi attached to the roots of trees, being nourished by and nourishing the tree in a symbiotic relationship.

During August 2020 Michelle Dickinson, who lives in Staveley, Kendal, was doing some digging in her garden in the vicinity of a Southern Beech (*Nothofagus antarctica*) and at a depth of 6–8 cm unearthed a small dull-brown sphere which she was able to identify as some sort of truffle. Further observation led her to conclude that this was a type of slime truffle, a species in the genus *Melanogaster* which belongs to the same phylum (Basidiomycota) as typical mushrooms. Features which suggested this identification were the very slimy nature of the inner gleba tissue and the pretty awful smell that it produced when cut in half – the smell of this fungus puts the Stinkhorn in the shade! The name *Melanogaster* means 'black stomach'. Fungi that produce their spores internally are sometimes referred to as stomach fungi. In this case

the inner gleba tissue is marbled, much like an edible truffle but consisting of black gel-filled chambers separated by yellowish septae.

Four species of *Melanogaster* are currently recognized in the UK, all of them rare to very rare but it was the pungent smell of Michelle's specimen that suggested this was the Stinking Slime Truffle *Melanogaster ambiguus*. Identification of *Melano–gaster* species depends on looking at the spores but even then differences can be very subtle. A significant number of the spores in this case were citriform (lemon-shaped) which is characteristic of *M. ambiguus*. (The strong aroma is presumed to attract rodents and other mammals that by eating the truffle will enable spore dispersal via their dung.)

On the CATE2 national database of fungi in the UK (*https://cate.abfg.org/records/index.php*) there are 32 records of this species, with only seven being in the last 20 years and this is the first for Cumbria of any species of *Melanogaster*. It is perhaps not surprising that there are few records of these truffles as their underground existence keeps them quite well hidden. Martyn Ainsworth, Senior Mycologist at the Royal Botanic Gardens, Kew will do a DNA profile before commenting.

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New roadside fungus records in north Cumbria

Two fungus species I noted by roadsides in September 2020 appear to be new to the county. Both are closely related to the more widespread Field Mushroom. *Agaricus bresadolanus* (opposite, upper) has a somewhat scaley cap and very little scent. A solitary example was growing in beech litter beside the B6413 near Talkin (NY55). It has only two UK records north of Nottingham, one in south Lancashire, one in Yorkshire, near Ripon. *Agaricus bernardii* (opposite, centre and lower), sometimes called the Salt Mushroom, was in short roadside turf at Cumwhitton. It has a very 'lumpy' cap with scurfy scales, sometimes half-embedded in the ground. Unlike the previous species, its flesh colours red on cutting. Most obvious is its strong and unpleasant fishy aroma. The salting of roads creates the conditions it likes. Although more widespread in the UK than *A. bresadolanus*, it has not been previously recorded in western England north of Merseyside. I also found this species at the same place in 2017 (though in July), so it appears established here. Paul Nichol has kindly confirmed these records. Mapping of these and any fungi at 10km resolution can be readily viewed on the Fungus Conservation Trust's website: *http://cate.abfg.org*

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Agaricus bresadolanus

Agaricus bernardii

David Clarke

Rock Pipits in Cumbria

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Introduction

With an estimated local population of between twenty and forty pairs [*Ref.* 4], the Rock Pipit (*Anthus petrosus*) is one of Cumbria's scarcest breeding birds. For nesting, it requires rocky maritime situations, and consequently is absent from low-lying habitats characterized by saltmarsh, mudflats and open sandy beaches.

The species has evolved to occupy this extremely demanding niche habitat, which excludes most other passerine food competitors, though it can often be seen in company with a wader, the Turnstone (*Arenaria interpres*), working the seaweed on the high-water line or at the turbulent edge of an incoming tide.

Although displaying birds have been recorded elsewhere, and from historic or anecdotal records may have nested around Millom and on Chapel Island, off Ulverston , they are mainly confined to a core linear 25 km stretch of coastline between St Bees Head and Maryport, typified by natural sandstone cliffs and rocky shorelines, together with a variety of coastal man-made constructions. In the national breeding atlas of 1968–72 [*Ref.* 3], and the two more recent Cumbria atlases [*Refs.* 1, 4], all breeding records came from the core area, with a maximum occupancy of only ten tetrads. Birds also occupy breeding territories throughout the winter.

Outside the breeding season, Rock Pipits are far more widespread along the coast (Fig. 1). As shown in the most recent atlas [*Ref.* 1], they have been recorded in at least 45 tetrads during the winter, with most found in the estuaries of Morecambe Bay. At such times they significantly exceed the breeding density, with several tetrads holding more than ten birds.

Subspecies

In Cumbria, Rock Pipits belong to the nominate subspecies *Anthus petrosus petrosus,* which is found in most of Great Britain and Ireland, north-western France and the Channel Islands. They are believed to be resident and largely sedentary, apart from some juvenile dispersal. *A. p. kleinschmidti* breeds in the Faroe Islands, Orkney, Shetland, Fair Isle and St Kilda. This and *A. p. littoralis* – which breeds as close as Fennoscandia – are partially or totally migratory. All three subspecies are similar in appearance and difficult to separate in the field. It is likely that the winter populations on our coast consist of all three. A Swedish-ringed bird that wintered around Rampside for at least three successive years (2005–07) is perhaps indicative of this.

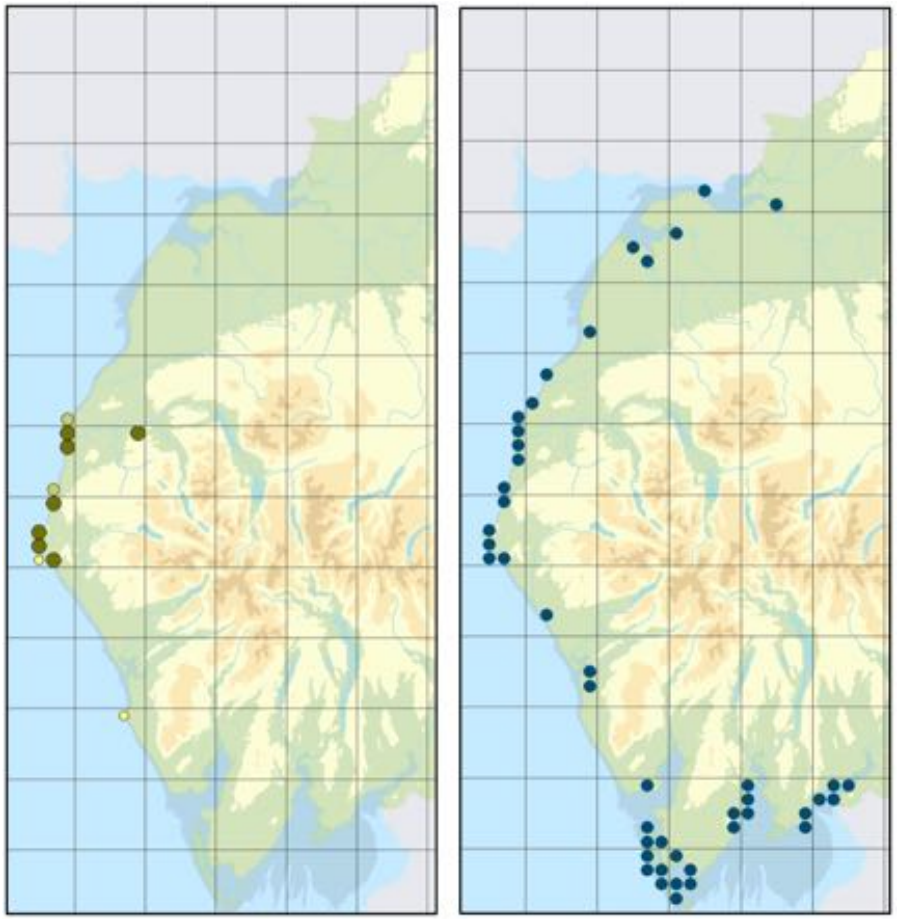

Figure 1 Rock Pipit: breeding (left) and wintering (right) distribution in Cumbria. From *Cumbria Bird Atlas 2007–2011*: Cumbria Biodiversity Data Centre & Cumbria Bird Club
[ref 1]. Contains Ordnance Survey Data Crown copyright and database right 2020

Nest Locations

On the Cumbrian coast, nest sites are present in two distinct situations. For natural sites, Rock Pipits choose seaward-facing low ledges in red sandstone, typical of much

Plate 1

Natural nest site on rock ledge near Lowca, 2020

Mike Mills

Plate 2

Harbour nests, Maryport, 2019.

Arrows show locations of successive nests of the same pair

above: the lower nest

John Callion

of the shoreline on the 7km stretch of tall cliffs between St Bees and Whitehaven and the less prominent, fragmented, lower and shorter stretch around Lowca.

Rock Pipits also nest in a variety of man-made structures, mostly now unused and derelict. These are some of the remaining visible relics from west Cumbria's previous industrial age, such as the old coastal coal mining and steel workings around Harrington, Workington, Lowca and Parton and the slag 'cliffs' created as a bi-product of steelmaking – particularly between Harrington and Workington.

It is not known whether Rock Pipits were present when these industries were in their hey-day, or whether they have colonised after cessation of production and the onset of decay. Certainly, the banks of hot slag would have been unsuitable when active.

It seems likely that today's low breeding population might have been even lower before the early 18th century brought the advance of industry and coastal construction to this part of the coast. In these situations, many Rock Pipits nest in cavities, especially in blocked drainage holes in deep-water harbour walls at Whitehaven and Maryport. Only at St Bees Head and in some suitable areas of the relatively inaccessible and undisturbed coastline between Harrington and Parton are they found nesting in natural sites (Plate 1).

Natural nest sites are always close to the uppermost tideline and are likely to encounter salt spray at times of strong southwesterlies when accompanied by high tides, even though nests can be several metres higher than sea level. Some nests have been found on the ground in deep cover on the embankment of the long-disused coal carry line from the mine at Risehow (Flimby) to Maryport Harbour – where boats were once loaded. These sites are in the lee-side of the prevailing wind.

Apart from those that nest in and around sheltered harbour walls, where shielded from the worst of the weather, all others have been found within 10 metres of the high tide line with west-facing aspects.

Monitored nest sites

Between 1990 and 2020 19 nest sites were found, four on natural sandstone, six in slag-banks, three in harbour walls, four on the ground in thick cover of grass and brambles, and an intriguing sighting of a pair feeding newly fledged but dependent chicks on a boat moored in Maryport Harbour.

Of the natural sandstone sites, one was at St Bees, not far from the village, one in Fleswick Bay, between the north and south Head, and three at Lowca (Plate 1). Six nests were found in weather-eroded cavities in soft slag, one at Harrington and five

at Workington. Of the three nests in harbour walls, one was at Whitehaven and the others at Maryport.

All four ground nests were at Maryport in 2019 and 2020 and may have involved the same birds. In each year there were double broods. All four nests were at the same location to within ten metres, but less than two metres separated the first from the second brood in both years (Plate 2, p. 58). The fledged chicks at Maryport were on a permanently inactive boat. (It is typical of multi-brooded passerines to nest very close to where they have previously been successful, but nests are usually not re-used, presumably an adaptation to avoid diseases and nest-parasites.)

Clutch size and breeding success

The British Trust for Ornithology's field guide [*Ref.* 2] states that the normal clutch size is 4–5 eggs. Because of the danger and difficulty of accessing cavity or harbour-wall nests, we only have data for five nests; nevertheless this small sample gives an informative insight into the breeding biology of Rock Pipits in Cumbria. Of the five nests available to analyse, two were in 2019 and three in 2020. Regarding clutch sizes, four nests had four eggs, one had three. All nineteen eggs hatched and all nineteen chicks fledged.

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Does the European Otter predate on Britain's rarest freshwater fish, the Vendace, during spawning?

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Introduction

Vendace (*Coregonus albula*) is a medium-sized salmonid confined to cold waters with small seasonal variations in temperature (Coyle & Adams, 2011). Relict populations in Derwentwater and Bassenthwaite Lake are now the only surviving native locations, making it Britain's rarest freshwater fish (Winfield *et al.*, 2012). Refugia populations have been established at additional sites using fish from Derwentwater/Bassenthwaite.

Spawning on stony-bottomed lakes, Vendace are known to form dense spawning aggregations in the littoral shallows during autumn and winter (Winfield *et al.*, 2012). This ephemeral spatial shift in Vendace depth preferences may move them into the predation/diving range of European Otters (*Lutra lutra*) at depths of <4m (Ruiz-Olmo *et al.*, 1998).

The European Otter shows seasonal variation in its diet, consisting predominately of fish (Remonti *et al.*, 2009). When fishing, Otters target slower-moving fish (Chanin, 2013) and spawning congregations in shallow water (Hewitt & Winfield, 2013). An Otter's preference in the prey size can vary according to whether it is feeding young (Chanin, *op. cit.*). Spraints and prey-remains may be a plausible indicator of fish spawning areas, as shown by Hewitt & Winfield (*op. cit.*), who highlighted spawning locations of the Whitefish (Schelly) *Coregonus lavaretus* at Ullswater and Haweswater. Here, the question is raised: can the Hewitt & Winfield methodology be used to reveal Vendace spawning sites around Derwentwater?

Derwentwater is a large, shallow, mesotrophic lake at c. 70 metres a.s.l., at the foot of Borrowdale, in the Lake District National Park, Cumbria. The current fish community found within Derwentwater includes Vendace (*Coregonus albula*), Brown Trout (*Salmo trutta*), Atlantic Salmon (*Salmo salar*), Ruffe (*Gymnocephalus cernuus*), Roach (*Rutilus rutilus*), Pike (*Exos lucius*), Perch (*Perca fluviatilis*), Minnow (*Phoxinus phoxinus*), European Eel (*Anguilla anguilla*), Dace (*Leuciscus leuciscus*) and European Bullhead (*Cottus gobio*). Hänfling *et al.* (2016) defined the lake community by eDNA and established survey methods.

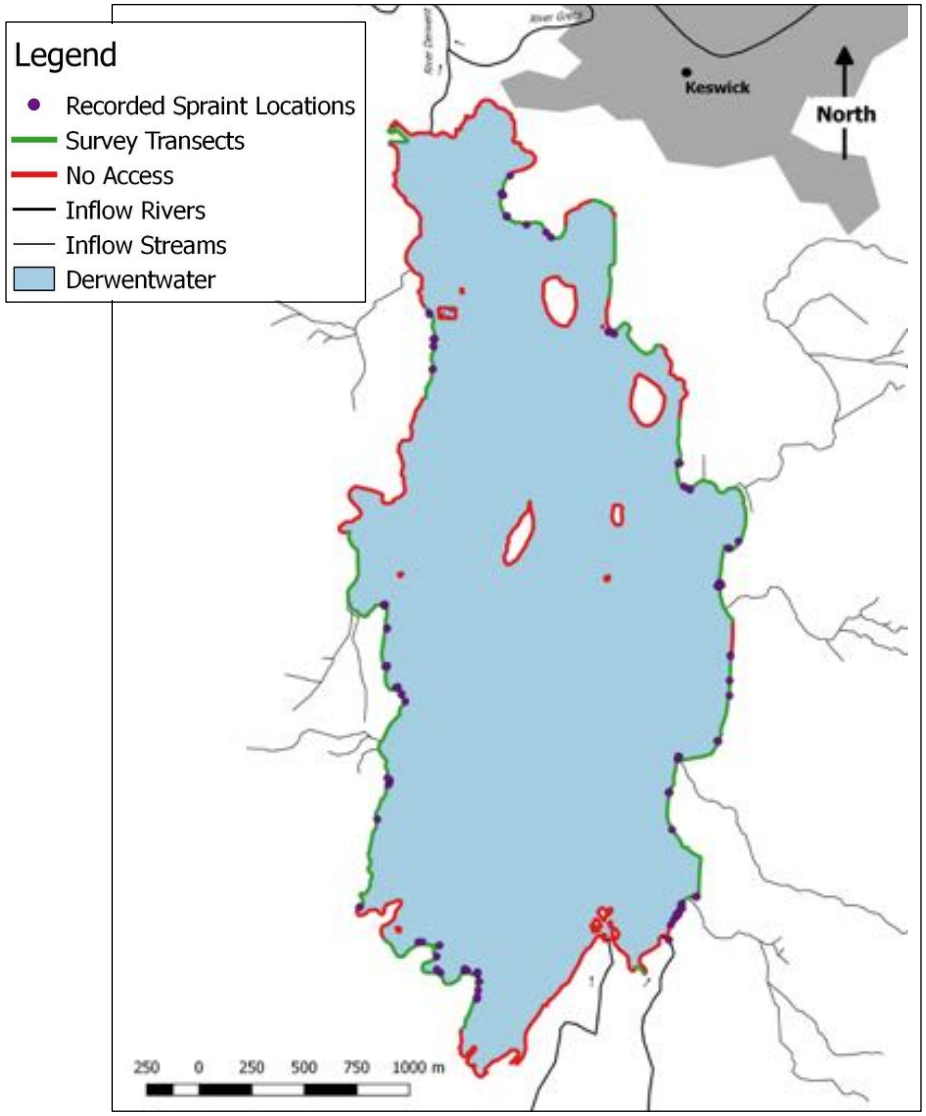

Figure 1. Locations of spraint finds

Methods

The survey was carried out from 9th November 2017 until the 28th February 2018. (No data were collected in weeks 3, 8, 9, and 13 of the survey, owing to flood conditions.) The Derwentwater lakeshore was walked on foot once a week whilst collecting and recording individual spraint positions with a consumer handheld GPS device (a Garmin Oregon 550).

As recommended by Conroy *et al*. (2005) the spraint was kept frozen until a prey analysis could be performed on the samples. Following the procedure of Conroy (*op. cit*.), sample batches were removed from the freezer and defrosted for two hours at lab temperature (21°C). Once thawed, the samples (remaining separate at all times) were placed overnight in boiling-tubes containing saturated solution of biological washing agent at lab temperature. The mixture was then strained and rinsed with a 0.5mm sieve, the recognisable prey remains were separated, and then left to air dry. The selected remains were then identified under a microscope to family or species level where possible, using appropriate guides and reference bones taken from a Norwegian Vendace specimen. Given the close similarities between Atlantic Salmon and Brown Trout, all salmon and trout vertebrae were combined to form a salmonid group. Given the similarity between Common Frog (*Rana temporaria*) and Common Toad (*Bufo bufo*) bones, both were grouped together in the current analysis.

Results

The surveyed shoreline totalled 10.83km, resulting in 152 spraint samples being collected. The locations of the spraint finds are shown in Figure 1, opposite. The spraint samples contained twelve different types (species or higher taxa) of prey remains. No Vendace remains were recorded within the samples. The most common remains found were Eel (in 62% of all spraints), amphibians (52%) and Pike (34%) – see Figure 2 (overleaf). Dace was positively identified from pharyngeal bones using Maitland, 2004.

Discussion

Based on the results of the current study, Vendace are not found to feature in the diet of Otters on Derwentwater. Otter spraints thus do not highlight its spawning sites within the spawning period – as they have been shown to do with the related Whitefish elsewhere in Cumbria.

The time constraints of the current study had a major influence in the statistical power of the project. The four-month collection period failed to take into account the seasonality of prey availability across a year. The islands and the remaining 33% of the lakeshore were not surveyed and given these current data gaps any future work needs to prioritise and include these areas. In addition, the lack of an identification guide to bones of the inner ear (otoliths) prevented the full use of these in

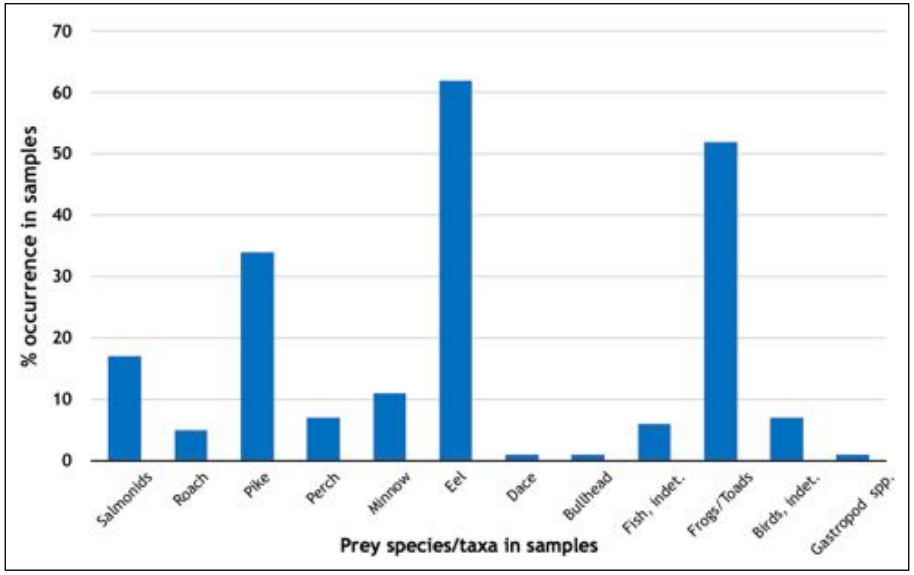

Figure 2: identified prey remains

identification. A reference collection for native amphibians and additional fish species outside the scope of the reference materials would aid future work. As Kruuk (2006) states, conclusions based around simple presence/absence of spraints and Otter habitat use must be guarded.

The current results are consistent with other findings on Otter prey items (e.g. Reid *et al.*, 2013). The generalist-like response may reflect a lack of preferred choice of fish species (Remonti *et al.*, 2009) and hence the prominence of amphibian remains in the current analysis. A complete prey relationship study is not the aim of this piece of work but could form an important baseline for future investigation into Otter prey selection in Cumbria. The absence of Vendace remains within the samples may also suggest that spawning individuals are not an attractive prey item to Otters compared with spawning Whitefish (Hewitt & Winfield, *op. cit.*). Vendace are considerably smaller and provide limited energy gains for Otters.

As Vendace populations undergo fluctuations on a 3–4 year basis (Winfield *et al.*, *op. cit.*), the timing of the current study may have coincided with a declining limb of the abundance curve. In future studies, it would be desirable to extend sampling periods up to four years to coincide with any current population fluctuations and align with pre-existing Otter prey methodologies such as those in the cited work of Ruiz-Olmo and Reid.

Future research should expand on the current method presented here by conducting a long-term Otter prey analysis to gain a better insight into the seasonality of prey selection. In addition, a fine scale spatial and temporal investigation could also be conducted on the current Vendace population using a 3D acoustic telemetry network and study, which may provide definitive locations of critical habitat.

Acknowledgements

This project was originally submitted as part of BSc Marine and Freshwater Conservation degree at the University of Cumbria (Poultney, 2019). I would like to thank the Centre for Ecology & Hydrology for the loan of hydroacoustic survey equipment; Will Anderton for his boat handling; and the various landowners around the lakeshore who graciously granted access permission. Finally, I would like to specifically thank my dissertation supervisors Dr Gill Notman (University of Cumbria) and Dr Ian Winfield (Centre for Ecology & Hydrology), and the aquatic environment researchers at the Norwegian Institute of Nature Research (NINA).

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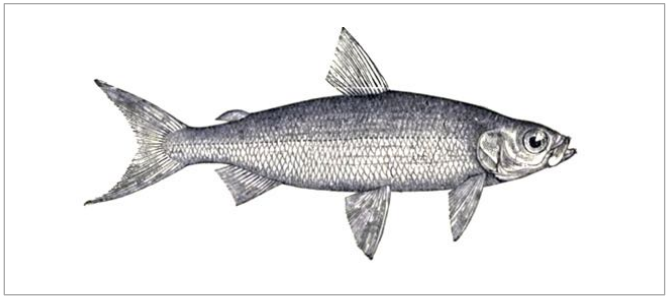

The solitary bees and wasps (Hymenoptera – Aculeata) of Bitts and Rickerby Parks, Carlisle

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Rickerby Park and the Italian Gardens *Nick Franklin*

Bitts and Rickerby Parks lie close together near the River Eden in central Carlisle. The varied habitat of planted and tended parks, and a river with earth banks and more 'natural' areas with dead wood, has led to a wide variety of insects taking up residence or using the parks as a feeding resource. I have been following and studying the solitary bees and wasps of these two parks for over ten years now, and what follows is a summary of my findings.

The aculeate year usually starts in March when the first bee, *Andrena clarkella*, appears and starts digging its nesting holes at the base of the large trees in Bitts Park. It seems to time this with the first Lesser Celandines appearing on the earth banks in the sunken area of the park. Shortly after this, the very attractive *Andrena fulva* hatches and the small 'molehills' of its nests dot the flat manicured grass areas of the park. By mid-April, or earlier if the weather is warm and sunny, several more species start to

emerge. These include the cleptoparasitic bees *Nomada leucophthalma*, which attacks the *Andrena clarkella* nests and *Nomada panzerii* searching for *Andrena fulva* nests, as well as other *Andrena* species: *A. haemorrhoa, A. bicolor, A. subopaca* and *A. minutula*. The only *Osmia* bee to be seen in any numbers, *O. bicornis*, also appears in late April. One important new addition to the aculeate fauna in 2019 was *Andrena praecox* (opposite: 1), a bee that has only been recorded once before in Cumbria, in 2002. A small colony of at least six females and attendant males was in the sunken garden in Bitts Park. Another new find in 2019 was *Andrena cineraria* when a male of this lovely bee was found in April in Bitts Park. Like *Andrena praecox*, it has been moving north in recent years and I will be looking out for more of it in future.

By early May *Andrena chrysoceles, A. scotica* and *A. nigroaenea* have appeared and their respective cleptoparasites *Nomada fabriciana* (opposite: 2), *N. marshamella* and *N. goodenia* are not far behind. These species all congregate along the sunny south-facing bank of the sunken ornamental garden at the east end of Bitts Park and on a warm sunny day many hundreds of bees of at least a dozen species can be seen flying low to the ground over nest sites in this 80m long semi-wild strip. Additional to these, though not an aculeate, the bumblebee-mimicking bee-fly *Bombylius major* is much in evidence looking for the nests of solitary bees at which to lay its eggs.

In recent years the very attractive Hairy-footed Flower-bee, *Anthophora plumipes*, has also started to appear in April. This bee was very scarce in the north of England until recently but is now widespread. (I first found it in Carlisle in about 2010.) Interestingly I have noticed that in Bitts Park it uses cultivated and newly-planted flowers rather than the Lungwort it normally utilised. This is not particularly surprisingly in a bee with such polylectic tastes in pollen, which have undoubtedly helped it increase its range.

All this activity takes place in Bitts Park, while over in Rickerby Park, apart from the small area of the Italian gardens where many of the species noted above also appear, only a few species appear in spring. These include the bank-nesting *Andrena barbilabris* which appears in late April and *Andrena nigroaenea* which also nests in earth-banks and so finds better sites along the river edge than it does in Bitts Park. In April and May of 2020, the Covid-19 travel restrictions meant I had time to survey the parks more intensely and found a substantial colony of the common *Halictus rubicundus*. Two *Sphecodes* bees, *S. gibbus* and *S. monilicornis,* were attendant on this colony, making their way in and out of the nest holes. Other new bees recorded in this period were good numbers of *Lasioglossum smeathmanellum* and a male of the attractive mason bee *Osmia caerulescens*, both

Andrena praecox

the cleptoparasitic bee
Nomada fabriciana
– male

Pemphredon lugubris
with aphid prey

Crabro peltarius
– first recorded 2019

photos by the author

in the Italian gardens of Rickerby Park.

As May draws to an end so does this high level of bee activity with numbers of individuals dropping dramatically, though a few of each species usually persist right through until the end of June.

June is the month that the solitary wasp species begin to appear and now the focus of interest shifts away from Bitts Park and over to Rickerby, with its earthen banks and dead wood (both standing and fallen), the preferred nesting sites for many wasps.

Wasp variety in Rickerby Park is considerable, with several of each genus *Crossocerus, Ectemnius, Pemphredon* and *Ancistrocerus* present. The *Crossocerus* wasps appear in June with *C. megacephalus, C. annulipes, C. tarsatus* and *C. podagricus* all utilising either old beetle holes or in the case of the former natural cracks in the wood. *Crossocerus ovalis* and *C. elongatulus* on the other hand prefer earth-banks and so nests along the edges of old river cuttings. All of these species are small, 3–8mm, and need a microscope to distinguish between them, with the possible exception of the biggest of the genus *C. megacephalus*. They all predate small insects such as tiny flies or small lepidoptera caterpillars with which they fill their nest holes before laying eggs into them. This does mean that once nesting areas have been found they are fairly easy to observe, since many repeat visits by the foraging wasps are guaranteed.

The genus *Ectemnius* is also present in good numbers in Rickerby Park and persists well into September. The insects of this genus also use dead wood to nest in and are considerable larger, 8–16mm, with prominent yellow stripes on a black abdomen. *Ectemnius sexcinctus, E. lapidarius, E. continuus* and *E. cavifrons* can all be found. The latter species is a recent colonist that has moved into the area and become fairly common in the last decade. Before that it was regarded as a common insect only of southern England. In fact, all *Ectemnius* species are expanding their range northwards and so may well increase in diversity and number in Cumbria in the immediate future. These insects collect hoverflies to provision their nests. Captures of insects carrying their prey have allowed the species of hoverfly concerned to be determined.

The other black-and-yellow wasp genus recorded in the park is *Ancistrocerus*. These are considerably less common than *Ectemnius* wasps and are rarely seen other than singly. *Ancistrocerus parietum, A. gazella* and *A. scoticus* have been recorded in Rickerby Park. They are usually regarded as stem nesters, but some, like the last-mentioned species, will use cracks in mortar or even the ground in which to provision nest cells with small lepidoptera caterpillars.

Three common *Pemphredon* species, *P. lugubris* (p. 69: 3)*, P. lethifer* and *P. inornata,* also occur in Rickerby Park. These wasps are all black, and hard to distinguish between, though size can help. They collect aphids to stock their nests in old and decaying wood.

Only a single species of the very slender *Trypoxylon* wasps has been found in the parks. This is *Trypoxylon clavicerum*, found in Rickerby Park in 2020 and only known in Cumbria since 2018.

Other rarer wasps found in the park seem to prefer the standing dead wood with beetle holes. The slender *Passaloecus gracilis* was found stocking its nest with weevils in July 2018 and the third county record of *Psenulus pallipes*, a small black wasp, was made on a tree near the cenotaph in the same year. In July of 2019 I found a new species for the park, a male *Crabro peltarius* (p. 69: 4) on newly felled dead wood in Rickerby Park. This black and yellow wasp has distinctive shield on the forelegs that make it relatively easy to identify, and whilst it is not rare it is fairly uncommon inland in Cumbria.

Rickerby also provides a mid-summer flourish of bees, with *Andrena denticulata* appearing late in June, timed with the flowering of its favourite plant, Ragwort, and shortly after, the scarce *Nomada rufipes*, its cleptoparasite, is on the prowl. July brings forth three members of the genus *Lasioglossum – L. calceatum, L. albipes,* and the tiny and scarce *L. nitidiusculum,* and good numbers of the plasterer bee, *Colletes daviesanus.* Shortly after, parasitic bees appear to take advantage of the nests of these species. Two species of *Sphecodes*, or blood bees, *Sphecodes geofrellus* and *S. pellucidus* appear, the former searching for small *Lassioglossum* nests to lay its eggs in, the latter for *Andrena barbilabris* nests.

With the increasingly warm climate and the fact that this encourages the northward expansion of many aculeate species, now is an interesting time to be a student of wasps and bees. I would expect this expansion to be reflected by an increase in numbers of current species and the appearance of new species in Bitts and Rickerby Parks, as well as Cumbria as a whole. The species list for my study areas above now stands at 52 – and counting! I would strongly recommend the study of these fascinating insects to anyone.

Capercaillie in Cumbria

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The Capercaillie (*Tetrao urogallus)* is widely distributed across the northern part of the Palearctic Region from Fennoscandia in the west to Siberia in the east and is typically found in extensive, mature coniferous woodland. It formerly bred in Britain but became extinct in England in the 17th century and in Scotland towards the end of the 18th century, as a result of habitat loss through woodland clearance and, to a lesser extent, due to hunting (Cramp & Simmons, 1980). It was successfully reintroduced to Scotland in 1837 and maintains a small but stable population in the ancient pine forests and plantations of the Central Highlands and the Cairngorms (Moss, 2007). Some summaries of the status of birds in Cumbria have treated the Capercaillie as a former resident of the county and these often make reference to one or other of the attempts at its introduction (*e.g.* Macpherson, 1892; Hutcheson, 1985; Stott *et al.,* 2002; Anon., 2018). This report provides a critical review of what is known about its status in Cumbria as both a naturally-occurring species and as an introduced one.

Historical status in Cumbria

Macpherson records anecdotal evidence that Capercaillie might once have been found in Cumbria. As originally reported he says that his informant, a keeper by the name of Jerry Smith, whom he describes as having a good knowledge of the fauna of the Skiddaw area, 'had, as a boy, heard old men say that a few Capercailzie existed in the district' (Macpherson, 1887). Although there is an entry under Capercaillie in *The Birds of Cumberland* (Macpherson & Duckworth, 1886) only the first of the introductions described below is dealt with; there is no hint that the species might once have occurred naturally. In the *Vertebrate Fauna*, however, in a section dealing with introduced species and following a short account of this early attempt at introducing the Capercaillie to Lakeland, Macpherson (1892) adds the following: 'The late Jerry Smith told Mr Senhouse and myself that he had heard old men say, when he was a boy, that the species had once upon a time inhabited the pine forests which clad the naked mountains of Lakeland before so many trees were cut down for shipbuilding and for charcoal burning'. (The notion that pine forests 'clad' Lakeland into historic times should be regarded as a linguistic flourish of the sort that Macpherson was fond of.) The earlier report could be taken as implying that Capercaillie were present as late as the middle of the 18th century, barely credible given that the Capercaillie is thought to have become extinct in England in the 17th century. In the later remarks he is more circumspect about timescales (note, in particular the addition of 'once upon a time'), and his comments seem to be referring back to a much earlier period; whether this was Macpherson's intention or it is simply a consequence of a slightly different choice of words is unclear. Either way, Macpherson chose to put this in a section devoted to introductions rather than in the main species accounts. This is hardly a ringing endorsement of the notion that Capercaillie were once found in Lakeland and it is difficult to believe that Macpherson himself gave much credence to it. One suspects that he included this anecdote more to provide a bit of variety to the text, and perhaps for completeness, rather than because he took it all that seriously.

Capercaillie bones dated to the Anglo-Saxon and Norman periods have been found in a number of places in northern England including Yorkshire and Co. Durham (Yalden & Albarella, 2005), and Harting (1879) notes that there are 'old grants (*circa* 1343–1361) of land, in the county of Durham, held by the tenure *inter alia* of paying 'one wode-henne yerely' to the Bishop of Durham', and which he thought 'indicated pretty clearly the . . . Capercaillie.' It is possible that Capercaillie did formerly occur in Cumbria, and may even have done so within the past millennium, but the species' heyday in the county is likely to have been around eight thousand years ago when pollen evidence shows that pines were an important component of the Cumbrian landscape (Pennington, 1997).

Attempted introductions into Cumbria

There have been a number of attempts to reintroduce the Capercaillie to England but none have come anywhere close to replicating what was achieved in Scotland (Brown & Grice, 2005). Three of these were in Cumbria and are described in the following sections.

Netherby, mid-19th century:

Sir Frederick Graham attempted to introduce Capercaillie to his estate at Netherby near Longtown. What little is known about this comes from Macpherson (Macpherson & Duckworth, 1886; Macpherson, 1892). In the later of these two works he says that 'the late Sir F. Graham, Bart., obtained Scotch eggs of the Capercaillie in more than one season. Several young birds were reared, but they never established their race in the Netherby coverts. One fine male lived for some time in the neighbourhood of Longtown, where he was well known to the public from his

fearlessness'. Macpherson provides no dates, but it appears to have been somewhat before the publication of *The Birds of Cumberland* in 1886, which says 'a spirited effort had been made of late years ... to introduce this species to the Netherby estate', but is unlikely to have been before 1861 when Graham succeeded to the baronetcy (Leigh Rayment website).

Netherby, 1930:

Sir Frederick Graham's son, Richard, a noted breeder of ducks, also attempted to introduce Capercaillie to the Netherby Estate. It is very poorly documented and its existence only came to light in some papers of the late Derek Ratcliffe deposited with Tullie House Museum in Carlisle shortly after the latter's death in 2005 (Sellers & Hewitt, 2014). They are contained in a transcription, apparently in the hand of E. Blezard, of some notes prepared by T.L. Johnston. They record that on 8th June 1929 the estate had received three clutches of eggs from Strathdon, Aberdeenshire. One clutch of seven arrived intact, the second also of seven eggs was addled, whilst the third clutch of ten hatched in transit and only four chicks survived. These are not mentioned again and presumably all died. The following year another three clutches were received from Strathdon, but once again one clutch hatched *en route* to Netherby. None of the chicks from any of these three clutches survived more than five weeks.

Grizedale Forest 1967–70:

Fortunately, the third attempt to introduce Capercaillie to Cumbria is better documented (Mitchell, 1971; Grant & Cubby, 1973). Two initial attempts in 1967 and 1968, each involving just two clutches of eggs were unsuccessful but in 1970 the eggs from an area of woodland in northeast Scotland that was about to be felled were made available. In total 52 partly-incubated eggs were collected and transported to Cumbria whilst being brooded by some bantams in makeshift nests. Of these, 45 eggs hatched, with the chicks produced being kept initially in hen coops and later in a large communal pen. Some 35 birds, 15 females and 20 males, were eventually released into Grizedale Forest in August 1970. No signs of breeding were seen the following spring but in 1972 lekking calls were heard in an area of young larch trees. Information thereafter is sparse, but the birds all appear to have succumbed. For a brief period the area was host to a small number of wild Capercaillie but ultimately the experiment was unsuccessful.

Capercaillie in Cumbria

Discussion

The evidence that Capercaillie have existed in Cumbria in a truly wild state (as opposed to having been introduced) within the past few hundred years relies entirely on hearsay and anecdote, and it is difficult to take such comments seriously. In short, the Capercaillie is not a credible candidate for inclusion in lists of the county's naturally occurring birds. If it did occur, and there is as yet no specific evidence that it ever did, then it will have become extinct not later than the 17th century, and possibly well before this.

None of the three attempts to introduce the Capercaillie to Cumbria have been successful. The precise reasons for this are unknown, but a combination of limited numbers of birds released and the shortcomings of both the nature and extent of the habitat available are implicated. Attempts to introduce Capercaillie to southwest Scotland have been equally unsuccessful, probably for much the same reasons (Harvie-Brown, 1888).

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