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Lakeland Naturalist

— a journal of Cumbrian Natural History



Spring 2019



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 artwork, 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 September 2019 & 1st March 2020

Cover:

Saxon moths. Naddle Forest, Haweswater, 29 May 2018. © *Guy Broome*

Contact details are on the Membership Card if you have queries

30th March (Saturday): Gelt Woods - Local Geological Site

Leaders: Sylvia & Peter Woodhead (email Marie: info@carlisenats.org.uk)
Meet at 10.30am at NY520592 Lower Gelt Bridge car park. Walking up to 4 miles, likely muddy in places, boots recommended. Bring lunch.

27th April (Saturday): Glasson Moss - early nesting birds

Leader Frank Mawby. Meet at 10am at NY236609 Glasson Moss (Aikshaw Lonning car park, by Glendale Caravan Park). A morning session until 1300 hrs

25th May (Sat.): Geltsdale RSPB [Hallbankgate] - birds, plants & insects

Leader John Miles. Meet at 10am at NY588585 RSPB car park. Walking boots advisable. Bring lunch.

15th June (Saturday): South Cumbria - Foulshaw Moss and Latterbarrow CWT Reserves – Dragonflies, plants and more.

Leaders: David Clarke & Marie Saag. Meet in Carlisle at 9am by prior arrangement. (Contact info@carlisenats.org.uk or phone Marie the day before)
OR meet at 10.30am at the Foulshaw Reserve car park SD 458839. Bring lunch.

3rd July (Wednesday): Gosling Sike - Evening walk in Houghton:

Leader: Jamie Normington. Meet at Cumbria Wildlife Trust's car park, Houghton, CA3 0LD at 6.30pm at NY410588. General Natural History at an award-winning organic farm, with easy access to ponds, woodland and a 'rewilding' wet meadow.

13th July (Saturday): Greenlee Lough - plants and nesting birds

Leaders Mike and Anne Abbs. Meet at 10am at NY751677 Steel Rigg pay car park. Walking boots advisable. Bring lunch.

10th August (Saturday): West Cumbria - Maryport coast – plants and insects

Leader Stuart Colgate. Meet at 10.30am at NY02863549, car park, Hutton Place, Maryport, CA15 8NQ. Bring lunch.

21st September (Saturday): Finglandrigg Wood - Fungus Foray

Leader: Paul Nichol. Meet at 10am at NY283571 Haverlands layby on B5307. A morning session until approx. 1300 hrs.



1. (p. 5) Ring-necked Duck, with Tufted Duck. Tindale Tam, 27 January 2019. © Adam Moan



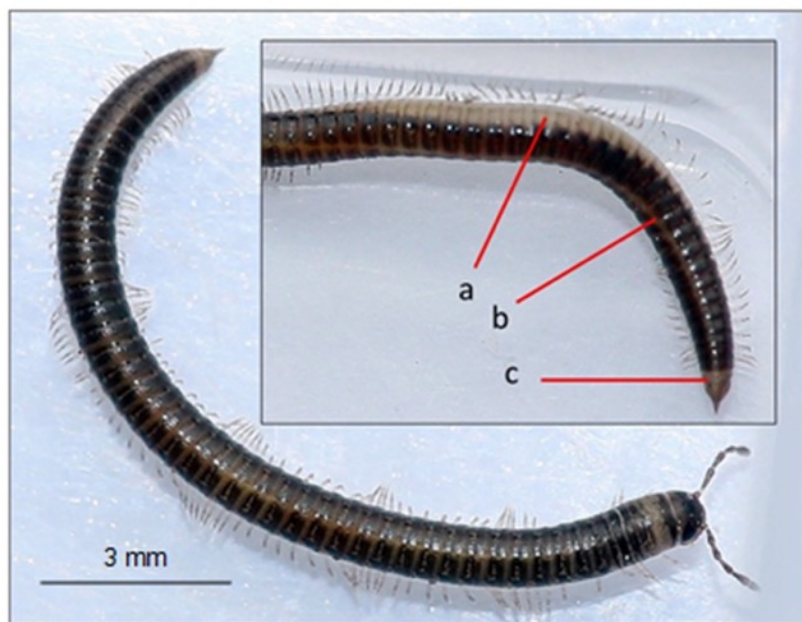
3. (p.3) Painted Lady. Grune Point, 8 January 2019. © Nick Franklin



2. (p. 2) The hoverfly *Sericomomyia superbiens*. Coniston, 6 November 2018. © Mo Richards



4. (p. 3) Vagrant Emperor dragonfly, male. Found dead in pool, Silecroft, Millom, 5 March 2019. © David Clarke



5. (p. 7) The millipede *Leptoilulus belgicus*. Broughton-in-Furness, 2018. Inset: - see text. © Nigel Gilligan



7. (p. 13) A moth trapping site in Harter Fell ravine, June 2018.

© Guy Broome



6. (p. 12) New Zealand Truffle. Watchtree Nature Reserve, Great Orton, 5 December 2018. RH image: sectional view of young fruit body.

© left: Frank Mawby; right: Arthur Walters



8. (p. 16) Yellow-ringed Carpet. Harter Fell, trapped 24 July 2018.

© Laura Shelbourn

Wildlife Reports: September 2018 to March 2019

The following are based on records submitted by members on record cards, the Society's 'Activity' on iRecord, the Facebook page and the website. All records are submitted to CDBC at Tullie House. Uncredited records are usually my own. The weather data is from Drumburgh Climatological Station, run by Tony Matthews.

Weather

September: unsettled, cool, wet (106 mm), and coldest since 1994. October: unsettled and changeable, near average rainfall and over half fell on 12/13 (58 mm of 97 mm total), coldest since 2012. November: changeable, below average rainfall (68 mm) but above average temperatures. December: quiet and mild with below average rainfall (67 mm). January: the first half of month was dry with little rainfall, the 67 mm total was below average. It was a quiet mild month. February was remarkably mild, with unbroken sunshine and temperatures reaching 17 °C during the last week. According to the Met Office it was the warmest ever recorded. This produced a whole range of remarkable butterfly records, referred to later on.

Birds

Whooper Swan: there were 32 early arrivals near English Town, Longtown on 3 October (DJ). The main flock of c 200 grazed fields by the R. Wampool east of Kirkbride most of the autumn and winter and many were still present at the end of February. **Pink-footed Goose:** first skeins were seen flying inland over Watchtree 14 September (FJM). In the region of 3000 used the south Solway over the autumn. There was a significant increase in early January and co-ordinated dawn roost counts were 13,925 on 13 January and 34,500 on 10 February. **Barnacle Goose:** the Moricambe Bay flock peaked at an estimated 7000 birds in September. **Shoveler:** a notable count of 209 on 24 November (JM), of which 141 were off the Bowness viaduct and 68 at RSPB North Plain. An adult male **Ring-necked Duck** was with 70 **Tufted Duck** and several **Pochard** on Tindale Tarn 21 January (PW) and made several further appearances there during February – see p. 5 and Plate 1. **Smew:** a female was on the R. Esk at Longtown on 9 December (DJ). **Grey Partridge:** 25 feeding on spilt grain at Aikbank, Calthwaite on 4 December (JT) and 10 near Dalston 28 October (LC) were the only records received for this declining bird. **Red Kite:** BR saw one over J39 on the M6 on 10 February and RH saw one at Bowness on Solway on 27 February; following a summer sighting at Cumwhitton, DC was told of two highly probable sightings there in January, one being on 19th. **Hen Harrier:** there were regular sightings of a male and a 'ringtail' at various locations during the winter (MA) and one at the Irt Estuary on 12 December (RS). **Goshawk:** reported from Jockey Shield, Geltsdale on 16 February (JM). **Merlin:** one perched on fence post on Calvo Marsh on 9 December was probably attracted by the Skylark and Twite flocks. **Peregrine:** an interesting sighting was of one settling to roost on Dixons Chimney in Carlisle on

13 November (RH). **Greenshank**: singles seen on R. Esk, Longtown 14 January (DJ) and at Port Carlisle 27 February (RH). **Green Sandpiper**: one seen on floodwater by R Petteril at J42 of the M6 on 22 December (RJ) and another on the R. Esk on 2 January (DJ). **Barn Owl** produced 27 records from 22 locations. Only one was a road casualty, 15 were afternoon or dusk sightings, two were early morning and the remainder night-time. **Long-eared Owl**: one was at Watchtree on 23 December (B&PK), two near Longtown on 25 February (DJ) and a casualty from Kirkbride on 13 February (AA). **Short-eared Owl**: a single seen hunting south of Rogersceugh on 5 November (TM). **Green Woodpecker**: calling frequently at Martindale/Fusedale on 19 January (GW) and two at the same location on 30 January with a possible third on Hallin Fell (SH). **Hooded Crow**: a single was at Whitehaven Harbour, 8 November (RS). **Willow Tit**: ringing and observations confirmed six birds, four at Bowness Gravel Pits Reserve and two on the northeast fringe of Glasson Moss. Three were colour-ringed in January 2018 – two at Glasson and one at Bowness Gravel Pits. Two ‘new’ juveniles were colour-ringed at Bowness Gravel Pits in December and seemed to confirm a successful nest outcome. The sixth bird seen at feeders by Bowness Gravel Pits was un-ringed. **Skylark**: an unusually large number (estimated 350) were feeding on seed heads on the outer edge of Border Marsh on 9 December. **Shorelark**: one seen and photographed on Stybarrow Dodd summit on 1 January (JG). **Chiffchaff**: a remarkably early record of a singing male along the R Esk near Longtown on 26 February (RH) and on the following day by DJ. Another was heard at the Sheepmount in Carlisle on 27 February (SC). A fourth was in MG’s garden at Lanercost on 1 March. **Blackcap**: there were three winter records: Dalston Garden House Nursery, a male on 28 November (DH), Yetlands, Dalston a female on 20 December (GH) and Sowerby Row, a female on 9 January (GW). **Waxwing**: two were at Greenacres Estate, Wetheral, 26 November (RJ), thirty at Dalston on 27 November (DH) and nine on 21 December (GH). A small flock (max count 21) was at the short stay car park in Keswick between 9 and 14 of December (MR, SP&MT, C&AR). **Ring Ouzel**: one was with a flock of Fieldfare at Geltsdale on 3 November (JM), **Brambling**: flock of about 40 was present at Talkin Tarn on 12 November (RH). **Twite**: a flock estimated at 350 was feeding on the *Salicornia* and other marsh plant seed heads on the edge of Border/Calvo/Skinburness Marshes on the 9 December and 20 January WEBS counts.

Butterflies, etc

Autumn/early winter. The fine summer was no doubt responsible for late occurrences of many insects – such as the bee-mimic hoverfly *Sericomyia superbiens* recorded by MR on 6 November at Coniston (Plate 2). A **Small Tortoiseshell** was noted at Longtown Ponds on 10 October (DAI & PW). October sightings of **Small Copper** included Watchtree Nature Reserve on 18th, with others coming from Longtown Ponds (DAI/PW), Jockey Shield (JM) and Wedholme Flow. DC had a very late **Wall Brown**

at Cumwhitton on 2 October, following unusually frequent sightings during August. All in all, 2018 probably produced the most records for **Wall Brown** and **Small Copper** for several years. **Comma** and **Painted Lady** were at Jockey Shield on 10 October (JM). A **Red Admiral** was seen at Acorn Bank on 18 November (NF). Three **Small Tortoiseshell** emerged from hibernation in GW’s Carlisle house on 12 December. Most remarkably, there were sightings of a **Painted Lady** on Bethcar Moor, Coniston on 1 January by KM, and another at Silloth on 8 January (NF) – Plate 3.

Late winter. A deep dip in the Jet Stream over the last two weeks of February brought some remarkable butterfly records as it dragged warm air up from West Africa, which may have accounted for the following sightings: the first **Red Admiral** was reported on 15 February, photographed on Snowdrops near Baggrow, Aspatria (DD). As daytime temperatures rose to over 16 °C during the last week of the month, a further five records came from Penrith on 21 February (DJ), 22 February at Skinburness (VR), Whinlatter Forest on 24 February (LS), Broadmoor on 25 February (SG) and Cumwhitton on 25–27 (DC). More remarkable were records for **Painted Lady**, some being multiple occurrences: 23 February at Foxfield Garden Centre, Broughton-on-Furness (NG), 24–27 February at Cumwhitton (DC), 24 February, Skinburness (VR), 25 February at Troutbeck Bridge (MR), 26 February at Thursby (JO) and 27 February at Brampton (KC). A **Small Tortoiseshell** flew through our Kirkbride garden on 26 February. **Peacocks** were seen at Anthorn on 24 February (AA), Troutbeck Bridge (MR) on 25 February, two at Longtown on 24 and 25 February (DJ) and one at Rampsbeck, Ullswater on 26th (DC). Unsurprisingly, bumblebees too became active at this time, breaking ‘first appearance’ records. VR noted four species of *Bombus* at her Skinburness garden on 22 February – *B. terrestris*, *hypnorum*, *lucorum* and *pratorum*. A record that could relate to very late February was of a Vagrant Emperor dragonfly (*Anax ephippiger*), found dead in a pool at Silecroft near Millom by Bob Muscat on 5 March and identified by DC – only the second known Cumbria record of this long-distance migrant (Plate 4). Many were seen in the UK at about this time – possibly including others in our area.

Amphibians & Reptiles

The warm weather also brought the **Common Frog** out early at Garden House Nursery on 10 February although they did not spawn until 19 February (DH). The earliest record of spawn was from RS in his Carlisle garden pond on 17 February. Many sites had spawn by the end of the month. Many **Common Toads** were mating at Broughton-on-Furness on 22 February (NG). KM saw 2 **Common Lizards** basking in the unseasonal warmth at Blowick, Ullswater, 27 February. The species was also seen at Little Bampton Common, 26 February (GB).

Mammals

A daytime **Otter** was filmed on the Eden at Etterby, on 14 January (DS). **Stoat**: one in ermine seen at Watchtree a few times in February. A road casualty was the only other report near Lazonby (MT) 9 November. An encouraging five **Red Squirrel** records were received from Caldbeck 14 January (EM), Townhead, Brampton 16 January (MS), Glencoyne, 19 January and Watermillock 21 January (SH) and Langwathby 11 February (RH). **Hedgehog**: one was still out in DAI's Carlisle garden on a bitterly cold 18 November day. A juvenile was wandering round Garden House Nursery, Dalston late afternoon of 11 February (DH) and on 6 February a trail cam captured one in the grounds of the University of Cumbria, Brampton Road Campus on 6 February (RO). **Brown Hare**: several records but a very interesting and endearing photo record was of a very small leveret in RG's Burgh-by-Sands allotment on 27 February.

CNHS Recorders. AA: Anne Abbs, MA: Mike Abbs, GB: Guy Broome, DC: David Clarke, KC: Keith Clark, SC: Stuart Colgate, LC: Lindsay Cowan, NF: Nick Franklin, NG: Nigel Gilligan, RG: Russell Gomm, SG: Sam Griffin, SH: Stephen Hewitt, DH: David Hickson, RH: Robin Hodgson, GH: Geoff Horne, DAI: Dorothy Iveson, DJ: David Johnston, RJ: Robert Jones, B&PK: Brenda and Paul Kerrison, KM: Kerry Milligan, EM: Elspeth Mackenzie, TM: Trevor Merrington, JM: John Miles, JO: Jane Orgee, RO: Rachel Owen, BR: Brian Redhead, MR: Mo Richards, C&AR: Craig and Ann Robinson, VR: Vivian Russell, MS: Marie Saag, DS: Donna Salter, LS: Lee Schofield, RS: Robin Sellers, SP&MT: Susy Penning and Martin Thomas, JT: John Turner, GW: Gill Wilson, PW: Peter Wilson. *Non-members' website posts:* DD: Dennis Dickens, JG: Julia Garner.

Frank Mawby



Starling roost, Southwaite, 23 February 2019 © Nick Franklin

Ring-necked Duck at Tindale Tarn

When Peter Wilson discovered a male Ring-necked Duck at Tindale Tarn on 21 January 2019, it constituted the first record of the species since January 2017, and the first for the RSPB Geltsdale Reserve (Plate 1). The Cumbria records before these take us back over a decade to 2008.

Ring-necked Duck breeds in northern parts of North America and winters in ice-free areas in the south of North America. Its population saw a significant increase during the second half of the 20th century and, along with an eastern extension to its range, an increased incidence of transatlantic vagrancy to Europe resulted.

The first British record came with a male at Slimbridge as recently as 1955. More records followed in subsequent years and these peaked at 50 in 2001 with birds occurring widely across Britain. Thereafter, records have diminished and 2010 saw just 13 birds but numbers now seem stable. This same pattern of the rise and then fall in numbers of birds has been mirrored in Cumbria, where the first was recorded in 1982 with a male at Sunbiggin Tarn. Then more records came, and the species became annual between 1992 and 1996 before again becoming scarcer. As is typical of the species, individuals often wandered between nearby sites but also tended to return to particular sites in subsequent years. Of the thirty or so records for the county it is thought that fewer than ten individuals are involved.

The Tindale Tarn bird's behaviour has been true to form. It was at Castle Carrock Reservoir three days later, returned to Tindale Tarn the following day and then relocated to Talkin Tarn a week after that. What is probably the same individual was seen at Coanwood Lough, just across the county border into Northumberland on 11–12 February, but it was back at Tindale Tarn on the 14th.

The question of provenance frequently arises with rare wildfowl: has the individual escaped from a captive collection? This is regarded as unlikely with this species, which is rarely kept in captivity outside North America. It is also relatively highly priced and difficult to breed in captivity.

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The Nationally Notable millipede *Leptoionulus belgicus* in SW Cumbria: an identification challenge resolved

On 26 August 2018 I came across a millipede in our bathroom. This isn't unusual, but this time it looked different from the ubiquitous White-legged Snake millipede (*Tachypodoiulus niger*), so I collected it.

I have a Brunel stereo microscope that magnifies up to $\times 45$, and I knew this was barely adequate to the task of keying a species of this type. The first key I used was in an electronic publication by Richards (2011) but this is based on identification of

species within Yorkshire, and so does not cover all UK species. A crucial part is the ability to check the tip of the tail – is it curved up, straight, or down-turned? I convinced myself it was straight, especially since it was not obscured much by fine hairs, and concluded, on the basis of a view of the first pair of legs (exceedingly small and curved) that the species was a male *Ophiulus pilosus*. This was not accepted by *iRecord*, and the verifier (Steve Gregory) asked if I had considered *Leptoiulus belgicus*, on the basis of the pale (perhaps too faint to be acceptable) central stripe on the dorsal surface. My specimen did have this, but it wasn't entirely convincing. The text at this point also notes that I was venturing into an area which was beyond the scope of the key. Putting that to one side, I amended my species to the suggested one, labelling it as 'likely'. The revised record didn't attract any further attention.

It seemed a good moment to try the British Myriapod & Isopod Group *Facebook* page, and I posted an image, hoping for some response – but got none.

I then resorted to using the 'standard' but rather less user-friendly key by Paul Lee in draft form. This was obtained informally, and is still unpublished, though reference to it is made in Richards (*op. cit.*). On the basis of my view of the crucial parts of the anatomy (especially the straight pointed tail), I then concluded it was the widespread *Allajulus nitidus*. I felt I was going around in circles but hadn't yet got back to the starting point. My revised record (*i.e.* to *L. belgicus*) was still in limbo, and my doubts as to the credibility of that species were further raised by the information that it was nationally scarce, and 'most frequently found in Devon, Cornwall and south Wales'. There were no records on NBN for north-west England. I thought it justified in persisting with the identification, even though it seemed increasingly futile.

As a strategy of last resort, it seemed like an appropriate moment to find an expert, and it appeared that there was none in Cumbria. On advice from Stuart Colgate (CBDC), I contacted the Natural History Museum, and I was eventually informed that they did not have the expertise there either. I found this rather surprising.

By trawling *iRecord* for *Leptoiulus belgicus*, I found that there had been some recent records in north-west England, collected by Nicola Garnham, including one from Arnside Cemetery. So, this unlikely species had in fact been found in Cumbria. I contacted her to check what expertise she had used, and she suggested I try posting on the 'Invertebrates of Britain and Europe' *Facebook* page. This produced several responses, including from Steve Gregory. Following advice from Steve, I tried taking photos by attaching my camera to the microscope turret. These provided a better image resolution than that obtained by a direct view, but Steve Gregory was not happy that the shape of the front legs was consistent with that species, nor was the pale stripe convincing. It was clear that I was venturing into an area where documentation was in short supply, if not inadequate. It was suggested that I send the specimen – not preserved in any way, but simply kept in the fridge – to either Steve Gregory or Paul Lee. This is what Paul Lee, the national recording scheme organiser, concluded:

'Steve was right to be wary of the identification, but in your defence it was an awkward specimen. Fortunately, it was an adult male so I was able to confirm an identification by dissection. The specimen is *Leptoiulus belgicus*. The tip of the telson is damaged, which gives more of the appearance of *Allajulus nitidus* and it is relatively light in colour for *Leptoiulus*, but still darker than most *Allajulus*. The most obvious clue to its identity is the pale line running along the upper surface of the body but this is most apparent in darker specimens as a rule and, just to make life difficult, not all individuals show this pattern. Less obvious, but still a useful clue that it was not *Allajulus*, was the pair of setae on the forehead. These are present in other species though, and so do not confirm *Leptoiulus belgicus*. As I said, in the end I went for a dissection to confirm the species.'

It took 4½ months to complete the identification process and disproportionately more time and mental effort than anything I have encountered before. On the positive side, it indicated that this millipede was present in Cumbria north of Morecambe Bay, so could perhaps be more widespread in sheltered parts of south Cumbria than might have been concluded from a single record at Arnside. But it does show that some taxa are short on both local and national expertise, and that despite the large number of wildlife enthusiasts currently recording nationally, our knowledge of the distribution, abundance, and variation of some species makes conclusions about them very difficult. Plate 5 shows some key features: the pale underside (a), the pale mid-dorsal line (b) and the pointed terminal segment (c).

Reference

Richards, P. (2011) *An introduction to Centipedes, Millipedes and Woodlice*. Nature Bureau: 'Pisces Publications' [CD-ROM. ISBN-10: 1874357501].

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The White-faced Darter dragonfly (*Leucorrhinia dubia*) at Claife Heights and Cumwhitton and Oulton Mosses, Cumbria: new light on past records

In 1981 a Nature Conservancy Council officer wrote to local naturalist W.R. Laidler, Derek Ratcliffe and another naturalist, C.F. Cowan FRES (1912–1988) – by then living in south Cumbria – enquiring about the status of the White-faced Darter in Lakeland. Through the good offices of CNHS member and Natural England officer Colin Auld, the replies have been made available and have enabled some key facts to be pieced together for the first time, adding significantly to the historic record.

Claife Heights

The letter of reply from Cowan, dated 10 September 1981, states that he had visited the well-known Freshwater Biological Association (FBA) entomologist, T.T. Macan

on 18 June 1968, knowing that the latter had discovered the species, a great rarity in England, on Claife Heights, above Lake Windermere. Cowan says he was told that the site concerned had been ‘... *Three Dubs Tarn (3797)*’. He went to Claife on the same day as his visit to Macan and eventually encountered *L. dubia* near Renny Crags, some 1.5 km north of Three Dubs Tarn. Returning on 26 June of the same year, he explored the same ground further and ‘*watched dozens of them oozing out of the sphagnum and drying their wings*’ (he states there was no open water here). The grid reference he quoted was ‘... *about 367986*’. Assuming the grid reference is accurate, this is a little over 100 metres north of a small mire/pool known as Green Tarns, near Latterbarrow. (Stephen Hewitt and I had visited Green Tarns on 11 July 1989. We did find at least four *Leucorrhinia* adults, including a mating pair, though noted there was very little open water and its condition as rather ‘muddy-looking’. Others recorded it there until at least 1992.)

Claife Heights consists of over 5 km² of undulating, forested, rocky moorland, with scattered tarns and mires. (In Cowan’s day it was within Lancashire/Furness.) Cowan’s letter shows that he had entered the area from the north-west, north of Gillbank—he says ‘*for reasons of idleness*’. It appears that he never visited Three Dubs Tarn. Ford (1953) states that Macan had reared larvae from Claife in 1937, that specimens had been collected for the then British Museum in 1943 and that Macan had confirmed the species was still present there in July 1951. Neither Ford nor Kimmins (who had collected a few adults and larvae for the BM), name the precise site but Cowan’s letter is unambiguous. I can find no evidence that Macan ever knew of more than one site on Claife or that the site name of his original discovery ever reached the public domain.

In Kimmins’ (1943) account of collecting he talks about ‘... *a small colony ... in a sphagnum-fringed pool ...*’ and says the pool ‘... *is not of large extent and sphagnum appears to be encroaching upon it, as it has also done to a much greater extent on a nearby pool*’. This at least resolves concerns I had about Three Dubs Tarn really being Macan’s site, despite what Cowan had reported: *Leucorrhinia* requires boggy conditions with *Sphagnum* rafts, and sites free of fish. Three Dubs is a sizeable man-made (private) *fishing* lake and clearly not the location Kimmins describes. It may be that Cowan had been deliberately ‘misdirected’ – perhaps to protect the species in the days when collecting was more of an issue. The specimens Kimmins collected are still in the Natural History Museum. Their data labels all state ‘Green Pool, Claife Heights’ – a name closely similar to Green Tarns referred to above. To try to resolve this, I visited the T. T. Macan archive at FBA, from which it is clear that ‘Green Pool’, a name Macan uses frequently, and ‘Green Tarn(s)’ are one and the same. Macan scarcely ever refers to Three Dubs Tarn, so Cowan surely had been a little mis-led, though fittingly he then found much the right site by chance anyway.

Interestingly, Kimmins quotes the emergence dates relating to four specimens held by Macan – which had been ‘... *bred from the nymphs*’. The first was in 1937, the three others being from 1940 – a year Macan had mentioned to Cowan. This together with the 1951 record mentioned above gives a potential continuity of breeding at Macan’s site of at least 18 years (allowing a 3-year life cycle length) i.e. *ca.* 1934–1951. (Since the site really was at Green Tarns, its continuity persisted for very much longer.)

The Claife population seems to have declined over the years, but *Leucorrhinia* hangs on in the Brown Stone Moss area at least. Its true status on Claife remains enigmatic to this day.

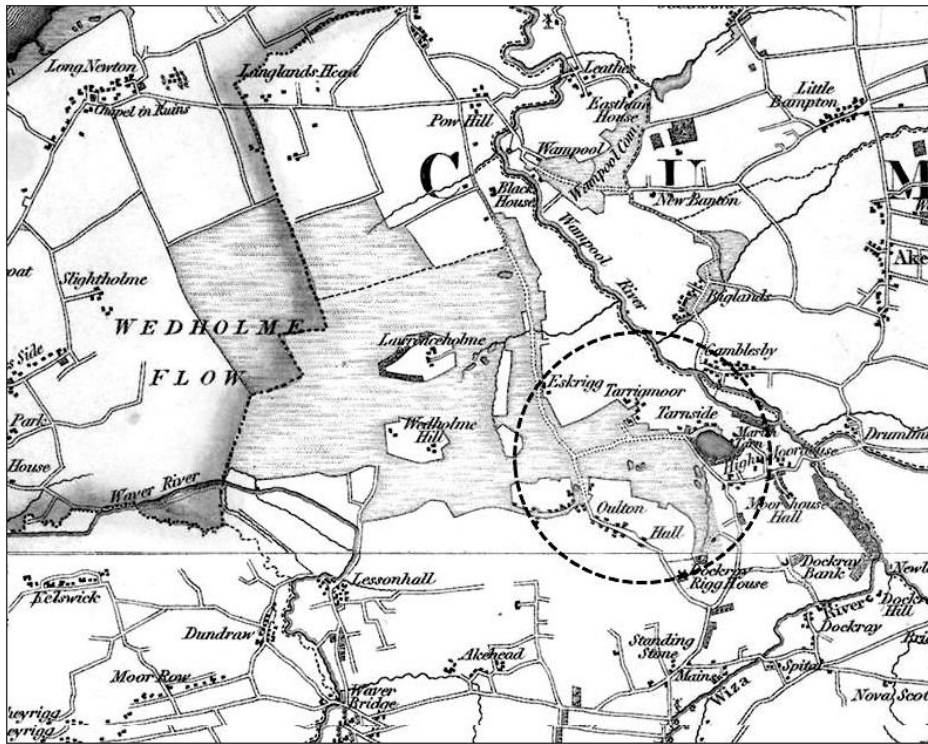
Cumwhitton Moss

Also, in his 1981 letter, Cowan briefly describes his experience of White-faced Darters at Cumwhitton Moss in the Eden valley. This was on 24 June 1968, when he ‘*only saw two specimens (for sure) at the end of a laborious search. They were below tall pines in a small heathy-sphagnum area, in the centre about [NY]514519*’. Elsewhere, he says both were females (Cowan, 1968). This part of the Moss is now wooded, and Cowan’s record is the last from this site that I can find. In fact, there appear to be no records other than his after F.H. Day’s of 1932 – specimens from which are in the Tullie House Museum collections. By the time of my own earliest forays onto the site, in the late 1970s/early ’80s, the species was not to be found.

Oulton Moss

The White-faced Darter was first recorded at Oulton Moss near Wigton in 1961 by Carlisle naturalist W.R. Laidler and has not been reported there since. Information in national databases records only the year and 10km grid reference. The site name has long been known locally by word of mouth from the recorder.

Referring to Oulton Moss, Laidler in his 1981 reply to NCC wrote that he ‘*had odd specimens on 20/5/61. On two subsequent visits a few years ago I failed to find one*’. The 1961 date is quite early in the species’ flight period, making it all but certain that the dragonflies seen had emerged on site and were not just on the move from elsewhere. (The nearest known populations at the time were Scaleby Moss and Cumwhitton Moss, 20 and 25 km away respectively; such movements are unknown in this area anyway). The small numbers seen may simply reflect the relatively early date in the flight period, but perhaps also the declining status of the species by 1961. The dates of Laidler’s subsequent visits are not known but sound as if they may have been nearer to 1981 than to 1961. Ratcliffe (in the same correspondence) says he did not see the species on either of his visits to Oulton Moss. These were in 1954 and ‘*about 3 or 4 years ago*’ (referring to 1981). The dates were not given. A negative outcome from his second visit would have seemed inevitable anyway, given Laidler’s experience.



Detail from C. & J. Greenwood's 1823 map of Cumberland, with site of Oulton Moss in the centre of the area circled (which is ca. 2.25 km dia); Martin Tarn can be seen immediately east of the Moss.

This thus confirms the site of the original record and, equally critically, that it once held a population, albeit probably quite a small one by 1961. This remains the only evidence for the occurrence of the White-faced Darter on the mosslands of the Solway. A site 'centroid' grid reference of NY252513 has been assigned.

As Colin Auld points out, Oulton Moss was almost contiguous with Wedholme Flow in the early 19th century – so presumably even more so in the preceding centuries. A map of Cumberland by Greenwood (1824) shows the area of the Moss being part of the unenclosed Commons that included Wedholme – see detail below. The map also shows open pools on Oulton Moss. The cessation of domestic peat cutting in the 1960s is likely to have been a key factor in habitat change, especially leading to natural infilling of the pools by *Sphagnum* mosses – progressively reducing the oviposition habitat of the White-faced Darter.

Concluding remarks

Cowan's 1981 letter considerably augments the brief published account (*op. cit.*) of his visits to Claife and Cumwhitton. Laidler's letter similarly advances our knowledge of the Oulton situation. While the Cumwhitton and Oulton colonies are clearly long extinct, the persistence of the species at Claife Heights makes the earlier records relevant even today. My thanks to Colin Auld for unearthing the revealing archive documents, and to Natural England for access to them. Colin Harrower of BRC, David Hepper of the British Dragonfly Society and Stuart Colgate of CBDC kindly checked details held on their respective databases. I am grateful to Ben Price of the Natural History Museum, London, for checking data on their specimens and to Elizabeth Haworth of FBA for access to the Macan archive. The updated information has been passed to the British Dragonfly Society's recording scheme and Cumbria Biodiversity Data Centre at Tullie House, Carlisle.

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The New Zealand Truffle (*Paurocotylis pila*) in Cumbria

The New Zealand Truffle (*Paurocotylis pila*) was first described by Berkley in 1855. It was first recorded in the UK by A.R. Hurley in Nottinghamshire in 1973 (Dennis, 1975) and has since spread, northwards especially, having been found in counties of the East Midlands, the Northeast and in Scotland, with particularly large populations in Orkney (Eggerling, 2004). The newness and rarity of the species to our islands means that it does not yet appear in popular field-guides. To the best of my knowledge *Paurocotylis* is unknown in the rest of Europe. How it arrived here is anybody's guess.

Mycologically, the genus is monotypic, containing a single species and is not strictly a truffle. *Paurocotylis* is in the Pezizales, more commonly known as Cup Fungi, an order of the Ascomycetes. The fruit-body undoubtedly looks truffle-like, is irregularly spherical, and grows partly buried in soil or under litter. Preferred habitats are gardens, path- and road-sides and waste ground, suggesting an ecological

requirement for enriched soils.

The species was first recorded in Cumbria in 2013 by John Martin near High Newton in the south of the county, where a single fruit-body was found in a redundant pig-sty which is now a bat hibernaculum. In October 2018, during a Cumbria Fungi Group recording foray to Watchtree Nature Reserve, Torben Fogh found a single fruit-body emerging from soil beside the path that leads through Pond Wood. As a fungus unknown to members of the group, Torben obtained an identification from the British Mycological Society. Since the first record in the UK in 1973, *Paurocotylis* remains quite a rare fungus, with 32 records on the BMS database and 27 on that of the Fungus Conservation Trust. Records suggest that once it gets into an area, *Paurocotylis* can spread fairly rapidly, often building up substantial populations. Interestingly, at Watchtree several weeks after the visit by the Fungus Group, Frank Mawby reported that he had found two further fruit-bodies, again in Pond Wood.

The bright orange/red fruit-bodies are not easy to overlook and can be up to 6 cm in diameter but more usually between 2 cm and 4 cm. Internally, the flesh is white/cream, becoming hollow. The internal tissue in young truffles is marbled, consisting of cavities in which the ascospores are produced. Spores are globose and typical of those of the ascomycetes, with usually eight spores developing in elongated asci. In New Zealand it has been observed that the spores are likely to be dispersed by birds attracted to the brightly coloured fruit-bodies, presumably reacting to them as some sort of fruit to be eaten (Hobart, 2019). Here in the UK it seems likely but has yet to be confirmed that a similar dispersal mechanism is involved: recorders of this fungus frequently report that the fruit-bodies are only rarely found without ragged holes (could these be due to bird pecks?). The Watchtree finds have a similar appearance. Small mammals are responsible for the dispersal of spores of true truffles and could possibly be involved here too. Plate 6 shows the external features and a section of a young fruit-body.

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Moth recording in remote upland habitats at RSPB Haweswater, Mardale, Cumbria

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Summary

Moth recording using the new technology of low UV lights and lithium batteries was performed over eleven nights from May to September 2018, with a total of 76 moth traps opened, at the Royal Society for the Protection of Birds' Haweswater Reserve. Habitats never previously recorded for moths, including the siliceous ravines of Harter Fell and the tree-line Atlantic woodland of upper Naddle Forest were sampled. We developed definitions for assemblages of habitat-specific *Habitat Indicator Species* and for *Abundant Species* likely to be an important food source for the Reserve's insectivorous birds. It is hoped that these key species can be monitored in the longer term for this nationally important landscape-scale regeneration project. We suggest that some of the supplementary recording data could enable comparison with future repeat surveys.

Introduction

The habitats studied were the Harter Fell siliceous ravines (Plate 7) at 400 m to 450 m altitude and the upper levels of Naddle Forest SSSI/SAC – an Atlantic woodland at 300 m to 400 m altitude. These sites have been well-surveyed botanically and both contain significant assemblages of flowering plants, ferns, bryophytes and lichens. Harter Fell is home to some of the most herb-rich mountain crags in the Lake District. Naddle Forest is an ancient broad-leaf woodland on steep rocky slopes. The RSPB erected fencing in order to exclude Red Deer and livestock from the upper section of Haweswater valley in 2015/16. The hope is that the key elements of flora and fauna in the remnant high quality habitats of Harter and Naddle will, in time, spread into the lower enclosed areas. The RSPB takes the view that monitoring of invertebrates should remain a key aspect of this project in the long term. Moths, through their larvae, are an important element of the primary consumers in these habitats.

The target habitats are remote, each around one-hour's hike from the nearest vehicle access. This made it impractical to use standard high-wattage moth survey traps with generator or lead-acid power sources. We had access to historic moth trapping records from the lower levels of Naddle Forest and habitats close to roadside lay-bys. Anecdotal reports of the newly available low wattage UV LED light sources

suggest a somewhat mixed success and, as such, we thought it useful to include our own experience with them in the study (Brehm, 2017).

Recently, there has been some informal debate amongst moth recorders with regards to inclusion of BTO survey type weather data in moth records. We decided that including this data, together with lunar cycle status, morning inspection time and bulb type/wattage would make it easier to compare our baseline data with future repeat surveys.

Following informal dialogue with the RSPB and other major conservation organisations, we decided on a targeted approach to recording, with emphasis on *Habitat Indicator Species* associated with specific habitats and *Abundant Species*, thought to be important for vertebrate insectivores, in particular, migrant birds. Cuckoo, Pied Flycatcher and Whinchat were the most relevant predator species associated with predation of adult and larval moths. Previously, in 2017 and 2016, we performed a similar moth-recording project at RSPB Geltsdale, during which a total of 86 moth traps were opened. Since the Whinchat research at Geltsdale produced some useful data relating to the most abundant moth species at that site (S. Westerberg, pers. comm.), we thought it best to co-ordinate our lists with the Geltsdale results wherever possible. *Habitat Indicator Species* have yet to be defined for moths on a UK-wide basis. We thought it best to see what we found and then define them by weighing factors such as food plant, altitude, habitat-faithfulness and relative ease of identification. Strong supporters of ‘indicators’ include Holloway (1993), who specifically mentions Ennominae, the sub-family to which our Dotted Carpet indicator species belongs.

Methodology

Between 29 May 2018 and 19 September 2018, we surveyed Harter Fell Crag ravine and Naddle Forest habitats using low-wattage, lithium-powered Heath-type traps. A minimum of six traps were placed on eleven nights, totalling 76 moth traps opened. During the same period, high-wattage AC mains and generator-powered Robinson and Skinner traps were used in more accessible habitats. Data from the latter have been included in the Reserve and County records but were excluded from this specific study. Two of the remote traps used 3W UV LED lights and four used 6W actinic tubes. The former were powered by 22ah and the latter by 4ah Tracer UK lithium rechargeable batteries.

Moths were counted and recorded by field recognition or digital photography. We avoided taking any moths away from the trapped habitats, returning them to deep cover at the trap site after inspection. Photography was at times challenging, particularly in the ravine habitat. In poor weather/light conditions we plugged the traps, inspected the catch at the RSPB office at Naddle Farm, releasing the catch into the optimum habitat in Naddle Forest, accepting that the relevant food plants might

not necessarily be present.

164 species of macro and micro moths were recorded. We only recorded micros that we were confident in identifying at the trap sites, mainly on the mornings when Jim Morgan and Rob Pickett (acknowledged identification experts) were present. This reduced the possible total, but we felt that accuracy was the priority. The records have been submitted to the Cumbria County Recorder for verification, but we anticipate this will not be complete until 2020, owing to pressure of work. Indicator species and unusual finds were confirmed using digital photographs by third parties, including members of Cumbria Moth Group (CMG). Full details have been provided to Cumbria Biodiversity Data Centre (CBDC).

Owing to space limitations, we do not include a full written species list in this article which instead concentrates solely on *Habitat Indicator Species* and *Abundant Species* as defined above.

Results

We recorded a total of 164 species. The vast majority are reasonably common species to upland Cumbria and are not specific to or dependent on habitat type or food plant. We therefore concentrate here on species we consider to be of interest and relevance to the long-term regeneration of unique habitats, and on the most abundant species, likely to act as an important food source for birds and other vertebrates.

1. *Habitat Indicator Species*: were selected on the basis of known habitat preferences (Waring & Townsend, 2017), known Cumbria distribution (CBDC/CMG, 2017) and ease of identification. We designated the following species as ‘indicators’ of the main habitats, worthy of inclusion in repeat future surveys (larval food-plants bracketed):

Harter Fell crags

- Grey Mountain Carpet *Entephria caesiata*. 49 specimens (heathers and Bilberry)
- Red Carpet *Xanthorhoe decoloraria*. 9 specimens (lady’s-mantles)
- Yellow-ringed Carpet *Entephria flavicinctata*. 2 specimens (Mossy Saxifrage, Roseroot)
- Scarce Silver Y *Syngrapha interrogationis*. 1 specimen (heathers and Bilberry)
- The Saxon *Hyppa rectilinea*. 4 specimens (multiple plant species)
- The Anomalous *Stilbia anomala*. 23 specimens (Wavy and Tufted Hair-grass)

Naddle Forest

- Dotted Carpet *Alcis jubata*. 99 specimens (‘beard lichens’).
- Beech-green Carpet *Colostygia olivata*. 18 specimens (bedstraws)
- Four-dotted Footman *Cybosia mesomella*. 2 specimens (lichens on heathers and sallows)

The Saxon *Hyppa rectilinea*. 4 specimens (various plant species)
 The Anomalous *Stilbia anomala*. 13 specimens (Wavy and Tufted Hair-grass)

Grey Mountain Carpet proved relatively abundant, as expected, though it was potentially under-recorded due to difficulty of distinguishing worn specimens from the more abundant Striped Twin-spot Carpet. **Red Carpet** is typically found in rocky upland habitats and was only found at the highest trap site in the Harter Fell Crag ravine. It may be more abundant at higher altitudes. **Yellow-ringed Carpet** (Plate 8) is designated Nationally Scarce and also favours the rocky upland habitat found in the crags. **Dotted Carpet** proved abundant in the Atlantic Naddle Forest. It is decreasing in the south of England but increasing in Scotland, possibly related to air pollution affecting its lichen food source. This would make it a good species to monitor, as Cumbria lies on the edge of these population changes. **Beech-green Carpet** is experiencing the same population trends as Dotted Carpet, though the larval foodplant is bedstraws. **Four-dotted Footman** is a lichen feeder that was also used as a *Habitat Indicator Species* for the projects at Bolton Fell Moss and RSPB Geltsdale in 2016/2017. It was less abundant during the Haweswater surveying, which could be due to the unusually dry 2018 summer. **Scarce Silver Y**, a typical heather-moorland species, was unexpectedly only recorded as a single individual. Being a common migrant, the national distribution for the species is somewhat confused. **The Saxon** (cover illustration) features regularly in the Reserve historic records, despite being designated a Nationally Scarce moorland/woodland species. Cumbria is on the southern limit of its range. The species has variety of food plants. **The Anomalous** appeared abundant in both ravines and forest habitats. It is another moorland species that is declining in the UK, the Rothamsted Survey 9 showing a 94% decrease between 1968 and 2007 (Waring & Townsend, *op. cit.*).

This list is very much provisional. The concept of ‘Indicator Species’ is not yet established in the field of moth surveys and we hope that this paper will stimulate debate.

2. Abundant Species in the context of prey items for birds:

Northern Spinach *Eulithis populata*. 675 specimens (probably an under-estimation)

Large Yellow Underwing *Noctua pronuba*. 217 specimens

Antler Moth *Cerapteryx graminis*. 200 specimens

Bird-cherry Ermine *Yponomeuta evonymella*. 129 specimens

Striped Twin-spot Carpet *Coenotephria salicata*. 123 specimens

July Highflyer *Hydriomena furcata*. 92 specimens

Northern Spinach is recognised as an abundant moorland species of the north-west, feeding on Bilberry. We certainly proved abundance and almost certainly our exact count is a gross underestimate. Clouds of the species flew out of the ravine traps and from the surrounds at morning inspections. In reality, some may have been the closely-related Dark Spinach and Chevron. **Large Yellow Underwing** is a UK super-abundant species in most habitats and our count is relatively low, probably owing to the altitude. **Antler Moth** is another classic abundant moorland species but has recently declined in the south (Waring & Townsend, *op. cit.*). **Bird-cherry Ermine** is an abundant species, of sometimes pest proportions. Its small size, however, brings into question whether it is significant item for bird prey. (We have not included Crambidae in this list for the same reasons. Though the adults might well be a significant prey item. It is thought that micromoth larvae in general are unlikely to be significant as they are so well hidden from predators.) **Striped Twin-spot Carpet**, a bedstraw feeder and **July Highflyer**, a more diverse feeder, proved abundant in all trap sites.

Discussion

The concept of studying moths on a trophic level may seem controversial to some. Nevertheless, many of our migrant insectivorous birds – e.g. Cuckoo, Whinchat and Pied Flycatcher – may be affected by variation in abundance and flight times of UK insect populations. It has been proven that Great Tits can vary their brooding by three weeks if there is a later-than-normal abundance of proteinaceous moth larvae in spring (Verboven, N., Tinbergen, J.M. & Verhulst, S., 2001). Migrant birds arrive exhausted and half-starved and as such may be significantly less adaptable with regards to the timing of breeding. The last few years of widely fluctuating weather patterns have seen a great variation in the time of emergence of our spring moths; this would cause variation in the abundance and maturity of the proteinaceous larvae, upon which birds depend for rearing chicks.

It seems prudent to link moth recording with surveys of bird ringing and breeding success. Research into Whinchat at RSPB Geltsdale suggests that adults of Smoky Wainscot, Antler and Beautiful Golden Y moth species are brought to nests in significant numbers (S. Westerberg, pers. comm.).

Pied Flycatcher nest-boxes, for example, could be monitored by trail cameras to determine the percentage of moth larvae brought in versus other food sources such as adult Diptera, etc. It is already known that Cuckoos are heavily dependent on hairy moth larvae, such as those of Northern Eggar (*Lasiocampa quercus*) and Drinker Moth (*Euthrix potatoria*).

As with *Habitat Indicator Species*, designating specific moth species as prey for birds is likely to stimulate debate. We welcome contributions from moth and bird enthusiasts alike.

As yet, we have not attempted to survey taxa that are not attracted to light-traps. It seems unlikely that the well-known ‘sugaring’ techniques would work well in the cold night temperatures experienced. Some of the habitat might, for example, be suitable for Welsh Clearwing (*Synanthedon scoliaeformis*) for which there are Cumbria records. This species could potentially be recorded with pheromone lures. It is likely that other insect taxa, also attracted to light traps, e.g. Neuroptera, Coleoptera, Diptera and Hymenoptera will also be of much interest moving forward. We propose to include some of these in the 2019 survey season and any advice on this front will be most welcome.

Finally, another intention of this project was to analyse the effects of ambient weather, moon status, morning inspection time, light source type and wattage on the results of moth trapping, in order to determine whether this supplementary data should be routinely recorded. It is apparent that our numbers are not yet sufficient to reach meaningful conclusions, even with the inclusion of projects from Bolton Fell Moss and RSPB Geltsdale. We therefore propose a future publication and if any moth recorders be interested in gathering similar data, the authors would like to hear. One useful lesson has been that the low wattage LED lights do not work well in open habitats with a bright moon.

Acknowledgements

We are both especially grateful to the following: Lisa Davidson who performed the preliminary 2017 study at RSPB Geltsdale for her Animal Conservation Science degree dissertation; Jim Morgan, a moth recorder from Yorkshire, the principal previous recorder for the lower altitude habitats on the Reserve, who kindly joined us for a week of the survey period; Rob Pickett and Cain Scimgeour, who joined in with the recording, adding multiple traps to the effort. Jim, Rob and Cain were also a great help with identification of some of the more difficult taxa; Cara Schulte, RSPB volunteer, who enthusiastically carried much of the kit up into ravines, enduring harsh conditions with much stoicism – other more temporary volunteers joined Cara during the course of the project; Stephen Palmer, co-ordinator of the Gelechiid Recording Scheme, who has been a great help with micromoths regarding ‘Indicator’ and ‘Abundant’ species; Steve Westerberg, who gave freely of the benefits of his researches at Geltsdale; Lee Schoefield, Manager of RSPB Haweswater, who provided constant help and encouragement.

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Naddle Forest: moth trapping site. May 2018 © April Windle

Timing and orientation of post-nesting migration of Cumbrian Sedge Warblers (*Acrocephalus schoenobaenus* L.)

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Introduction

For the purpose of this a study, recoveries of 37 ringed birds that had travelled more than 100 km from point of ringing are used to determine the exit date and orientation of autumn migrants from the breeding habitat. Eight were ringed as nestlings, five as adults and twenty-four as juveniles. Twenty-three of these are from Bassenthwaite Lake National Nature Reserve and fourteen from Siddick Pond Local Nature Reserve. The two sites are some 23 km apart, the former close to Keswick, the latter near to Workington.

All of the birds used for this analysis are known to be, or likely to be, birds on breeding territory and not migrants passing through from elsewhere. (Over a thousand individuals have been ringed over the past twenty years, and more than a hundred have been re-caught, at Siddick or Bassenthwaite, having undergone the 12,000 km-plus migration cycle at least once: these are excluded from this analysis.)

Background

Sedge Warblers are trans-Saharan migrants, arriving in Britain from mid-April onwards and departing before the end of September. In winter, they occupy the African geographical zone known as the Sahel, and as such are at times exposed to drought conditions which can have a negative impact on survival. In the winter of 1984/85 there was a population crash with only 5% of adult birds returning to the UK (Balmer *et al.*, 2013). However, since then the Sahel has been getting 'wetter' and rainfall has, for the time being at least, returned to the long-term average (Fiondella, 2013).

As breeding birds, Sedge Warblers use a variety of low-lying wetland marsh and waterside habitats. They also nest in many drier habitats including bramble, low hawthorn and some arable crops (pers. obs. and S. Westerberg, pers. comm.). Males typically sing from half-concealed perches, like others of their genus. Nests are usually close to the ground in dense vegetation. Sometimes two broods are recorded; they generally lay five or six eggs.

The *Atlas of the Breeding Birds of Cumbria* (Stott *et al.*, 2003) estimated a breeding population of 4000 pairs with the vast majority of occupied habitats and territories along the low-lying coastal belt and the Solway Plain eastwards towards the Tyne Gap; most other inland sites were at the heads of lakes and river valleys.

Migration

All small migrant passerines have three annual energy-sapping cycles, moult, migration and breeding. These tend to be separated in timing to minimise any overlaps that would result in energy deficiency. Moult does not occur in spring; generally, it takes place immediately after breeding and before migration, or after arrival in winter quarters, or sometimes both. In most species, juveniles have a different strategy from adults, due primarily to having fresher, unused feathers. Sedge Warblers have a moult strategy that enables adults to make both northward and southward migration with the same set of flight and tail feathers, only replacing them when back in Africa for the winter, arriving with very worn feathers. (Some other trans-Saharan migrants such as Willow Warbler (*Phylloscopus trochilus*), replace all feathers after the breeding season, then again complete a full moult in the winter.

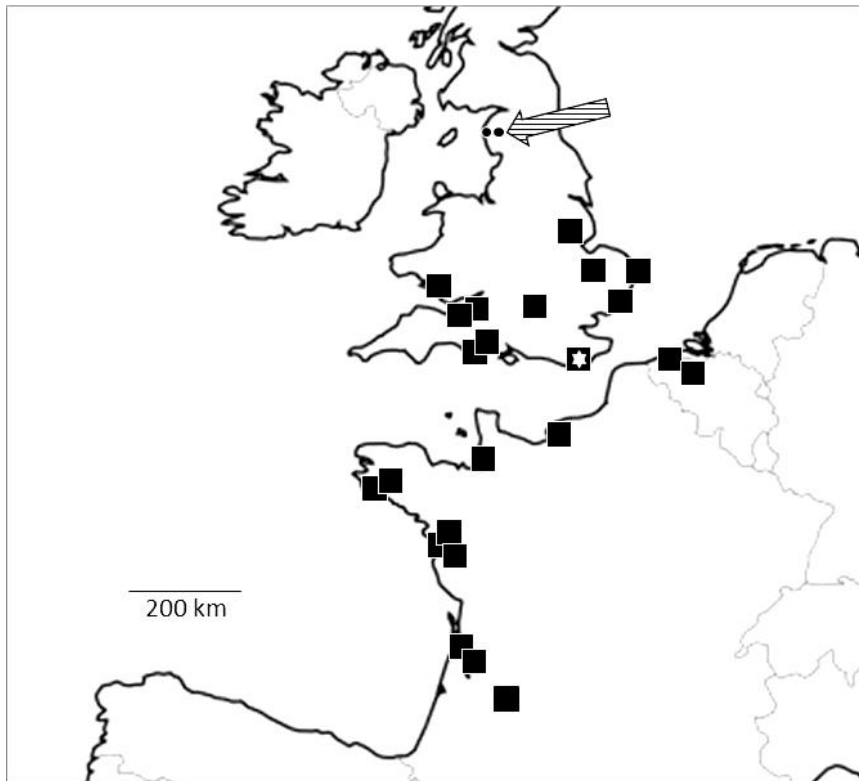
The data below illustrate that Sedge Warblers were reaching the Channel coast as early as 31 July. A recovery at the mouth of the Loire river as late as 13 September illustrates a late extreme. However, the majority (over 70%) were moving south in the middle two weeks of August. A returning spring migrant was at Portland Bill Dorset on 21 April 2000. A nestling ringed at Siddick Pond on 21 June 1991 was recovered at Parc National Du Djoudj in Senegal on 20 January 1992. This is consistent with other national recoveries.

Source of ringed birds

All Sedge Warblers discussed here were either ringed as nestlings or trapped as full-grown birds (either adult or independent juvenile) at the breeding sites in mist nets. Other significant recoveries have originated from initial capture whilst on migration in either France or Belgium and recovered in Cumbria. It is well-established that Sedge Warblers have a high fidelity to their natal site (Wernham *et al.*, 2002); thus, individuals first trapped on migration and then re-trapped at our study sites will almost certainly have been born in Cumbria, and very probably close to, or even at, our sites.

Results

A ringing recovery is a ringed bird discovered elsewhere – away from where it was ringed. Map 1 (overleaf) shows that after the breeding season, most Cumbrian Sedge Warblers move south to the English Channel coast or to northern and western France on the Atlantic seaboard. Here they 'fatten', sometimes gaining as much as four grams, which equates to 30% of bodyweight. The duration of stay, and rate of weight gain, are dependent on the abundance of the Mealy Plum Aphid (*Hyalopterus pruni*). Sedge Warblers then generally overfly the Iberian Peninsula directly to Africa (Bibby & Green, 1981). It should be noted that three of the recoveries are of adults on their return migration in the spring. All were caught in southern England in late April or early May.



Map 1. The distribution of 37 recoveries of Sedge Warblers ringed over the period 1990–2019 at the Cumbria study sites (arrowed). The Icklesham, Sussex site (starred symbol) accounts for 14 recoveries; all others are singles, or in a few instances two

The recovery data has been displayed below in two scatter diagrams to illustrate the 37 recoveries in relation to distance moved south, and to orientation east/west on migration – Charts 1 and 2. Day zero in the scatter diagrams has been set as 20 June. This is an average date recorded on the Bassenthwaite Constant Effort Site for the first independent juvenile Sedge Warblers, so being the earliest on which they can potentially start their migration.

Chart 1 (opposite) shows clearly that a large percentage of Sedge Warblers from this study are on the south coast of England (51° N) during August. (Unsurprisingly, some birds are further south as the season progresses.)

Some of the results from this ringing data are remarkable in showing the speed and distance moved by young birds, most notably an individual ringed as a nestling at

Siddick Pond on 14 June 1996. It was re-trapped by another ringer in south Wales on 1 August the same year, only 38 days later. This nestling, having been born naked and blind around 8 June, would have had another seven days in the nest, then been dependent on both parents for about another two weeks after fledging, before gaining independence. Similarly, another Siddick nestling, ringed 27 June 1996, was at Icklesham in Sussex on 12 August.

The easterly recoveries in Chart 2 (overleaf) tend to suggest that the majority of Sedge Warblers take the shortest crossing point of the English Channel, though clearly a significant minority orientate south, close to Portland Bill.

Two juveniles trapped and ringed on southerly migration at Icklesham on 30 July, one in 1999, the other in 2002, and re-caught the following year, one at Siddick, the other at Bassenthwaite, confirm how early some individuals start moving south. These birds cannot have been more than seven weeks old. Other juveniles were re-caught on the Atlantic coast of France as early as 8 August.

Concluding remarks

Over twenty years of Constant Effort ringing at Bassenthwaite NNR has shown that

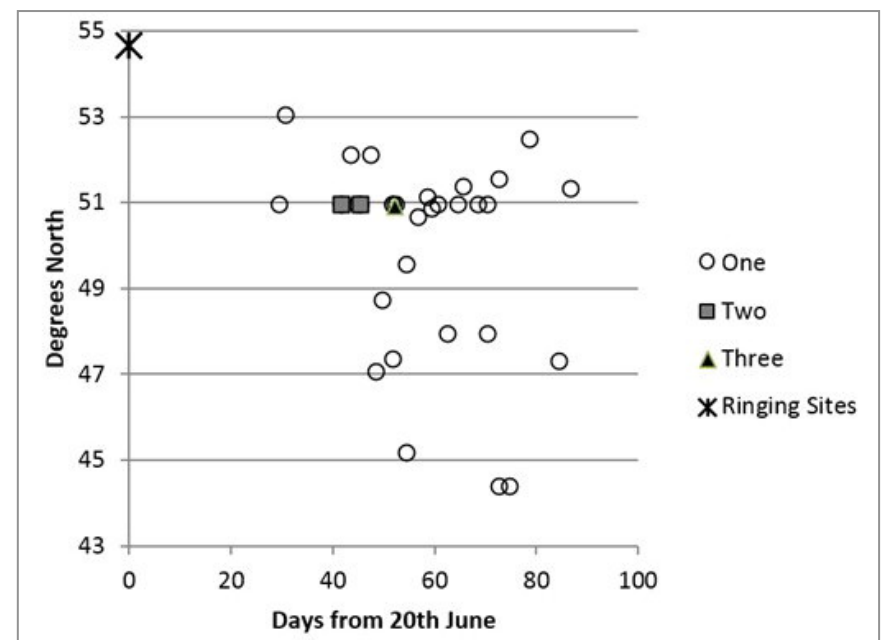


Chart 1. Scatter diagram showing latitude moved by 37 Sedge Warblers from natal/ringing sites in Cumbria

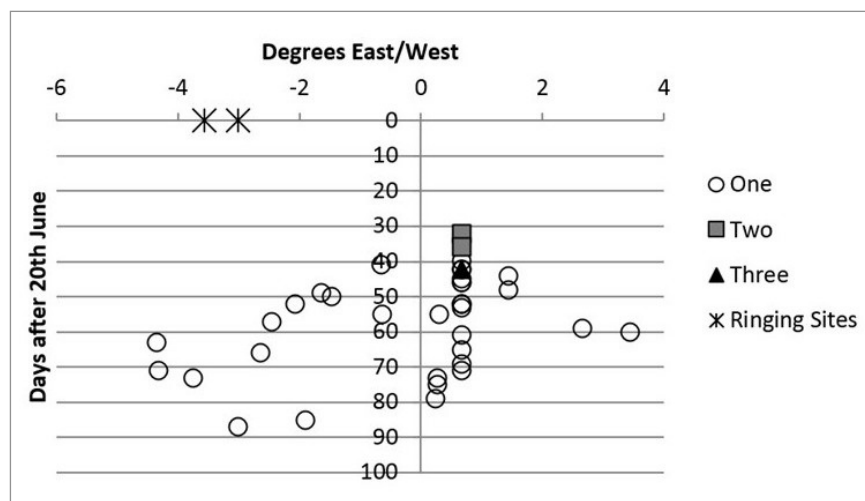


Chart 2. Scatter diagram showing direction of travel 37 Sedge Warblers ringed at the Cumbria study sites

newly-fledged Sedge Warblers do not appear until the third week of June. This rapid exiting of their natal habitats suggests that, unlike some other *Acrocephalus* species, such as Reed Warbler, and contrary to previous thinking, some juvenile Sedge Warblers forgo a post-juvenile moult before initiating migration (Redfern & Alker, 1996).

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I would like to thank Keith Hamilton for initial work on the recoveries map, and Stephen Westerberg for the scatter diagrams and general advice.

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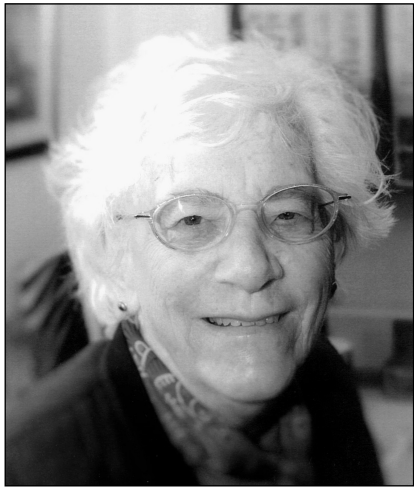
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Sedge Warbler, singing male © Nick Franklin

EDNA EILEEN MARPER 1925 – 2018



A noted local botanist, Edna died after a short illness at the age of 93, on 16th August 2018 in a nursing home in Carlisle, having lived her final years in Wigton, Cumbria.

After moving to Kirkbride, and finally Wigton, in later life, she joined the Botanical Society of Britain and Ireland, the British Pteridological Society and the Flora of Cumbria Recording Group. She participated in or led various field meetings, recording either with groups or with individual friends, such as the late Margaret Gill, making a valuable contribution to the much-acclaimed *A Flora of Cumbria* which appeared in 1997. She joined Carlisle Natural History Society and also worked as a volunteer at Tullie

House in Carlisle, transcribing data from herbarium sheets so that the information could be added to the Museum's collections database – a task that required a knowledgeable and painstaking botanist like Edna if it were to be done well. In the field, Edna was an excellent companion.

She delighted in showing people the special plants of the area – I remember with particular pleasure the splendid (and still thriving) colony of Adder's-tongue fern (*Ophioglossum vulgatum*) near the coast at Silecroft and a long walk to see Oyster Plant (*Mertensia maritima*) on the shingle near Bootle. Sadly, this plant has now disappeared from Cumbria. A spring morning spent in her company recording the flora of the roadside verges near Rosley is one particularly vivid memory I have of Edna. In recent years when she was unable to get out in the field she was very keen to attend the indoor meetings of the Flora of Cumbria Recording Group and to take the opportunity to meet and talk with friends

Edna (with her twin, Barbara) was born on 6th August 1925 in Thornton Heath, Surrey. Her father was employed by Vickers Armstrong in London but in the early 1930s relocated with his family to work at the Eskmeals Gunnery range, settling in the village of Silecroft. The change from commuter-land to rural Cumbria must have seemed dramatic, especially as their new home was still lit by candles and oil lamps, but Edna seems to have settled happily into her rural childhood, cycling round the lanes and to school, walking with the farmers taking their plough horses home. It seems that her love of flowers and plants dates from this time.

War was declared, Edna completed her schooling, learnt secretarial and clerical

skills at college in Barrow and went on to work for the Royal Air Force in the sick bay at RAF Millom. During her time there she met her future husband Tom, an RAF wireless operator, but because of Tom's overseas postings, they were unable to marry until 1946. They then moved to Leeds where their two children Steven and Ian were born. A further move followed, to Kettering in Northamptonshire, where Edna worked at RAF Alconbury for the US Air Force, looking after American servicemen on their arrival in England. At this time she was also closely involved with the St John Ambulance Brigade, as Divisional Superintendent in Kettering, being appointed Serving Sister in 1978. As well as serving the public at numerous events in this capacity, Edna was also a skilled and committed teacher of first-aid as many of her former students would testify.

Following Tom's retirement, Tom and Edna moved back to Cumbria, to Whitehaven, but were not able to enjoy a long retirement together as, sadly, Tom died in 1989. A tragedy followed in 1998 when Edna's younger son Ian was killed in an accident on the Lakeland fells. He was 41. Edna undoubtedly drew comfort from her many Cumbrian friends at this time and developed her interest in botany, local history and English literature.

A former student of her first-aid classes, now a doctor, remembered her as '*a small feisty woman who commanded respect but rarely shouted and who possessed a great sense of humour*' – students in her classes always had a lot of fun and learned a lot. In some ways it is this keen sense of humour that people seem to remember best about Edna, the unexpected amusing comment, the twinkling eyes that indicated she saw the funny side of some situation, or that she was quoting an opinion which she did not share! Alongside the humour was a warmth and perceptiveness which made Edna such a valuable member of any group and such a good companion in the field. She also had a strong sense of justice and could be forceful about those who showed a lack of consideration for others. She was knowledgeable, enthusiastic and apparently indefatigable despite the arthritis which had plagued her for much of her later life. She will be much missed.

I am indebted to Steven Marper, Edna's son, for much of the information about her early life.

Mike Porter

Society News & Announcements

Notes from the Annual General Meeting (6th March 2019)

Members may obtain a full version of the Minutes of the AGM on request from the Secretary.

Finances

Copy accounts are available to members from the Treasurer. Council proposed no increases in subscriptions for the coming year. The existing rates will thus remain: i.e. Members £16, Family Members £22, Associate Members [*Lakeland Naturalist* only] £8, Students £5 [no *Lakeland Naturalist*], Visitors to indoor meetings £3.00.

Programme & membership

The Society's membership continues at a healthy level, with 149 memberships (92 single, 35 joint, 13 associate and 9 student). The meetings over this winter were well attended with an average attendance of 70. Mike Abbs, as Assistant Secretary, continues to arrange the summer field meetings. Indoor winter meetings 2019 commence on Wednesday October 2nd.

Society activities and issues

2018/19 – the Society's 125th Anniversary year – had seen the publication of Volume 13 of our occasional *Transactions*, edited by David Clarke and Jeremy Roberts, which had been well-reviewed. The volume was issued free to existing members and continues to be available to new members at £5 (full retail is £12).

Tullie House informed the Society that they wish to repurpose the space occupied by our library, and have offered an alternative in Herbert Atkinson House. Council has agreed that we will move the contents into HAH as soon as the space can be cleared. A small team of members will be needed to achieve this. Thereafter, Council will audit of the contents and cost minimum shelving requirements. The cost/benefits of maintaining the library will be considered by Council at its meeting in July/August. Members will be informed of the decision in September.

Officers and Council for 2019/20

All existing Council members were re-elected. Donna Salter was elected as a new Council member. Stephen Hewitt has retired as President after a 5-year period of office but remains on the Council.

President: Frank Mawby: tel. 016973-51301

Secretary: Marie Saag: info@carlisenats.org.uk

Treasurer: Anne Abbs: 7 Moricambe Crescent, Anthorn, Wigton CA7 5AS. Tel. 016973 51722

Assistant Secretary: Mike Abbs.

Recorder: Guy Broome: guybroome@btinternet.com

Editor, *Lakeland Naturalist*: David Clarke: email: davidclarke6970@gmail.com