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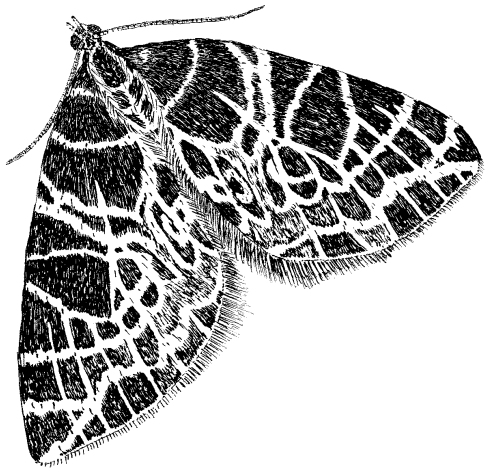


*Netted Carpet Moth* *(Stephen Hewitt)*

**Contents**

**From the Editor**

It is good to feel that the usual production schedule for the *Carlisle Naturalist* continues on course after its programming 'blip' last year. That we have rather more material than can be included in the current issue is also good news, and any held over will appear in the next one. We are always pleased to include species- or site-review articles, and this in this issue an important local speciality, the Netted Carpet Moth, is featured – and is a success story, now showing a very positive response to site management.

The present issue includes many notes and reports from a very unusual season: a fine April, followed by the wettest summer on record, with only a slow return to more average conditions in August, and then rather better conditions in September/October. The impact on wildlife, and on invertebrates in particular, will not have been good, though affecting different species in differing ways. It also forced the cancellation of our planned Field Meeting to Stable Hervey Moss (28th July).

*David Clarke*

**Society News**

**Library**

Allen Armsby has produced a catalogue of the Society's library. Copies are available at meetings and by request from Steve Hewitt at Tullie House.

New additions to the library include:

*Atropos* **2** (January 1997) – **9** (January 2000). Given by Robin Hodgson.
*Atropos* **17** (August 2002) – **31** (Spring 2007). Given by Geoff Naylor.
*Waterbirds around the World*. Boere, G, Galbraith, C. & Stroud, D. (2006) The Stationery Office: Edinburgh. Given by Keith Clark.

**Museum News**

We are in the process of transferring the wildlife records database from the old 'Recorder 3' software to the new 'Recorder 6' package. This process is being contracted out but involves us in resolving any errors in the data thrown up during the checking and cross-referencing processes during the transfer. There will also be a steep learning curve for those of us who have become comfortably familiar with the old database and need to learn new tricks to operate the new system. Training will be provided to all our volunteers who use the database but there will inevitably be a hiatus in data entry as we get to grips with the new system. Please keep on sending in your wildlife records as normal as we will enter them all in due course. Matthew Grose is working three days a week in the Museum on a temporary contract to manage the wildlife records database on behalf of Cumbria Biological Data Network.

*Stephen Hewitt*





**9th June 2007, Sandscale Haws** **Leader: David Clarke**

Thirteen of us made the long trip to this exciting and extensive site, and mercifully the weather was kind. Our guide for the day, the warden Pete Burton, joined us later than intended, sadly having first to deal with a vandalism incident. Under our own 'steam' for a while, we visited the small, and almost dry, pools close to the car park and had good views of tiny Natterjack Toad toadlets. Neil Robinson was with us at this point and had been searching (in vain) for the rare bee *Colletes floralis* that he had previously discovered here. We moved on to the 'New Slack' finding a good selection of sand-dune plants and insects. Amongst the latter were several day-flying moths such as the Mother Shipton, Burnet Companion, Cinnibar and Six-spot Burnet. More 'choice' perhaps were the Yellow Shell (*Camptogramma b. bilineata*) and Silver Hook *(Deltote uncula)*, both of which have quite limited Cumbrian occurrence. Steve Hewitt and John Parker demonstrated some predatory flies of coastal dunes, including the Nationally Rare (RDB3) Robber-fly *Pamponerus germanicus*. John also collected some craneflies that he later identified as *Nephrotoma quadristriata*. This is the first Cumbrian record of this Vulnerable (RDB2) species, which is a specialist of major west-coast sand dune systems in England and Wales. The botanists amongst us – Marie Saag and Linda Robinson – were already well on with what was to be a long list of the site's rich flora – mainly a complex mixture of plants of the coastal and calcareous habitats, including several edge-of-UK-range species.

At lunchtime we were close to the site of the parasitic Yellow Bird's-nest, one of the many scarce species of the dunes, just too early in the year, unfortunately, for viewing. Pete was then able to join us and we set off on a tour on the hinterland, looking first for signs of the Coral-root Orchid for which the site is justly famous. This season had so far been particularly poor for the species and despite knowing where to look, it proved impossible to find even one spike. Round-leaved Wintergreen and Creeping Willow clothed some of the ground it prefers. Other orchids of the site were less elusive. Though the date was too early for helleborines to be in full flower, we had good views of the distinctive features of Green-flowered Helleborine, here at its most northerly UK site. Of other scarce orchids we also saw Marsh Helleborine, and Bee and Pyramidal Orchids.

The 'circuit' took in several of the very attractive wet slacks, each with more or less permanent pools. At several we had good views of one or more male Emperor Dragonflies; unusually, Adder's-tongue Fern was in very wet swamp around one pool. En route Pete was able to point out many of other plants that make the site so important. Real rarities for Cumbria included the diminutive Variegated Horsetail, and the rare grasses Tor Grass and Dune Fescue.

A very full and rewarding day: we realised it would take many visits to appreciate this treasure of a site, which is fortunately under National Trust care.

*David Clarke*

**23rd June 2007, Rockcliffe Marsh** **Leader: Mike Carrier**

I little thought when our rather botanically inexpert group set out for a day with Mike Carrier, Site Manager of Rockcliffe Marsh, that an uninspiring looking green 'weed' growing amongst the Oraches and nettles, and the clamour and excitement of the nesting gulls, would figure amongst the highlights of the day. On working through reference books at home in the evening however, the specimen I'd taken seemed to answer the description of *Lepidium ruderale* or Narrow-leaved Pepperwort. Geoffrey Halliday's *Flora* mentions only two Cumbrian localities for this plant, one of which, to my delight, is given as the Rockcliffe Marsh Gullery!

Mike, and Emma Hughes the Cumbria Wildlife Trust's seasonal warden, met us at the Esk Boathouse where they outlined to us the tragic events of the 18th May this year. Virtually the whole site had been inundated for more than twenty-four hours. Until then the Reserve had looked set fair to produce a bumper crop of young birds, but, two high tides with a backing wind had wiped out over one hundred lapwing nests, two hundred Skylarks, fifty to sixty Redshank and all the nesting gulls and terns. We were thus prepared to see not very much. When it began to rain we struggled into our waterproofs: I suspect that some of us began to wonder if this was a good idea after all! However, Mike and Emma's enthusiasm and the natural curiosity of the CNHS members soon dispelled all such thoughts, the rain shower came to nothing, the sun came out and to the delight of everyone we were once again able to witness and appreciate the resilience of our native Cumbrian fauna.

Early on we were treated to a superb distraction display by a female Mallard as she frantically whirred her wings and, like a disabled paddle-steamer headed upstream towards Metal Bridge while her flotilla of fluffy ducklings headed for 'safety' under the Scottish shore. To the delight of everyone, with the aid of Emma's local knowledge we soon began to come across the occasional nest with eggs or chicks of Lapwing, Redshank, Skylark and Oystercatcher. At one of the latter we were treated to the spectacle of bobbling eggs as the youngsters chipped away and struggled to emerge into the big wide world beneath an equally big wide Solway sky.

We were concerned about the risk to these ground-nesting birds posed by the presence of what seemed to us somewhat high numbers of grazing stock on the Reserve. Mike told us that the ideal was believed to be somewhere in the order of





eight hundred cattle over the whole area, but at present there were only five hundred and twenty, supplemented by a thousand sheep. Multiply that lot by four and there are an awful lot of hooves to threaten vulnerable nests! Clearly the reserve managers have a difficult line to tread in trying to arrive at the best balance between undergrazing which might allow too much rank growth, and overgrazing leading to reduced nesting cover and nectar sources for insects.

After lunch, taken by a huge driftwood log which itself demonstrated the depth and power of the high tides, we headed for the area previously known to support breeding terns. To our surprise we almost immediately found evidence of nesting. We formed a line and quickly worked through the area. Although we found only a handful of nests it was encouraging, as clearly they were quite recent, whilst overhead we counted at least nineteen adult Common Terns. We still had a long walk back to the cars, for most of the way accompanied by a large herd of curious cattle, much to Mike's approval as he knew that we were leading them away from the nesting area. We looked in vain for the Flowering-rush known to grow in the boundary ditch. However its flowering period is given as a little later and its long straight leaves would have been well hidden amongst other plants spreading in from the margins of the watercourse.

Rockcliffe is a great site and well deserves its many National and International conservation designations and carefully thought out management prescriptions.

*Russell Gomm*

**14th July, Smardale & Waitby Greenriggs** **Leader: Geoff Naylor**

Despite the damp weather sixteen members assembled at the Cumbria Wildlife Trust Smardale Reserve car park to see orchids and other flora of the limestone. We set off down the footpath which was once a railway track towards the Smardale Gill viaduct. Initially we passed through a wooded area and alongside the track we saw Woodruff, Enchanter's-nightshade, and in one area Herb Paris with its black fruits. Geoff took us off a short distance along a side path to see Greater Butterfly-orchid in flower. As the path opened out and the verges widened we saw Common Wintergreen, Melancholy Thistle, Wild Marjoram, Lady's Bedstraw, Bloody Cranesbill, the occasional Common Spotted-orchid and good numbers of both Fragrant Orchid and Common Twayblade. A single Broad-leaved Helleborine was seen at the side of the track.

We walked across the viaduct taking in the views up and down the valley of the Scandal Beck. The valley is an open area of limestone grassland and we had hopes of seeing plenty of butterflies in this area. However, the overcast breezy weather meant they were not flying and we counted ourselves lucky so see a few Meadow

Browns, Common Blues, Ringlet, and Chimney Sweeper moths.

After lunch at the old lime kilns and one minute of sunshine we headed back, stopping at an area of grassland just adjacent to the viaduct where Geoff pointed out the Burnet-saxifrage, Agrimony, and after a lot of hunting Anne Abbs found the Horseshoe Vetch with its wavy pods.

As we walked down the track Jim Thomas found a leaf-beetle amongst the vegetation on the verge, and larvae presumably of the same species feeding on a St Johns-wort. He later identified the adult beetle as *Chrysolina varians*.

Once back at the car park, we motored the short distance to Waitby Greenriggs. This small CWT Reserve is on the site of old railway cuttings and embankments and is a very species-rich area. Here we saw a number of Fly Orchids, though nearly all gone over. However, the large numbers of Marsh Helleborines in flower were an amazing sight. We also saw Black Bog-rush, Saw-wort, Frog Orchid, Field Gentian and Bird's-eye Primrose.

As we left in the late afternoon the sun at last started to come out! We all thanked Geoff Naylor for taking us on an interesting trip renewing our enthusiasm for the beautiful countryside and flora of the Smardale area.

*Marie Saag*

## Workshop

### 15th September, Spiders Workshop Leaders: Jennifer Newton & Dave Blackledge

The subject of this identification workshop was a popular one and it was fully booked with 15 people. In fact, with the luxury of two tutors for the workshop, we were able to accommodate a couple of late-comers who slipped in under the wire. We began with Jennifer giving an introduction to spider ecology. She projected photographs of different spider habitats and in particular the very different and often characteristic webs that many species construct in keeping with their particular lifestyles. This was very useful when we got out into the field later in the day.

Dave then stepped forward to take us through the diagnostic features of the different families of spiders with the aid of many live specimens that he had brought in and illustrated identification sheets that Jennifer had put together.

Whilst colour-pattern can be helpful in identification, we learned that it can be very variable and misleading in many species. The basic body-shape, number and arrangement of eyes, number and structure of claws, shape of mouth-parts and of spinnerets are variously helpful in identifying different taxa. Many of these features are rather small and specimens were put under a close-up camera and displayed on TV monitor to demonstrate key characters to the group. Individual



specimens were then passed around to be examined with hand-lenses.

After lunch we regrouped at Fingland Rigg NNR to look for spiders in the field. Jennifer had helpfully prepared a list of the habitats and their typical spiders found on the Reserve, together with notes on the appearance, behaviour and webs of the different species. Some people arrived early to eat their lunch on the picnic site at the entrance to the Reserve and it wasn't long before various spiders were brought to attention. Here the wolf spider *Pardosa amentata* was seen running over logs lying among the grass. Beating bushes and low vegetation revealed the harvestman *Paroligolophus agrestis*, the money-spider *Bathyphantes approximus* and the large Cross Spider *(Araneus diadematus),* named for the distinctive cross-shaped marking on its back. It is commonly found sitting on its large orb-web. Two other common orb-web-spinning spiders were also found here, *Tetragnatha montana* and *Metellina segementata*.

Walking along the track into the reserve, the distinctive egg-sacks of the tiny *Paidiscura pallens* were found on the underside of oak leaves. Three money spiders were identified here – *Linyphia triungularis*, with a distinctive dark, fork-shaped mark on its carapace, was swept off foliage; the well-patterned *Drapetisca socialis* was spotted on the bark of a birch tree and *Helophora insignis,* was found in the leaf-litter.

Moving out into the rushy pasture, more webs and individuals of *Metellina segmentata* were found to be very frequent among the clumps of rushes and in low bushes. The 6mm long mottled greyish-yellow *Pachygnatha clerki* also occurred here, as did the more boldly patterned *P. degeeri*. The large, nursery-web spider *Pisaura mirabilis* was found among the damp grassland. This species builds a distinctive tent-like web among a grass-tussock or other low vegetation in which its spiderlings develop. An immature of the wolf-spider *Alopecosa pulverulenta* was found running in the ground layer and the crab-spider *Xysticus cristatus* was swept off rushes. The appearance of a single Speckled Wood butterfly at the edge of the wood here caused much interest.

Moving on we passed through an area of gorse scrub where several further spiders were pointed out. Finally, the heathland of Little Bampton Common produced another community of spider species and the highlights of the day. Here we saw the spectacular *Araneus quadratus*, but our discerning leaders were far more pleased to find *Simitidion (Theridion) simile* – a first record for Cumberland (v.c. 70) and, with just four Scottish records, at the north of its British range here. This species makes tangled webs on the tips of heather stems and twigs. Another good find was the wolf-spider *Pirata latitans,* an uncommon wetland spider found on Moorthwaite Moss as recently as 1988 but not previously recorded from the

Solway mosses.

By this point we had run out of time and a fascinating, highly enjoyable day discovering something of the diversity and interest of spiders was concluded. Thanks were given to our two learned tutors for making the day such a success.

*Stephen Hewitt*

### Recent Records

The last 'Recent Records' was in early April. These notes cover the period from then until late September and are, as usual, subject to confirmation in some cases. They are drawn from the few record cards handed in during that period, some information submitted to Tullie House, some of my own observations, and word of mouth from fellow members, friends and neighbours.

As usual, birds make up the majority of records, but to start with something different, it is not often that we receive records of fish, so an observation of **Sea Lampreys** in the Eden near Wetheral Viaduct in early June was especially noteworthy (MS, SMH).

The only mammal records that have caught my attention have been the worrying number of **Grey Squirrels**, including one seen in my own garden by a neighbour! Several people and organisations are now conducting campaigns to check the spread of this undesirable rodent. Trapping in High Gelt for example yielded over 20 individuals in July (AB); one was even seen in Carlisle town (Lismore Place, 4th September, BS).

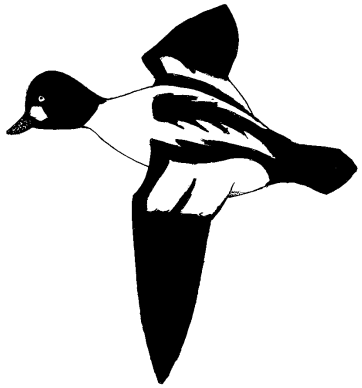
My own and other records of arriving summer bird visitors include the following which may be of interest. **Pied Flycatchers** arrived back at Talkin Tarn on 10th April – quite an early date, but now becoming regular at that site on or about the same day each year. An **Osprey** was seen at Boothby, near Lanercost on 19th April (DAI); DC saw single birds in the lower Eden valley on 6th and 14th April. The first **Redstart** was at Talkin Tarn on the next day and the day after that, **Swifts** were early arrivals at Stanwix. 25th April revealed the first **Common Sandpipers** at Talkin Tarn and on 30th **a Lesser Whitethroat** sang near Park Broom – unusual for that area. **Grasshopper**- and **Wood Warblers** were heard at Miltonrigg on 2nd May, with the latter at Talkin Tarn on 8th (they have been irregular there for the past few years). The former was also heard reeling at Forest Head on 11th May. Another good sighting in spring was a **Goshawk** at Haweswater on 7th April (DAI). Early May saw a few **Little Gulls** on the river near Longtown and there was a late **Goldeneye** at Talkin Tarn on 1st May.

Breeding records of interest include **Tree Sparrows** occupying a nest box in a Wetheral Pasture garden (FJR) and 3 broods of **Tufted Duck** were hatched at



Talkin Tarn. This is the first time more than one brood has appeared, which is not an annual event anyway. One of the broods had a remarkable 14 ducklings but only 6 survived to maturity.

*Goldeneye (David Clarke)*



A few autumn observations include an **Osprey** at Port Carlisle on 23rd August (PQ); a flock of 80+ **Siskin** at Talkin Tarn on 29th August and an early **Goldeneye** there on 21st September. There were some early **Redwings** also, at North Plain, Solway on 27th September, and two days later a **Slavonian Grebe** at Talkin Tarn was a big surprise.

Lepidoptera are reported frequently and were perhaps surprisingly frequent in view of this summer's generally adverse weather. Butterflies included an early **Orange Tip** at Edenside, Carlisle on 13th April and an encouraging number of spring brood **Holly Blues**, notably Etterby Street, Stanwix where several individuals were observed from 21st April to 3rd May; Wetheral on 24th April and Cumwhitton on 10th June; there were presumed second-generation sightings from the last site on 22nd August (DC), and at Wigton 27th July (TR). **Small Coppers** were noted at Gilsland and Cumwhitton, where there was also a **Comma** on 8th July. Later, in September there were reports of **Speckled Wood** in the north of the county, including one in RL's garden at Cumwhinton on the 22nd; ('northern' Speckled Woods were first recorded in 2006, including at least 2 in the Solway Plain area – see Butterfly report in *Birds and Wildlife in Cumbria* for 2006). In the early autumn RL also caught two unusual moths at High Stand Plantation – namely **Orange Footman** and **Dingy Footman** – both north of their range. An **Oblique Carpet** on 27thAugust was new for my garden trap but 3 days later I discovered a much rarer moth in the form of a **Dewick's Plusia** (see separate note in this issue). In contrast to 2006, migrant species were generally scarce – a few **Painted Ladies** and **Red Admirals** finally becoming a feature of settled weather in autumn.

Dragonflies got off to a good start in the fine April, with emergence dates of species often being well forward. **Downy Emeralds** had started to emerge at Derwent Water by 3rd May, some 10 days ahead of all previous county records (L&JR). **Banded Demoiselles** produced some interesting records despite poor weather in the main flight season – including floods in early July. **Emperor Dragonflies** were surprisingly frequent, suggesting that perhaps some threshold of

local breeding presence has now been passed. There were a few sightings of **Black-tailed Skimmers** near Gosforth (L&JR) and **Migrant Hawkers** were once more seen in north Cumbria – including one fleetingly in PW's Carlisle garden on 24th August.

On 25th August Jeremy Roberts pointed out the strange **Harvestman** *Dicranopalpus ramosus* at the side of my front door! He had seen one on his own house wall on 9th September 2006 (*Carlisle Naturalist* Vol. 14: p. 32). This distinctive species is being increasingly reported in the county.

Last-minute very welcome 'hot news' is that **Water Voles** have been confirmed at two locations on the lower (i.e. western) edge of the Cumbria Pennines – on streams at Melmerby and Renwick (per LR). Whether these are recent colonists or long-standing populations is not yet known.

*Recorders:* AB Ashley Boon; DC David Clarke; SMH Steve Hewitt; DAI Dorothy Iveson; RL Richard Little; PQ Peter Quinn; TR Tristan Reid; LR Linda Robinson; L&JR Linda & John Reinecke; FJR Jeremy Roberts; MS Marie Saag; BS Brian Spencer; PW Peter Wilson.

*Geoff Naylor*

## Notes & Records

### The plant-bug *Capsodes gothicus* Linnaeus (Hemiptera, Miridae) rediscovered in West Cumbria

On 13th June 2006, while carrying out an invertebrate survey of Andrews Gill just to the north of Lowca village, I collected two specimens of the plant-bug *Capsodes gothicus*. They were found by grubbing amongst low vegetation on the bank of a small stream at the bottom end of the gill at (NX98.22). The specimens were in good condition, but one was very teneral, indicating recent emergence.

*C. gothicus* has previously been recorded from Cumberland (v.c. 70). F.H. Day (1928) records the bug from Eskdale where it was found on the 5th July 1917 by James Murray. Stephen Hewitt informs me that there are no further records of *C. gothicus* from either v.c. 69 or 70 on the Tullie House Museum Recorder database, so it would appear that this is only the second time that the bug has been recorded from the county in 90 years. There are a number of specimens of *C. gothicus* from various localities in Britain in the collections of Tullie House Museum, and all are listed on the Virtual Fauna of Lakeland website [www.lakelandwildlife.co.uk]. According to Southwood & Leston (1959), *C. gothicus* is distributed throughout England, and has also been recorded from Glamorgan, South Wales. The bug is

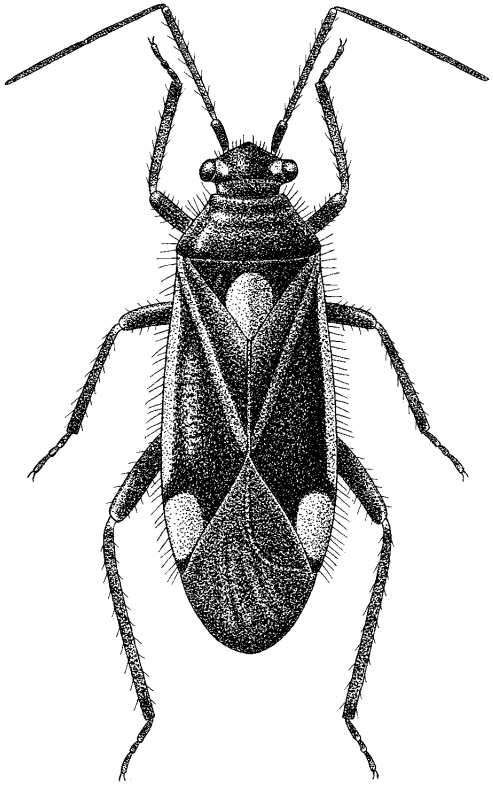




usually found amongst luxuriant vegetation, especially on Greater Bird's-foot-trefoil *(Lotus pedunculatus)* growing in marshy places.

I am grateful to Stephen Hewitt for kindly checking the Tullie House records, and for general information on the distribution of *C. gothicus*.

*Capsodes gothicus* *(John Read)*



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*John Read*
*43 Holly Terrace, Hensingham, Whitehaven, Cumbria CA28 8RF*

### A recent record of the ground beetle *Chlaenius nigricornis* (Fabricius) from West Cumbria

*Chlaenius nigricornis* (Fabricius) is a large, iridescent-green and coppery-coloured ground beetle. It is mainly riparian and usually found at the margins of lakes and rivers, but it can also occur in wet grassland and mires and on moorland. The beetle is graded Nationally Scarce (Nb) by Hyman & Parsons (1992). It is distributed quite widely in England, Wales and Ireland, but is absent from Scotland (Luff 1998). On 28th April 2007 I found one dead male of *C. nigricornis* on the pavement by the main road leading to Moresby village, near to Priestgill Wood at (NX99.17). The beetle has previously been recorded from Cumbria; F. H. Day (1909) refers to an old record of the beetle as having been found on the shore of Talkin Tarn by Thomas J. Bold in June 1848. I have been unable to find any more recent records of C. *nigricornis* from Cumbria. Dr. Mark Telfer informs me that there are no recent

records of the beetle from Cumbria on the National Ground Beetle Recording scheme database, so it would appear that this is only the second time that *C. nigricornis* has been recorded from the county in well over 150 years.

I am grateful to Mark Telfer for kindly checking the ground beetle database and for general information on the distribution of *C. nigricornis* in Britain.

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*John Read*
*43 Holly Terrace, Hensingham, Whitehaven, Cumbria CA28 8RF*

### The mining bee *Andrena tarsata* Nylander and its cleptoparasite *Nomada robertjeotiana* (Panzer) at Burns Beck Moss

The solitary mining bee *Andrena tarsata* is not nationally rare but is one of several species that are thought to have declined and the Aculeate Conservation Group is trying to find out more about its distribution and status. It flies July-August and is associated with heathlands, and only forages at Tormentil. It is a very small and inconspicuous bee; its length is about the width of a Tormentil flower. It was recorded by Carlisle naturalists in the north of the county early in the 20th century but the only recent record was North Walney in 1994 (Michael Archer) – until a Liverpool Museum survey found it in 2001 at Burns Beck Moss CWT Reserve (SD59.87). On the 16th July 2005 I found a female there, foraging Tormentil on the drier edge of the Moss beside the road, adjacent to the circular walk.

This year I made further investigation of the population. July was a notably cloudy and wet month and on the 24th I found only the common solitary bees *Andrena minutula* and *Lasioglossum fratellum* visiting the Tormentil. However, on 9th August in the morning under a blue sky I found that single *A. tarsata* females were visiting the Tormentil every few minutes, usually only one per clump. They are slightly larger than the *A. minutula* and their behaviour is different: they go quickly from flower to flower, with a fast scrabbling action while they are on the flower. Individual Tormentil flowers must only provide tiny amounts of pollen





because the bees forage for several minutes before the scopae on their hind legs and the hairs on the side of the thorax become full of yellow pollen. By 1.00 p.m. there was more activity and there were sometimes two females on the same clump. On 27th August there were still a few females foraging, but by 3rd September only *A. minutula* females and males were seen; the *A. tarsata* had evidently completed its flight period.

Looking for the nest site, which was unlikely to be on the mossland, on 9th August I examined the steep open bank across the road on the lower slopes of Hill's Plantation. This is an old larch plantation on a ridge of Silurian rock that I understand is now owned by the Woodland Trust. Much of the slope is covered by bracken and larch regeneration but there is an open area near the road with thin soil and Wavy Hair-grass. It faces west, but receives sun from mid-morning onwards. This bank is clearly a valuable nest site for aculeates: it was swarming with patrolling males of *A. minutula* and females were flying in and out. I saw one female *A. tarsata*, but what clinched the matter was that I caught a female *Nomada robertjeotiana* prowling the surface. This is the specific cleptoparasite of *A. tarsata* (i.e. it steals the food gathered by its host), so proves that *tarsata* is nesting there. It is rated as Nationally Rare (**RDB3**) and this was the first time I have seen it. It has not been recorded in Cumbria since 1920, so it is a significant record for the county.

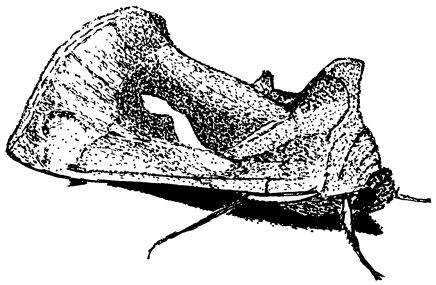
*Neil A. Robinson*
*3 Abbey Drive, Natland, Kendal LA9 7QN*

### Dewick's Plusia (*Macdunnoughia confusa* (Steph.)) in a garden moth trap

Emptying my moth trap on the morning of 31st August I noticed an unusual plusiid moth and kept it in a pot in the fridge until I was able to examine it an hour or two later. My jaw dropped when I realised what it was and I returned it to the 'cooler' and summoned Mike Clementson and Richard Little to come and see my catch. It was obviously and easily identified as a Dewick's Plusia and duly photographed by us using a variety of angles and backgrounds. It was then taken by MC for retention as a voucher specimen.

Dewick's Plusia is a European moth which been spreading westwards for many years. It has only been recorded once before in Cumbria – on 31st August 1954 in Penrith by W. F. Davidson. In 1954 it was customary to record dates as 'the morning after capture' but convention now demands the record to be 'the evening before'. So the official date of my find is 30th August, as is, amazingly coincidentally, the 1954 record.

The first Cumbrian record was in fact the second for Britain and there have only



*Dewick's Plusia (David Clarke)*

been approximately 60 since that time. The first British specimen was caught by a Mr Dewick at Bradwell-on-Sea, Essex on 3rd October 1951 – hence the English name. I understand Mr Dewick was still 'mothing' at Bradwell-on-Sea in his 90s, so I wondered whether he ever caught more of his namesake moth. (The genus is named after a noted North American entomologist).

The moth is a member of the subfamily *Plusiinae*, most of which have a silver or gold metallic mark on the fore-wing. The group includes the familiar Silver Y and various other fairly common moths such as the Gold Spots, Gold Spangle, the Golden Ys and the Burnished Brass. Its diagnostic feature is the thick metallic bar on the fore-wing with a thinner silvery line connecting it to the trailing edge. Between this mark and the trailing edge is a rich reddish-brown area, with the rest of the wing being plain brown.

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### A female-biased emergence of the Southern Hawker Dragonfly (*Aeshna cyanea* Müller) at a garden pond in the Eden valley

I had noticed in other years that Southern Hawkers emerging at my garden pond seemed to have a preponderance of females, but had never collected data to prove it. This year, collecting cast emergence skins (exuviae) by searching on a daily basis over the whole of the emergence period* (3rd to 25th July), and beyond, revealed that of the 24 dragonflies that emerged, no fewer than 19 were female. The males emerged on dates scattered through this period. On the (reasonable) assumption that the sex ratio in eggs laid by the species as a whole is normally 1:1, this posed a dilemma. How real was this apparent bias, especially given the relatively small size of the sample? It appears that the chance of observing as few or fewer males (or females) *purely by chance* is about 1 in 300 [P = 0.0033]. This degree of improbability suggests that the observed bias is highly likely to be a reflection of reality – and a vindication of earlier impressions too. However, several years of data would be needed to assess the variability of this phenomenon.





Why this was so is a different matter. If roughly equal numbers of male and female eggs were laid, then either fewer male eggs hatched, or the resulting larvae did not survive as well as did their female counterparts. Possibly the latter scenario might involve behavioural differences between the sexes, leading to differential exposure to predation. Small ponds with limited habitat structure and simple food webs are likely to be more than usually prone to 'predation-stress' situations. A dense mix of frogs and dragonfly larvae for example might lead heavy pressure on the latter: my own pond is only c. 3 × 2 metres. As one male is likely to mate with many females, smaller numbers of males might not be too critical for the species. Corbet (1999) notes that sex ratio imbalance in favour of females has been reported for emerging adults of several dragonfly families, including Aeshnidae, but that why this is so is still largely unexplained!

I am grateful to Laura Young for help with the statistics.

*Defined as extremes of dates on which I saw emerging individuals (some exuviae were only found after the adults had flown).

**Reference**

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### Southern Marsh-orchids (*Dactylorhiza praetermissa* (Druce) Soo) in Cumbria

Until recently it was generally accepted that Southern Marsh-orchids *(Dactylorhiza praetermissa)* did not grow in Cumbria. The nearest location was the Lancashire coast at Southport, which was their most northerly location on the west coast of Britain.

That all changed a few years ago. Mr & Mrs Harbron, who manage the Argill Woods Cumbria Wildlife Trust reserve near Kirby Stephen, informed me that they had seen some large unusual orchids growing by the A66 east of Threlkeld. That was in 2004.

Unfortunately I did not then have time to investigate them.

A year later I was surveying Greater Butterfly-orchids (*Platanthera chlorantha)* by the A591 south of Kendal. My attention was attracted by a large purple orchid spike on the other side of the road. On investigating, I was surprised to see it was a

Southern Marsh-orchid. Searching further along the road-side in an open area between some trees I eventually found over 80 plants in flower.

This prompted to me to check out the Harbron's site by the A66. This proved to be another colony of Southern Marsh-orchids, on a steep, south-facing bank amongst scrub. The population was of a similar size to the Kendal site.

Both sites were man-made, being the result of road-building activities.

Interestingly, on the A66 wet bank site there were obvious hybrids. Normally Southern Marsh-orchids have unmarked leaves, and the lip is usually pink/magenta in colour, marked with fine light dots and line-marked. The lip is broadly elliptical, and shallowly trilobed. The hybrids had spotted leaves and the lips were very pale and of a different shape to the majority of the plants. Closer examination revealed that hybridisation had taken place with two other *Dactylorhiza* species, the Heath Spotted-orchid *(D. maculata),* the hybrid being known as *D.* × *hallii,* and the Common Spotted-orchid *(D. fuchsii),* the hybrid known as *D.* × *grandis*. Both these hybrids are new to Cumbria. Members of the genus *Dactylorhiza* readily hybridise with each other, and all the previously-mentioned species are colonisers of disturbed ground and roadside verges, and hence may grow in close proximity. The site south of Kendal contains pure Southern Marsh-orchids of a rich magenta colour.

An interesting question is how the orchids have appeared about 80 miles further north of their previous most northerly location. Could this be more evidence of global warming? Looking at the orchids from a European context, they tend to grow in more southerly locations. The main populations grow in northern France, Belgium, Holland, north Germany and Denmark. Excepting the last of these, all are south of Cumbria's latitude.

Orchid seeds are very small, and can be carried long distances by the wind. It seems most likely that this is the means by which the seeds arrived. However, there may well be a climatic factor involved here, since there must be a presumption that seeds of this species have been arriving from the south on the winds for long periods of time, but without becoming established. I personally believe that there will be more sites found in the county over the coming years, particularly now that local observers know to look out for this species – and have in mind its distinctive features. Then it's the usual problem: there not being enough days in June and July, that small window during which it flowers!

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## The Netted Carpet Moth (*Eustroma reticulatum* (Denis & Schiffer-müller, 1775)) in Cumbria

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First recorded in Britain from woodland near Windermere in 1856 by T.H. Allis (Doubleday, 1861), the attractively marked Netted Carpet Moth is almost confined in Britain to the Lake District: it is a true Lakeland speciality. A small and fragile population may still survive in Wales (Merionethshire).

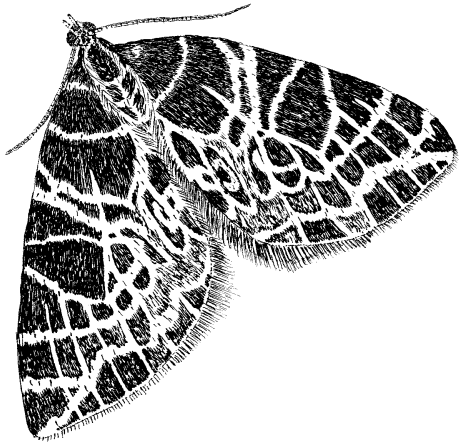
The species had been heavily collected from one or two well-known localities, and by 1923 was believed extinct in Britain when the last known site was destroyed to make an ornamental garden. However, the sparsity of records at this time is undoubtedly due to the small number of sites examined by entomologists, who tended to visit known sites in preference to searching for new ones. As a consequence it was re-found in 1945 and said to be plentiful (Birkett, 1951). Intensive work to ensure the future survival of this Red Data Book (category 2, Vulnerable), species was initiated in 1990 and has been continuing ever since. The moth's rarity resulted in its listing as a priority UK Biodiversity Action Plan species, with The National Trust and Butterfly Conservation acting as joint lead partners together with a broader Steering Group guiding the conservation work. This elevated status is reflected in the Cumbria BAP where the moth also has a Species Action Plan.

Netted Carpet larvae feed exclusively on the yellow-flowered Touch-me-not Balsam *Impatiens noli-tangere*, a native plant related to the more familiar alien Himalayan Balsam *(I. glandulifera)*. The coincidence of records of the moth and its food-plant has been suggested as evidence for the native status of the latter (Coombe, 1956). The plant also occurs in many non-native situations scattered throughout the UK as a result of introductions and garden 'escapes'. In these cases the moth is not associated with it. In Cumbria, the food-plant is scattered in the Lake District, with colonies near Derwentwater, in the vicinity of Coniston Water, the Windermere-Ambleside-Rydal area, the lower Duddon valley, and around Muncaster. Research by John Heath (1959) suggested that, in addition to the presence of its food-plant, the Netted Carpet requires a habitat having at least 150 cm of annual rainfall. His experiments indicated that in drier conditions the pupae died before emergence, or that pupal emergence was prevented.

Touch-me-not Balsam is a scarce annual plant of damp, fertile soils, and is usually found

under the semi-shade of moist woodland (Stewart *et al.* 1994). Research (Markov, 1991; Jankowska-Blaszczuk & Grubb, 1997) has shown that it does not develop a long-lived seed bank and will disappear from a site within two years if unable to set seed. It is a ruderal species that can quickly colonise newly disturbed ground but is intolerant of competition with perennial vegetation. Key to its persistence at any site is an element of bare soil creation. The conservation implications for the native Lake District Balsam populations have been studied by Hatcher *et al.* (2004), who attempted to predict the effects of climatic changes in the coming half century.

*Netted Carpet Moth* *(Stephen Hewitt)*



Netted Carpet larvae can be found feeding on the Balsam during late August/early September and counting larvae has been used as the most reliable method for monitoring moth numbers. The Balsam's explosive seed pods are especially favoured as highly nutritious food and the larvae first chew through the tensioned fibres thus 'defusing' the pod – and preventing escape of the seed. The moth itself flies during July and August being most easily seen fluttering around the foodplant at dusk. It will also come to light traps after dark. During the daytime it rests, often well-camouflaged and difficult to locate.

In 1990 the first comprehensive survey of known Lake District Touch-me-not Balsam sites was carried out (Hatcher, 1991) and found an alarming 56% decline in moth colonies since previous surveys in 1980/81 (Hatcher & Alexander, 1994). Since 1993 the Balsam colonies alongside Derwent Water and Coniston Water have been surveyed annually using a combination of funding from The National Trust, English Nature's Species Recovery Programme and Butterfly Conservation. In addition to annual monitoring of the Derwent and Coniston sites, other Balsam localities were surveyed on a more *ad hoc* basis. Over time numerous volunteers have been trained in survey techniques and new Balsam and moth locations have been discovered by these individuals. The comprehensive survey was repeated in 2000 and 2005 (Hatcher 2001 & 2005).





Annual monitoring of food-plant colonies and moth larval numbers has revealed widely fluctuating fortunes at many sites. Storm damage, flood, forestry operations and even the activity of council road-sweepers can create suitable conditions for a brief Balsam boom, to which the moth will respond favourably. As the Balsam then declines so too will the moth, sometimes to a point of local extinction. A series of mild, wet winters in the late 1990's reduced the Balsam stands around Derwentwater to a fraction of their previous extent. The moth fell into sharp decline and eventual extinction. Despite the subsequent recovery of the food-plant colonies, it has never recovered. The moth is not known to fly far and the nearest extant population is over ten miles away.

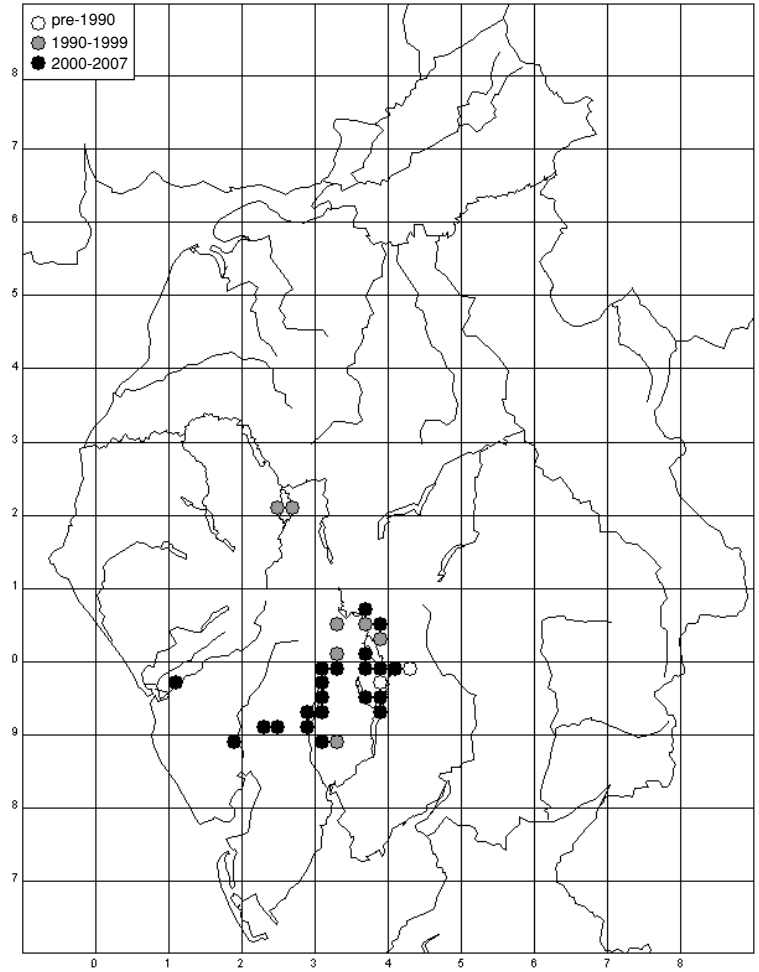
The discovery in 1996 of a very strong Balsam/moth colony in a privately owned wood which was periodically cattle-grazed was a revelation; this wood was patchily carpeted with Balsam and sometimes supported over half the total Lake District moth population! Cattle hooves break up the ground, especially on moist soils which, together with associated manuring, encourages vigorous Balsam germination and growth. Additionally, the cattle transport Balsam seeds around on muddy hooves, with the result that stands of food-plant crop up in new and unexpected places. In some years however, the owner would allow cows into the wood during summer months resulting in the Balsam plants being grazed or trampled into oblivion. Observation of this site led to the experimental introduction of winter cattle to selected National Trust woodland exclosures near Coniston Water. Hardy breed cattle have been out-wintered for a period of four to six weeks in each of three plots. The cattle are removed in spring – before Balsam germination.

The results have been closely monitored, and have hugely exceeded expectations:

| Year | No. of Plants | No. of Larvae |
|---|---|---|
| 2002* | 880 | 45 |
| 2003 | 2,150 | 36 |
| 2004 | 12,000 | 375 |
| 2005 | 30,500 | 215 |
| 2006 | 56,000 | 565 |
| 2007 | 68,000 | 950 |

(* year before grazing introduced)

Comprehensive monitoring has revealed the critical importance of the cattle-grazed sites and convinced the Steering Group to encourage the extension of these cattle-grazed areas. Also, the success in securing a large and stable population of Netted Carpet in a few woods has allowed us to conduct a re-introduction project to the Derwent Water site at which the moth had become extinct. All the usual




*Distribution of Netted Carpet Moth in Cumbria*

IUCN re-introduction criteria were followed and a small number of well-grown larvae were translocated in autumn 2006. Monitoring during 2007 sadly found no indication of success and the introduction process was repeated.

Although organised work has now been undertaken on the netted carpet for some seventeen years, following up all possible leads for touch-me-not localities, new sites continue to be found. In 2006 for example, a diligent volunteer found a series of previously unknown Balsam/moth locations in the vicinity of Ambleside, thus adding significantly to our knowledge.





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[Reports of Cumbria sites for Touch-me-not Balsam, or the moth itself, would be welcomed by the author. Records can be sent to: John Hooson, The National Trust, The Hollens, Grasmere, Ambleside, Cumbria LA22 9QZ: tel 015394-63818 or e-mail *john.hooson@nationaltrust.org.uk. Ed.*]

## A possible instance of oak dispersal by Jays on mossland

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On 1st September 2007 I was searching across the north-eastern 'lobe' of Walton Moss in north Cumbria, on a preliminary – unsuccessful – search for a bush of Northern Bilberry *(Vaccinium uliginosum)* recently reported to me, in what would be a new site. Walton Moss is a designated Special Area of Conservation, its main feature being the large areas of undisturbed raised bog.

After searching for some time across the open, wet, sphagnum-dominated bog, I began to take notice of the numerous seedlings of four tree species out on the wettest parts of the raised bog. The existence of Downy Birch *(Betula pubescens)* and pine (*Pinus* species) seedlings was easily explained by the presence of scattered fruiting individuals of these, and by the fact that both have winged seeds which would aid dispersal. Indeed, there was a noticeable concentration of pine seedlings and small saplings close to one isolated, stunted, but fruiting, pine. Sitka Spruce *(Picea sitchensis)* also has winged seeds, but the source of many small saplings of this species was not observed.

After a while, I started to find the relative abundance of **oak** seedlings surprising, and eventually intriguing, since there were no mature oaks within several hundred metres of the seedlings. The nearest, and most likely, source appeared to be many fruiting trees in hedges and shelter belts by the road running along the ridge to the north of the bog. A GPS gave a grid-reference of NY50930.67073 for one of the more remote seedlings. This is about 650 metres from these fruiting trees. Whilst other more remote seedlings may exist, the majority of plants appeared to be in a very diffuse belt about two hundred metres wide. This belt ran west-east, parallel to (and at its closest, several tens of metres out from) the northern edge of the bog, and also – noticeably – parallel to the line of shelter-belt oaks to the north.

The species of oak was uncertain. The leaves were somewhat auricled and stalkless, which would indicate Pedunculate Oak *(Quercus robur),* although identification of upon such young trees is unsafe. The shelter-belt oaks – the presumed source – agreed with this species, on a majority of characters.

Two facts were very evident: the oak seedlings were distributed very haphazardly across the bog, and I could discern no 'trail' or other route by which acorns could have possibly been carried; and the seedlings were growing in every possible situation, from moss hummocks of *Sphagnum* or *Polytrichum* species to very wet level sphagnum 'lawns' with associates such as White Beak-sedge *(Rhynchospora alba)* and Bog Asphodel *(Narthecium ossifragum)*.



Only one or two 'concentrations' were seen, where three or four clusters of shoots grew within ten metres. Mostly the shoots were much more widely spread. There was also no aggregation near any of the isolated trees (which might have suggested that a bird had been attracted firstly to perch, and then to descend to bury seeds below).

A further fact was that the sizes of the seedlings were within a narrow range, with none more than 30 cm, and most within the range 10-20 cm.

It was only after a little while that I noticed that in a high proportion of cases there was actually not just a single shoot, but a cluster of shoots, emerging through the sphagnum layer. Was this because a shoot had been damaged – perhaps nibbled – at or below the surface, causing forking? I decided to do some excavation. To my surprise, I soon found that in every case the multiple shoots derived from clusters of acorns, the remains of which were still quite fresh, about 3-8 cm below the moss surface.

In most clusters which I excavated, every acorn had produced a shoot, although in a few clusters, one or more had aborted after germination, for unknown reasons. There were very few acorns which had not germinated. Of course, my attention was only drawn to emerged shoots, and hence I have no idea how many buried caches had failed to send shoots above the bog surface, and hence which I passed undetected.

I noted 51 clusters of shoots: 16 singles; 17 doubles; 11 triples; 7 quadruples. (I covered only a small proportion of the total area, and I passed many clusters before starting to take notes, so that the total numbers must be much greater.) I exposed the bases of 31 clusters in order to count the number of acorns. Summary figures are given below. Whilst it was possible to calculate the gernination rate for the clusters I examined, it is obvious that to be included, a cache had to have sent up at least one shoot, for me to spot it. Thus we have no information on the fate of any caches which had not sent up shoots.

### Summary of finds

Number of caches excavated: 31 (out of 51 clusters of shoots observed)

Number of caches with **1** acorn: 7 found

Single shoots: 7 occurrences

Overall emergence rate = 100%

Number of caches with **2** acorns: 12 found
Double shoots: 9 occurrences
Single shoots: 3 occurrences
Overall emergence rate = 88%

Number of caches with **3** acorns: 8 found
Triple shoots: 5 occurrences
Double shoots: 2 occurrences
Single shoots: 1 occurrence
Overall emergence rate = 83%

Number of caches with **4** acorns: 4 found
Quadruple shoots: 3 occurrences
Triple shoots: 1 occurrence
Overall emergence rate = 83%

It was a great surprise to see these little oak seedlings braving the extremely exposed conditions out on this highly acidic plateau of open wet peat. The very fact that acorns had germinated at all in wet acidic peat was a revelation. It was noticeable that the portions of the plant below the moss surface were stronger and appeared more vigorous that the above-moss parts, although it was not obvious why this should be. A number of shoots had failed above the ground, being blackened and withered, whilst the roots were still apparently alive and perhaps would sprout again. I wondered whether this might be due to stress caused by climatic variation, with the surface layers perhaps drying out too much in a hot and dry season (such as the previous summer, 2006), when the root systems, which did not seem to be deeply penetrating, might have proved inadequate. Conversely, roots immersed in acidic and possibly oxygen-deficient water might have had difficulty in continuing to function in periods of high water levels. Fungal disease (to which oak seedlings are particularly prone in ordinary situations, let alone these inimical conditions) might also have played a part. A lack, or inadequacy, of suitable mycorrhizal fungi might also play a part in the poor development of the oaks.

But how had the acorns arrived in clusters and been spread over such a large and inhospitable area? No mammalian vector seems credible – not even humans – and I can only assume that an avian vector has been responsible. (To our mutual





surprise, I exposed a part-grown newt at one cluster, several centimetres down in the sphagnum – its presence there being, I assume, entirely fortuitous!)

When I began to research the question back home some questions were readily answered but others raised. Members of the crow family are surely the obvious contenders, and I could think of no other birds which could have been responsible. *'BWP'* (Cramp, *et al*., 1994) mentions acorns in the food of every one of the six crow species which might occur in that area. However, for Magpie, Jackdaw, Carrion Crow and Raven there is no mention of hoarding behaviour of acorns (though other types of food can be hoarded by these species).

A possible contender might be Rook, and '*BWP'* (*ibid*. p. 157) reports 'many acorns hidden' and 'the only European corvid to first dig hole for cache'. There is, however, no further indication as to whether Rooks can carry many acorns at once, as is stated for Jay, nor any instances of acorns being hoarded far out on wet ground.

Jays are well known to hoard acorns, and there is a very full literature on this habit in *'BWP'*. It is a familiar sight in autumn to see Jays crossing open spaces with single acorns held in the bill. I had always imagined that each journey involved carrying a single acorn in this fashion, and so it was a surprise to read in '*BWP'* (*ibid*. p. 13) that Jays may carry 'up to 9 acorns in gullet, although 1-3 more usual, with generally 1 in bill, heavier loads to more distant caches'. So each acorn cluster could easily represent the result of a single hoarding mission out onto the bog. Cache sites are 'under leaf litter, moss, in roots, etc. and natural holes preferred, hardly any birds digging own holes'. Most of the caches I excavated were in very soft sphagnum, and the bird would have had no difficulty in pushing the acorns down through the moss layer, and indeed must have done this, in the absence of natural holes in this soaking substrate. The sphagnum surface might also have grown somewhat in the interim, thus effectively burying the cache deeper.

However, there were a few conflicting statements in the Jay account. Jays collect at oak groves, and 'carry acorns away to their home ranges ... Caches are generally in open areas within woodland'. It is not easy to envisage a Jay regarding the expanses of open, exposed mossland as being part of its 'home range'. Remarkably, I could find no mention of storage **away** from woodland, even though it is part of lore that Jays help to create new oak woodlands by caching, and then never retrieving, acorns out in open situations beyond the existing woods. According to *'BWP',* there are 'usually 1, sometimes 2 or more acorns per store'. As can be seen from the summary chart, there were many more multiple caches than singles here.

Whatever species was involved, it would seem much more likely that each cache is the result of a single journey, rather than that a bird has returned to the same distant site and packed more acorns into an existing cache.

Of course, this story has many loose ends. I would be delighted to hear if readers have any thoughts or relevant information. David Clarke has suggested that the caches might be the result of a single 'rogue' bird, and it is conceivable that all the caches – which might total hundreds, given that I noted details of over fifty caches on my track across the bog – could have been deposited in a single season. Certainly the growths all looked to be of a similar age, although I could not begin to estimate how old that might be. Given what must be the very unfavourable conditions for oak growth, these might well be older than the few years they seem to be.

Since there are evidently no maturing or mature oaks on the bog, it seems very likely that these seedlings will fail to mature, perhaps through browsing by sheep or Roe Deer, bark damage by rodents, disease, water stress, climatic action, or other reason.

I found evidence of only a single acorn having been consumed: lying in the open on a large moss hummock was a single acorn cotyledon (i.e. a 'half-acorn' which showed signs of mammalian nibbling, rather than of avian pecking. Perhaps acorns retrieved by the original hoarder were swallowed whole, or removed from the site for consumption?

It would make an interesting exercise to keep an eye on these baby oaks, with a view to seeing how the existing crop fares in the longer term; how far from the nearest source the most remote seedlings are; if there is evidence for further depositions being made; and of course what the vector might be.

I am grateful to David Clarke for discussion and many valuable suggestions.

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**Information for Authors**

The *Carlisle Naturalist* publishes material on all aspects of the natural history of Cumbria. General articles, results of personal research, news items, records and letters of relevance to Cumbrian naturalists are welcomed. Material accepted for publication must not be submitted in a similar form to any other journal.

Material should be clearly legible – ideally type-written double-spaced on one side of white A4 paper, or submitted on CD/DVD in rich text or plain text format and accompanied by a paper copy. Only species and genera should be underlined. Authority names should be given in full. Illustrations should be in black ink; they must be originals and not photocopies. Whilst every care will be taken of original artwork, the editor can not be held responsible for any loss or damage. References should be given in full at the end of the article or note.

Authors of papers two or more pages in length will be provided with 10 reprints. Papers may be submitted to a referee.

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

Standard abbreviations used in this issue: CWT: Cumbria Wildlife Trust; IUCN: International Union for Nature Conservation; GPS: Global Positioning System; v.c.: vice-county.

For conservation status definitions (e.g. Nationally Scarce, etc) consult: *www.jncc.gov.uk/species/Species_Status_Assessment/hierarchyoflists.htm*

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**Subscription Rates**: Individual £7.00; Family £10.00; Junior/student £4.00; Affiliated £6.00 (affiliated members receive the *Carlisle Naturalist* only); visitors to meetings £3 on the door.

Membership **application forms** are available from the Secretary, Stephen Hewitt, address above.

### Winter Programme 2007/8

**10th October** *'Exploring Scotland's Alpine Flowers':* an illustrated talk by Jeremy Roberts

**24th October** *'Bee-eaters':* an illustrated talk by Prof. Hilary Fry

**7th November** Members' Night: contributions from the membership

**21st November** *'Hay Time – restoring upland meadows in the North Pennines AONB':* an illustrated talk by John O'Reilly, Ptyxis Ecology

**5th December** *'The story of the Marsh Fritillary in Cumbria':* an illustrated talk by Dr Keith Porter, Natural England

**9th January** *'Eagles of Scotland and Ireland':* an illustrated talk by Alan Fielding. A joint meeting with Cumbria Bird Club

**23rd January** *'Climate Change and Peat in the Cumbrian Pennines':* an illustrated talk by John Adamson, UK Climate Change Network

**2nd February** (Saturday) Field Meeting, Loch Ken, Galloway ('wild goose chase') Leader: Geoff Horne. Depart 9.00 a.m.

**6th February** *'Hedgehogs':* an illustrated talk by Dr Pat Morris

**20th February** *'Caddisflies':* an illustrated talk by Dr Ian Wallace, World Museum, Liverpool

**5th March** AGM & Members' Night: AGM followed by contributions from the membership