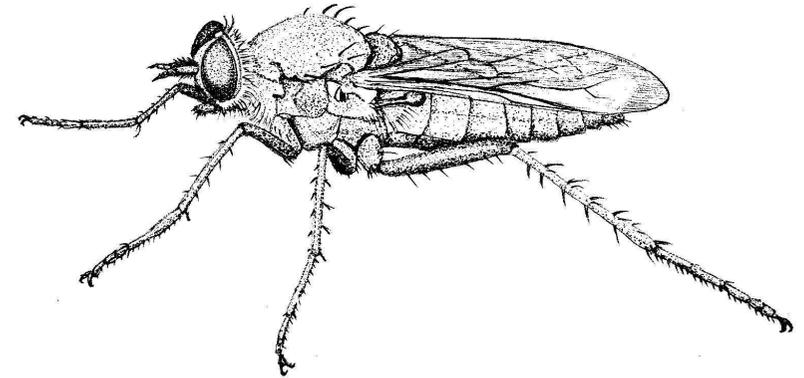

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Southern Silver Stiletto-fly

(Stephen Hewitt)

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From the Editor

Resisting the temptation to 'complain' about the weather since the last issue is hard, and it will suffice to say that the very poor summer of 2008 is reflected variously elsewhere in this issue. The stiletto-fly article covers an important piece of local research that, happily, had already been completed. We hope 2009 will be kinder to us, and to the wildlife. On a more positive note, not everything is spoilt by what are hopefully short-term variations in our climate, and there has been much of interest to report on in the Notes. It is especially good to know that first-rate discoveries remain to be made and that our membership includes the expertise to make them. Apologies to those whose contributions have been held over until the next issue.

David Clarke

Society News

It has been sad to lose Bob Buchanan and Neil Robinson this autumn. Both made outstanding contributions as members of the Society – though in entirely different ways. Appreciations are included at the end of this issue.

Additions to the Library:

Bombay Natural History Society Transactions Vol. 104 April 2007 gift from John Chakko

The Northwestern Naturalist 9 (1)(2) &(3) gift from John Chakko

The Glasgow Naturalist 25 (1) (2008) exchange from the Glasgow Natural History Society

Birds on the Farne Islands in 2007 and *Trans Nat. Hist. Soc. Northumbria* 68 (1) (2007) – exchanges with Natural History Society of Northumbria

Scottish Bird News 2001-2007 (Nos. 73, 79 & 80 missing) donated by Geoff Horne

Gibraltar & Tarifa, September 2007. Account of natural history trip by Geoff Naylor

Israel, 2008. Account of natural history trip by Geoff Naylor

Frank Mawby has given a series of local natural history periodicals, a number of national and international periodicals and reports mainly concerning shorebirds.

Mr D.W. (Bill) Kydd of Ulverston has given a number of books on entomology (chiefly Lepidoptera) and natural history, including seven volumes of *The Moths & Butterflies of Great Britain & Ireland* (Heath & Emmet, 1976-1996). A full list of titles is available on request and will be included in the catalogue of the Society's library maintained by Allen Armsby.

Museum news

The Virtual Fauna of Lakeland website (www.lakelandwildlife.co.uk) has been further developed with a new section of pages containing information on biodiversity directed at local planners. These pages will also be of interest to naturalists and conservationists interested in the rare and protected species and habitats of Cumbria. Many new photographs of Cumbrian species have been added to the site courtesy of various CNHS members.

In April we received an archive of papers, correspondence and periodicals of the late John R. Parker of Keswick, given by his daughter, Diane Martin. The archive contains a significant collection of personal correspondence concerning spiders from friends and colleagues around the world; correspondence and other items relating to the British Arachnological Society; various periodicals primarily concerned with spiders including runs of the *British Arachnological Society Bulletin* 1959-68, *Journal of Arachnology* 1976-83, *Revue Arachnologique* 1978-86; a large collection of reprints concerning spiders.

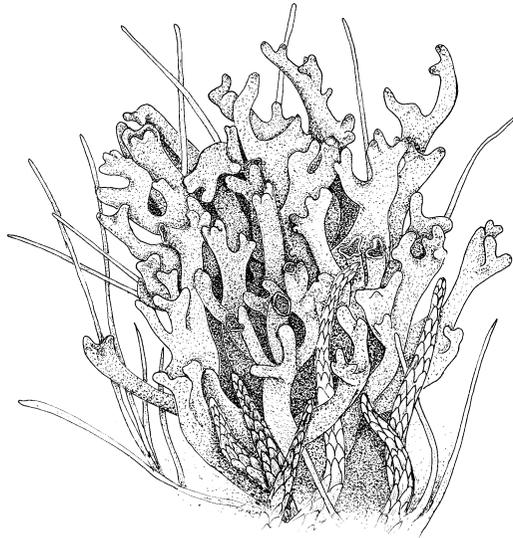
In October the Museum was given, through the good offices of Steve Doyle, a collection of c.1,000 well-provenanced butterflies and moths collected by John L. Kershaw of Barrow, collected from the Furness district in the early-mid 20th Century. The gift also includes six notebooks of Kershaw's containing chiefly Lepidopteran records for the Barrow district covering the years 1922 – 1983.

The period covered by these records is April to October 2008. Reports of field meetings – elsewhere in this issue – also contain records of note.

Beginning with birds, April to May is the time when most of our summer visitors arrive but I have, as yet, received few records other than my own (from Brampton). They are listed here, with other observers' names where applicable. **Willow Warbler** – 6th April; **Swallow** – 8th April; **Blackcap** – 9th April; **House Martin** and **Pied Flycatcher** 18th April (the latter was late this year and, unusually, I was unable to find an early male at Talkin Tarn); **Whinchat** – 22nd April (D. Iveson); **Redstart** – 25th April (also late); **Swift** – 26th April (D. Iveson); **Sedge Warbler** and **Cuckoo** – 27th April; **Common Sandpiper** and **Wood Warbler** – 30th April; **Garden Warbler** – 3rd May; **Whitethroat** – 7th May (a late date). In the fells, a flock of c. 10 **Snow Bunting** on Esk Hause on 12th April was a late date for this winter visitor and two 'trips' of four and six **Dotterel** were seen on the Cross Fell plateau on 6th May (S. Hewitt).

Other records of note are: a **White Stork** perched on Kirkoswald bell-tower on 9th April (M. & E. Clementson), a late **Goosander** at Talkin Tarn on 3rd May, where a pair of **Shovelers** on 16th May was extremely unusual at this site (G. Naylor); five **Buzzards** were seen over Stanwix on 5th May (D. Iveson) and a **Quail** calling at Finglandrigg on 1st June (G. Naylor and others) was one of several reported in the county around that time. Later, **Crossbills** were reported at a number of localities, including 107 counted in an hour at High Stand Plantation on 27th July (N. Franklin). A real rarity – an **Icterine Warbler** – visited John Miles' garden at Jockey Shield, Geltsdale on 22nd August, but did not stay. Other interesting records were a **Ruddy Duck** at Talkin Tarn on 13th September and two **Little Egrets** at Port Carlisle on 17th September (G. Naylor). A **Brent Goose** near Silloth on 20th September was also notable (D. Iveson). The highlight (bird-wise) for this period was the first Cumbrian record of **Stilt Sandpiper** (breeds Canadian Arctic): a juvenile bird was seen by D. Robson and several members during its stay on the roadside scrape at Campfield Marsh in late September. Two more recent records of note are a **Black Redstart** seen by J. Roberts and others at the field meeting at Martindale on 11th October, and a real surprise was a **Cattle Egret** a Lanercost on 18th October (M. Gardner and others).

It has not been a good season for insects. Butterflies and moths have been scarce and the weather rarely encouraged moth-trapping. April and May provided sightings of the usual early butterflies but the later months had few days suitable for these insects. **Holly Blues** were seen at Stanwix on 30th April and 24th May; three **Green Hairstreaks** at Walla Crag (Derwent Water) and a **Speckled Wood**, new to Borrowdale, near Cat Gill, on 8th May (all D. Iveson). Another garden **Holly Blue** (presumed second generation) was at Cumwhinton on 11th August (R.

Violet Coral (*Clavaria zollingeri*)

(Stephen Hewitt)

Little). A **Small Skipper** (*T. sylvestris*) was photographed near Cuddyhall, Kershope on 4th August (C. Griffiths). There is now a problem concerning the smaller skippers (*Thymelicus* sp.). It is well known that the Small Skipper has now established itself in south Cumbria and there have been recent sightings further north in the county. But the very similar Essex Skipper (*T. lineola*) has apparently been seen in Dumfriesshire. So, with any diminutive skipper it is now essential to see the colour of the under-side of the tips of the antennae and, if possible, back it up with a photograph (in Small Skipper these are orange, in Essex Skipper black). Eleven **Dark Green Fritillaries** at Mawbray Banks on 21st July (D. Iveson) was a good count for this species. Between April and the present time I have only used my moth trap on about half the number of evenings I usually do. The few highlights have been: **Lunar Marbled Brown** (3rd May); **Emperor Moth** (29th May); **Oblique Carpet** (18th & 21st August) and **Frosted Orange** in late August and early September. There was nothing of note in June and July apart from appalling weather!

Dragonflies have fared little better, but there were some interesting reports nonetheless. Despite the weather, **Emperor Dragonflies** were widely reported, with several instances of egg-laying. A freshly emerged **Black-tailed Skimmer**

(S. Garnett) at Tindale Tarn on 4th July was presumably the result of the July 2006 'invasion' there – a surprising breeding record at so upland a site. **Migrant Hawkers** (sometimes in double figures) were reported variously from 4th August onwards, especially at coastal sites, including Siddick Pond (J. Callion) and Bowness-on-Solway (N. Holton). An amazingly late **Large Red Damselfly** was still on the wing on 26th September at Manesty, Derwent Water and the same observers had found a fresh exuvia between the 17th and 21st – proof of a very recent emergence of this normally 'spring species' (L. & J. Reinecke).

Two plants of **Yellow-wort** (*Blackstonia perfoliata*) found at Brampton Junction on 24th August (G. Naylor) constitute only the second record of this species in v.c. 70 (Cumberland), the other being at Millom. The only other extant site in Cumbria is at Askam-in-Furness (v. c. 69). This is a fairly common plant in calcareous habitats further south and may have been introduced in railway ballast. Some interesting records of grassland fungi from S. Hewitt include the second Cumbrian record of the Vulnerable **Violet Coral** (*Clavaria zollingeri*) in mossy grassland on the lower slopes of Birk Fell, Ullswater on 28th September; a **Pink Waxcap** (*Hygrocybe calyptriformis*) at Hugh Scar, Pooley Bridge on 4th October was a new locality for this Cumbria Biodiversity Action Plan (BAP) species, and the UK BAP **Olive Earth-tongue** (*Microglossum olivaceum*) was seen again at one of its three Cumbrian stations – in unimproved pasture above Threlkeld on 21st October.

Finally, two **Pilot Whales** (presumably Long-finned, as the Short-finned species does not occur this far north) were observed slowly making their way towards the Inner Solway off Silloth on 7th August (G. Naylor).

Geoff Naylor

Reports of Workshops & Field Meetings

26th April: Woodlouse Workshop

Leader: Andrew Ramsey

Woodlice are common invertebrates and important members of some ecosystems. As they are something of a special interest of Andrew Ramsey, we had invited him to conduct this session and introduce us to a group that most naturalists ignore, or conveniently forget.

Andrew began with a short presentation on the structure, key identification points and general interest of these terrestrial Crustaceans. They are predominantly feeders on decaying organic matter and play a major role in speeding natural processes of decomposition and the re-cycling of nutrients to the soil. There are some 37 British species, many of which are rare or not found in Cumbria. At least sixteen are known from the county, including one restricted to rocky sea-shores. (In fresh-waters, the Common Water Louse (*Asellus aquaticus*) is a near relative of the terrestrial woodlice).

Andrew provided us with keys (Hopkin, 1991) and explained some of the technical anatomical terms used in them. There followed a practical session in which we all duly combed the Tullie House gardens for woodlice and brought them back in to test our skills, looking at specimens with hand lenses and also under the video microscope to share discussion of some features. We succeeded in finding four of the so-called 'famous five' common species: the Common Rough Woodlouse (*Porcellio scaber*), the Common Striped Woodlouse (*Philoscia muscorum*), the Common Shiny Woodlouse (*Oniscus asellus*) and the tiny armadillo-like Common Pigmy Woodlouse (*Trichoniscus pusillus*).

After lunch we travelled out to Andrew's place of work, the University of Cumbria, Newton Rigg Campus, Penrith. Here we hoped an extensive search of a variety of microhabitats on the campus might yield more species. We found plenty of woodlice, though rather surprisingly we could not add to the tally of species. However, it was good to be able to use the excellent microscopes and other facilities there and get even better views of the 'catch'. It also gave each of us more confidence in identification – and the opportunity to discuss any apparently 'problem' individuals that at first sight did not quite fit the keys. Andrew generously offered the University laboratory and library facilities for future projects – and presumably yet further opportunities to don white lab-coats and become a scientist for a day!

David Clarke

Reference

Hopkin, S. (1991) *A key to the woodlice of Britain and Ireland* [AIDGAP guide no. 204]. Field Studies Council, Shrewsbury.

10th May: Siddick Ponds

Leader: Tim Lawrence (morning only)

To many, if not most, of the members who attended, this was a new venue. The ponds consist of a large freshwater lake and a smaller brackish pond which can flood at high tide. Their formation took place during the retreat of glaciers at the end of the last ice age. We were introduced to the largest reed bed in Cumbria; indeed from our initial viewpoint there appeared to be more reed than water, but there was much more open water at the north end. The site suffers quite badly from disturbance, being crossed by a busy cycleway and there are also problems with litter, and illegal fishing and shooting. It is a particularly important site for winter wildfowl and also notable for a wintering population of Bitterns. Bitterns were not in evidence during our visit, but there were other waterfowl comprising Mallard, Pochard, Tufted Duck, Little and Great Crested Grebes (the latter nesting), also feral Greylags with goslings, several Grey Herons plus Coot and Moorhen.

There was much bird song to be heard and the following were identified amongst commoner resident species – Reed Bunting, Chiffchaff, Willow Warbler, Sedge Warbler, Blackcap, Whitethroat and Reed Warbler with good views of some. Reed Warblers here are at their northern limit in Cumbria with few other sites in the county. A pair of Mute swans were nesting, and, surprisingly, a pair of Ravens had a nest on an electricity pylon on the east side, thus adding to the recent trend for Ravens to inhabit lower ground.

Insect enthusiasts noted Orange Tip and Small White butterflies and a single Small Tortoiseshell was seen. Both Large Red and Blue-tailed Damselflies were freshly emerged. Some hoverflies and a 2-spot Ladybird were added to the list. Botanists too were kept busy with a steady stream of fairly common plants now coming into flower. Most notable of these was probably Kidney Vetch which is the food plant of the Small Blue butterfly which has a colony nearby. Perhaps it will show up there one day.

After our walk at the site, the group split up somewhat but the main party decided to go to Maryport for lunch on the beach. This proved to be a good decision: we came across several Ringed Plovers and Oystercatchers which were probably nesting there. There was also party of over 100 Sanderling with a dozen or so Turnstones and single Knot and Dunlin. Offshore, Sandwich Terns were noted and a Common Scoter was seen by some. There was plenty of botanical interest as well with Sea Campion, Sea Sandwort, Sea Radish and Sea Kale in flower and Sea Holly and Sea Spurge also identified.

We then continued northwards to Mawbray Banks, hoping to find Little Terns. The beach revealed a large flock of, mostly immature Herring Gulls, some offshore Red-breasted Mergansers, a few Shelduck and a Stonechat on a fence.

There were no Little Terns there but we were rewarded later when four flew past heading south. A walk through the dunes produced a Whinchat and an unexpected specimen of Meadow Saxifrage in flower. A large flock of Oystercatchers was disturbed from further down the beach and amongst them a Whimbrel was heard, though not seen. Finally we stood, watched and listened to Willow Warbler, Whitethroat and Sedge Warbler singing in a small patch of bushes. The last gave a fine enthusiastic performance with frequent song-flights and some mimicry.

Despite some light rain in mid-afternoon, a memorable day out.

Geoff Naylor

31st May: Mabie Forest/Solway Coast

Leader: Geoff Naylor

For most of the twelve members who attended this field meeting it was their first visit to the Mabie Forest. This area is owned by the Forestry Commission and is situated just off the A710 south west of Dumfries. It has been developed to offer various recreational facilities including mountain bike routes, adventure playground, picnic spots and a variety of walking trails. As we assembled in the main car park, the first butterfly of the day was seen – a Comma. We set out, crossing bridge over the Mabie Burn and headed off on the Lochaber Walk. The first part of the walk took us along the edge of a wood, mainly of Beech, adjacent to an open meadow area. The woodland edge flowers included Green Alkanet (*Pentaglottis sempervirens*), Yellow Pimpernel (*Lysimachia vulgaris*), Greater Stitchwort (*Stellaria holostea*), as well as two sedges, Remote (*Carex remota*) and Wood (*C. sylvatica*). A good growth of the thallose liverwort *Metzgeria furcata* was pointed out for us on a Beech tree. Various birds were heard singing including Blackcap, Goldcrest, Garden Warbler and a family of Tree Creepers. A shieldbug-like beetle with a reddish head and flattened brown abdomen was later identified as the Red-breasted Carrion Beetle (*Oiceptoma thoracicum*). As we continued up the path there were large drifts of Woodruff (*Galium odoratum*) and the air was scented with a strong garlic smell from the Ramsons (*Allium ursinum*). Ferns seen included Beech Fern (*Phegopteris connectilis*), Broad Buckler (*Dryopteris dilatata*) and Scaly Male Fern (*Dryopteris affinis*).

Leaving the woods we entered an open, felled area that was starting to regenerate with scrub. This looked to be a good area for butterflies though few were to be seen, with the exception a few Small Heath. Alongside the path we saw various sedges, including Yellow Sedge (*C. viridula*), Green-ribbed Sedge (*C. binervis*) with its dark folded leaves and sheathing bract, Pill Sedge (*C. pilulifera*) and Glaucous Sedge (*C. flacca*). Other plants included Heath Bedstraw (*Galium saxatile*) and Heath Milkwort (*Polygala serpyllifolia*). Jeremy got a view of a Common Lizard before it

scurried off into the undergrowth. Brian and David, at the front of our group, surprised a Roe Deer, which rapidly disappeared before the rest of us arrived. Following the path further down hill we came to Dalshinnie Loch. This is a well-vegetated lake that is dammed at one end. Stands of Water Horsetail (*Equisetum fluviatile*) covered the shallower part of the lake and this gave way to Broad-leaved Pondweed (*Potamogeton natans*) in the deeper centre. At the far end of the lake was a stand of Bottle Sedge (*C. rostrata*) and a boggy area where Bog Myrtle (*Myrica gale*), Northern Marsh Orchid (*Dactylorhiza purpurella*), Bog Pondweed (*Potamogeton polygonifolius*) and Marsh Pennywort (*Hydrocotyle vulgaris*) as well as the Lemon-scented Fern (*Oreopteris limbospernum*), were present. Binocular scanning of the water revealed that plenty of Large Red and Azure Damselflies were present. Also flying along the swampy water edge were several Four-spotted Chaser dragonflies. Retracing our steps back to the car park, we passed through the area of heath and were able to add the Small Pearl-bordered Fritillary to our list, along with Common Heath Moth, Green-veined White and Peacock butterflies. A Whitethroat was heard singing.

After lunch we got into cars and headed for the Solway coast, stopping at Southernness. From the rocks by the water's edge we got good views of Turnstones, Oystercatchers, Dunlin and Sandwich Terns. Further out at sea, Common Scoters and a Red-throated Diver were seen. The rock pools also provided much interest, with many hermit crabs scurrying about. Jeremy pointed out to us the two types of barnacle *Semibalanus balanoides* and *Chthamalus montagui* on the upper shore, and the various seaweeds including Bladder Wrack (*Fucus vesiculosus*) and Channel Wrack (*Pelvetia canaliculata*). Further down the beach where there were mussel beds was the Knotted Wrack (*Ascophyllum nodosum*).

After we returned to the car park some people left for home but a small group of us went on to the Mersehead RSPB reserve. It was beautifully peaceful in the sunny late afternoon as we walked down to the new hide. The path was hedged with *Rosa rugosa*, the flowers of which perfumed the air. The view from the hide included a large dry area showing how little rain we had had of late. However, we were provided with good sightings of Lapwing, Pied Wagtail, Shelduck and Canada Geese, to name but a few. It made a pleasant end to quite a long day.

Thanks go to Geoff for leading us on this venture to the northern side of the Solway.

Marie Saag

7th June: Teesdale flowers

Leader: Jeremy Roberts

The members of the group who met at the college made a brief stop on the outward journey at a known site for Black Grouse near the Langdon Beck Hotel,

where nine birds were seen.

Altogether there were twelve members plus the leader at the meeting point at Harwood Beck, and we set off at a gentle pace towards Widdybank Farm looking at the various birds and plants along the way.

A good density of ground-nesting birds took to the wing in alarm as we approached, indicating young on the ground. There were Redshank, Curlew, Lapwing, Oystercatcher, Meadow Pipit and Skylark.

Very noticeable was the purple form of Mountain Pansy (*Viola lutea*) which was flowering in abundance; Bird's-eye Primrose (*Primula farinosa*) had almost finished flowering. Early Marsh-orchid (*Dactylorhiza incarnata*), Northern Marsh-orchid (*D. purpurella*), Marsh Lousewort (*Pedicularis palustris*), Common Butterwort (*Pinguicula vulgaris*) and Marsh Hawk's-beard (*Crepis paludosa*) were also in flower. Sedge species included *Carex flacca*, *panicea*, *caryophyllea*, *hostiana*, *rostrata*, *demissa*, *nigra*, and the False Sedge (*Kobresia simpliciuscula*) which in its fruit structure looks like a 'missing link' between the 'true sedges' (*Carex*) and the rest of the sedge family (club-rushes, cottongrasses, etc.).

We left the roadway near the farm to reach the River Tees at 'Cetry Bank'. This is a unique area of glacial boulder-clay with included limestone boulders, subject to seepage of lime-rich water, and maintained in a constantly-eroding state by the river. This provides ideal conditions for a suite of calcicole plants, including some of the 'relict' Teesdale specialities. With care we made our way along the bank and Jeremy pointed out Mountain Everlasting (*Antennaria dioica*), Rock Rose (*Helianthemum nummularium*), Alpine Bartsia (*Bartsia alpina*), Scottish Asphodel (*Tofieldia pusilla*), Marsh Arrowgrass (*Triglochin palustris*), Lesser Clubmoss (*Selaginella selaginoides*), Spring Sandwort (*Minuartia verna*) and the tiny Hair Sedge (*Carex capillaris*).

Further along the bank Jeremy showed the group a Ring Ouzel nest with four eggs which he had found on his previous visit. Sadly it had been disturbed, as the unbroken eggs were lying out of the nest.

The meadows here are relatively unimproved and give a wonderful display of meadow flowers and grasses.

With the aid of a field guide which Jeremy had produced we studied the alchemillas. The Teesdale alchemillas have similarities with those found in Scandinavia. Using the key in the guide we were able to identify *Alchemilla glabra*, *A. wichurae* and *A. monticola*. *Alchemilla acutiloba* and the garden-escape *A. mollis* were identified later near the Langdon Beck Hotel. Although they often grow in close proximity to each other alchemillas do not hybridise, since seeds in this genus are produced by an internal process which does not involve pollination.

We drove to the car park at Cow Green Reservoir and walked along the track towards the river, seeing Hair Sedge (*Carex capillaris*) growing in amazing profusion along the verge. A few plants of Moonwort (*Botrychium lunaria*) were seen as well as Fir Clubmoss (*Huperzia selago*) and Lesser Clubmoss (*Selaginella selaginoides*).

We walked as far as an enclosure by the track where it was noticeable that the plants were doing well in the absence of sheep grazing. The Spring Gentians (*Gentiana verna*) had finished flowering; Alpine Bistort (*Persicaria vivipara*) was doing extremely well, as was a group of between twenty and thirty Moonworts. The leaves of the Teesdale Violet (*Viola rupestris*) were found, but there was no sign that it flowered this year. Other plants included curious juxtapositions such as Northern Bedstraw (*Galium boreale*), Bulbous Buttercup (*Ranunculus bulbosus*), Sea Plantain (*Plantago maritima*) and Wood Anemone (*Anemone nemorosa*).

A pair of Ringed Plovers was seen by the shore of the reservoir, and Golden Plovers were heard calling, and seen on the skyline at various points. Red Grouse were present in the heather.

It was noticed that there were no birds of prey nor even any crow species to be seen. It would appear that they are not given the chance to settle in the area because of possible impacts upon the grouse.

We encountered a herd of Galloway cows and calves running with a Whitebred Shorthorn bull. Harry Kay explained that this cross produces Blue-grey cattle which are good milkers and produce good meat, and they survive well on upland pasture. It seems the Whitebred Shorthorn is becoming a scarce breed.

The report would not be complete without mentioning the swathes of Globeflower (*Trollius europaeus*), Marsh Marigold (*Caltha palustris*) and Meadow Buttercups (*Ranunculus acris*) which filled some of the meadows, quite lovely to see in such profusion.

Altogether a very interesting and informative outing in which we all extended our knowledge of the area and its wildlife.

A special thank-you to Jeremy for producing an excellent guide to the alchemillas and for imparting his enthusiasm and extensive knowledge of this wonderful area.

Dorothy Iveson

20th June: Gowk Bank NNR, upper Irthing

Leader: David Clarke

A 'frustration field meeting' in which four of us elected to visit an alternative destination – the original destination (Colvend) having been abandoned owing to cool conditions and forecast of heavy rain by lunchtime.

This was perhaps an optimum date for seeing the best of the flora of this beautiful

upland meadow site. We found most of 'the usual suspects' amongst the flowers, including a good selection of sedges and the six species of orchid. The highlight was nine flowering spikes of the Small White Orchid – more than in recent years, and good a showing of Frog Orchid on the slippage bank. Fragrant Orchids were just coming into flower, Globe Flowers were still frequent, there were drifts of Wood Crane's-bill, and Melancholy Thistles were just coming into bud.

The predicted rain duly arrived just after mid-day, but not before we had time for a very pleasant leisurely circuit of the NNR.

For a fuller account of the plants occurring here see, for example, *Carlisle Naturalist* 11 (2), p 28.

David Clarke

19th July: Scaleby Moss

Leader: David Clarke

After initial hesitation due to the unpromising weather forecast, nine members set off for Scaleby Moss SSSI near Carlisle. This privately owned site was originally a raised peat bog which has had a subsequent history of peat extraction, and is now notable chiefly for its population of White-faced Darters.

The first point of interest was botanical – Jeremy Roberts pointed out the clumps of the Labrador Tea (*Ledum groenlandicum*). This rhododendron relative is found in only a handful of sites in the UK and its status as a native plant is very doubtful. There were several smaller bushes, suggesting active spread by seed from the more mature bushes.

Reaching the ponds, a brief spell of sunshine allowed us to capture some dragonflies. David showed us a White-faced Darter at close quarters, also Common Blue and Emerald Damselflies. He also pointed out the identification differences between Common Blue Damselfly and the similar Azure Damselfly. A Four-spotted Chaser dragonfly was also observed in flight. White-beaked Sedge, Bog Asphodel and Round-leaved Sundew were noted near the ponds, and a couple of Large Heath Butterflies were seen.

Moving on to the large, and only remaining water-filled old peat-cutting, we searched for exuviae of White-faced Darter – finding only one specimen, perhaps due to their removal by recent stormy conditions. We compared this with exuviae of Black Darter and Common Hawker. The demonstrative Stonechats had evidently reared a brood near here. A freshly emerged Black Darter was examined and a possible Emperor Dragonfly was seen in flight before the heavens opened and we sought shelter for lunch. Returning to the cars, a Common Lizard was briefly seen and we stopped to admire a newly-emerged Common Hawker –

adding to a good list of Odonata and a very enjoyable field trip.

As usual, the local landowners were very helpful with access and parking arrangements.

Robin Hodgson

22nd August: Finglandrigg Wood – Moth Night

Eight Society members were present for a cool, dull, breezy evening session in Finglandrigg Wood. Three light traps were set up: one at the western end of the wood by Mike Clementson, one amongst the heath and Scots Pine on Little Bampton Common by Liz Still and the other amongst the oak/birch woodland of Brownrigg Plantation by Russell Gomm in Taylor's Field – the small meadow surrounded by America Plantation. Not surprisingly it was a 'slow' evening with only relatively small number of insects coming to the light. The traps were run from about 9.30 pm until 11.30 pm.

Thirty-two species were identified, most of them quite common to the area. The most abundant was the Common Marbled Carpet, which frequents several habitats and has several larval food plants. Less common species were the Copper Underwing and the Yellow-tail. Waring *et al.* (2003) indicate these are probably on the northern limit of their range in north Cumbria.

The following species are new records for Finglandrigg Wood NNR:

Small Phoenix <i>Ecliptopera silaceata</i>	Garden Carpet <i>Xanthorhoe fluctuata</i>
Common Marbled Carpet <i>Chloroclysta truncata</i>	Copper Underwing <i>Amphipyra pyramidea</i>
Lesser Yellow Underwing <i>Noctua comes</i>	<i>Argyresthia goedartella</i>
Broad-bordered Yellow Underwing <i>Noctua fimbriata</i>	<i>Agonopterix arenella</i>
Barred Chestnut <i>Diarsia dahlii</i>	<i>Cydia spendana</i>
Small Square-spot <i>Diarsia rubi</i>	<i>Ypsolopha parenthesella</i>
The Dun-bar <i>Cosmia trapezina</i>	<i>Blastobasis lacticolella</i>
Rosy Rustic <i>Hydraecia micacea</i>	<i>Blastobasis adustella</i>
Flame Carpet <i>Xanthorhoe designata</i>	<i>Bactra lancealana</i>

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Frank Mawby

Notes and Records

Downy Emerald dragonflies (*Cordulia aenea* (L.)) emerging on boulders at Derwent Water, Cumbria

We have found Downy Emeralds at Derwent Water since May 2006, although they were previously unknown on this lake. They emerge at sheltered bays on the south-west side of the lake where there is deep water and usually some emergent/fringing vegetation and trees.

Most exuviae are found on vegetation, but on 25th May this year two, one containing a dead emergent, were found on mossy boulders in Myrtle Bay, despite an abundance of suitable plant supports; both were on the sheltered north-west facing side of boulders but were high enough to receive some mid-day sun.

On 4th June, in Victoria Bay, all but two of the sixteen exuviae we found were on mossy boulders. Further searches revealed another nine on boulders not far from the first site. With low water levels due to lack of recent rain, there was virtually no vegetation here that larvae could use, but the heavily moss-encrusted boulders on the exposed gravelly shore made a very good supports for them, as well as for Common Blue Damselflies (*Enallagma cyathigerum*) – of which there were hundreds, if not thousands, of exuviae and emergents on the boulders. We were surprised to find the exuviae on what appeared to be quite shady parts of the boulders, not facing the morning sun or the lake. We wondered whether shelter from the wind was a more important requirement – and the present season had prevailing gusty easterly winds for several weeks at this time. Another possibility is that insects emerging in the morning on the shaded sides of boulders would be less conspicuous, and thus less vulnerable to bird predation.

The total number of Downy Emerald exuviae found by 4th June was around 175 – the most ever. The earliest finds of exuviae this season were on 11th May – nine days later than the first date in 2007, which had had a much warmer April.

Linda & John Reinecke, Scawdel, Grange-in-Borrowdale, Keswick CA12 5UQ
Mo Richards, No 1 The Cottages, Tilberthwaite Ghyll, Coniston LA21 8DG

Broad-leaved Helleborine (*Epipactis helleborine* (L.) Crantz) in Miltonrigg Wood

A striking feature of the 2008 season has been the sudden appearance of Broad-leaved Helleborine in some abundance in areas of Miltonrigg Wood, near Brampton, where I had not previously seen it. About 70 plants were found along path-sides in the middle of the wood during August.

Gravel paths were created by the Woodland Trust about 10-15 years ago after the

Trust acquired the site, and it is surely significant that almost all plants found have been associated with the developing soils at the edge of these paths.

It seems likely either that seed arrived with the gravel from a distant source, or that over several years the gravel has become incorporated into the soil, and provided a suitable substrate – perhaps in the form of drainage and/or minerals – for colonisation by seed from more local colonies: plants have been seen at the edge of the A69 along the northern boundary of the wood, within a few hundred yards, and in the past along old tracks in the western part of the wood.

Whilst mapping the position of the helleborines I came upon two Bird's-nest Orchids (*Neottia nidus-avis*), also on a trackside – a new area – the nearest known plants being some 500 m away.

Geoff Naylor, 2 Fell View, Milton, Brampton, Cumbria CA8 1JE

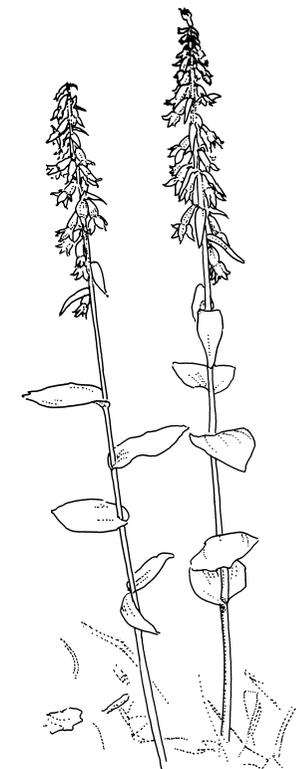
Green-flowered Helleborine (*Epipactis phyllanthes* G.E. Sm.) in north Cumbria

The 2008 season seems to have been particularly good for the growth of *Epipactis* helleborines. Geoff Naylor mentioned that many Broad-leaved Helleborines had appeared in parts of Miltonrigg Wood, near Brampton, in places where he had not seen them previously (see previous note), and Mike Porter also had reports of this species from new areas.

With Geoff's find in mind, I happened to spot some helleborines along a shady roadside on 17th August 2008, also in the Brampton area.

These plants were however clearly not Broad-leaved Helleborines, having much narrower and sparser leaves, arranged alternately up the stem and not spirally, and the flowers very different, drooping at all stages of development, and not fully opening even when mature. The developing seed-capsules and the apex of the stem were almost hairless.

The labellum, or lowermost of the three inner petals, was distinctive. The 'epichile' – the outer part of the labellum – was rather long and



Green-flowered Helleborine

pointed, pale green and close in colour to the two upper petals – and projecting outwards, rather than angled downwards (‘recurved’). The ‘hypochile’ (the bowl-like hollow from which the lip projects), was rather small, and green inside – usually purple in other species.

These characters all pointed to Green-flowered Helleborine (*Epipactis phyllanthes*), a species known from two sites in Northumberland to the east and northeast of this site – one on lead-mine spoil, and the other on a valley lateral moraine (Swan, 1993) – but previously known in Cumbria only on sand-dunes in the southwest, at Sandscale and North Walney (Halliday, 1997). Michael Foley kindly confirmed my identification from e-mailed photos.

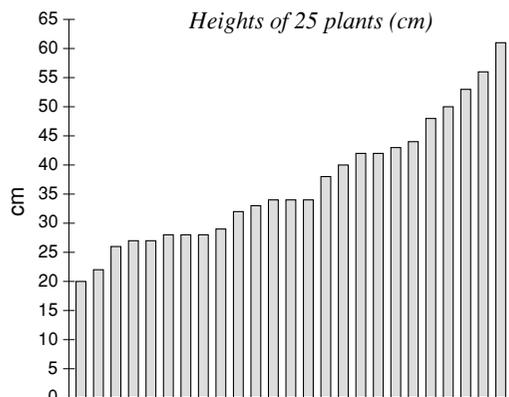
Thirty plants were counted, scattered over a distance of about 100 m along the laneside, in the shade of Beech trees, growing from leaf-litter, in a very sparse vegetation consisting of little more than the following associates:

Bracken (*Pteridium aquilinum*); Bramble (*Rubus* sp.); Bush Vetch (*Vicia sepium*); Hairy Bittercress (*Cardamine hirsuta*); Colt’s-foot (*Tussilago farfara*); Common Enchanter’s-nightshade (*Circaea lutetiana*); Honeysuckle (*Lonicera periclymenum*); Nettle (*Urtica dioica*)

A feature of the colony was the vigour of some plants. Heights of 25 plants were measured, and graphed as in the figure below. Professor John Richards, BSBI referee for this genus, to whom I e-mailed photographs, remarked that – with several plants over 45 cm – the tallest were the largest he had ever known!

This species is notoriously variable, and there are several recognised varieties, largely separated on the form of the lower lip of the flower (Young, 1962). I e-mailed Professor Richards some close-up photos of the flowers, and later also ones of a dissected flower, with all perianth segments removed except the lower lip (see figure overleaf). He identified these as variety *vectensis*, which to the best of his knowledge had not previously been reported north of south Yorkshire.

The lip of this variety has the hypochile (bowl) rather small, to 3.5 mm, and the epichile longer and elongated (Foley & Clarke, 2005). Flowers measured from this colony have the hypochile about 2.5 mm across and the epichile about 5.2 mm long.



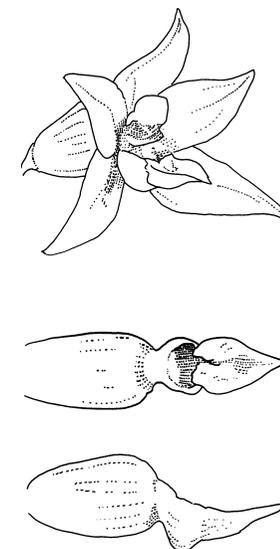
Variety *vectensis* is associated in its southern localities with Beech, as also here. Remarkably, two more ‘new’ colonies of *Epipactis* were found in the north of the county in 2008, both of which may prove to be Green-flowered Helleborine, although their identification is not yet confirmed.

Ron Groom found two helleborine plants in tight bud by the River Eden near Lacy’s Caves, south of Kirkoswald, in late July. Linda Robinson later found a third plant nearby. I did not hear about this find until 19th August, and – fearing that the flowers, essential for identification, might already be over – Margaret and I visited the site the same day. In the event our fears were realised, and although we found a further three plants, there was between the six plants only a single flower not yet finished. Photos of this flower and of representative plants were sent to Professor Richards, who thought that these plants too appeared to be Green-flowered Helleborine.

The plants were growing on a bank in mixed woodland within a few metres of the river on a clayey soil, although there was evidence nearby of minerals – perhaps gypsum from old workings or railway sidings – which might have been an influence on the soil at the site.

Yet another new helleborine site emerged a few days later. Linda Robinson and Marie Saag had been checking some pools in High Stand Plantation near Cotehill for water-plants as part of an on-going survey of water-bodies in the county by Cumbria Wildlife Trust. They also found several large plants of Broad-leaved Helleborine in the woods near the pools – a species I had never seen in the plantation.

On 23rd August, Margaret and I found only a single Broad-leaved Helleborine in the general area indicated, but Margaret soon located a colony of at least forty helleborines, apparently separate from any of the plants found earlier by Linda and Marie. All were in ripening fruit, and on vegetative characters again looked much like Green-flowered. These were on the top and steep side of a low ridge, probably of spoil from the original excavation of the nearby pools, and under various trees including conifers, birch and elm.



Upper: open flower/ovary (peristome segments opened out to expose lower lip)
Lower: top and side views with all peristome segments removed to expose lower lip

The chance to confirm the identity of these two further colonies, when – and if – the plants flower next season, is eagerly awaited! One worry is that if this season has indeed been exceptional for the growth of these plants, the plants may not appear at all, or be less well developed, in other seasons.

An interesting feature is that all the plants seen were mature flowering specimens, and no immature ‘blind’ plants were found. One wonders if this is because until this year the plants have been developing, and then persisting, underground, without emergence, nourished purely by their fungal partner, awaiting ideal conditions (whatever those may be). When these occur – as perhaps in this year – the result is the simultaneous emergence of fully developed plants.

According to Professor Richards (pers. comm.), individual Green-flowered Helleborine plants rarely flower in more than one year, and hence may in some circumstances behave in a ‘monocarpic’ fashion (maturing over several years to a flowering and fruiting plant, which then dies). Many colonies of Green-flowered Helleborine seem to persist for only about thirty years or so before disappearing (Richards, 1994): it will be interesting to follow the fortunes of these ‘new’ colonies.

Jeremy Roberts, Eden Croft, 2 Wetheral Pasture, Carlisle CA4 8HU

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Distribution of stiletto-flies, including the UK Biodiversity Action Plan Southern Silver Stiletto-fly (*Clorismia rustica* (Panzer)), on the River Eden in Cumbria

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John Parker, 16 Brunswick Road, Penrith CA11 7LT

Introduction

The importance of Exposed Riverine Sediments (ERS) for invertebrate conservation has been widely established in recent years. Studies in Cumbria by members of Carlisle Natural History Society (Hewitt *et al.*, 2000, 2005 and 2007) have demonstrated the national significance of sites on the Eden catchment for invertebrate communities of ERS. Two of the more high profile specialist ERS invertebrates found in Cumbria are the Nationally Rare (Red Data Book 3) stiletto-flies, *Spiriverpa lunulata* (Zetterstedt) and *Clorismia rustica*. *C. rustica* is of particular interest as it is also on the list of Priority Species in the UK Biodiversity Action Plan. *S. lunulata* was also included in the UK BAP, but was removed from the list in the review of June 2007. However, the species remains a good indicator of high quality ‘in-channel’ ERS sites. This article is based on a study undertaken for the Environment Agency (Hewitt & Parker, 2008a).

Stiletto-flies are furry-bodied flies belonging to the Dipteran family Therevidae. They generally occur in dry, open and sunny localities such as sand dune systems, river banks, heathland and open woodland. Their larvae are specialised predators that actively ‘swim’ through dry, friable substrates in search of other insect larvae upon which they prey. It is probable that they detect and home-in on the vibrations caused by their prey moving through the substrate. There are 14 species of stiletto-fly in Britain, of which six are found in Cumbria. Different species are found in different areas and situations, depending on differing climatic tolerances and larval habitat preferences.

S. lunulata was first discovered in Cumbria in 1998 (Hewitt, 1999) and a series of successful surveys of ERS invertebrates in Cumbria undertaken by members of this Society (Hewitt *et al.*, *op. cit.*) resulted in the discovery of several populations of this fly on riverine shingle banks in the county. All but one of these are on the Eden and its tributaries, with the River Liza in Ennerdale providing the only other known location for the species in Cumbria.

Before the present study, *C. rustica* had been reported twice in Cumbria: once on the Irthing at Newby East in 1986 (Key & Parsons, 1989) and once on the Eden at Nunnery Walks in 1995 (Hewitt, 1995). *C. rustica* has been considered a rare

species with a distribution centred on the Welsh borders and also on sandy rivers in Surrey and Sussex (Stubbs & Drake, 2001). These Cumbrian records were considered to represent the northern extremities of the species' UK range.

A third species of stiletto-fly has also been recorded along Cumbrian rivers: *Thereva nobilitata* (Fabricius) is a widespread, generalist species whose larvae develop in dry, friable substrates in a variety of situations, including sand dunes, wood-mould in dead wood, sandy heathland, sandpits and riparian sand deposits.

The recent surveys of ERS invertebrates in Cumbria failed to find any examples of *C. rustica* in the county. This omission suggested that the species' habitat requirements are other than those found on the 'in-channel' ERS studied in the Cumbrian work. In 2005 we initiated a specific search for *C. rustica* on the Eden catchment.

Methods

Studies by Skidmore (2001) and Drake (2004) in south Wales established that the larvae of *C. rustica* have a preference for areas of sandy riverbanks with some open sand and a little herbaceous vegetation nearby. Using this information, which tallied with experience of the Nunnery Walks site, we targeted areas of loose sand along riverbanks of the Eden and Irthing. The description of the larval habitat appeared broadly similar to that of Yellow Star-of-Bethlehem (*Gagea lutea*), a plant of restricted distribution on sandy riverbanks in Cumbria. Jeremy Roberts kindly gave directions to a number of locations for the plant, providing an initial focus for our search for the stiletto-fly in 2005. Skidmore (2001) and Drake (2004) also found *C. rustica* larvae on sandy riverbanks where stock trampling had broken up the sward to create areas of loose sand. Accordingly, we also searched for larvae in such situations on the Eden.

Therevid larvae were searched for by hand-sifting sandy deposits on riverbanks from April to August. Although larvae can be found throughout the year, they are more readily found and reared during this period. Adults were searched for by sweep-netting vegetation around suitable sandy substrate along riverbanks during the flight period from June to August.

Adults and/or larvae of *C. rustica* were found on the Eden at four locations in the Eden Gorge in 2005 (Hewitt *et al.*, 2007) and building on these results, a wider survey for larvae was conducted on the whole Eden catchment in 2006 and 2007.

The object of the present study was to locate populations of *C. rustica* and it did not therefore target the 'in-channel' deposits used by *S. lunulata*. That said, where potential *C. rustica* habitat on riverbank sand deposits was adjacent to, or graded

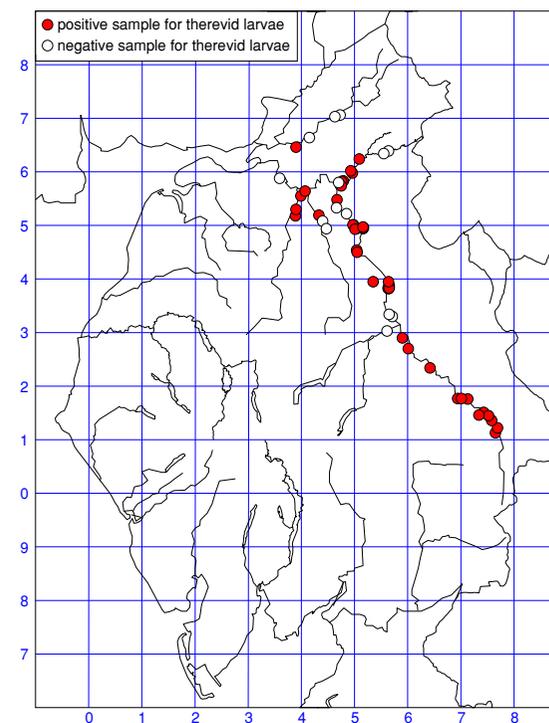
down into in-channel ERS deposits, then sampling for larvae was extended onto the in-channel deposits to provide information on the habitat limits of *C. rustica* and allied species.

Stiletto-fly larvae are not easily identified to species and must be reared to adulthood in order to establish specific identity. Larvae collected were reared in 10 cm diameter by 15 cm high clear plastic pots with snap-on lids containing a 2–3 cm depth of sand. The sand was kept very slightly moist by adding a few drops of tap water as required and the larvae were fed bluebottle (*Calliphoridae*) maggots. One maggot per larva per week throughout the summer was sufficient. Larvae kept over winter were kept cool and not fed until the following spring. Large stiletto-fly larvae collected in spring and early summer were reared with the greatest success, generally pupating and emerging as adults within a few weeks. Those collected small and/or late in the season often failed to pupate the same year and had to be kept over winter, leading to higher rates of mortality.

Results

51 sand deposits were sampled for therevid larvae on the Eden catchment. In addition, four riverbank fluvial sand deposits on the River Lyne in the north east of Cumbria were also surveyed. Map 1 shows the distribution of localities visited during the survey and indicates those at which stiletto-fly larvae were obtained.

77 therevid larvae were reared from 27 ERS deposits on the Eden catchment and one stiletto-fly was reared from a single sand deposit on the Lyne. In addition, adult therevids were recorded



Map 1. Distribution of sample sites indicating those at which therevid larvae were obtained.

from a number of sites on these rivers.

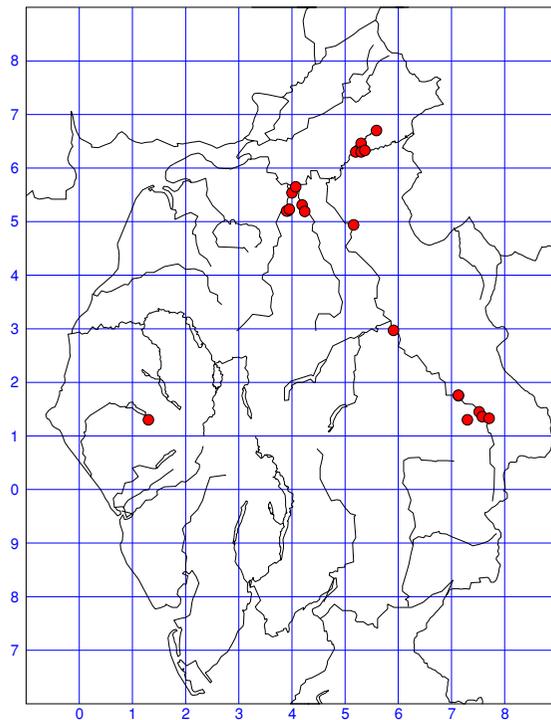
Two distinct types of ERS deposit supporting stiletto-fly larvae were identified:

- a) mature, in-channel deposits forming typical riverine sand and shingle-banks and
- b) sand deposits dumped high up on riverbanks during flood events.

S. lunulata was the only species reared from in-channel ERS, whilst *C. rustica* and *T. nobilitata* were only reared from riverbank sand deposits. Whilst the in-channel sand and shingle-banks are recognised and obvious features of spate rivers, the deposits of sand on riverbanks can be small and inconspicuous. They most frequently occur on riverbank shelves or bank-tops where flood waters slow in wider flows, and particularly where there is a constriction or deflection to flow, such as a bridge or rock outcrop, which slows the current causing sand to be deposited. These sand deposits often become vegetated as the season progresses, either with annual plants such as Himalayan Balsam or with perennials such as butterbur (*Petasites hybridus*), making them hard to detect during the summer months.

Therevids on in-channel ERS deposits

Adults of *S. lunulata* were reared from larvae collected at six sites in this survey, all of which are new locations for the species. Four of these deposits (R. Caldew at Nelson Bridge, R. Petteiril at Carleton and the River Eden at both Eden Flatt and Far Bank End) were typical in-channel ERS, where the larvae were found in sand patches on the higher areas of the shingle-banks. The only identified larvae of *S. lunulata* not found in in-channel ERS were single specimens found and subsequently reared from



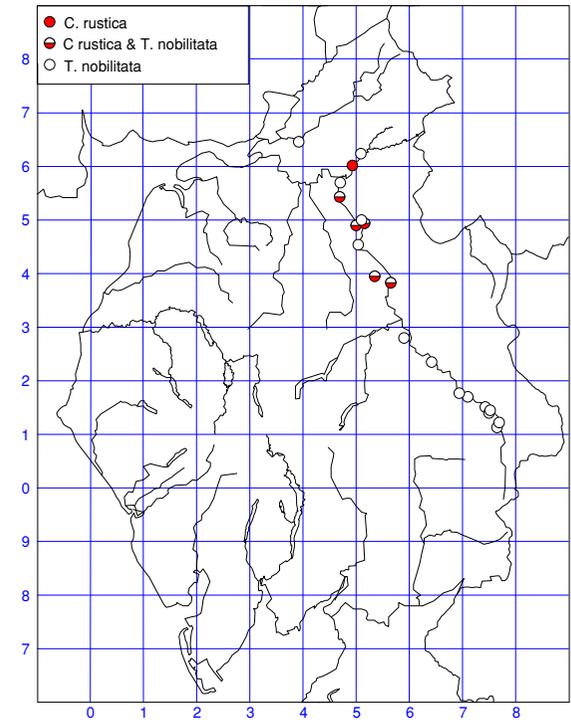
Map 2. Distribution of *Spiriverpa lunulata* in Cumbria

fluviially deposited sand on river banks at Rickerby Park and Hawkcliff Scar. These larvae were probably washed into these sites from suitable in-channel ERS deposits during floods. However, *S. lunulata* is known to occasionally develop in non-ERS sand deposits elsewhere in Britain (Hewitt & Parker, in prep.) where these occur close to established populations on good in-channel ERS habitat. It could therefore conceivably be that these specimens were the result of direct oviposition on these sub-optimal sites for the species.

Therevids on riverbank fluvial sand deposits

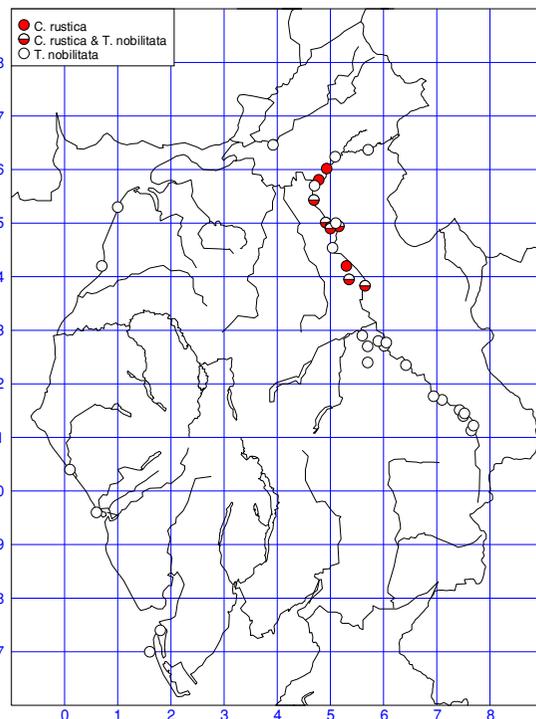
Therevid larvae were reared and identified from 25 out of 45 river-bank sand deposits sampled along the length of the Eden main stem from Carlisle to Kirkby Stephen and along the Irthing from Newby East to Irthington. Although apparently suitable sand deposits were sampled at Kirkandrews on Eden, no therevid larvae were found downstream of Carlisle. Four river-bank sand deposits were sampled on the R. Lyne, only one of which yielded any therevid larvae. All but two larvae identified from these sites were either *C. rustica* or *T. nobilitata*. The exceptions were single larvae of *S. lunulata* from two sites discussed above.

Map 3 shows the distributions of *C. rustica* and *T. nobilitata* larvae reared in this study and Map 4 (overleaf) shows all records of the two species in the county. It is apparent that *C. rustica* has a restricted distribution on the lower Irthing and the lower-middle Eden, whilst *T. nobilitata* is widely distributed on sand deposits along sandy



Map 3. Distribution of *Clorismia rustica* and *Thereva nobilitata* larvae reared from riverbank sand deposits in Cumbria

riverbanks and also away from rivers in sandy localities on the coast and inland. Stock-trampled eroded sandy riverbanks were searched for therevid larvae at a number of locations on the Eden and Irthing. No therevid larvae were found in these situations. Several riverbank fluvial sand deposits were subject to trampling to various degrees. Whilst some of these did contain therevid larvae, the general impression was that larvae were much scarcer in trampled sand deposits. A well developed deposit at Lacy's Caves, holding both *C. rustica* and *T. nobilitata*, is significantly trampled by people, but a stand of butterbur developing later in the season probably reduces trampling on significant areas of the site. At Westlinton on the R. Lyne, several sand deposits on a short stretch of riverbank were subject to trampling from a recently turned out herd of cattle in mid-April 2007. Only one larva was found in the least poached deposit. At Rickerby Park in Carlisle, sand deposits are heavily trampled by people and by stock. Here, a single *S. lunulata* larva was found, out of this species' preferred habitat, suggesting that it may have been washed into this deposit from a more suitable site upstream (see above).

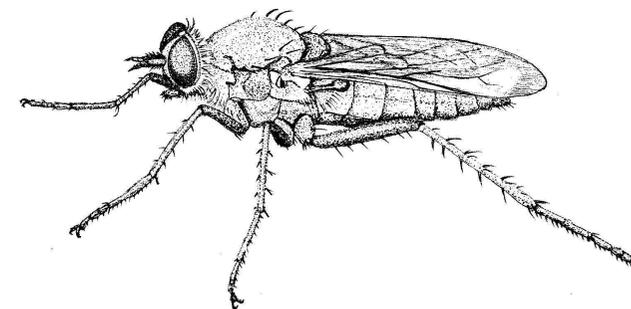


Map 4. All records of *Clorismia rustica* and *Thereva nobilitata* in Cumbria

Discussion

Larval habitat of *Clorismia rustica*

C. rustica is best surveyed by looking for the larvae, which are active predators in dry, loose sand deposited on riverbanks. The larvae are most readily found in



Clorismia rustica

(Stephen Hewitt)

spring and early summer, although they can be found less frequently later in the year. Survey for larvae becomes increasingly difficult during the summer as vegetation gets progressively denser. There was generally some seasonal ground vegetation on most Cumbrian *C. rustica* sites (butterbur, Himalayan Balsam, grasses etc.). The exact percentage of ground vegetation cover does not appear to be significant, although the amount of insolation in the spring before the vegetation cover develops could be a factor affecting larval development. The sites where larvae and pupae were found were generally un-trampled and not heavily shaded by trees.

In Cumbria, *C. rustica* appears to be restricted to areas of un-trampled, coarse, loose sand, deposited high up the river bank by winter floods. Sites where the floodwaters are constricted or deflected, such as at bridges and in gorges, often supply suitable larval habitat. These findings appear to contrast somewhat with the larval habitat in south Wales, described by Skidmore (2001) and Drake (2004), where *C. rustica* populations were frequently found on cattle trampled riverbanks. Although a number of cattle/sheep-trampled, eroding sandy riverbanks were sampled in this study, no therevid larvae were found in them. All the sand deposits supporting therevid larvae in this study were recently accreted fluvial sands deposited by flood events and very few of these received significant poaching from livestock. Sadler *et al.* (2004) found that livestock-trampling increased the number of ERS specialist beetles in some cases. They offered the explanation that on modified or low-energy river stretches where bank stabilisation has occurred, light trampling reverses the vegetation succession making more bare substrate available. This may account for apparent differences in the larval habitat of *C.*

rustica between the Eden catchment and rivers in south Wales. However, Bates *et al.* (2007) found that the conservation value of ERS beetle communities was reduced by stock-trampling, particularly on lowland river catchments, suggesting that stocking levels in such areas require careful control. Thus, on river systems with normal levels of hydrological disturbance, the overall effect of significant stock access is to damage ERS invertebrate communities through sediment compaction from trampling, enrichment and siltation from defecation.

Habitat partition and distribution of therevids on the Eden

Previous Cumbrian studies have established that *S. lunulata* is primarily associated with mature, in-channel, ERS deposits where finer sediments of sand and gravel have been deposited on the higher parts of the developed shoal. The results of this survey support and clarify previous findings. *S. lunulata*, in contrast to the other two therevid species on Cumbrian rivers, shows a high fidelity to in-channel ERS deposits. Its distribution in Cumbria reflects the presence of suitable fine substrates in the sediments of spate rivers in the county and on the occurrence of relatively undisturbed, mature shingle-banks along those rivers. The major sandstone component in the geology of the Eden catchment gives this largely unregulated spate river a national importance for many rare, specialist invertebrates of in-channel ERS. There appears to be good correlation between the best ERS invertebrate sites in Cumbria and the presence of *S. lunulata*, making it a useful indicator species of high conservation-value deposits. Data collected to date indicates a significant gap in the species' distribution along the Eden, with the fly being largely absent from the middle reaches of the river. This may reflect degraded ERS deposits in this stretch of the river.

Larvae of both *C. rustica* and *T. nobilitata* are found in sand dumped high on the sides and tops of riverbanks by flood events. Whilst *T. nobilitata* is widespread in loose sand deposits in a wide range of situations, *C. rustica* is a specialised species of fluvial sand deposits on river banks and has a very restricted distribution in Cumbria. While *T. nobilitata* is clearly a more generalist species than *C. rustica*, no discernible differences in larval habitat have been gleaned on the Eden. Both species appear to utilise the same type of sand deposits and indeed both species have been reared from the same deposit on occasion. Yet *C. rustica* is clearly more restricted on the river than is *T. nobilitata*. It might be expected that *C. rustica*, as a specialist ERS species, is adapted to tolerate more frequent flooding than *T. nobilitata*. The absence of *C. rustica* from apparently suitable deposits on the upper Eden may be the result of some climatic factor, although the recent discovery of the species on the R. Tay in Perthshire (Drake *et al.*, 2007) indicates

the species is not at the northern edge of its range in Cumbria as was previously thought. Alternatively, the flashier nature of flood events in the upper Eden may mean that the banktop sand deposits there are flooded for shorter periods, enabling for *T. nobilitata* to survive better. Whether *T. nobilitata* out-competes *C. rustica* in these circumstances or if *C. rustica* cannot tolerate such reduced spells of inundation is a matter of conjecture. Conversely, the occurrence of *C. rustica* on the lower-middle Eden and lower Irthing could be due to a different flow regime in these reaches. Typically, there is an increase in frequency but a reduction in magnitude of flood events further downstream in a river network, with the highest frequency of medium-size disturbances predicted to occur in the central network (Benda, *et al.*, 2004). Thus the distribution of *C. rustica* in the middle-lower Eden could relate to a maximum frequency of inundation of river-bank sand deposits predicted on this stretch of river. The fly's distribution may also be linked to the topography of the river. The Eden Gorge, through which the river flows in its middle reaches, provides suitable quality sand and restricts flows causing sand to be dumped onto the banks. The sandstone cliffs of the Eden Gorge also develop patches of loose sand above river flood levels and thus provide refugia for *T. nobilitata*, which might partly explain the overlap in the two species ranges in Cumbria. *T. nobilitata* larvae were found in such situations at Hawkcliff Scar and Hornsby. The overlap in the tolerances of the two species on the Eden appears in stark contrast to recent work on rivers in Cheshire (Hewitt & Parker, 2008b) where out of 34 therevid larvae reared from 14 river-bank fluvial sand deposits, all but one were *C. rustica*. One is led to speculate that the Cheshire rivers may be less flashy and lower banked than the Eden and that their sand deposits are therefore submerged often enough to make them inhospitable to *T. nobilitata*. Interestingly, the spate river specialist *S. lunulata* is not recorded in Cheshire, whilst *T. nobilitata* certainly occurs in the county and was readily found in alternative habitat adjacent to the river at one site.

Conclusion

Of the three species of stiletto-fly found on the River Eden one, *Spiriverpa lunulata*, is almost entirely restricted to in-channel shingle-banks; another, *Cliorismia rustica*, is entirely restricted to fluvial sand deposits on riverbanks; the third, *Thereva nobilitata*, is a widespread species whose larvae develop in a range of friable substrates including fluvial sand deposits on riverbanks. The restricted range of *C. rustica* on the catchment may be correlated with the predicted zone of highest frequency flooding of the river-bank sand deposits in which the larvae develop.

The River Eden is nationally important for the conservation of rare and specialised invertebrates of exposed riverine sediments. These species are not all reliant on the in-channel sediments traditionally understood as ERS. The geology and topography of the river underpin its conservation value. Other riparian habitats such as landslips and coarse woody debris have their own specialised invertebrate fauna (Hewitt, 2000; Hewitt & Parker, 2006) and also interact with the river to create and recreate natural fluvial habitats of high conservation value. In such a dynamic system it is necessary to view individual ERS deposits as links in a chain, with deposits at different stages of development providing perhaps the only suitable conditions for a particular species at any given time. The stiletto-flies *S. lunulata* and *C. rustica* are specialists of different types of ERS and each can provide useful indications of the invertebrate conservation value and condition of these riverine habitats.

Acknowledgements

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Neil Arthur Robinson (1935–2008)

Neil Robinson of Natland, Kendal died on 7th October after a heart-attack two days earlier. Neil was a gifted naturalist with a great breadth of experience and expertise. As a member of this Society he made frequent contributions to the *Carlisle Naturalist* over the years, particularly with regard to bees, wasps and ants. Neil was born in the north-east and developed a passion for natural history in his childhood. He went to school in Newcastle-upon-Tyne before attending Kings College, Cambridge. After graduating he taught biology at Lancaster Royal Grammar School. However, his interests in natural history and nature conservation led him to take a job with the Nature Conservancy at Ainsdale Dunes, later moving to the regional office at Merlewood, Grange-over-Sands.

Russell Gomm worked with Neil at Merlewood and recalls Neil's early days with the Nature Conservancy in the late 1960s and early '70s, where he was 'Warden Naturalist' for the Ainsdale Dunes National Nature Reserve on the Sefton coast in Lancashire. The reserve was established in 1965, which was an exciting time in the development of outdoor educational facilities. Neil's teaching experience and strong belief in the value of involving people of all ages in real survey and monitoring work contributed greatly to both the scientific and aesthetic appreciation of the Sefton coast as a whole. For much of the time this was no easy task. It is a testimony to Neil's persistence, thoroughness and carefully researched approach that he was able to apply many of his own tried and tested techniques to the monitoring of wildlife sites in a wider context and that Ainsdale Sand Dunes NNR itself retains its interest and continues to develop a reputation as a key site nearly half a century later.

Neil subsequently became Assistant Regional Officer for Lancashire and was closely involved in the fight to save Gait Barrows near Silverdale and in the major purchase for the nation of the Ribble Estuary. The NCC (later to become English Nature) moved to Blackwell near Bowness-on-Windermere and it was here that Neil took on the important role of monitoring the condition and quality of National Nature Reserves and Sites of Special Scientific Interest, inspiring his team with his thorough and methodical approach and leaving a legacy of work that still forms the foundation of much of the scientific knowledge on SSSIs that underpins the work of Natural England today. Neil's deep knowledge of wildlife and nature conservation was regularly called upon at Blackwell and he was always willing to spend time with staff to answer questions, work through problems or just simply help with the identification of some scrappy specimen of plant or animal brought back from a wet day in the field.

Neil retired in 1995 and was then able to return to one of his first loves – bees,

wasps and ants (Aculeate Hymenoptera), a group that is often considered 'difficult' by entomologists. Through his attention to detail and thoroughness he rapidly gained expertise in this subject. His broad ecological interests and desire for understanding gave him a peculiarly complete grasp of the ecology and behaviour of these insects and Neil was soon making a significant contribution to the understanding of these little studied insects both regionally and nationally.

He began looking into the invertebrates associated with ant's nests and in 2005 collected a fungus gnat new to science (*Bradysia chandleri* Menzel 2007) from a Red Wood Ant nest at Gaitbarrows NNR.

As a result of his teaching background perhaps, Neil was always pleased to share his knowledge and impart his fascination and delight in his subject. These qualities of expertise, generously shared, are apparent in the notes and articles that Neil contributed to this journal as in his various other publications. He was always happy to identify specimens and I sent many of my own Aculeate finds to him, which he duly identified, labelled and returned with valuable accounts of the particular features and ecology of each species together with an assessment of the significance of the record. Neil also became involved in the local Biodiversity Action Plan (BAP), studying the Aculeate species listed in the national and Cumbrian BAPs and making important discoveries with regard their distributions and behaviour. As a result of his studies and collating others' records, Neil was able to produce a review of the bees, wasps and ants of Cumbria and effectively update and broaden the 1933 publication by G.B. Routledge in the *Transactions* of this Society.

To be in the field with Neil was an education as he took time to observe and consider what he was seeing and, as ever, was always happy to share his knowledge with his companions. Neil's real gift for explaining the interest of natural history was vividly displayed when he was asked to appear on Border Television's *Nature Watchers* programme. With weather and ill-health conspiring against filming in the field, Neil gave a fascinating piece to camera from his desk, talking over the specimens in his collection.

His generosity and diligence were again displayed when he kindly agreed to curate the Aculeate collection of some 6,000 specimens at Tullie House Museum. This not inconsiderable task involved checking identifications, updating names, transferring specimens to new drawers and arranging them according to the new checklist. Neil also kindly gave some of his own specimens to the Museum to enhance the collection. I received the final set of drawers from him earlier this year and the excellent standard of the rehoused collection is a testament to Neil's painstaking work.

In 2001, Neil took on the editorship of the annual *Birds & Wildlife in Cumbria* report published by Cumbria Naturalists' Union – a position which he fulfilled until this year when health problems made it difficult for him to continue. Although he had not enjoyed good health in recent years, Neil had continued to enthusiastically pursue his natural history interests and was in the field searching for myrmecophilous invertebrates in the nests of Red Wood Ants on Arnside Knott only days before his sudden and unexpected death. His death leaves a big gap in the naturalist community in Cumbria and his knowledge and kindness will be greatly missed. Neil is survived by his wife Judith and their three daughters.

*Stephen Hewitt, Tullie House Museum, Carlisle
(with thanks to Russell Gomm and to Ian Slater, Jacqui Ogden
and Paul Glading of Natural England)*

[A list of many of Neil's publications can be found in the *Bibliography of Cumbrian Naturalists & Natural History* being compiled by Allen Armsby of this Society.]

Robert John Buchanan (1930–2008)

Bob, as he was always known to everyone, soon developed natural history interests, and in his late teens and early twenties often accompanied kindred spirit Derek Ratcliffe on trips into the hills. They had known each other since their school days in Carlisle.

He joined the Society in 1964, no doubt influenced by his friend and business associate Teasdale Stephenson who was already a CNHS Council member. In his professional life Bob was a senior member of the management team, and later Chief Executive, at William Smith & Co, Insurance Brokers in Warwick Road, Carlisle.

Bob was always a keen and stalwart member of the Society and played an active part in all its affairs. He very rarely missed an indoor meeting. He was elected to the Society's Council in 1966 and became its Treasurer in 1970 and remained in that post until 1984. His personal financial expertise ensured the Society's affairs were always in good order and he always knew exactly what to do when matters of taxation or Charitable status raised their heads. He was made a Vice-President in 1987 and a Life Member in 2005.

He and his wife Isabel and two children lived at Dalston, where they were my near neighbours. He often joined Rob Brown, Teasdale Stephenson and me in our searches for Peregrines, Ravens and Buzzards, and helped in the monitoring and ringing of their young. In the early 1970s when Rob Brown became too old and frail to go onto the hills, I took over all the ringing of the crag-nesting birds in the north of Cumbria and Bob became a constant companion in the field and very close friend. He was always ready to help and played a very active part in the fieldwork. He thoroughly enjoyed getting out on the beautiful Lakeland hills and looked forward to the end of February each year when 'Raven time' came round. Our active fieldwork continued up to the end of the century, when advancing years finally caught up with us.

In 1986, when we had become somewhat satiated with working on Peregrines, he and I decided to spend five days in mid-June looking for Golden Eagles in the west Highlands of Scotland. During those five days camping and living out of the car we would get around at least nine occupied Eagle sites and ring any chicks that we found. These 'Eagle trips' became an annual event and were the highlight of Bob's year in the field. He never ceased to marvel at the magnificence of these birds, and the wonderful rugged scenery of their mountain habitat in the western Highlands.

One of Bob's favourite days out was the annual field meeting to Threave Castle and Loch Ken on the winter 'wild goose chase'. He always enjoyed seeing all the different wildfowl and other birds and generally being in the company of his many good friends in the Society.

He died on 27th October after a long and debilitating illness, which he had fought with great spirit.

Geoff Horne

The Carlisle Naturalist

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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, with species and genera names underlined. Files in rich text format or Microsoft Word may be e-mailed to david.clarke19@virgin.net, or submitted on CD/DVD accompanied by a paper copy. 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:

v.c.: vice-county; B.S.B.I.: Botanical Society of the British Isles; NNR: National Nature Reserve.

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

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above.

Winter Programme 2008/9

8th October '*Watery wonders of the River Eden*': an illustrated talk by Maggie Robinson,
Eden Rivers Trust

11th October (Saturday) Field meeting, Martindale, the Red Deer Rut

22nd October '*Remarkable trees of Cumbria*': an illustrated talk by Ted Wilson

5th November Members' Night

19th November '*Across the Rocky Mountains with John Kirk Townsend in 1834*': an
illustrated talk by Richard and Barbara Mearns

3rd December '*Cumbrian butterflies – thinking ahead*': an illustrated talk by Steve Doyle,
Butterfly Conservation (Cumbria Branch)

7th January '*The Marsh Tit and the Willow Tit*': Jim Fowler and Derek Guar
respectively. Joint meeting with Cumbria Bird Club

21st January '*Corn Buntings*': an illustrated talk by Ian Hartley, Lancaster University

4th February '*Antarctica*': an illustrated talk by Roy Atkins

7th February (Saturday) Field meeting, Loch Ken, Galloway ('Wild Goose Chase'):
leader Geoff Horne. Depart 9.00 am

14th February (Saturday) Field Meeting, Siddick Pond and Solway Coast: leaders Geoff
Naylor and Roy Atkins. Depart at 9.30 am. Meet Siddick Pond at back of Dunmail
Centre car park (NY001300) at 10.30 am

18th February '*Conserving and celebrating geology, landscape and wildlife in the North
Pennines AONB*': An illustrated talk by Chris Woodley-Stewart, AONB Officer and
Geopark Manager. Joint meeting with Cumberland Geological Society

4th March AGM & Members' Night