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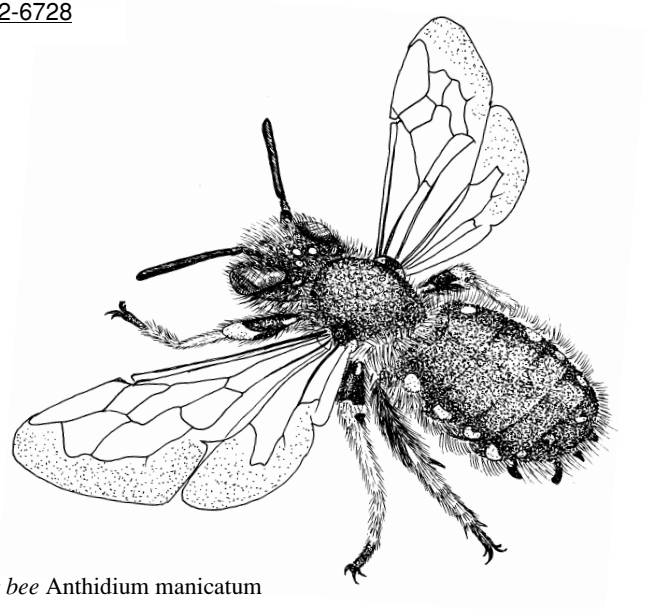


The carder bee Anthidium manicatum *(Stephen Hewitt)*

From the Editor - very best wishes for the 21st Century

Frogs and ponds survey

I have had a rather disappointing response to the request for information on garden ponds and amphibians within the Society membership. This may be due to the fact that I omitted to put a return name and address on the survey form distributed with a previous issue of the *Carlisle Naturalist* – oops!

If you have not returned your survey form, please do so as we want to know a) what percentage of members have garden ponds b) what percentage of ponds have frogs and or other amphibians.

If you do not have a survey form please ask me for one or pick one up at the indoor meetings, where I shall ensure they are available.

Please return the forms to me at Tullie House Museum.

Stephen Hewitt

Local Wildlife Sites in Dumfries and Galloway

Dumfries and Galloway Council have requested any proposals for sites which might be considered as Local Wildlife Sites in their area. These would be areas which do not have formal protection but which are nonetheless of wildlife conservation value in the same way that Cumbria Wildlife Trust has identified Wildlife Sites in Cumbria. If you know of any likely sites then Alison Barnes, the Biodiversity Officer at D & G Council, Environment and Infrastructure, Newall Terr., Dumfries DG1 1LW, would be pleased to hear from you. I can copy the site proposal form for anyone who asks.

River Shingle Project

The river shingle project that a few members have been involved in over the last summer has gone well. The study has so far concentrated on the invertebrate interest of sites on the Eden, Irthing and Caldew in the north east of Cumbria.

We have identified some very good areas of exposed sand and shingle on these rivers. The species found are still being identified at present, but we have so far named 7 Red Data Book species and over 20 Nationally Scarce species. Several of these are new to Cumbria, whilst others are important 'rediscoveries' of species not seen since F.H. Day and H. Britten were active over 70 years ago. We have not done a great deal of botanical work, although several plants of Viper's Bugloss *(Echium vulgare)* have been found on the Caldew between Cummersdale and Holme Head along with a fine colony of fruiting tomato plants on shingle beneath Nelson Bridge in Carlisle! The results so far suggest that there is a great deal more to discover and we hope to continue with the project next year and expand it to look at other rivers in the county and study the precise habitat and vegetation structure of the various sites.

Many thanks to everyone who has been involved in the project so far.

Field meetings

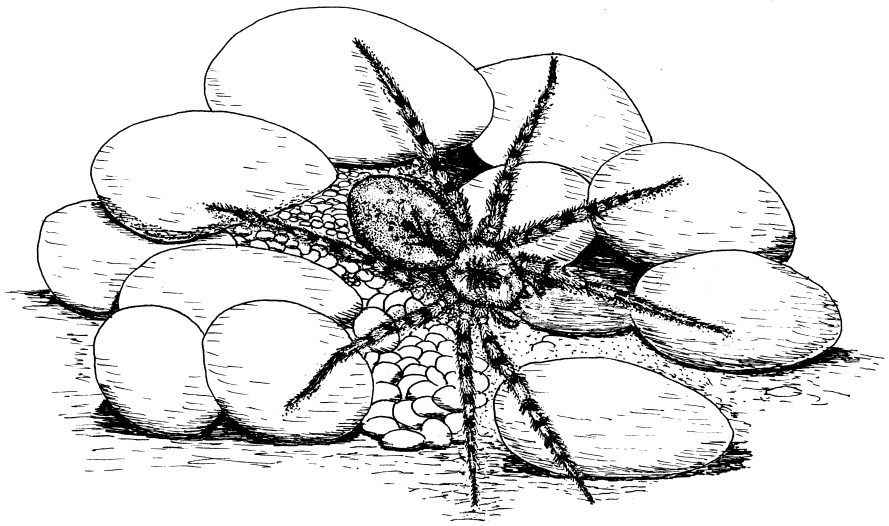
5th June 1999: River Caldew, Cummersdale Shingle Banks Leader: Stephen Hewitt

A dry, bright, but not too warm afternoon provided ideal conditions for searching for insects on river shingle. This meeting formed part of a study undertaken by the Society in 1999 of the river shingle invertebrates of the Eden and its tributaries.
After a brief explanation of the purpose of the meeting the party spread out on the shingle and hunted for insects, which were then passed to the various experts present for identification. Marie Saag and Geoff Naylor identified the plants growing on the shingle although, so early in the summer, many were not fully developed.
One member with his two young sons made the first exciting discovery of the day when they found the eggs of the hover-fly *Parasyrphus nigritarsis* among egg clusters of the Dock Beetle, on a dock plant growing on the shingle. This Red Data Book fly has proved to be more widespread in Cumbria than anyone believed, thanks to the work of the late Bill Fakes and this year's shingle survey.

Magnus Sinclair and David Atty were on hand to identify the beetles. Many species were named on the spot, others were taken home for closer examination. Among the more interesting beetles noted at the time were a number of the small, black click beetle *Fleutiaxellus maritimus* - a Nationally Scarce river shingle species not recorded in Cumbria since F.H. Day found it on the Eden at Great Salkeld in 1911. David Atty was also very pleased to find the small ground beetle *Bembidion stomoides* on the shingle. This species again has not been seen in the north of the county for almost 100 years although P.J. Hodge did record it on the R. Kent at Levens in 1973. Other species identified later by Magnus Sinclair included the Nationally Scarce ground beetle *Trechus rubens* and the provisionally Red Data Book rove beetle *Neobisnius prolixus*. The latter species is another shingle specialist that has been found at Cummersdale on three separate occasions this year. The only previous record for the county is from Great Salkeld, collected by Harry Britten in 1948 (this could have been the closely related *N. lathbrobioides* which was not separated until recently).

Among the more interesting flies, Dorothy Iveson was the first to collect a specimen of the Red Data Book silvery stiletto-fly *Spiriverpa (Thereva) lunulata*, which was first discovered at this site last year. Whilst turning over stones near the water's edge I uncovered the grey-coloured horse-fly *Tabanus cordiger*, which had presumably just emerged from the wet shingle in which the larvae develop. Three species of tiny dance-flies were found running rapidly over the shingle in search of their minute insect prey. These flies are very distinctive with their banded wings and running gait. *Tachydromia morio* is the commonest of the three we found, whilst *T. halidayi* and *T. acklandi* are Nationally Scarce and Red Data Book species respectively. In Cumbria, all three species appear to be restricted to river shingle habitats.

Another very distinctive species of the shingle bank was the large wolf-spider *Arctosa*



The wolf spider Arctosa cinerea

cinerea. This spectacular spider is restricted to river shingle banks and even survives the winter floods submerged in the shingle.

Among the large amounts of dead-wood flood-debris stranded on the shingle a couple of dead-wood insects were seen. The Wasp Beetle *(Clytus arietis*) has distinctive black and yellow, wasp-mimicking, markings. The larvae develop in dead wood as do those of the golden-tailed hover-fly *Xylota sylvarum*, which was also noted.

Over-all, the afternoon provided a considerable amount of information on what appears to be the single most important site for river shingle invertebrates in North Cumbria.

Stephen Hewitt

16th June 1999: Carlisle Cemetery, Lichen Meeting Leader: Ken West

Under Ken West's care, Carlisle Cemetery is developing a considerable natural history interest. This evening we looked at the lichen communities developing on stones and trees, all the time noting how the subtle and less-subtle interplay of aspect, rain-borne nutrient and pollution, substrate chemistry, porosity and surface texture all affected the growth and variety of lichens in each community.

We are familiar with the idea that lichens develop well on gravestones, but it was intriguing to see how precisely the variety of lichens shown on any particular stone reflect its chemistry. Whereas the non-basic granites and sandstones had such species as grey *Parmelia saxatilis* and *P. sulcata*, deep brown *Parmelia glabratula* ssp.

fuliginosa, and warm brown *Acarospora fuscata*, the limestones and marbles had the bright yellows and oranges of species of *Caloplaca* and *Xanthoria parietina*.

On the hard granites, it was clear that the polished surfaces had very little growth of lichen: the propagules of lichens, whether spores or the asexual 'isidia' and 'soredia', clearly could not 'lodge' successfully on the smoother surfaces. Where there was a roughened surface, however, such as the hollows of the inscriptions, there was vigorous growth, which in some cases could extend, once established, over surfaces too smooth to allow initial establishment. It was obvious on such stones that little if any nutrient was derived by the lichen from the stone itself, this being provided in the rain, or from bird-soiling, etc.

The softer stones - either limestones or sandstones - in general had the best growths: clearly both attachment and growth were enhanced by porous or granular substrates.
The trees provided another set of instructive observations. Here, the acid-barked conifers in general supported only sparse growth, and that of little more than the ubiquitous grey *Hypogymnia physodes*. Some of the more nutrient-rich barks, such as sycamore, had good growth of many other species, including several *Parmelia* and *Ramalina* species. It was pleasing to see that the gradual improvements in air-quality (especially with regard to sulphur dioxide) were allowing the slow re-establishment of some of the more intolerant species (even if only in rather small and depauperate forms), such as E*vernia prunastri, Usnea subfloridana,* and *Ramalina farinacea*.

Even within the cemetery, it was clear that some areas further away from sources of pollution had better and more varied growths, and I was interested to see some spectacular colonies of *Ramalina fastigiata*, a plant I associate with the cleaner and breezy Solway coasts. The blue-grey branched species *Pseudevernia furfuracea* used to be known particularly on rock-surfaces and acid-barked conifers, but with the advent of unnaturally-acidic rain and the lowering of the pH of tree bark generally, this species has become widespread also on deciduous trees, growing here where it is exposed to the incoming rain.

Whilst the larger 'foliose' species such as the *Parmelia* and *Xanthoria* are usually the most conspicuous lichens, we tend to overlook the fact that most bare surfaces of rock or bark eventually become covered in the 'crustose' lichens. Indeed the true colour of limestone, in particular, can only be seen in newly-broken surfaces: the whites and pale greys we associate with such rocks are all crustose lichens! For the smallest species it is only on close inspection with a pocket lens that one can see the details of the spore-bearing 'apothecia', like minute jam-tarts in shape, sitting within the surface of the lichen-body. The colours of the 'jam' (from red or orange to browns and black) and the surrounding 'pastry' give clues for naming the species.

Thanks also to Ken for pointing out other features of Carlisle Cemetery from specimen trees to 'secret' grave-sites!

Jeremy Roberts

26th June 1999: Claife Heights, Windermere **Leader: David Clarke**

(Joint meeting with the British Dragonfly Society)

A welcome forecast of sunshine augured well, and the eventual turnout of 23 people far exceeded the leader's expectations. John Cubby of Forest Enterprise provided the essential guidance for our motorcade through the forest and we headed first to Brown Stone Moss – a deep pool dammed many years ago and now with 'pillars' of submerged peat crowned with living *Sphagnum*, forming 'islands'.

There was much dragonfly activity and on first reaching the waterside we found a very freshly emerged Southern Hawker with one pair of wings fused during drying. Minor surgery with a rush stem successfully separated them and prompted a perfect maiden flight.

We soon encountered males of the White-faced Darter (*Leucorrhinia dubia*) for which this is the key site in the south of the county. A search for exuviae and larvae ensued and we found both without difficulty in the north-western corner of the site – useful proof of its continued breeding presence.

Activity of Downy Emeralds over the more open areas of water also caught our attention. Brian Spencer had thoughtfully brought and inflated a dinghy to help our exploration. Allistair, his son, and the leader provided the entertainment in a search of the 'islands' – which surprisingly yielded only one *Leucorrhinia* exuvia. In compensation we caught a male Downy Emerald for demonstration to the 'landlubbers'. This was much admired and photographed before release. Searching the pool and runnels below the small dam gave Dorothy Iveson brief glimpses of a powder blue chaser – almost certainly a male Keeled Skimmer, which unfortunately disappeared before the rest of us could see it. (There seem to be no other records of it for this 10km-square). A perched male Golden-ringed Dragonfly nearby provided some compensation.

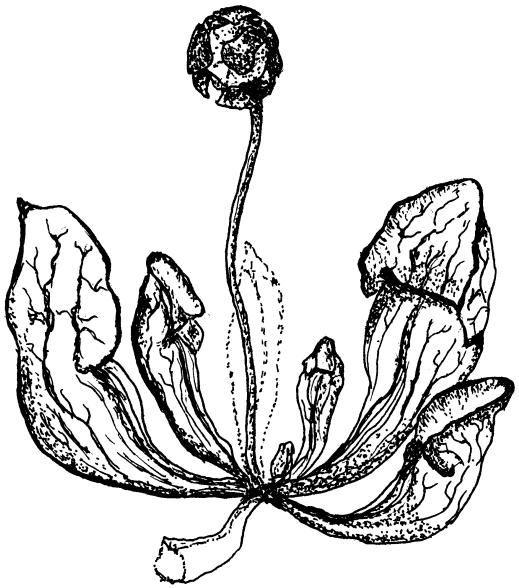
John Cubby lead us *en convoi* to Highs Moss – a large shallow depression which Forest Enterprise have begun to manage. Small Pearl-bordered Fritillaries were in the rushy edges, but Four-spotted Chasers were the only large Odonata in evidence. We discussed measures that would be needed to further raise the water level and improve the chances of attracting White-faced Darters and other species.

Under increasing cloud, we finished with a visit to Nor Moss, a large and impressive-looking wetland. No new species were added, but we again saw Downy Emeralds. Fine flowering clumps of the bog-loving American pitcher plant *Sarracenia purpurea* attracted much interest, and prompted some determined – not to say intrepid – efforts to get close views of their striking and unusual flowers.

A productive day all-in-all: with special thanks to Forest Enterprise for much valued vehicle access.

David Clarke

Sarracenia purpurea *(D.J.Clarke)*



3rd July 1999: Meikle Ross **Leader: Brian Spencer**

A small party set out in very unpromising weather and, at Annan, met a very heavy rain storm from which we only emerged as we approached Kirkcudbright. The day remained dull as we set off towards Manor Point but there we saw Whitethroats as on previous visits. The walk round the coast was not facilitated by the very rank growth resulting from the wet and warm weather and from an increase in the cattle stocking. The grass was very high so the orchids were not evident except from overhead, there was a lot of Meadowsweet and also wild roses. The Thrift was long past its best.

The Cormorants were, if anything, in larger numbers but there were very few Shags as seems to be the trend. Most of the Herring Gull chicks had left the nesting sites but there were many Kittiwakes, Fulmars, Razorbills and Guillemots on the ledges. On the water were large numbers of auks, including a single Black Guillemot. Despite frequent searching of the sea no Shearwaters were seen.

There was a good view of a Buzzard, very close on a wall, but no sight of the Peregrine and the nest site did not show evidence of recent occupation. The species count on the Ross was 23 – probably better than it might have been in the conditions.

Helen and Brian Spencer

10th July 1999: Silloth Dunes **Leader: Geoff Naylor**

The main purpose of the meeting was to explore the unusual flora of the dunes south of Silloth Harbour. Most of the time was spent in this area with an afternoon visit to another area of dunes to the north of Beckfoot which was less rewarding than Silloth.

Apart from the plants, a singing Grasshopper Warbler and a few Sandwich Terns were noted and a few Grayling butterflies seen. In the Beckfoot area, we found a Northern Eggar Moth and two species (Six-spot and Narrow-bordered Five-spot) of Burnet Moth.

Some of the plants of Silloth dunes are exotic, some may be garden escapes or introductions but it is possible that some may have arrived with foreign ships using the docks in the past.

Unusual and interesting plants were found as follows:

Tassel Hyacinth (*Muscari comosum*) - A garden escape. This is the only site in North Cumbria, although there are 6 in the south of the county.

Sickle Medick (*Medicago sativa* ssp. *falcata*) - Native in East Anglia, the only Cumbrian sites are here and at Barrow, where it has not been seen since 1993.

Sea Spurge (*Euphorbia paralias*) - Not uncommon south of St. Bees, but only two sites in north Cumbria.

Portland Spurge (*Euphorbia portlandica*) - Also scattered along the coast south of St. Bees. Not recorded at Silloth since 1935, although I have known it there for a few years.

Grass-leaved Orache (*Atriplex littoralis*) - Another plant more frequent in the south. The '*Flora*' shows three 'dots' in the north, but none at Silloth.

Fennel (*Foeniculum vulgare*) - A very rare casual plant usually found near houses. This single specimen was a new find.

Dusty Miller (*Artemisia stelleriana*) - A garden (or ship?) escape. There are a few sites known in the area but Silloth is not specifically mentioned.

Isle of Man Cabbage (*Coincya monensis*). A frequent plant of the Cumbrian coast but with a very restricted distribution nationally.

Field Garlic (*Allium oleraceum*) - A rare plant usually found along the Eden valley. Only two coastal sites and not known from Silloth. These plants were growing

amongst Crow Garlic (*A. vineale*) which is quite common.

Duke of Argyll's Tea Plant (*Lycium sp.*) - A not uncommon introduction along the coast, but more frequent in the south. (**Not** the source of Tea Tree Oil which I had suggested at the time.)

Spring Vetch (*Vicia lathyroides*) - A rare plant of sandy coastal areas, known only from Silloth and the Ravenglass and Barrow areas.

Black Horehound (*Ballota nigra*) - Very rare in Cumbria but previously known at Silloth.

Purple Toadflax (*Linaria purpurea*) - A garden escape, not previously recorded at Silloth.

Heath Dog Violet (*Viola canina*) - A local plant on the coast, not known previously at Silloth. Also the hybrid *V. canina x V. riviniana* which is a rare plant, found mostly in the area north of Penrith (see report on Wan Fell field meeting in *Carlisle Naturalist* **7**:1, p. 4). The only coastal site in the flora is at Eskmeals.

Parsley Water Dropwort (*Oenanthe lachenalii*) - A single example of this plant which is usually found in saltmarshes and not recorded from Silloth.

After the main meeting a few of the group visited a site on the river Waver where there were large numbers of the Banded Demoiselle (*Calopteryx splendens*), a damselfly which has recently expanded its very local range.

Finally a visit was made to see a stand of Danewort (*Sambucus ebulus*) in the village of Oulton - one of probably only two sites in the county.

Geoff Naylor

16th July 1999: High Stand (Moth Evening) Leader: Richard Little

Eleven members met at the car park (not public!) at the main entrance to High Stand, Inglewood Forest (NY4948). Two illuminated sheets and one Robinson trap were placed 300m into the forest along the main track at a distance of 100m apart and out of direct sight of each other. The habitat was mixed, several species of broad-leaved and coniferous trees with a varied under-storey and bordered by an assortment of flowering plants. The weather conditions were good (for mothing!), mild and moist with little wind.

The first moths to come included Twin-spot Carpet, Small Fan-footed Wave and The Snout. Later on came the 'Heavy Brigade' such as Large Yellow Underwing and Dark Arches. Various 'micro' moths, lacewings and craneflies were observed but not identified. A total of 43 'macro' moths were positively identified and recorded. Interesting moths included Welsh Wave and Slender Brindle. Members were particularly impressed with several fine specimens of Large Emerald. The variety of

species present was indicative of the various larval food plants available around the site.

Thanks to all members who actively participated in identification, particularly Betty and Mike Clementson with their generator and equipment. Also thanks to Mr John Cubby and Forest Enterprise for permission to carry out this field meeting.
A full list of identified moths has been collated.

Richard Little

6th August 1999: Glasson Moss (Moth Evening) Leaders: Mike Clementson & Frank Mawby

A strong north easterly wind greeted the nine enthusiasts who turned out for this meeting. After some deliberation we decided to set up on the west side of the Moss, close to the Bowness-on-Solway road. Finding a sheltered location was the first challenge and after a short search Mike finally settled down on the firebreak in a clearing sheltered by birch scrub. The surrounding habitats were bracken, birch scrub and woodland with the heather-clad fringe of the Moss not far away. We made a slow start during which Richard's generator refused to power-up the second light, leaving us with his Heath Trap and Mike's light.

Despite the wind we attracted 21 species, all quite typical of the surrounding habitats. As usual they began to come in ones and twos, making for relaxed identification. Later on there were some quite hectic spells with large numbers of some species all coming together. This 'all or nothing' situation seems to be a common feature of moth trapping sessions.

The most notable species of the evening was a Scalloped Hook-tip, a fairly widespread species of birch woodland and heathland but apparently not reported from Cumberland (VC 70) since it appeared in Routledge's list in the *Transactions* of 1933.

The most difficult species was the Ear Moth and Mike thought that we may have more than one species of this difficult group. Another which gave some problems was the Flame Rustic, again there is a small question mark about whether it was the 'Flame' or another close member of the group.

Frank Mawby

2nd October 1999: Geltsdale & Talkin Head (Fungus Foray) Leader: Geoff Naylor

The poor weather forecast for the day may have accounted for the relatively small number (eight) attending this annual event. As it happened, the weather was very favourable and, although there were showers about, we avoided them until near the end of the day and spent a very enjoyable five hours on the fellside and in the

Clavaria fragilis

woodlands of this part of Geltsdale.

Buzzards circled and called, a pair of Ravens was seen from time to time and a few Salmon were leaping in the river.
The route followed a stony trackway up towards the fells. A number of fungi, unidentified until later, were found but amongst known species were some small examples of White Helvella *(Helvella crispa)* which I had not recorded there before. Another was a type of milk cap growing under Hazel which I believed to be *(Lactarius pyrogalus)* whose specific name means 'fiery milk'. One of the party was brave (or foolish) enough to volunteer to test the theory and his reaction was ample proof of identity!

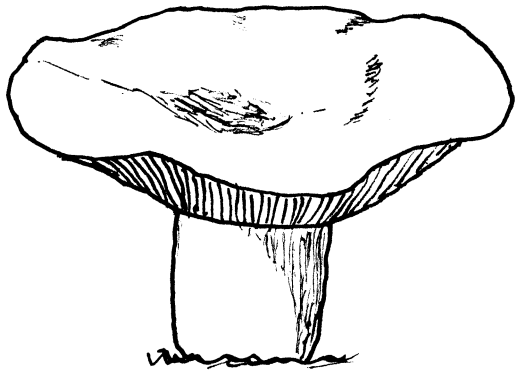
Some overgrown limestone quarries were the next call, being a regular site for Parasol Mushrooms *(Macrolepiota procera)* but only two dried up specimens were found. The spectacular, well-known and fairly common Fly Agaric *(Amanita muscaria)* was seen higher up the track. Eventually we reached The Greens - an elevated plateau at about 300 metres asl which is pitted with ancient limestone workings and home to an unusual grassland fungal flora including several species of Wax Cap *(Hygrocybe* sp.*)* and Spindles *(Clavaria* and *Clavulinopsis* sp.*)*. Wax Caps were abundant in a striking variety of colours through yellow, orange, scarlet, green and white but, of particular note was the very rare pinkish-lilac coloured *Hygrocybe calyptraeformis* of which we saw two specimens. Equally striking was the bright turquoise Verdigris Agaric *(Stropharia aeruginascens)*. In all a remarkable 13 species of Wax Cap (also including the genus *Cupophyllus)* were found, as well as five species of Spindles - three yellow, one brown, one white and the similar, but black, Earth Tongue *(Geoglossum sp*.).

Clavulinopsis corniculata

Geoglossum sp.

Descending to Knotts Wood to the south we encountered larger, woodland fungi including *Russula* and *Lactarius* species, more Fly Agarics and the related and beautiful *Amanita crocea* with its subtle lemony-orange colour. There was also a small group of the Scarlet Caterpillar Fungus *(Cordyceps militaris)* which is a parasite on underground insect larvae and pupae.

From Knotts Wood we followed the River Gelt northwards to Hynam Woods, through which we descended by a narrow, half-hidden and little known track, until reaching the riverside again. On the way, a



Lactarius vellereus

Illustrations by the author

large patch of Chanterelles *(Cantharellus ciborius)* was admired and a few were removed by one starving member.

The riverside produced more interesting specimens including the large white Velvet Cap *(Lactarius vellereus)* and the almost as large Ugly Milk Cap *(Lactarius turpis)*. This gave me the opportunity to demonstrate the 'ammonia test' - when a few drops of household ammonia are applied to the cap surface, a deep purple colour rapidly ensues.

Finally, returning towards the starting point, we were rewarded with a specimen of the Giant Puffball *(Langermannia gigantea)*, but not a *very* big one, and past its best.

Eventually, I identified 85 species fairly confidently. Several remain unknown and, no doubt, an expert would have found 100 or more. Even so, 85 is probably the highest number recorded by any CNHS fungus foray.

Thanks to all present for contributing towards a most enjoyable day and to Alan and Harriet Sykes for permission to visit, especially Alan, who accompanied us for part of the way and tasted the fiery milk.

Geoff Naylor

31st October 1999: Greystoke Forest (Fungus Foray) Leader: Geoff Naylor

This outing, additional to the programme, was a first meeting of the Society to this area, which has only in recent years been opened up to the public with a system of footpaths based upon the forestry tracks.

Although there was a very strong west wind, threatened rain showers from the very gloomy hill-scape to the west did not materialise until later in the walk.

We searched along some of the rides and neighbouring plantations of larch, spruce and pine. Limestone underlies all this area, and makes a series of low west-facing ridges. There was a good selection of fungi to be found, although no great abundance. As ever, a few specimens defied identification. Geoff's final list amounted to 41 names.

Recent very damp conditions and continued high humidity had encouraged wonderful

growths of such species as the bright-orange, antler-shaped, *Calocera viscosa* on stumps, and a number of dead-wood bracket fungi. By far the most interesting of these was *Schizophyllum commune,* growing on dead willow branches, with a felted white upper surface and pinkish, wrinkled 'gill-like' lower surface - a plant unfamiliar to us all. The small rich-brown *Gloeophyllum sepiarium* with tough, corky texture and elongated pores was frequent. A large white fungus on very old rotting conifer stumps, and consisting of overlapping elongated thin brackets appeared to be *Nothopanus (Pleurotellus; Pleurocybella) porrigens*.

A number of *Clitocybe* species included the huge grey *C. nebularis* and the small, dull-coloured *C. fragrans* easily told by its penetrating aniseed smell.

Mycena species were represented by *M. epipterygia, M. leptocephala, M. pura,* and *M. sanguinolenta*.

The most abundant species, growing in clusters in grass along the edges of the rides, was the off-white *Lyophyllum connatum*.

Only one *Agaricus* was seen, which Geoff thought fitted *A. semotus* - one of the few poisonous *Agaricus* species. Certainly edible, on the other hand, although the species is only worth collecting when young, were a few Shaggy Parasols *(Lepiota rhacodes)*.

In the plantations, the most conspicuous fungi were many examples of the orange False Chanterelle *(Hygrophoropsis aurantiaca)*.

Perhaps the most spectacular find was the large, orange (but ageing greenish), *Lactarius deterrimus*, which leaked orange-coloured milk, and which showed its distinctive features of a strong carrot smell, and lack of pitting on the stem. A number of caps were found, always with spruce.

A particular favourite of mine was *Tricholoma terreum*, a neat, firm toadstool with a grey cap, strongly streaked with blackish fibrils, grey gills, and a pure white stem. It grows with pines, and prefers limestone soils.

There were few other items of note, birdwatching being hampered by the strong wind. However, one observer chanced to be looking in the right direction to glimpse a mammal dashing across a track, and apparently racing up a tree. From the brief impression obtained, this might have been a Pine Marten - and the area would certainly suit this very rare, or at least profoundly elusive, carnivore. A back-up trip is planned to look for more evidence, of which the scats are the most likely: droppings thought by some to be this species have been located in a few areas of the county in recent years.

Jeremy Roberts

[*The follow-up Pine Marten hunt did not reveal any more conclusive evidence of their presence in Greystoke Forest, although it is planned to continue to check for signs in the future – Ed.*]

Notes and records

A case of 'Dolphin Pox' on the Solway?

In December 1998 a freshly stranded Porpoise was observed at Bowness-on-Solway. It appeared to have been damaged by a fishing net and had extensive cuts on the upper and lower surfaces of its head. This was thought to have contributed to its death; however, the porpoise was reported as having been alive when it stranded. As reported to the Society at the time, the upper body surface, flanks, head and dorsal fin all showed signs of a chronic skin condition with up to 1/3 of one side covered in lesions and a ringworm-like condition. At the time the identity of this condition could not be established. On a Web site published by the University of California, I recently found an entry that would appear to accurately describe the condition.

'Dolphin Pox

This disease is also known as "tattoo". Clinically, this disease is characterized by prominent well-delineated lines of hyperpigmentation of the epidermis with various design patterns. These design patterns have been described as targets, circles, and pinhole lesions. The lesions are usually smooth and flat, but may be raised. They are primarily located on the dorsal body, flippers, dorsal fins, and fluke. Although this virus does not appear to cause serious illness in cetaceans, the development of these lesions usually coincides with periods of poor health and stress.

This is an unusual pox lesion since it is not a proliferative lesion. The virus persists for long periods of time in the epidermis and slowly spreads in the affected animal. Animals appear not to develop antibodies to the virus; however, once antibodies develop to the pox virus, the lesion regresses with the affected skin becoming raised and bleached. The effected skin then undergoes necrosis and sloughing. Scraping the lesion has been known to cause regression. If lesions are biopsied, the pox lesion may regress in a zonal pattern around the biopsy site.'

If this were to have been an example of Dolphin Pox, then this is of concern for populations of porpoises in the Irish Sea. It is well established that heavy body burdens of toxic metals and pesticides can suppress the immune systems of marine mammals. A previous study has shown that porpoises in the Irish Sea have the highest concentrations of mercury known from British waters. It has been stated that: "Given the high mercury concentrations seen in some individuals, and the occurrence of an apparent hot-spot in the Irish Sea, more study is necessary to assess the real risks to UK coastal marine mammal populations" and "It seems logical to concentrate on the Irish Sea/Cardigan Bay are in the future work. Tissues from dolphins, porpoises and seals should be analysed", "analysis of mercury should be the first priority". The levels of mercury found in marine mammals in the Irish Sea are high enough to cause hepatic failure.

If levels of toxic metals and pesticides can affect the immune systems of marine mammals, then the occurrence of Dolphin Pox may indicate levels of pollution experienced by Irish Sea porpoises. It is therefore vitally important that all stranded cetaceans in the area should be examined for signs of the disease. In the longer term it is hoped that we will be able to establish a scheme for reporting marine mammals in Cumbria. This in turn should allow us to collect samples from fresh-dead cetaceans and analyse these for heavy metal and pesticide levels. The project is still in development, but it is anticipated that Tullie House will be the point of first contact and repository for all data. Society members are requested to contact Stephen Hewitt or Roy Armstrong (016973 51952) immediately if they encounter any marine mammals or hear of local strandings.

Additional Note

A dead Grey Seal found at Mawbray this Autumn, was described as expressing mucus from the mouth and nose. In the absence of any external damage, the most likely explanation for these conditions would be a case of Influenza or Pneumonia. Pneumonia often occurs in animals affected by the Phocine herpesvirus. This could be worrying as Phocine herpesvirus is "most often fatal in the young and seriously stressed animal". If seals in the Irish Sea have suppressed immune systems, then the latter could be true of the Mawbray seal.

Roy Armstrong, 4 Habberley Cottages, Port Carlisle

Moth mouthings - modification of a generator

As a result of having a discussion with Dr Paul Waring at a BENHS mothing field meeting last year I decided to modify my generator which supplies power to my Robinson moth trap in the field. Paul retired to bed at midnight leaving his generator to run till dawn; his generator ran for five hours before it ran out of fuel. My machine only ran for three and a quarter hours and so, if I did not want to stay awake until the early hours to refill the tank and so increase the chance of a larger and more varied catch, I had to stop the generator before turning in and secure the moths. If the generator ran out of fuel during the night, when the light went out the moths would escape, however if the generator ran until dawn the moths would be roosting and so would not escape, allowing more leisurely examination later in the morning. The answer was to have a generator that would run preferably for six hours and so provide light for the whole night from midnight until dawn for several months either side of midsummer. No small portable generator had this capacity so I had mine modified by incorporating an extra fuel tank taken from a motor mower of equal capacity to the existing tank. This now allows my generator to run for up to seven hours, a boon to the ageing 'mother' *(that's mother – a*

person who catches moths, not mother – a person who catches all sorts of much less pleasant things from her offspring – Ed.) who enjoys his sleep confident that his light will burn till dawn retaining a full catch of moths.

There have been some problems, notably flakes of paint from the auxiliary tank causing an obstruction in the fuel pipe - this inconveniently occurred on a CNHS 'mothing' evening recently, but hopefully these problems have now been resolved. Needless to say the work in modifying the generator was not carried out by me but by a qualified mechanic. Here's to successful 'mothing' as well as a full night's sleep!!

Richard Little, Haresfield, Cumwhinton, Carlisle

Pale Pinion (*Lithophane socia* Hufnagel) in Cumberland (VC 70)

I continue to regularly run moth traps in my Cumwhinton garden as well as in other suitable nearby habitats. New records of species caught at light in my garden this year include Gold Spot, Frosted Orange, Garden Dart and Lemkes Gold Spot. There are relatively few records of the latter species in North Cumbria. The *pièce de résistance* this year however was the capture on the night of 3rd April 1999 of a Pale Pinion *(Lithophane socia)*. Not only was it a first for my garden, but according to the distribution map in Heath and Emmet (1979) there had been no records for the whole of the North of England. Since the publication of that volume however, there have been some records of this Noctuid which appears to be moving north and is a species to look out for. It over-winters as an adult and can be seen feeding at sallow in Spring.

Richard Little, Haresfield, Cumwhinton, Carlisle

(According to the biological records database in Tullie House, there is, in fact, one old record for Cumberland - from Keswick, listed in Routledge (Trans. CNHS 1912) recorded by Mr W. Greenip. There are also a handful of recent records from Westmorland (VC 69) – Ed.)

A second Cumbrian locality for the Greater Pond Sedge (*Carex riparia* Curtis)

Whilst in the gardens of Morland House* (NY52) near Penrith this summer, my attention was caught by a vigorous stand of sedge, extending for many metres along the east bank of the Morland Beck which flows through these grounds. On examination, the plants, to my surprise, proved to be the Greater Pond Sedge *(Carex riparia)* – not previously reported from this site and now otherwise known in Cumbria

from only a single locality.

The garden is very informal at this particular point, though the Beck has been constrained within a straightened channel. The attractive Beck Walk was laid out in the middle of the last century by the Rev. Rice Markham, and later generations continued to develop aspects of the garden. One of them, F R Markham (1869-1948), had wide interests in natural history. Whether the sedge is a survivor of a pre-existing native population, has colonised since, or was deliberately planted is not known. As this species is not normally used in horticulture, the first possibility seems quite likely - and especially in view of past records from the area.

Carex riparia has been variously recorded from the nearby River Leith, at or close to Cliburn. Wilson's *Flora* (Wilson, 1938) refers to a record by one of the two Martindales – father and son botanists. However, the only material from this location (dated 1888) in their Herbarium collection is the closely related *Carex acutiformis* – with which *C. riparia* has often been confused. Wilson himself reported seeing it, and G A K Hervey evidently noted it as late as 1951 (Halliday, 1997).

Although no specimens seem to exist from the locality, and there have been no subsequent reports, it is conceivable that pockets of Greater Pond Sedge may still occur in other riverside locations in this general area. The plants at Morland House were fruiting freely. No doubt some fruits are transported downstream, so this colony could itself be a source for other local populations, past or present. (This would not readily explain the occurrences on the Leith however, since the Morland Beck flows directly into the Lyvennet, which also receives the Leith).

Over the past 100 years the sedge has been more widely (though not always reliably) reported from scattered locations in the county. The one other known surviving population is some 16km from Morland, at a somewhat remote site in the Soulby area. The species is widespread in the lowlands of southern Britain, but is scarce in the west north of Merseyside, and in the east north of Northumberland.

With thanks to Jeremy Roberts and Mike Porter who checked the plants for me, to Carol Davies at Kendal Museum for access to the Martindale Herbarium, and the Rev. Canon G.W. Markham for information on his family and the garden at Morland.

* The grounds of Morland House are private, but visitors to the outdoor clothing business 'Travelling Light' are welcome to look around.

References:

Halliday, G. 1997. *A Flora of Cumbria*. Lancaster: Lancaster University.

Wilson, A. 1938. *The Flora of Westmorland*. Arbroath: Buncle.

David Clarke

Portland Moth (*Actebia praecox* Linnaeus) in North Cumbria

The night of 2nd September this year did not produce a very exciting catch in my garden moth trap. There were only 16 moths of eight species, but I was unable to identify one of them. It was not unlike a Merveille du Jour but with much paler green forewings and quite different markings and wing shape. It resembled the only and rather poor illustration of Portland Moth in "Skinner" (1985) but I could not reconcile this with its distribution which is almost exclusively coastal. There are inland colonies in Lincolnshire, Nottinghamshire and Speyside. Its larval food plants are listed as Tree Lupin *(Lupinus arboreus)* and Creeping Willow *(Salix repens)* growing amongst coastal sand dunes or shingle. It is a non-migratory species, on the wing from late August, through September.

Reluctantly, I decided to kill it and try to identify it from the Tullie House collection. When I did so, it was clearly a Portland Moth.

On consulting the Tullie House biological records database, I discovered 24 previous records of Portland Moth in the county, 23 of which were on or near the coast. In recent years it has been recorded only at Ulverston, Walney Island and nearby Sandscale Haws, but this may reflect the distribution of moth traps rather than moths. There are older (20+ years) records from Eskmeals and Drigg and even older ones from Seascale and Silloth, as well as a few from the Arnside area and the opposite side of the estuary there.

The twenty-fourth record was in the Penrith area in 1953, just as mysterious as mine. The next nearest record (Silloth) was in September 1922, so it is clearly a rare moth in north Cumbria, both on the coast and inland. Perhaps a future moth-trapping evening at Silloth in early September would reveal its continued presence (or absence).

I have no idea why it should turn up in my moth trap. Possibly there is a previously unknown inland site in the area: if so, I would expect it to be in an area of river shingle, the nearest being around Lanercost (another future moth-trapping evening?).

Reference

Skinner, B. (1985) *Colour identification guide to the moths of the British Isles*. Viking

Geoff Naylor

Pammene gallicana (Guenee, 1845) (Lepidoptera: Tortricidae) new to VC 69 (Westmorland)

I recently came across a small store-box of moths put aside some years ago and labelled 'for sorting'.

Most of the specimens were of common species but among them were two unfamiliar

tortricids. These proved to be males of *Pammene gallicana*, their identity being confirmed by genitalia mounts. Both specimens were taken on 26th August 1979 in the dune area of North Walney (SD1873) in VC 69 (Westmorland).

The larvae of this species feed on various species of umbellifer – the main food being the seeds of Wild Carrot (*Daucus carota*) which is a fairly common species on the dunes of Walney Island.

Dr Neville L. Birkett, Beardwood, Carter Road, Grange-over-Sands

Notes on the Clay triple-lines (*Cyclophora linearia* (Hubn.) (Lepidoptera: Geometridae)

I captured a fresh male of this species in my moth-trap at Grange-over-Sands on 15th July 1999. This was a new species for me in southern Lakeland so this indicated the need for a little research into any other records in the district.

When reviewing past records in this district one has to keep in mind the changes in county boundaries and names effected in 1974. Thus Grange-over-Sands, the Furness and Cartmel peninsulas with land northwards to the summit of Wrynose Pass were all in Lancashire prior to 1974. Now these areas are in Cumbria and in particular are in the Watsonian Vice-county 69. Early recorders of insects would record specimens from Grange and Furness etc as being in Lancashire. Politicians take little notice of the difficulties they set biological recorders by their actions!

In the Lepidopterous Fauna of Lancashire and Cheshire by J. W. Ellis (1940) under the name *Zonosoma linearia* Brkh. the species is noted as: 'A rare species attached to beech. There are no recent records. Lanc., Silverdale and Middlebarrow woods (J.C.M.)'. (J.C.M is the late J. Cosmo Melvill - a well-known collector who lived near Shrewsbury).

George B. Routledge in his The Lepidoptera of Cumberland, Part III. (*Transactions of the Carlisle Natural History Society*, Vol 111, 1923*)* notes under *Ephyra linearia* Hb, 'West Cumberland, scarce (Mawson). Common in the south, local and infrequent in the north, its range extends to Northumberland. Old records for Kendal district'. The reference here to the 'south' and 'north' refer to the country as a whole and not just to Cumberland.

Routledge's reference to 'Old records for Kendal district' seem to refer to J. Cosmo Melvill's records from the Silverdale area. There are no other records in the list of Kendal and District Lepidoptera kept by the late Frank Littlewood for the (now defunct) Kendal Entomological Society.

Dr Neville L. Birkett, Beardwood, Carter Road, Grange-o-Sands, Cumbria LA11 7AG

Further news of the Wall Mason Bee (*Osmia parietina* Curtis) in Cumbria, from survey work in 1999

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

During June 1999 I extended my observations on this RDB3 bee, whose status I reviewed in a previous issue (Robinson, 1998), this time with support from English Nature's Species Recovery Programme, which is gratefully acknowledged. I was able find out more about its habitat at Gowbarrow Park, Ullswater (NY4120) where it had been found by Stephen Hewitt in 1998. I also confirmed that there is a colony on Meathop Crag, near Grange-over-Sands (SD4379), on the lower slopes easily accessible from the road, where I had seen a male patrolling Horseshoe Vetch *(Hippocrepis comosa)* in 1998. Here females were collecting nectar and pollen from Bird's-foot Trefoil *(Lotus corniculatus)* beside paths and on shelves of limestone sheltered by hazel scrub. It was interesting to note that they did not visit the *Hippocrepis* although it was in flower nearby. A search of the lanes behind Grange-over-Sands, where A.E. Wright had taken males (without realising it) in the 1940s, produced no results. The roadsides are now densely overgrown, mainly, I think, due to the long-term effects of reduction of rabbit grazing by myxomatosis. I noticed the same thing when I revisited some of my 1950s boyhood haunts in Northumberland this summer. River banks and road banks which used to be grazed down, providing bare ground and sandy habitats, are now overgrown by rank grass.

Whitbarrow SSSI, with its wide range of limestone habitats, seemed a promising site. Repeated searches along the foot of White Scar, where the habitat looked right, met with no success, but on 24th June I saw a foraging female *L. corniculatus* beside the path on Township Plantation (SD4588) above the hamlet of Howe. A return visit in early July, on a dull day, added nothing, but this find bodes well for further investigation next year as the site has much suitable habitat, which may also be present elsewhere in this very extensive SSSI. This increases the number of known sites in Cumbria to three, and the number in England to six. Carl Clee (Liverpool Museum) has also recently found populations at two coastal sites on the Lleyn Peninsula in North Wales.

The limestone habitat

Observations on these sites, and in Lancashire, where, in addition to the previously known sites at Gait Barrows NNR (SD4877) and Carnforth Ironworks (SD4971), I was able to confirm that there is a vigorous colony at Yealand Hall Allotment (SD4876), have enabled me to refine my views about its favoured habitat on limestone. It seems

to prefer open areas which can be quite small, e.g. a few metres across, receiving sun but sheltered by scrub, often hazel about 3m tall, with *L. corniculatus* available as the forage flower. I had previously reported (Robinson, *op. cit.*) that it favoured sheltered situations with abundant *L. corniculatus*, but subsequently I had noticed that it seemed to prefer scattered patches of this plant, rather than extensive carpets. It does not, for instance, seem to use this flower where it is abundant in open species-rich limestone grassland. The interesting discovery in 1999 (confirmed by Carl Clee in Wales) was that it can make use of really sparse *L. corniculatus*. This plant is one of the first colonists of bare limestone (along with Sheep's-fescue *(Festuca ovina)*, Glaucous Sedge *(Carex flacca)* and Mouse-ear Hawkweed *(Pilosella vulgaris)*), but it initiates succession which leads to its own destruction. The prostrate mats which it first forms accumulate humus beneath them, allowing the establishment of taller grasses (e.g. Red Fescue *(Festuca rubra)*, Quaking Grass *(Briza media)* and Blue Moor-grass *(Sesleria caerulea)*). *L. corniculatus* now grows erect among the grass, but can still be foraged by *O. parietina*. The next stage is for even taller competitors to move in (e.g. Knapweed *(Centaurea nigra)*, Hemp Agrimony *(Eupatoria cannabina)*, oat-grasses *(Avenula* spp.*)* followed by shrubs (e.g. Bramble *(Rubus fruticosus* agg.*)*, Rose *(Rosa* spp.*)*, Hazel *(Corylus avellana)* and Ash *(Fraxinus excelsior)* which eliminate the Trefoil. The effects of this competition can even be seen taking place during the course of the summer - Trefoil plants which start off low-growing become more erect as the grass grows up around them.

The Lake District habitat

At Gowbarrow Park, a SSSI owned by the National Trust, the habitat looked altogether different, though evidently it provides the conditions which *Osmia parietina* requires. On 18th June, on a cloudy day when the bees were not flying, I walked the route taken by Stephen Hewitt on 5th June 1998. I located five clumps of *Lotus corniculatus*, four of which were widely separated along 800 m. of the public footpath following the 600m contour from NY412204 to NY414205, along the top of the south-facing bracken covered slope overlooking Ullswater. The presence of Sweet Vernal Grass *(Anthoxanthum odoratum)*, with other 'neutral' grasses and isolated veteran trees, suggested that it had been neutral park grassland before disappearing under bracken. On 25th June I returned on a hot sunny day and saw females, probably two, visiting the *L. corniculatus* clumps at both ends of this stretch of path but not, as it turned out, the one in the middle which was where Steve Hewitt had found it. The clumps were situated on the north, uphill, and hence south facing, side of the path and the inflorescences, which ranged in number from 12 to 50, were distributed among grass just under the fringing edge of bracken. Conditions along the path were noticeably warm, and slightly humid, and Ringlet butterflies were flying at one point. The easternmost clump differed from the others in that it was on the open

hillside, on an anthill, but under the edge of a patch of bracken. This seemed an unlikely place, but a female made a brief visit. A fifth clump, at which the bee was not seen, was situated in the middle of an uphill path 85m above, on the acid hillside.

Analogy with the limestone habitat

Bracken and its litter reflect sunlight and were creating sheltered sun-trap conditions along the path, but this did not apply to the easternmost location. Presumably some local basic influence from the underlying rock accounts for this island of neutral grassland, and for the presence of *L. corniculatus*, but the cover of bracken and its carpet of litter was so complete that I am confident that the five clumps which I had found were the only patches of trefoil which could exist in this area. The fact that in the Lake District a south facing slope at an altitude of 600m, with minimal *L. corniculatus*, can support *Osmia parietina*, albeit probably a very small population, strengthens my suspicion that this bee could be present elsewhere, in situations which are difficult to detect. During the same period, a reconnaissance by car of the Rydal and Grasmere area, Thirlmere valley, St. John's Vale, Matterdale and Ullswater valley saw no *L. corniculatus* (other than between roadside curb-stones) except on the east side of the main road ascending Dunmail Raise from Grasmere. Here it was visible up the bank behind a line of willow scrub, investigation of which was terminated by a typical Lakeland downpour. However *L. corniculatus* has a longer, and/or later, flowering period in the Lake District than it does on the Morecambe Bay limestones, persisting through July even into August, so it is possible that *O. parietina* may have a longer or later flight period in the Lake District. I was not available for survey after June this year, but it might be possible to investigate this in future.

Implications for survey

The ability of *Osmia parietina* to forage *Lotus corniculatus* dispersed in grass means that it can occur on sites where this flower is not a conspicuous feature, making it even more difficult to find. Another problem is that the conditions under which it flies are extremely limited. It is only active on bright sunny days, but shelter, and its influence on temperature, also seem to have an effect. This was demonstrated by my experience at Yealand Hall Allotment. On 16th June I saw two females at the place where it was first reported in 1998 - a sheltered south-facing alcove only a few metres wide in hazel scrub beside the public footpath. Then I walked round a concession path where the habitat looked right over a wider area, but I found nothing in 30 minutes of searching and concluded that this area was too exposed. The next day, under slightly warmer conditions, members of the Dipterists Forum Field Meeting found half a dozen females at *L. corniculatus* around the concession path, suggesting that this site has the largest population found so far in NW England. Similarly, on another day it was flying on a

sheltered path on Gait Barrows NNR, but not in an open area where it was known to be present. This fickleness of flight, and the bee's ability to make use of inconspicuous amount of Bird's-foot Trefoil, compound the difficulty of determining its presence on a site. Clearly there is still a great deal to be learned about this bee, especially its habitat and distribution in the Lake District.

Reference

Robinson, N. A., 1998, A review of the Wall Mason Bee *Osmia parietina* Curtis in Cumbria, with two new records. *Carlisle Naturalist* **6 (2)** 44-46.

Instant *Anthidium*, or: Grow your own Carder Bee

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

The Wool-carder Bee (*Anthidium manicatum* (L.)) is a solitary bee which shares its shortened common name of 'carder bee' with the bumble bee *Bombus pascuorum* (Scop.) It is a member of the family Megachilidae (leaf-cutter and mason bees), about the size of a medium bumble bee, but has a shiny black abdomen with a row of small bright yellow spots on each side. The female's pollen-carrying brush is on the underside of the abdomen. The male has five projecting spines at the end of his abdomen, which he uses instead of a sting (which males do not possess). This bee is well known for two features: the female's habit of collecting woolly tomentum from plants to line the cavity in which she constructs her cells: and the male for establishing a territory over a clump of flowers from which he drives other bees away, keeping it for his own female(s). This is the only bee in Britain where the male defends a territory. It was thought to be scarce in northern England - the distribution map in the Provisional Atlas of Aculeate Hymenoptera Part 1 (NERC, 1997) shows no recent records at all for the north of England, though there are some for Dumfries and Galloway. Therefore I was pleased when in 1996 I found it in Cumbria near Grange-over-Sands (SD4276), and Dr. Jennifer Newton had it in her garden at Hornby (SD5868) in Lancashire, along with its cleptoparasite *Stelis punctulatissima* (K.). Since then I have seen males in gardens at several places: in Lancashire at Heysham (SD4262) and in Cumbria at Brockhole National Park Centre (NY3900), also in Natland (SD5289) where I live, and Stephen Hewitt has had it in his garden at Penrith (NY5129), which suggests that it is quite widespread, though no doubt local. It is perhaps more easily seen in gardens than in the countryside because of the males' habit of hovering persistently around a particular clump of flowers, alternating with settling in a conspicuous place.

Females use existing cavities as nest sites, e.g. hollow stems, insect holes in wood, crevices in mortar, etc. The cell walls and closing plug are made from compacted layers of long, silky hairs which the female shaves off leaves with her mandibles, hence the name of 'carder bee'. A range of hairy wild and garden plants are known to be used, but in this part of the country their favourite garden plant seems to be Lamb's-ear (*Stachys lanata*). In 1997 I saw a male patrolling a patch of this plant in the local garden centre nursery, but evidently a female did not arrive, and the male disappeared. In 1998 I found a male patrolling Purple Toadflax (*Linaria purpurea*) in my garden. Again no female appeared, so to provide encouragement I planted a small pot of Lamb's-ear in a sunny place in the front garden. By early July this year it had grown into a large clump, with immediate results - a male carder bee was regularly patrolling and nectaring. By 19th July two females, one noticeably larger than the other, were regularly foraging at the flowers, while the male was usually in attendance, dividing

his time between hovering around the clump, nectaring, sunning on a regular perch, chasing off bumble bees and pouncing on a female to mate. The frequency of mating surprised me. It often occurred several times during a couple of hours of observation, and continued right through the flight period, being last seen on 21st August. The female generally acquiesced, but perhaps had little choice in the matter as the male is the larger of the two - another unusual feature of this species. The smaller female was picked up moribund on 10th August. The other female was last seen on 21st August, and the male on 28th August, by which time his left mid tibia was missing.

The bumble bees visiting the Lamb's-ear were mainly *Bombus terrestris* (L.), sometimes workers, but more often males, and occasionally *B. pascuorum* workers, quickly evicted by a swift pounce and simultaneous prod from the carder's posterior spines. On one occasion I was impressed to see it tackle a huge *B. terrestris* queen, which fell to the ground and flew slowly away. None of the bumbles seemed to be injured by these encounters, unlike honey bees which have sometimes been described as being crushed and disabled. It was interesting to note that although males of *B. lucorum* (L.) and workers of *B. lapidarius* (L.) and honey bees *Apis mellifera* L. were numerous on a nearby Prairie Mallow (*Sidalcea*), they never visited the Lamb's-ear, even when the carder male was not present. This suggested that the flowers did not attract them, rather than that they were kept away, although in September, when there were still a few flowers left on the Lamb's-ear but the carders were no longer present, honey bees and *B. pascuorum* did occasionally visit. Only small hoverflies frequented the Lamb's-ear. They had no difficulty in side-stepping the male's charge and then followed him around until they were chased away. On one occasion in July another male carder arrived, resulting in a furious buzzing confrontation in which the two hovered face to face, drifting slowly around, until they collided with me and the intruder made off.

The females, when foraging, moved very rapidly from flower to flower, as did the bumbles when they got the chance, suggesting that they only obtained tiny amounts of nectar from each flower. However the Lamb's-ear was evidently able to go on producing nectar throughout the day, because on sunny days the carder females were already foraging at 8.00 a.m. and continued all day until the sun went off the clump at 8.00 p.m. They also showed a remarkable ability to continue foraging in cool, cloudy weather, even with spots of rain - conditions under which no other solitary bee I know of would be flying. The male was much more temperature dependent - under cool conditions he would be found torpid on his perch, but then climbing up the inflorescence and stoking up with nectar, to resume patrolling when the temperature rose. While nectaring, the females were also collecting the greyish-white pollen on their legs and periodically stopping to transfer it to the pollen brush under their abdomen. The male also acquired pollen, which he shed every now and then by rubbing together the mid and hind legs while hovering, or occasionally from the top of an inflorescence while using the front legs to hold the body clear. Long periods of

foraging by the females were followed by about an hour of wool-gathering. This took place not from the upright shoots, but from the undersides of the leaves in the basal rosette, which necessitated me kneeling head down in the rockery to observe and photograph what was going on. The female started head up on the underside of the leaf, shaving off the woolly tomentum with her jaws (which sometimes produced a distinct rasping noise) and pushing the material back underneath. Then, holding on only by her hind feet, she quickly rolled this mass between her front and mid legs and jaws into a perfectly spherical ball as big as herself, before dropping off the leaf and lifting slowly out of the rosette. The whole process took less than a minute. She then flew off, gradually gaining height, across the road and over the bungalow opposite, in the general direction of the garden centre nursery.

I did not find out where they were nesting, but watching the performance of the male, which he kept up, on and off, for 8 weeks, and the skill of the females in manipulating their balls of wool, was fascinating. Please look out for this bee and give any records to Steve Hewitt or myself. You may already have it in your garden, but if not - try planting some Lamb's-ear!

Reference

Edwards, R. (Editor) 1997, *Provisional atlas of the Aculeate Hymenoptera of Britain and Ireland Part 1*. Bees, Wasps and Ants Recording Society. NERC.

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Membership application forms are available from the Secretary.

Winter Programme 1999/2000

Indoor meetings are at Tullie House Museum and Art Gallery, Castle Street, Carlisle, except where noted.
Meetings start promptly at 7.15 pm (doors open 6.50 pm)

13th October "A NATURALIST ON HAWAII" An illustrated talk by Roy Atkins

27th October "CONSERVING AMPHIBIANS AND REPTILES IN CUMBRIA" An illustrated talk by Erica Donnison of English Nature

10th November MEMBERS' NIGHT Contributions from the membership

24th November "ST. KILDA" An illustrated talk by Jon Warren

8th December "THE WADER PROJECT FOR THE N.W. PENNINES" An illustrated talk by Nick Mason (A joint meeting with Cumbria Bird Club)

5th January "THE NATURAL HISTORY OF UPPER TEESDALE" An illustrated talk by Chris McCarty of English Nature

19th January – MEET: Old Town Hall, Market Place, Carlisle

"RIVER ENGINEERING AND CONSERVATION" An illustrated talk by Steve Garner of the Environment Agency

2nd February "INTERTIDAL CUMBRIA" An illustrated talk by Betty Green

5th February (Saturday): (Field Meeting) **LOCH KEN, GALLOWAY (WILD GOOSE CHASE)** Leaders: John Hamer & Brian Spencer. Depart 9.00 am.

16th February "OWLS OF THE WORLD" An illustrated talk by Tony Warburton (In association with 'Hadrian's Bird Week')

1st March AGM & MEMBERS' NIGHT AGM followed by contributions from the membership