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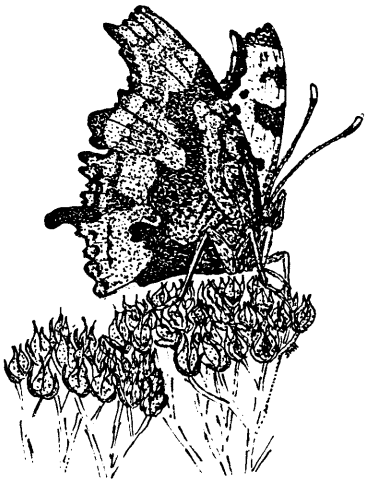

Comma Butterfly *(Stephen Hewitt)*

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From the Editor

So, after taking a long time coming, summer is finally over — or is it? Whilst the geese, Redwings and Fieldfares are here and Dave Walker reported at our first indoor meeting having seen Snow Buntings already this winter; some summer visitors still seem reluctant to leave our extended 'Indian Summer'. I was watching three juvenile Ring Ouzels feeding on Rowan berries in Wet Sleddale on 18 October five days after Dave had seen the Snow Buntings in Riggindale. Geoff Naylor saw a very late Swallow at Milton on 31 October and Barry Marrs saw the 'last' Sand Martin at Rickerby Rocks on 11 October. Meanwhile I was speaking to a colleague in Inverness on 24 October and he had been watching an Osprey there that afternoon! David Ellis has reported Comma butterflies in Newcastleton and elsewhere in the Borders this autumn and there have been several additional sightings in north Cumbria (see Dorothy Iveson's note on page 33). There are interesting reports of mammals too with several records of Water Voles from widely separated areas of the county this year after several years in which they have gone unrecorded. Red Squirrels appear to have had a good year — at least judging by the numbers that have sadly been killed on the roads. A great deal of valuable information is being amassed by members sending in records of their sightings — very many thanks to those of you who have contributed in this way and if you have not yet done so please jot down your wildlife sightings, since the more records we receive the more detailed the picture of the state and status of the county's wildlife we can produce — who will see the last Hedgehog of the year?

'Second Nature' Organic Compost

This is the recycled compost made by Carlisle City Council from recycled garden waste. 100% organic, Second Nature compost is peat-free, rich in nutrients and is the ideal soil improver and conditioner. 80 litre bags of compost are available through the Society at just £3.00 a bag.

By buying your compost through the Society you will be improving your garden, supporting the City's recycling scheme and the Society and most importantly of all do no harm to our peatlands and their wildlife.

Jeremy and Margaret Roberts have a stock of the compost at Wetheral Pasture — contact them on 01228 560164 to arrange your purchase.

Publication exchange

An exchange of publications has been arranged with the Natural History Society of Northumbria. Copies of the *Transactions* of that Society will be held in this Society's library at Tullie House.

Mortality in Wildlife

New Society member Paul Duff has recently taken up the post of Veterinary Investigation Officer at the Veterinary Investigation Centre at Merrythought, Calthwaite. He is interested in mortality in wildlife due to any cause — infectious, toxic or otherwise — and has published on various diseases in wildlife including European Brown Hare Syndrome, bacterial and parasitic diseases of wild birds and Parapox Virus in squirrels. Paul would be interested in any cases of suspected diseases in the local wildlife populations. Suspect carcasses are best left unfrozen as freezing can make histopathological diagnosis very difficult. Please note that suspected poisoning incidents should not be touched (they can be extremely toxic) and should be reported to the Wildlife Incident Investigation Scheme operated by AIDAS.

Reports on Field Meetings

27th April: Borrowdale **Leader: Geoff Horne**

Nine members attended this meeting to look at upland birds. The party assembled in Great Wood carpark where we watched Nuthatches and Tree Pipits in the tops of the trees. All the usual resident birds were seen, as well as the local Buzzards soaring in display overhead. Proceeding up through the wood we had a good view of a roosting Tawny Owl, but the anticipated Red Squirrels failed to put in an appearance.

Working our way along below Falcon Crag, the resident Peregrines gave good flight views before returning to the nest ledge. The Ravens, which we had not seen at any of their usual nest sites, were eventually located at a new nest on Lower Falcon Crag where they had two young nearly ready to fly. On the way back along the lake-side the expected Red-breasted Mergansers were seen on the water, but there were no Goosanders.

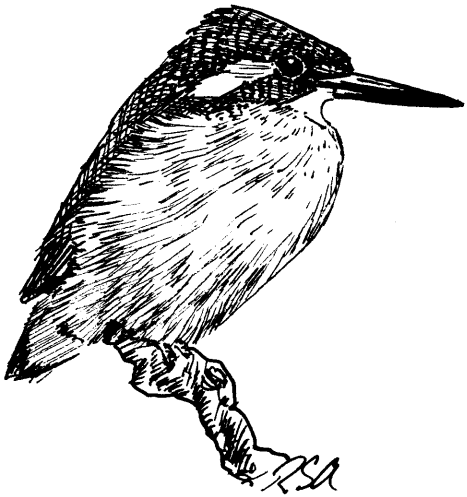
After lunch we moved on to Grange for the afternoon. Here the walk took us up through the wood with sightings of Great Spotted Woodpeckers, Treecreepers and Coal Tits. Moving up under Goat Crag, the male Peregrine came in to the crag carrying what appeared to be a Curlew for the female to feed upon. Again we were treated to some good views of the Ravens bringing in food to young in the nest. Following on round Castle Crag and down to the river we saw Wheatears foraging for food as they moved through on migration. Returning along the river-side, sightings of Dippers rounded off a pleasant and enjoyable day's birding.

Geoff Horne

18th May: Caldew Valley **Leader: Barry Marrs**

Arriving at Carlisle College on my motorbike on a grey, drizzly morning, I transported one reluctant passenger to the rendezvous point at the White Bridge, Dalston where we met up with two others. After some discussion we decided to continue the walk in spite of the weather and set off on the east bank of the river towards Cummersdale. Common river and woodland birds were plentiful and we had good views of a pair of Kingfishers sitting beside a high sandy bank. Beyond Ikes Wood we found an Oystercatcher's nest with three eggs. Flowers were plentiful in Ikes Wood including Meadow Saxifrage, Wood Anemone, Wood Sorrel and Sweet Violet (the white form with a purple spur). Marie Saag was able to identify various caddis larvae and flat worms under stone in the river. On the lovely flowery meadow by Cummersdale Weir we found a dead Buzzard — cause of death unknown.

Kingfisher *(Roy Atkins)*



After lunch we crossed the footbridge at Cummersdale and headed back up the west bank of the river. The weather was improving and we started to see more insects. Eventually the sun came out and it became very warm with Orange Tip, Green-veined White and Small Tortoiseshell butterflies on the wing. On the more open west side of the river we saw more typical farmland birds such as Grey Partridge, Linnet, Lapwing and Kestrel. We eventually completed the circuit having seen 44 species of bird and numerous insects and flowers — a much better day than was thought possible at the start of the walk.

Barry Marrs

7th June: Coombs Wood **Leader: John Hamer**

An encouragingly large party of 18, led by John Hamer, met for an afternoon stroll in this predominantly coniferous woodland situated on the fairly steeply sloping east bank of the River Eden. Despite a heavy downpour which took place, predictably, at the 'point of no return', a very interesting selection of the area's natural history was observed.

Sedges were examined and several relatively common species were identified. But there was also Bird's Foot Sedge *(Carex ornithopoda)* growing at the site by the river originally discovered by Dr Rod Corner where it is unusual in growing on sandstone (it is nearly always found on limestone). Presumably this isolated colony has become established as a result of seeds being washed downstream from the limestone areas at the head waters of the Eden catchment. Flowering plants of note were Sand Leek, Common Cudweed and Zigzag Clover.

Butterflies were represented only by Green-veined White, but moths were noted in greater variety and, as well as the local Speckled Yellow, there were Clouded Magpie (scarce but easily overlooked) and Small Yellow Wave (new to the writer).

Quite a variety of beetles were seen, including the large longhorn *Rhagium bifasciatum,* the brightly coloured and fast moving Green Tiger Beetle, numerous Bracken Chafers and the local Eyed Ladybird (this is Britain's largest ladybird and found in association with pine trees).

Some large spiders *(Pisaura mirabilis)* were admired and fortunately John Strutt was on hand to identify these and many smaller arachnids. Perhaps some of these were being preyed upon by a spider-hunting wasp — a large red-and-black insect running about, rather than flying, in search of its victims. David Clarke has provisionally identified the species as *Priocnemis perturbator.* *

Perhaps the most notable insects observed were the Giant Lacewing *(Osmylus fulvicephalus)* which was found in large numbers in the vegetation over-hanging the river, having been discovered here by David Clarke only relatively recently. The second was the hoverfly *Didea intermedia* captured by Stephen Hewitt, which, if confirmed, is apparently the first record of this species from Cumbria. Other insects of interest were the bee fly *Bombylius major* and Common Groundhopper *(Tetrix undulata).*

A few birds were seen, including Buzzard, Common Sandpiper, Pied Flycatcher, Blackcap and Garden Warbler and there was plenty of evidence of Otter activity along the river.

A very worthwhile, if damp, afternoon was enjoyed by all.

Geoff Naylor

[Having been stung by the wasp as he tried to encourage it into a tube, David appreciates its latin name! – Ed.]*

14th June: Upper Teesdale NNR **Leader: Jeremy Roberts**

En route ten Black Grouse feeding in the lush pastures near Langdon Beck provided a fitting introduction to the diverse natural history interest of the area.

At Widdybank Fell we followed the trail towards Cauldron Snout. Spring Gentians *(Gentiana verna)*, the great glory of the area, had finished flowering but were replaced by the scarcely less enticing abundance of Mountain Pansy *(Viola lutea)*, most of which were of the intense deep violet form; wet flushes had Scottish Asphodel *(Tofieldia pusilla)* and the enclosure had a good stand of Alpine Bistort *(Polygonum alpinum)*; other species especially characteristic of the flora were Lesser Clubmoss

(Selaginella selaginoides), Hoary Whitlow Grass *(Draba incana)*, Spring Sandwort *(Minuartia verna)*, sedges (*Carex* spp, including *hostiana, pulicaris, dioica*), Few-flowered Spike-rush *(Eleocharis quinqueflora)*, Northern Bedstraw *(Galium boreale)*, Variegated Horsetail *(Equisetum variegatum)* and Moonwort *(Botrychium lunaria)*.

The post-lunch session took us to the pastures and riverside near Widdybank Farm. The diversity of waders here, and in this area generally, was a reminder of the heavy losses sustained by the bird faunas of more intensively cultivated uplands elsewhere. We noted Snipe, Curlew, Redshank, Lapwing, Golden Plover and Common Sandpiper. (A nest of Curlew had eggs still being incubated and almost devoid of colouring).

The relatively unimproved meadows in this area now have less grazing pressure than previously and were superb. Richer ground had species such as Mountain Everlasting *(Antennaria dioica)*, Globe Flower *(Trollius europaeus)* and the orchids — Northern Marsh *(Dactylorhiza purpurella)*, Early Marsh *(D. incarnata)* and Fragrant *(Gymnadenia conopsea)*, as well as some of the rarer Teesdale plants.

A steep river cliff of calcareous boulder clay showed the remarkable assemblage of several of the specialities of the Teesdale flora. Spring Gentian, Alpine Bartsia *(Bartsia alpina)*, False Sedge *(Kobresia simpliciuscula)* and Hair Sedge *(Carex capillaris)* were amongst them — and all but the first in good flower. Also present were more widespread lime-loving species such as Common Milkwort *(Polygala vulgaris)*, Bird's-eye Primrose *(Primula farinosa)* and Yellow Saxifrage *(Saxifraga aizoides)*.

Jeremy gave us an introduction, accompanied by a specially-written information sheet, to the 'critical' genus *Alchemilla* (Lady's-mantles) — which is especially well represented in Teesdale. In the short time available we found *A. xanthochlora*, *A. glabra* and *A. wichurae* in the rich pastures amongst Yellow Rattle and many other herbs and grasses.

A few of the more resilient of our party decided to complete the day with a reconnoitre of Cronkley Fell. Stephen Hewitt has provided the following comments:

> The hardened rump of the party made a rapid ascent of Cronkley Fell, stopping only briefly to observe Ring Ouzel and Golden Plover, before collapsing amongst the Hoary Rockrose *(Helianthemum canum)* in the enclosure at the eastern top of the hill. The rock outcropping at this point is known as 'sugar limestone' because it is very friable, disintegrating with the grainy consistency of sugar. The lime-rich gritty soil produced by the sugar limestone is obviously to the liking of lime-loving plants such as the Hoary Rockrose. This very rare species occurs elsewhere only on some of the limestone scars of south Cumbria and the coast of north and south Wales. Normally the species is readily separated from Common Rockrose by its densely hairy leaves, but not at Cronkley Fell which perversely has its own peculiar sub-species without hairs on the leaves — the non-hoary Hoary Rockrose if you like!

Also growing here were Bird's-eye Primroses still in full flower and Limestone Bedstraw *(Galium sterneri)*.

Walking on across the top of the fell we found numerous plants of the Alpine Meadow-rue *(Thalictrum alpinum)* flowering in wetter more peaty conditions.

At the western edge of the summit plateau the sugar limestone outcrops again. Here within another large enclosure Mountain Avens *(Dryas octopetala)* sprawled across the outcrop, flowering sparsely. The grassy turf of the enclosure held several other interesting species including several plants of Common Twayblade which were not yet flowering. The rare Heath Sedge *(Carex ericetorum)* grows here and after a brief search the species was spotted growing among the similar but very common Spring Sedge *(Carex caryophyllea)*. As is often the case, once the first plant was spotted we began to see many more growing in the vicinity along with the rare arctic-montane Hair Sedge *(Carex capillaris)* with its delicately pendulous flower heads.

Returning to the cars, Yellow Wagtails were seen by the riverside at Cronkley.

Despite the rather cold and cloudy day, our group numbered 16 and managed to sample much of the special character of this famous area. With special thanks to Jeremy Roberts and Geoff Naylor for sharing their first-hand knowledge of the sites, and to Jeremy for his specially-produced field guides to Alchemillas and Spike-rushes.

David Clarke

12th July: Grasses Workshop **Leader: Jeremy Roberts**

This was the third botanical identification workshop which Jeremy Roberts had organised for the Society and it was every bit as enjoyable and informative as his previous introductions to sedges and ferns. As always the secret was in the preparation: and Jeremy had produced a useful key to Cumbrian grasses and, as later became clear, had also done his fieldwork to ensure this was a tried and tested product.

In the morning we were introduced (or re-introduced!) to grass structure and identification with the help of a wide range of specimens.

After lunch we regrouped by the River Eden at Wetheral to find and identify grasses, in between some rather heavy showers. Grass identification began immediately on the broad grassy verge by the lay-by where we parked and here also a single specimen of the apparently local Malachite Beetle *(Malachius bipustulatus)* was encountered. We located 32 species of grass — illustrating the diversity of this group of superficially similar plants — ranging in size from the impressive Hairy Brome, five feet high, to the diminutive and beautiful Wood Melick. Other interesting plants noted were the Slender Tufted Sedge *(Carex acuta)*, Prickly Sedge *(Carex muricata lamprocarpa)*, Hemp Agrimony *(Eupatorium cannabinum)* and Common Blue-sow-

thistle *(Cicerbita macrophylla).*

However even the most dedicated of botanists would have to admit that the most exciting species of the day was an Osprey seen briefly, but very clearly, over Wetheral Viaduct and being mobbed by a pair of Oystercatchers.

Geoff Norman

19 July: Scaleby Moss **Leader: David Clarke**

(Joint meeting with British Dragonfly Society)

On this amazingly warm and sunny day Scaleby Moss took on the character of a southern heathland. Our party of 15 felt a little like something 'out of Africa' — and the leader was grateful for the uncomplaining way several of the group acted as 'bearers' for the assorted fieldwork kit he had brought!

The site was alive with dragonflies — a welcome relief after a period of poor weather and some exceptionally heavy rainfalls. At times negotiating thick heather and birch scrub, we attempted to visit all of the pools on the site. Most of these are old, flooded peat cuttings, but there are also six excellent new excavations created by English Nature in 1993 as part of a strategy to improve conditions for the White-faced Darter.

Although well towards the end of this species' flight period, it was still much in evidence. Even more encouragingly, we managed to find its exuviae at most of the new pools, and it is clear that significant emergence from them had occurred. At the largest of the old pools — a long and very deep cutting — many males still were active, and pairing was also observed. In all we probably saw in excess of 30 individuals during the two hours on site.

We also saw the eight other Odonata species which normally occur: Common Blue, Azure, Blue-tailed, Large Red and Emerald Damselflies, together with the dragonflies — Common Hawker, Four-spotted Chaser, and Black Darter. There were many good close-up and 'hand-held' views of these species; we also saw exuviae (cast larval skins) of most species, and examined a sample of larvae. Emerging Emerald Damselflies were much in evidence. Near the first pool we looked at Labrador Tea *(Ledum palustre* ssp. *groenlandicum)*, now considered a naturalised 'escape' from cultivation. Although near the end of their flight period, there were still a few Large Heath butterflies about; freshly emerged Drinker Moths were also seen.

We are grateful to Mr H.K. Hughes and other landowners for the access arrangements to this privately owned site.

David Clarke

15th August: Baron Wood — moth trapping **Leader: Mike Clementson**

Baron Wood on the west side of the Eden Gorge south of Armathwaite is an area of ancient semi-natural Sessile Oak woodland. This site was a favourite collecting ground of 19th Century entomologists and on into the early decades of the present century. Many of the entomological collections and publications produced by the early members of this Society contain plentiful references to Baron Wood. It was therefore of considerable interest to revisit this site to look for moths and to be able to compare our findings with those of 100 years ago.

Permission had been given to take our vehicles down the rough track to the bottom of the wood by the river. The setting here was spectacular with the sandstone cliffs on the opposite side of the river giving rise to the steep slopes of Coombs Wood, while on our side open Birch woodland sloped up into the Oak wood. In the gathering dusk the atmosphere was of an almost primeval landscape.

Parking our cars behind the fishing hut two lights were set up in the vicinity. As we waited for darkness the hut itself provided two of the more interesting moth species of the evening — a single Old Lady and several Svenson's Copper Underwings being found roosting around the window frame. The area also proved good for bats and the two or three members who had brought bat detectors along were able to identify Pipistrelles, Daubenton's Bats and also Noctules with confidence.

The lovely clear evening was not ideal for moths since it quickly turned decidedly chilly and an almost full moon soon rose above the trees rendering the lights less effective in attracting the moths that were on the wing. Eventually 22 species were identified, the conditions resulting in a rather disappointing list for such a fine site. Other than the two already mentioned, a Least Yellow Underwing was probably the pick of the bunch.

We are grateful to Mr David Stapleton for permission to visit this site.

Geoff Naylor & Stephen Hewitt

Notes & Records

Marbled Brown moth (*Drymonia dodonaea* Denis & Schiffermuller) at High Stand, Armathwaite.

On 14 May 1997 a single specimen of this moth came to light at High Stand Plantation (NY490490).

Heath & Emmet (1979) record the species from the south of the county, but not from north Cumbria. The biological records database at Tullie House has records of the Marbled Brown from three sites in Cumberland (vice-county 70) in the 19th century — Cockermouth, Keswick and Derwent Water (Routledge, 1912), as well as several more recent records from south Cumbria. The High Stand discovery appears to be the first record from Cumberland (vc 70) this century.

Larval food plants are stated to be Oak (*Quercus* spp.), Silver Birch *(Betula pendula)* and Beech *(Fagus sylvatica)*. Birch is the most likely food plant at High Stand.

References

Heath, J. & Emmet, A. Maitland. 1979. *The moths and butterflies of Great Britain and Ireland* **Vol. 9**. Curwen Books, London.

Routledge, G.B. 1912. The Lepidoptera of Cumberland. *Transactions of Carlisle Nat. Hist. Soc.* **Vol. 2**, p.122.

Mike Clementson

Records of the Emperor Dragonfly in Cumbria *(Anax imperator)* for 1997

Following the first confirmed occurrence of this species in Cumbria in 1995, (*Carlisle Naturalist* **4** (2), p 32), further records this year give support to predictions of the spread of this species into the county.

At pools on Hensingham Golf Course, near Whitehaven (NX91) on 8 August, John Read had good views of a male Emperor — along with a male Common Hawker *(Aeshna juncea)*. The Emperor was not seen on his next visit about 3 days later in good weather, and was presumed to have 'moved on'.

At very much the same period, but more tantalisingly, I had brief views of the species at Scaleby Moss (NY46). In very good weather on 10 August a single male arrived whilst I was watching at the largest pool on the site. It quickly circuited the end furthest away from me and then flew over the adjacent heathland. It made a further and even briefer visit to the pool a few minutes later and I did not see it again after this — or indeed on a follow-up visit two days later.

The species continues to be seen in north Lancashire and further Cumbrian sightings are surely now to be expected, given reasonable summer weather.

David Clarke

The Bird's-nest Orchid *(Neottia nidus-avis)* at Miltonrigg Wood, Brampton

This spring Geoff Naylor and I carried out a more thorough survey of the main colony at Miltonrigg Wood (NY56), which was referred to in the *Carlisle Naturalist*, **4** (2), p 32. This revealed a much larger than expected population. In April we found some 60 old spikes, presumed to be mainly of the 1996 flowering. In May, newly emergent spikes were in early to mid-flower and occurred singly or in small groups over some 500 sq. metres. The count of the flower spikes — some of which were rather diminutive in stature — produced a total of about 70. Whilst numbers can be expected to vary considerably from year to year, the colony is clearly sizeable for this part of its British range and may well be the largest in Cumbria. The site is predominantly a managed oakwood and the area where this large grouping occurs also has Sycamore, Birch and Ash. The Woodland Trust, who own the wood, have been given the details of the precise location.

David Clarke

Noteworthy insects in a city garden

This summer I have been studying more closely the hoverflies in my garden (Stanwix, Carlisle). Among the more interesting species netted have been a male and female *Helophilus hybridus*. Superficially very similar to the common *H. pendulus*, this species is much more local and is usually associated with wet pond and ditch margins where the larvae develop.

I also caught a male *Xanthandrus comtus*, a distinctive species with round spots on the second abdominal segment. This species has very rarely been recorded in Cumbria. John Parker (1994) caught a specimen at Middlesceugh on 23 August 1993 and it has also been recorded from south Cumbria. According to Stubbs and Falk (1983) this species is reasonably frequent in older collections but had become very scarce in recent decades with most recent records being from the south of the country.

In addition to these hoverflies I had my first sighting of a Comma butterfly in my garden on 9 September, feeding on the *Sedum* flowers for several minutes. Since then I have had two more sightings: one on 28 September and another the next day. *[This butterfly has recently recolonised Cumbria after an absence of over 100 years. Reports from the north of the county have been received in the last two years. John Miles, who had one in his garden last year* (Carlisle Naturalist ***4*** *(2)), saw another there in 1997; Roy Atkins saw one in his garden at Edmund Castle on 5 October and*

another is reported from the Armathwaite area. Comma caterpillars feed on nettles and the species has already been recorded breeding in the south of the county although not yet in the north. Like Small Tortoiseshells, Commas hibernate and both species should be watched for on mild days in spring. – Ed.]

References

Parker, J.B., 1994, A notable hoverfly *Xanthandrus comtus* from Middlesceugh, *Carlisle Naturalist* **2** (1), p. 7.

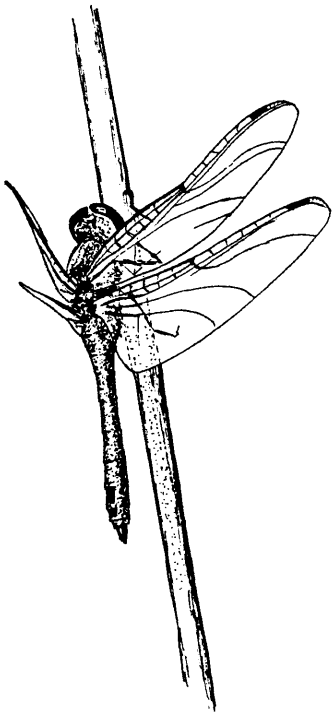
Stubbs, A.E. & Falk, S.J., 1883, British Hoverflies, British Entomological & Natural History Society

Dorothy Iveson

First occurrence of Ruddy Darters *(Sympetrum sanguineum)* in Cumbria

At the end of July this year I received an excited call from CNHS member, Bob Wright, to report that he had seen and photographed Ruddy Darters at Blackmoss Pool (NY44) — a shallow pool adjacent to High Stand Plantation in the Eden valley about 10 miles south of Carlisle, and not far from my home! As the nearest site for this species then known to me was some fifty miles south (in north Lancashire), this came as a double surprise. Visits over the next week or so revealed not only that the species was present in reasonable numbers, but also that mating and oviposition were occurring. As one mating female had white pterostigmas (small areas near the wing tips which darken with maturity), she had almost certainly emerged on site — which meant that this was not even the first year of this species' presence. I eventually found a cast larval skin (exuvia), giving further proof of breeding. Richard Little has subsequently reported that he saw male Ruddy Darters at one of the larger pools in the north of High Stand itself, about a mile from Blackmoss: he had noted 1 on 10 August and 6 on 19th.

Ruddy Darter *(David Clarke)*



At least one male was still present at Blackmoss on 21 September. On the previous day I had found a single male at a second locality — a shallow weedy pool near Bowscar, Penrith (NY53). Steve Hewitt and I had predicted this might prove suitable for the species, though it was not seen there in early August when we first checked.

Possibly the species had colonised in the very hot 1995 summer (during which Blackmoss had eventually dried up); first records might have been expected from further south in the county, but none have come to light so far. Ruddy Darters have much extended their distribution northwards over the past decade and the present instances suggest this process may not yet be over. The species could quite easily be overlooked because of similarity to the widespread Common Darter *(S. striolatum)*, which usually also occurs at the same sites. The deeper red colour and distinctly 'waisted' abdomen of the Ruddy Darter are features to look for. Congratulations to Bob and Richard for astute observation and for making us look more closely at red *Sympetrums*.

David Clarke

A further record of the Banded Demoiselle *(Calopteryx splendens)* on the river Eden

A small dispersal of the outpost Solway population of this species was reported on last year (*Carlisle Naturalist* **4** (2), p. 38) and further sightings in the 'new' areas were hoped for. Despite some good weather during the flight period, there has been only one such record: I noted a single male near the mouth of the river Eden at Carr Beds, Rockcliffe (NY36) on 8 July. Environment Agency staff, who regularly visit potentially suitable areas, did not encounter the species on either the Eden or Wampool — the sites of the new records in 1996.

Geoff Naylor

A 'Lesser' Golden Plover on the Solway

On 2nd October 1997 Derek West, the Waterside, Wigton, birdwatcher with the happy knack of finding interesting birds, located an obviously different bird in a flock of otherwise rather uniform-looking Golden Plovers on the high tide roost just west of the Herdhill 'viaduct' at Bowness-on-Solway. What marked out the bird most obviously from the rest was that it had still retained at this late date much of its breeding plumage, and so looked very black on the underside, in contrast with all the other plovers, which were in more-or-less drab winter plumage, with at the most a few flecks of black on the bellies of moulting adults.

Having thus had his attention drawn to this bird, Derek was soon struck by the small

and slight appearance of the bird compared with the rest. Although European Golden Plovers are notably variable, this bird was perhaps smaller than any of the rest, and these features were enough to suggest the bird might be a 'Lesser' Golden Plover. The retention of breeding plumage over the autumn migration, as shown by this bird, is also a feature.

There was time to alert other observers, and about a dozen people were able to watch the bird before the end of the day, when the tide had retreated and the flock had moved off down the shore, and mostly out of sight 'over the brow' of the saltmarsh edge.

Until recently the accepted taxonomy of this bird was of two races within one species, one race largely Siberian and the other North American. However, recent research has shown that both types manage to breed in one part of the Alaskan tundra without interbreeding, and as a consequence the two have been proposed — and generally accepted — as full species, now generally referred to as 'American' and 'Pacific' Golden Plovers (*Pluvialis dominica* & *P. fulva* respectively). Separation of these from European Golden Plover *(Pluvialis apricaria)* is quite straightforward: most distinctively, in all plumages, the underside of the wings and the axillaries (the 'armpit' feathers) are white in European, but a smoky grey in both forms of 'Lesser'. This feature can usually be seen in a prolonged view (although often glimpsed for a fraction of a second when the bird rushes off with the rest of the flock, never to show closely again!). In the present case, the bird was occasionally 'chivvied' by other members of the flock, when it would often flutter a short distance, holding its wings aloft for a second, and allowing the underwing colour to be clearly determined.

Positive identification of the two from each other is tricky, however, even in the hand, and it is only in recent years that definitive characters have been established. Unfortunately, only the first observer was close enough to discern the critical differences between American and Pacific, which involve the position of the tips of the tertial flight-feathers in relation to the tips of the primary feathers and the tail tip. There seemed to be a good projection of primaries beyond tertials, which suggests American. The tone of the upperparts was generally commented upon by all observers as being very 'cold', with the typical Golden Plover spangling being almost white, and without the yellow which characterises most Pacifics. Most of the other features seen are not definitive, but enough pointers towards preliminary identification as American were made, and as such it will be submitted to the Rarities Committee of *British Birds*.

The bird was not seen again. Neither species of 'Lesser' Golden Plover has been recorded in Cumbria before.

Jeremy Roberts

First record of the Sulphur Beetle *(Cteniopus sulphureus)* in Cumbria

In his paper on Cumbrian beetles in *Cumbrian Wildlife in the Twentieth Century* (1996), Roger Key stated that the Sulphur Beetle was one species which had not been recorded for the county but which might be expected to occur here. As a result of reading that publication Mr Jack Smith of Handforth in Cheshire wrote to Roger giving details of a yellow beetle which he had photographed on a Carline Thistle in the cliff-top grass at Humphrey Head on 17 June 1989. Roger has happily accepted the record as a definite Sulphur Beetle, since there are no other sulphur-yellow beetles in Britain and the habitat of coastal calcareous grassland at Humphrey Head is exactly right for the species. He is only surprised that it has not been seen there before.

Stephen Hewitt

Cowraik Quarry, Penrith

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16 Monnington Way, Penrith, Cumbria CA11 8QJ
Stephen Hewitt,
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Cowraik Quarry is a disused sandstone quarry on the southern slopes of the Beacon Hill about 2km east of Penrith (NY541309). It is designated as a Site of Special Scientific Interest for the geological interest of the remaining quarry faces. In addition the natural re-colonisation of the site since quarrying ceased has given rise to an interesting wildlife habitat. The sandy substrate and steep south facing slope have combined to create an area of open and diverse vegetation structure with areas of bare ground which receives the maximum insolation and is therefore ideal for many insects.

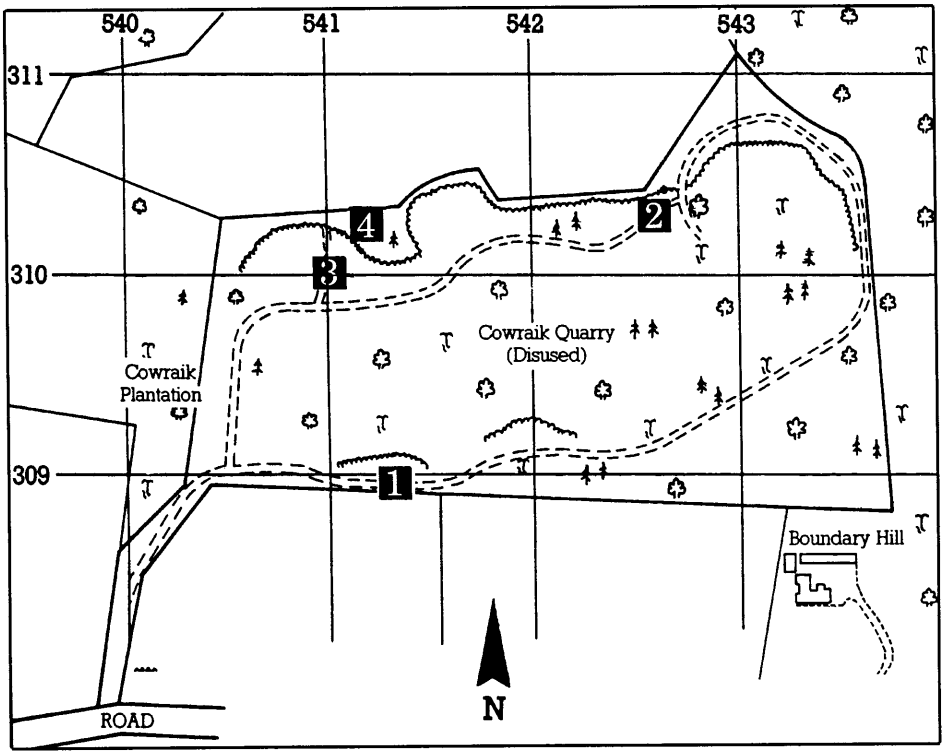

***Figure 1**: Map of Cowraik Quarry showing perimeter track and localities to be studied. Scale 1:2500.*

Geological notes

Old quarries along the escarpments of Beacon Edge were the sources of red sandstone from which the Victorian houses of Penrith were built. Most of these old quarries have now been lost but the sandstone can be examined in the old quarry at Cowraik. The quarry has upper and lower levels with rough tracks giving access to old quarry faces and these are shown on the map.

Just past the stile at the site entrance is a round metallic structure beside the path. This is the cap on one of the wells drilled by North West Water to supply Penrith's water. This well penetrates over 100m of sandstone. It can be calculated, with the thickness cut by the well and exposed in the quarry, that the sandstone is a massive bed at least 150m thick.

At first glance the lower quarry faces (Locality 1: see map on opposite page) are composed of a red, rather featureless sandstone but a closer examination shows distinct coarser and finer layers. The sandstone here is rather friable and the grains can be readily separated by crushing rock fragments between the fingers. The coarser grains are frequently described as 'millet seed' grains on account of their smooth rounded appearance, while the finer grains are less rounded. Rounded sand grains are one of the diagnostic features of wind-blown sand deposits.

The most striking features of the sandstone are the steeply dipping layers, known as cross-bedding. Careful measurements of the inclinations of the cross-bedding has shown dips of approximately 25 to 28 degrees, always towards the north west. These rocks are the remnants of ancient desert sand dunes, formed by wind-blown sand accumulating on the steep dune fronts in the lee of the wind. The dunes advanced to the north west with the sands carried by the prevailing easterly winds. The cross-bedding represents layer after layer of sand deposited down the dune fronts by the wind dropping sand over the dune crests — formations known as 'foresets'. In addition to the cross-bedding, a network of fine cracks can be seen running diagonally across the faces, some veined with a white mineral — Quartz. These fine fractures are associated with faulting in the vicinity that occurred after compaction of the sand deposits. Further evidence of faulting is seen elsewhere in the quarry.

The upper quarry provides the most extensive exposures with quarry faces along most of the northern boundary of the site, albeit overgrown in places. Here the sandstone is harder and well-cemented with secondary silica, which occurs as overgrowths around the 'millet seed' Quartz grains and sparkles when caught by the light. This feature can be seen in the buildings of Penrith on a sunny day. The red colour of the rock is caused by a fine coat of the red iron oxide — haematite — around the sand grains.

At the eastern end of this quarry face (Locality 2) the pattern of cross-bedding can be clearly seen. The steeply inclined layers dip to the left in the lowest unit of the face. This sequence is terminated by a strong near-horizontal feature which represents a

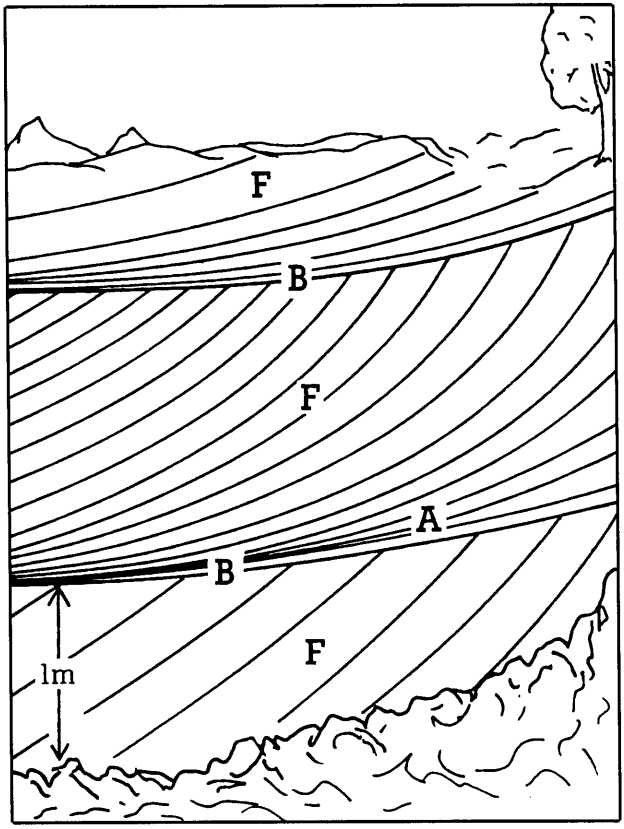

***Figure 2**: Schematic section through part of quarry face at Locality 2, showing foresets (F), apron beds (A), and erosion surfaces (B).*

plane of erosion where the upper part of this sand dune had been removed by wind erosion. A banded sequence of sandstone, 1m to 1.5 m thick, lies immediately above the erosion surface, with adjacent beds (apron beds) roughly parallel to the erosion surface but with steep dips higher in the sequence (illustrated in figure 2).

A further erosion surface and overlying beds can be recognised close to the top of the quarry face, but here the angular discontinuity is less evident.

Each of these sequences represents the eroded remnants of a sand dune, with each dune unit separated from the overlying one by a nearly flat erosion surface. This shows that the upper part of the lower dune had been removed by wind erosion before a later one advanced across the surface. Although these units may now only be a few metres thick, they represent the eroded remnants of much larger dunes.

Although the quarry face can be traced along the northern boundary of the quarry, it is best examined at Locality 3. Here the massive and well cemented nature of the sandstone must have yielded some of the best building stone. The cross-bedding is less evident here, in part hidden by the effects of fractures affecting many of the vertical faces. Evidence of near horizontal movements can be recognised in small scale polishing of the rock face and light coloured markings due to crushing of the sand particles. This evidence indicates the presence of faulting in the vicinity. On the rough path towards the top of the quarry (Locality 4) steeply dipping surfaces can be examined with horizontal beds lying across the top of them. The inclined beds are the

steep foreset beds of an advancing dune while the flat sandstone layers above are the basal units of an overlying dune. Coarse rounded quartz grains may be found adhering to the erosion surface, perhaps the remains of small sand ripples which were present before the higher dune buried them.

Wildlife notes

Since active quarrying ceased, the site has been recolonised by plants typical of dry sandy soils. The quarry now supports a range of different successional stages developing towards oak woodland.

The track into the quarry from the road is on richer soil and here mature Sycamore. Nettles and Hedge Woundwort are among the plants forming the ground cover and many different insects are found here on these common plants. One of the less common insects here is the little green plant bug *Macrolophus pygmaeus* which is associated with Hedge Woundwort but is not frequently encountered, in the past it was regarded as very uncommon in the county.

On the steeper slopes the sandy soil remains unstable and here the early species of the succession — Heather, Bell Heather, mosses and fine grasses such as *Deschampsia flexuosa* — can be seen recolonising the patches of bare sand constantly formed by shifting of the sand on the steep slope. This open vegetation structure with bare patches of sand is ideal for many insects. The damsel bug *Anaptus major* is a ground-dwelling predator which prefers the open, dry grassland areas. The Common Field Grasshopper *(Chorthippus brunneus)* is another species of dry grassland found here. In Cumbria it is generally a coastal species, but the sandstone of the Eden Valley provides suitably dry open habitats for it to colonise inland. The grasshopper uses the areas of bare ground for basking in the sun and also as egg laying sites. Other species of true-bugs (Heteroptera) are more closely associated with the heather. *Macrodema micropterum*, and *Scolopostethus decoratus* are two ground bugs generally found beneath the heather plants, while *Kleidocerys truncatulatus* feeds directly on the plants and can be shaken out of the foliage along with the bright green plant bug *Orthotylus ericetorum*. The steeper banks provide nesting sites for the Slender Mining Bee *Lasioglossum calceatum* while the large black and yellow Field Digger Wasp *(Mellinus arvensis)* prefers to excavate its multiple-celled nests in light, dry sand. The adults catch and paralyse flies to provision the nests for the developing grubs. The parasitic fly *Myopa testacea* has been found in this part of the quarry, although its host is unknown its is likely to be among the solitary bees and wasps, in common with other flies in the same family *(Conopidae)*. Sand Martins used to nest in some of the softer quarries faces at the bottom of the slope but these birds have not bred here since the population crash of the early 1970s.

At the top of the slope is a level area where the heather is being colonised by scrub and Scots Pine and grasses are becoming dominant at ground level. Beneath the pines

here the ground bug *Trapezonotus desertus* occurs — dry heathland colonised by pines seeming to be its preferred habitat in Cumbria. On the bare hard trampled path, Green Tiger Beetles hunt for their insect prey.

Areas of dense Gorse scrub occur on the open slope, providing cover for nesting birds such as Chaffinches and Long-tailed Tits. The insectivorous birds also find a happy hunting ground among these thickets. One of the most obvious of the insects found here is the Gorse Shieldbug which can form dense swarms in spring when the adults emerge from hibernation to breed and again later in the year as the nymphs mature. Several other bugs are associated with gorse and among those so far identified at Cowraik are the plant bug *Asciodema obsoletum* and the beautifully sculptured Gorse Lacebug *(Dictyonota strichnocera).*

Scots Pine trees are scattered over the quarry site, with some fine mature trees amongst them. The seeds of this tree are the preferred food of the Red Squirrel and feeding signs of stripped cones scattered beneath the trees are regularly found. The Scots Pine is the host plant of several different insects found on the site: the Eyed Ladybird *(Anatis ocellata)* and the Striped Ladybird *(Myzia oblongoguttata)* are the largest ladybirds in Britain (8mm long). In Cumbria the pine woods on the sandy soils of the Eden Valley form the main centre of distribution for the Eyed Ladybird. The smaller 18-spot Ladybird *(Myrrha octodecimguttata),* which is also found here on Scots Pine, is less common but more widespread in the county. The orange-brown Pine-cone Bug *(Gastrodes grossipes)* perfectly matches the colour of the pine bud scales and seeds. This 6mm long ground bug is dorso-ventrally flattened enabling it to get under the scales of the pine cones to feed on the seeds inside. Other typical bugs of Scots Pine, the flower bug *Acompocoris pygmaeus* and the plant bugs *Phoenicocoris obscurellus, Atractotomus parvulus* and *Orthops rubricatus* also occur here. The brown lacewing *Hemerobius nitidulus* is another typical Scots Pine species found at Cowraik.

A few Ash trees are scattered over the slope, particularly at the bottom where the soil is richer. This area is frequently used by Green Woodpeckers, which also hunt for ants and other insects among the dry grassland. The Ash trees have their own insect fauna including the plant bugs *Orthops cervinus* and the dark-red *Psallus lepidus.*

At the top of the slope the terrain consists of an area of old spoil heaps with scattered woodland and dense thickets of Gorse and Broom. The Scots Pine is joined by Larch and Birch here and young Oaks are developing as the next stage of the succession. This open woodland is populated by a number of woodland bird species. The resident tits and Treecreepers form mixed flocks in the winter. Redstarts have bred here in the past and Crossbills are also occasionally seen. Great Spotted Woodpeckers regularly hunt for grubs in the dead larch trees that remain standing. The Larches are the host plant of the small dark flower bug *Tetraphleps bicuspis* and also the aphid feeding Larch Ladybird *(Aphidecta obliterata),* although the latter species is also found on

several other species of tree.

The snake fly *Raphidia xanthostigma* has also been found here; although generally associated with deciduous woodland it was swept off Larch in this instance. Both adults and larvae are predaceous, the larvae are found under bark on dead wood whilst the adults generally live in the canopy and are rarely encountered. Other canopy dwellers are the brown lacewings *Hemerobius atrifrons* and *Wesmaelius betulinus*. Whilst the former species is associated with coniferous trees the latter shows a strong preference for Birch.

At the north east corner of the site the boundary is marked by a row of Beech trees. These are another favourite food source for the Red Squirrels. Water pockets formed at the bases of the branches are utilised by the larvae of the hoverfly *Myothropa florea*. The larvae of this species are of the 'rat-tailed maggot' type, the 'tail' being the breathing tube by which the submerged, detritus feeding, larva obtains air. The scarce woodland hoverflies *Criorhina floccosa* and *C. ascilica* have been found feeding at Hawthorn blossom in this vicinity and they probably breed in heart rot in the adjacent Beech trees and stumps. The latter species is at the northern edge of its British range here.

Cowraik Quarry is a popular area with the dog-walkers and children of Penrith. In spite of this heavy use and its relatively small area the site is of considerable interest and value for its wildlife as well as for its recognised geological interest.

Acknowledgements

SH is grateful to Neil Robinson for identifying the Slender Mining Bee and Field Digger Wasp.

The GPS receiver in survey work

F. Jeremy Roberts,

Eden Croft, 2 Wetheral Pasture, Carlisle CA4 8HU

For several years, walkers and other outdoor enthusiasts have waited impatiently for the expected drop in price of GPS receivers — to the point where they were worth considering as navigation and route-finding aids. This has now occurred, and the simpler receivers are now advertised for as little as £130 or so. I believe that the GPS receiver is now well worth considering for natural history survey work, as well as for its very considerable utility in fell-walking, mountain-climbing, sailing, and other outdoor pursuits.

The GPS (**G**lobal **P**ositioning **S**ystem) receiver takes advantage of a US Department of Defense network of orbiting satellites which transmit continuous VHF signals. At any one time, 24 of these satellites are in operation, giving global coverage. The GPS receiver simply picks up these signals, and by (extremely sophisticated) comparison of their configuration, continually computes its position in three dimensions. At any one time there will be average of 12 satellites 'visible' to the receiver (*ie* above the horizon); the four which at any moment give the best configuration for accurate computation of position are used. The less-sophisticated receivers fix onto signals of up to six satellites at a time, picking up their latest signals in series (*ie* in sequence); more sophisticated models (at twice the price) can monitor up to the full 12 available, and pick up signals from all 12 in parallel (*ie* at once!). This faster data acquisition makes for a more rapid position fix when the receiver is switched on, and it provides a fresh fix about once a second thereafter.

There have been larger, heavier (and much more expensive) receivers available for use in vehicles (light planes, boats and off-road vehicles etc) for some time; hereafter I shall concentrate on the facilities and uses of the small hand-held devices of particular use in the present context, particularly the *Garmin 12 XL*; facilities obviously vary with the model. Its present cost is about £260 (including VAT). The other main manufacturer of hand-held devices is *Magellan.*

The *12 XL* is about the size and weight of a mobile 'phone; it uses four AA batteries, which power it for about 10 hours (so at about the same rate as a torch). I loathe discarding batteries, with their environmental costs, and have with relief found that rechargeable batteries work perfectly well, giving about four hours per charge. The cost of these is coming down quite quickly, and I found VARTA batteries (from Curries) the cheapest yet, being little more than the cost of alkaline batteries, and yet rechargeable many times.

On switching on, the device shows on its little screen a view of the hemisphere above,

with the positions of the satellites which it expects to find. Within 15-30 seconds, it indicates which satellites it has found, and the strength of the signal from each. Soon after accessing the message-stream from each, the receiver changes the display to a 'position page', which gives your position and (if you are moving) your speed over the ground and direction (as a compass bearing). The position is given by default as latitude/longitude, but if you are within the limits of a regional grid (such as the Ordnance Survey National Grid) it can be programmed to give your position with reference to that grid. The UK National Grid read-out is given as a ten-figure grid reference. While in most circumstances the last figure in each group of five (*ie* for eastings and northings) is, at present, spurious, the fourth figure is more-or-less accurate, depending upon various circumstances, thus giving an eight-figure GR, of reasonable relevance, and a six-figure GR of great accuracy. This position can be fixed in memory as a 'waypoint' by the press of a button, with a default number (or given a user-defined name), and up to 500 of these waypoints can be stored at once.

Most usefully, you can install waypoints by hand at any time, *eg* by feeding in a six- or eight-figure GR. One of the great virtues of the machine is that you can then select any of your stored waypoints as a destination, whereupon the receiver will give you an immediate bearing to that point (in degrees and as an arrow on a 'compass page') and your distance from it. If you are actually moving at the time, it will give you the time to arrival, or time of arrival, at your present speed.

As you walk (or drive or sail) your progress is continuously plotted on a 'map page' on the screen (you can vary the scale from 0.5 km to 600 km), with any waypoints in range also shown. Waypoints can be selected on screen, when their bearings/distances appear. You can navigate a route along a series of waypoints, when the GPS will take you in turn to each waypoint, giving the bearing/distance to the next. At any point, you can ask the device to compute a return route back to your starting point along the path you have just come, which it does by creating waypoints at the significant changes of direction in your path. (This facility in particular should enable safe retreat for instance when mist descends on the mountains and moors.) Alternatively, you could simply navigate a straight-line route back to the start (the device informing you on the compass page whether you are deviating from the direct route, and by how much and which way you should steer to correct your deviation). When you are within one minute of the next waypoint (at present speed) you are alerted by a message on screen.

There are several other related facilities and features, too involved to summarise readily!

The reader may begin to appreciate the features which the GPS brings to route-finding; I can imagine it would be a boon to navigation, both in-shore and off-shore.

As far as natural history surveying is concerned, the main uses would be:

- accurate position-location of your finds (especially valuable in featureless

country such as moorland);

- help with locating previously-known sites, knowing their grid reference;
- easy monitoring of your position with respect to boundaries (eg edges of tetrads or 10-kilometre-squares) when recording;
- much safer and surer navigation in remote country or inclement weather (you can no longer be lost, except perhaps in thick woods: see below!).

There are one or two aspects which need to be borne in mind, relating to accuracy. For military or strategic reasons, the U.S. Department of Defense so far reserves the right to apply a degradation to the signals (which can affect civilian use). I have been unable as yet to discover whether or when this degradation occurs, and to what extent. Its potential threat should further encourage the user to check all fixes given by the GPS against other references wherever possible (map, compass etc), which is only sensible. In any case, it seems very likely that the US DoD will cease degrading of signals within a few years, partly owing to pressure from civil aviation interests, for whom the system is rapidly becoming invaluable. (With the gradual spread of coverage of a 'second layer' of land-based correction signals from beacons (the so-called 'differential GPS'), position both horizontally and vertically can be fixed to 1-2 metres: think of the significance of such accuracy for civil aviation!)

Secondly, the signals from the satellites are broadly 'line-of-sight', which means that one's 'view' of some satellites can readily be blocked if one is too close to a cliff, in a steep ravine, etc. Further, for some reason the signals are absorbed by a too-great thickness of leaves, so that coverage can be intermittent in thick forest: a major disadvantage. However, even a small opening in forest usually allows a 'sight' of enough satellites to provide a fix. Accuracy may suffer if the GPS has to rely on a less-than-ideal combination of satellites.

One assumes that the price of the GPS receiver will drop at about the same rate that facilities and ease of use increase. As the manufacturers make clear, GPS receivers should be seen as *additions* to the array of available navigation devices rather than as replacements for them: they complement, but do not supplant, map-and-compass skills. However, because of their range of wholly new facilities, I am convinced that they will eventually come to be regarded as indispensable.

Jeremy Roberts

Dorothy Blezard 1908 – 1997

We were saddened to learn of the death of Dorothy on 24 August.

Having joined in 1923 she had become the Society's longest serving living member — and had been made a Life Member partly in recognition of this. Dorothy was well known to more senior Society members — but I am especially grateful to Derek Ratcliffe (who has known the family well since the late 1940s), and to her sons Peter and Andrew, for filling in some of the details.

Born in Carlisle as Dorothy Stewart, she was always proud of her Border Scots ancestry. After teacher training in Liverpool, she began a short working career as a teacher in Carlisle. She had already acquired an enthusiasm for plants from her mother, and botany was to be her abiding interest. For a short period before her working days she studied at Carlisle Art School — then at Tullie House — under James Atherton, who inspired her interest in plant illustration.

She married Ernest Blezard in 1933 and thereafter fulfilled the role of wife and mother. Dorothy was devoted to Ernest and helped him a great deal in his roles as the Society's Secretary and Editor. She contributed an article to *Transactions* Vol V (1933) on 'Trees in Carlisle', and one on the pine-wood orchid Creeping Lady's-tresses to Vol VII (1948).

Her love of plants was fostered by Ernest, who often took choice specimens home for her to see and grow and paint. She delighted in the garden at their Blackwell home, and visitors had many an enjoyable and instructive tour as their hostess enlarged on the treasures she so carefully tended. Her natural history interests extended especially to Molluscs.

Dorothy was always most welcoming to the many naturalists and others who visited, relishing their news, especially on matters botanical. As I had good cause to know, she had a prodigious memory for detail and a keen interest in local people and events — about which she was always ready to reminisce with a good-natured and often mischievous sense of humour. Together with Ernest she built up a great knowledge of the local flora, and for many years she ran a summer exhibit of the more common wild flowers at Tullie House. Her interest in Tullie House Museum and the Society never wavered and she was generous to both in many ways. In memory of Ernest, she presented the Museum with a set of the *Drawings of British Plants* by Stella Ross-Craig, many of which she had accurately hand-coloured herself from living material.

The loss of Ernest in 1970, and their youngest son Crispin since then, were two great sadnesses of later life, which she bore stoically. Her death almost breaks the personal connections with the early years of the Society and many naturalists now long gone. We shall much miss her and extend our sincere condolences to her surviving sons, Peter and Andrew.

David Clarke

Michael Rawes

We learned with sadness of Michael Rawes' sudden death in the summer.

He and Kathleen his wife have been regular supporters of this Society's activities over many years and his friendly interest and support for wildlife, the Society and the Museum will be missed.

Most of Michael's working life was spent at Moor House Field Station on the Pennines. He joined the staff there in 1956 going on to become officer-in-charge until his retirement in 1982. During this time the field station flourished and developed an international reputation for research into upland life and management. Michael particularly studied the effect of sheep on the uplands with many publications to his credit.

Our sympathies go to Kathleen and their family.

Stephen Hewitt

It is with further sadness that I must also report the death of another long-standing supporter of the Society, Billy Fawkes of Newcastleton, after battling against illness for some time. It is hoped to include an obituary to him in the next issue – *Ed.*

The Carlisle Naturalist

Editor: Stephen Hewitt.

Layout & DTP: Jeremy Roberts.

Editorial Panel: Roy Atkins, David Clarke, Stephen Hewitt, Geoff Naylor, Jeremy Roberts.

Word Processing: Stephen Hewitt and Jeremy Roberts.

Artwork: Roy Atkins, David Clarke, Stephen Hewitt.

All material for publication should be sent to Stephen Hewitt, Tullie House Museum, Castle St., Carlisle CA3 8TP.

Deadline for receipt of copy for the next issue is 14th February 1998.

Information for Authors

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

Material should be clearly legible – ideally type-written double-spaced on one side of white A4 paper, or submitted on DOS-formatted 3.5 inch computer disc in ASCII format and accompanied by a paper copy. Only species and genera should be underlined. Authority names should be given in full. Illustrations should be in black ink; they must be originals and not photocopies. Whilst every care will be taken of original artwork, the editor can not be held responsible for any loss or damage. References should be given in full at the end of the article or note.

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

Opinions expressed in The Carlisle Naturalist are not necessarily shared by the Council of Carlisle Natural History Society nor the Editorial Panel.

Additions to the Library/Archives

Ann Robinson has very kindly donated a run of *Bird Study* to the Society's library. *Bird Study* is the journal of the British Trust for Ornithology and it includes papers on all aspects of field ornithology from distribution and status to habitat and ecology. The series given by Ann runs from March 1990 to March 1997.

Derek Ratcliffe has very kindly donated a notebook diary of Francis Nicholson. A retired Manchester businessman living in Bowden, Cheshire, Nicholson was an active ornithologist in the late 19th century. A member of the British Ornithologists Union, he is extensively quoted on the Dotterel in *The Birds of Cumberland* (Macpherson & Duckworth, 1886). The diary covers the years 1874 to 1905 and contains useful historical information although it does not appear to be a comprehensive record of Nicholson's activities in Cumbria.

Carlisle Natural History Society Officers

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Assistant Secretary: Roy Atkins

Treasurer: Dorothy Iveson, 60 Etterby St., Carlisle.

Recorder: Geoff Naylor, c/o Tullie House Museum.

Subscription Rates: Adult £6.00; Family £8.00; Junior £3.00; Affiliated £5.00

(Affiliated members receive the *Carlisle Naturalist* only)

Membership application forms are available from the Secretary.

Winter Programme 1997/98

Indoor Meetings are at Tullie House Museum and Art Gallery, Castle Street, Carlisle.

Meetings start promptly at 7.15 pm (doors open at 6.50 pm).

5th October (Sunday): Field Meeting Fungus Foray, Thurstonfield Lough. Leader: Geoff Naylor, Depart 1.30 pm. Meet Thurstonfield Lough (NY320565) at 2.00 pm.

15th October *"Song Birds and Conifers"* An illustrated talk by Geoff Shaw

29th October *"George Swan's Flora of Northumberland"* An illustrated talk by Dr Angus Lunn

12th November Members' Night: contributions from the membership

26th November *"River Engineering — environmental challenges"* An illustrated talk by Steve Garner

10th December *"Forest Wildlife"* An illustrated talk by John Cubby

7th January *"Caving in Cumbria"* An illustrated talk by Peter Eagan

21st January *"Wildlife in Portugal"* An illustrated talk by Brian Spencer & Geoff Horne

4th February *"Assassins and Damsels — the Heteropteran bugs of Cumbria"* An illustrated talk by Stephen Hewitt

7th February (Saturday): Field Meeting Loch Ken, Galloway (wild goose chase) Leader: Geoff Horne. Depart 9.00 am.

18th February *"Birds of Blacktoft Sands RSPB Reserve"* An illustrated talk by Bill Kenmir

4th March AGM & Members' Night: Annual General Meeting followed by contributions from the membership

14th March (Saturday): Workshop and Field Trip Mammal Tracks and Signs Leader: Stephen Hewitt. Meet at Tullie House at 10.00 am. Please book in advance with the Museum

18th March *"The Natural History of Gaitbarrows National Nature Reserve"* An illustrated talk by Rob Petley-Jones