

An Account of Some of the Lepidoptera of the Moorlands near Llyn Cwmynach, Merioneth

By M. R. YOUNG

I have been fortunate enough to have spent four short holidays in successive years (1970, '71, '72 and '73) in the area near Llyn Cwmynach in Merioneth, and although these have all been in July and August I have also visited the moors at other seasons, each time just for the day. Consequently, to some extent, I have been able to assess the character of the area's lepidopterous fauna, indeed, I feel that I might almost be well acquainted with it by now were it not for the weather. I imagine that most of you will have visited and collected in Wales at some time and I am willing to stake my shirt that you all know from bitter experience the masochistic misery of bug-hunting in the wild, wet, Welsh weather. As I arrived the prevailing westerlies spread their ragged, grey blanket across the mountains, the rain fell relentlessly, and just for good measure, in case I had the temerity to venture out with my Tilley or larva tin, the temperature fell like the rain and the wind drove scuds of very wet water down the neck and sleeves of my waterproof.

But I digress: the area above Llyn Cwmynach is a breathtakingly beautiful mixture of rugged moorland and pitifully poor sheepwalk. The upper slopes are dominated by heather (Ling, *Calluna vulgaris*), Bilberry (*Vaccinium myrtillus*) and the Hard Grass (*Nardus stricta*) with the ubiquitous Bracken (*Pteridium aquilinum*) taking all the footholds that it is allowed. There are many streams and flushes with their associated oases of flowering plants but true montane species are very scarce and indeed the highest peak in the area, Y Llethr (2475 ft.), is a dull lump of dreary sheepwalk. Fortunately the other local peaks are more as they should be and in places their higher slopes are sparingly sprinkled with brilliant patches of Starry Saxifrage (*Saxifraga stellaria*) and other mountain plants. A scattering of old, deciduous trees partially covers the lower slopes, but these trees are now being engulfed by plantations of conifers which are found up to 1000 ft on every hillside. My stamping ground was above the tree-line and on the lower slopes of Y Llethr, fortunately in the middle of a large expanse of heather, and surrounded by the vegetation described above I had high hopes that my dreams of a sheet covered in Welsh specialities would be realised: weather permitting!

Only one species of butterfly was resident in the area in which I stayed and that was the ubiquitous Small Heath (*Coenonympha pamphilus*). It was found up to 2300 ft and on every walk I disturbed a quota of four or five which struggled up through the grass stems, flicked their wings once, and then allowed themselves to be blown back in amongst the tussocks. Try as I would I could not change them into their larger and

rarer cousin and I do not think that there is sufficient *Rhynchospora* in the area for *tullia*'s liking.

In addition to *C. pamphilus* there were a number of species of butterfly which bred in the adjacent valleys and lower slopes but which were often to be seen up on the hillsides. Notable amongst these were the fritillaries, *Argynnis aglaia* and *A. selene*, both of which were common until late July. In one spot near Llyn Cwmynach, where there had been a field in the past, the profusion of docks provided a habitat for the Small Copper (*Lycaena phlaeas*) and the same valley was the only local home for the Grayling (*Eumenis semele*). In 1970 there was a steady trickle of the Large and the Small Whites (*Pieris brassicae* and *P. rapae*) moving quickly from the north-west to the south-east forming a small but very marked migration. The weather at the time was uncharacteristically hot and sunny, with a slight westerly breeze.

These butterflies took only a supporting role in the main play, however, for on nights on which there was only a moderate wind, or when the rain temporarily lessened, the air was alive with moths. There were far more than I remember seeing in the lowlands even on the best of nights, but often they were of only two or three species and the attraction of some species waned even for an avid bug-hunter like myself. Imagine seeing scores of *Colostygia didymata* night after night: he was a constant visitor to my Tilley, and then when that was extinguished he would come and drown noisily in my wax candle. His lady, however, was more retiring and so more exciting, although searching the grassheads at dusk was sure to find her out. Their drab and elusive relation, *C. salicata*, was more circumscribed in its emergence times and I found it in its second generation only for one brief spell each year and that always at the end of July; in fact August 1st was its heyday and I am glad to say that due to the inaccessibility of the moorlands *salicata* always outnumbered the human trippers.

Each year, as July gave way to August, the first *Lygris populata* began to appear and they soon reached plague proportions before being replaced gradually at about the middle of the month by their cousin *L. testata*. Both these lovely moths seem to me to be at their best on the moorlands and *populata* ranged from the most delicate pale lemon wash to a brazen contrast of orange and dark brown. Another congeneric pair of species that were always present were *Colostygia pectinataria* and *C. olivata*. These species were common and regular in their occurrence, but were nowhere near as abundant as the two *Lygris* species or as the day-flying *Ematurga atomaria*, however they made up for their lack of numbers by their appearance, being handsomely marked in green and black: I never grew tired of their presence on my sheet.

All the moths mentioned so far came eagerly to light; one other species was common but required being searched for.

Rather I should say that it required being "walked" for, for it found me by itself. Whenever I walked past a rock-face in July or early August several specimens of *Entephria caesiata* would dash off past me. When I managed to catch up with them I found them to be of a very strong, handsome slate-grey (even if sometimes they were somewhat unicolourous), very suitable for sitting on Welsh rocks, but surely it is a major entomological triumph to net *caesiata* as it leaps from its rock. Driven by the wind they left me standing, and I have to confess that whenever I caught one all I knew was the rush of its wings as it flung itself into my net.

There were some other geometrids which visited my light but only irregularly and in ones and twos. Try as I might I could not find their larvae and I think that some of them may have strayed from their breeding grounds in the lower areas. These moths included *Epirrhoe alternata*, *Lyncometra ocellata*, *Euphyia bilineata*, *Alcis repandata*, *Triphosa dubitata* and the striking moorland form of *Crocallis elinguaris*. *Sterrhopterna* seemed to be in this category in 1970, 1971 and 1973 but in 1972 it was abundant. Even so I never found its larvae although I searched for them carefully.

I found many other larvae of the other common species. Those of *C. didymata* and *E. atomaria* were abundant, the former usually on Bilberry but sometimes on Ling, the latter always on Ling (and both were skilled at disguising themselves as other species), and those of *L. testata* were fairly common on Ling. Two other larvae which I also found frequently on the same pabulum and which provided me with a great deal of enjoyment were *Eupithecia nanata* and the noctuid *Anarta myrtille*. Although I found dozens of these I still could not resist an expedition to search for them as they are so attractive and so skilled at camouflage. As far as I am concerned they are always worth getting wet for!

Some species of noctuid were regular and common visitors to my light, although they seemed to require the wind to drop rather more than did the geometrids. A number of these noctuids was out throughout July and August and I soon came to know their ragged and wind-blown profile on the windows. *Lycophotia varia* was one such and the occasional fresh specimens that appeared were very smart in their warm reds and browns. The same cannot be said of the other commoners, *Cerapteryx graminis*, *Stilbia anomala* and *Ochropleura plecta* always being down at heel, and the dingiest of them all was also the most abundant; bedraggled *Leucania impura* were everywhere. This master of impersonation was the cause of many a soaking as I was often lured out into the rain only to find that the exotic 'bug' pressed so invitingly against the window-pane had metamorphosed into *L. impura*. Imagine my delight then when in 1970 one of the larger of these supposed exotics turned out to be *Amathes ashworthii*! This striking moth was quite a rarity in 1970 and 1971, I saw perhaps two or three a week but in 1972 and 1973 he blossomed out. First of all I found

one of his larvae, in early July 1972, sitting in the sunshine at midday on a heather twig (not at all what I expected of him) and then when I went to stay in August he was really quite common as an adult. The larva was parasitized, of course, and just to add insult to injury the nasty wasp that was the only result of my tender care escaped before I could identify it. However, the adult moths were all that I had hoped for. When I first arrived (2/8/72) they were newly emerged and ranged from the softest dove-grey to a dark, smudged slate colour. They came freely to light (I never found any at rest or on heather blossom) and they came with a bang when they came: no coy 'sidling-by' like an *impura* luring me off into the wet heather, just a confident bump and there they were. I grew quite blasé in the end, you know, and dismissed them with a wave and a glance.

Two other regulars of which I never tired were *Plusia interrogationis* and *Amathes agathina* (the latter only in late August and early September). *P. interrogationis* was a very skittish lady at light, but whenever I caught her at last it was worth the chase for surely she is one of our most lovely moths.

As with the geometers, so with the noctuids, there were some species which appeared only casually and irregularly. Some were undoubtedly residents, for example *Celaena haworthii* and *Xylena vetusta*, but others may have been merely visiting, for example *Apamea crenata* and *Amathes baja*. Noctuid larvae were scarce and *Anarta myrtili* apart, *Ceramica pisi*, *Apatele menyanthidis* and *Eumichtis adusta* were the only ones found (and those only rarely and by chance). However, there were other large larvae about for most of the time as *Philudoria potatoria*, *Lasciocampa quercus* and *Macrothylacia rubi* were often common and *Saturnia pavonia* sometimes turned up, particularly on the lower slopes.

The impression that I gained of the lepidopterous fauna of the area was that it reflected the monotony of the available foodplants and the inclemency of the weather. Thus a few species, which fed on the common heather, bilberry or grasses and which were obviously adapted to the climate, were abundant, and numerically swamped the few other species which maintained a seemingly precarious foothold. The dominant species in July and August were *L. impura*, *A. ashworthii* (in 1972 and 1973), *S. anomala* and *C. graminis* of the noctuids and *C. didymata*, *E. atomaria* and the two *Lygris* species of the geometers. Of those that were only found infrequently many were associated with plants that were themselves infrequent. One sheltered niche contained a solitary Foxglove (*Digitalis purpurea*) which produced a single larvae of *Eumichtis adusta* on two successive years: the only ones that I found.

Taken all in all my efforts were rewarded; I had the thrill of seeing Ashworth's Rustic landing on my sheet and the even greater thrill of seeing it flying off into the rain and wind of its own wild habitat. I pitted my powers of detection against the

camouflage of *myrtilli* larvae, and I had the satisfaction of finding my quota of the less striking but characteristic larvae and adults by steadily 'working' the moorland. I got my eye into the painstaking task of stooping over the wet heather clumps, as they were being buffeted by the wind, to find the larvae that clung so stoically to the twigs and flowers, and I learnt to spot *caesiata* on its rock-face even if I could never learn to catch it! But after all this I know that I have hardly started, that I am still a tyro. Why? Because I have watched an expert in action. My wife, interested in bugs only for my sake and squeamish in the face of the common moths, found, in one day, without really looking (so she says), *two interrogationis* adults sitting low down on heather stems. I am speechless before her expertise!

Complete list of all species recorded in the area near Llyn Cwmynach in the years 1970-73 inclusive:—

Ochlodes venata B. & G., *Pieris brassicae* L., *P. rapae* L., *P. napi* L., *Lycaena phlaeas* L., *Vanessa atalanta* L., *V. cardui* L., *Aglais urticae* L., *Inachis io* L., *Argynnis aglaia* L., *A. selene* D. & S., *Pararge megera* L., *Eumenis semele* L., *Maniola jurtina* L., *Coenonympha pamphilus* L.

Saturnia pavonia L., *Orgyia antiqua* L., *Lasiocampa quercus* L., *Macrothylacia rubi* L., *Philudoria potatoria* L., *Parasemia plantaginis* L.

Agrotis ipsilon Hufn., *A. vestigialis* Hufn., *Lycophotia varia* Vill., *Ammogrotis lucerneae* L., *Ochropleura plecta* L., *Diarsia mendica* F., *D. rubi* Viewig, *Paradiarsia glareosa* Esp., *Amathes agathina* Dup., *A. ashworthii* Doubl., *A. castanea* Esp., *A. xanthographa* D. & S., *Euschesis comes* Hübn., *E. ianthina* D. & S., *Anarta myrtilli* L., *Ceramica pisi* L., *Cerapteryx graminis* L., *Leucania impura* Hübn., *Xylena vetusta* Hübn., *Eumichtis adusta* Esp., *Apatele menyanthidis* Esp., *A. rumicis* L., *Apamea crenata* Hufn., *A. epomidion* Haw., *A. monoglypha* Hufn., *A. secalis* L., *Euplexia lucipara* L., *Phlogophora meticulosa* L., *Stilbia anomala* Haw., *Celaena haworthii* Curtis, *Plusia bractea* D. & S., *P. gamma* L., *P. interrogationis* L., *Scoliopteryx libatrix* L., *Phytometra viridaria* Clerck.

Scopula ternata Schrank, *Cidaria fulvata* Forster, *Colostygia didymata* L., *C. olviata* D. & S., *C. pectinataria* Knoch, *C. salicata* Hübn., *Dysstroma citrata* L., *D. truncata* Hufn., *Entephria caesiata* D. & S., *Eppirhoe alternata* Muller, *E. galiata* D. & S., *E. tristata* L., *Euphyia bilineata* L., *Eupithecia nanata* Hübn., *E. sobrinata* Hübn., *Gymnoscelis pumilata* Hübn., *Hydriomena furcata* Thunb., *Lygris populata* L., *L. testata* L., *Lyncometra ocellata* L., *Ortholitha chenopodiata* L., *Triphosa dubitata* L., *Xanthorhoe ferrugata* Clerck, *X. fluctuata* L., *Alcis repandata* L., *Crocallis elinguaris* L., *Ellopija fasciaria* L., *Ematurga atomaria* L., *Opisthograptis luteolata* L., *Selenia bilunaria* Esp.

Hepialus fusconebulosa DeGeer, *H. lupulina* L.



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