of the Duke of Northumberland, at Alnwick Castle, is engraved in the *Journal of the Archæological Institute*, vol. v, p. 220; the second is now in the museum of the Society of Antiquaries of Scotland. They have silver thread and the usual bosses, four of which have been of bone or paste, but are now entirely decayed. There is no appearance of cloth impression on the back of that in the Edinburgh Museum, nor any trace of gilding.

In the *Journal of the Archæological Institute*, vol. xi, p. 58, it is recorded that Mr. Franks exhibited one of two found in the Phœnix Park, near Dublin; the other was bought by Herr Worsaae, and taken to Copenhagen. That exhibited is $4\frac{1}{2}$ inches long, by $2\frac{1}{2}$ inches wide, and has upon it the usual kind of ornament.

W. Greenwell.

ENTOMOLOGY IN THE COUNTY OF SUFFOLK.

In inviting the attention of the Society to a paper on "Entomology in the county of Suffolk," I must crave a certain amount of indulgence for the extremely fragmentary and egotistical nature of what I have to say. To work a county successfully would require a number of zealous students acting and communicating together, whereas I have been almost alone in my work, and have of necessity only been able to pursue it *operis subsecivis*, by fits and starts. Still I have been able to accomplish so much, that this great encouragement may well be held out to all inclined to take up this branch of science, viz., that there is in all probability no county in England, not even excepting Hampshire, the district of the New Forest itself, which

offers so rich a prospect both of rarities and new discoveries, as the county of Suffolk. Fens and woods have been thoroughly ransacked, but the great sandy district, of which Mildenhall may be taken as the centre, and which runs into Norfolk and Cambridgeshire, is all but virgin ground to the Entomologist.

Let me give a few instances. The exquisite little moth, *Agrophila Sulphuralis*, the "Spotted Sulphur," was long called the "Brandon moth," and was supposed almost peculiar to the neighbourhood of that place. Last year, and the year before, I cannot have taken fewer than *one hundred and fifty* specimens of this rarity, although I am sorry to say, none of the eggs that I obtained produced caterpillars.

Again, not many years ago, a single specimen of the "Red wave," *Acidalia rubricata*, was exhibited as a wonder at a meeting of the Entomological Society in London. One evening last August, in a field which I had long marked as likely to produce this moth, I found myself suddenly surrounded by tiny beams of pink and purple light, and in about an hour had nine and twenty beautiful specimens in my boxes, and five in my net. Altogether, last year and the year before, I cannot have taken less than a couple of hundred specimens of this rarity, and many cabinets have been supplied from my captures. I have now a few caterpillars, reared from the egg, hibernating. They were fed first on the "Strawberry clover," *Trifolium fragiferum*, but afterwards took to *Polygonum aviculare*, "Common Knotgrass," with great avidity. The beauty of the "Red wave" cannot be understood or even imagined from cabinet specimens, the best of which, in comparison with a fresh or living specimen, are little better than a raisin in comparison with a fresh and untouched grape. This moth has also been found in abundance at Croxton, near Thetford, in Norfolk.

Spilodes Sticticalis, the "Diamond spot," which the works usually consulted by entomologists state to be only taken singly and occasionally, is found swarming in many parts of the dry district, the peculiar productions of which I am

noticing. *Lithostege nivearia*, or *grisearia*, the "Snowy moth," which has not been many years in the British list, is peculiar to this sandy district, and was first observed at Thetford. Its food plant is the *Sisymbrium sophia*, "Flix-weed," which is there in many places one of the commonest corn-weeds, though in most parts of the country it is far from abundant. An extremely pretty cocoon is spun by the ichneumon that infests the caterpillar of this moth.

But the grand discovery, which I have been so fortunate as to make in this district, is the beautiful *Dianthœcia irregularis*, or *echii*, which, however, has nothing whatever to do with the *Echium vulgare*, or "Viper's bugloss," beyond, in all probability, paying an occasional visit to its flowers. One specimen of this moth, a female, I found asleep on a plant, either of *Echium vulgare*, or *Centaurea scabiosa*, I do not exactly remember which, in the beginning of July, 1868. Another, also a female, I beat from the side of a footpath in the same neighbourhood, at the end of June last year. The question is, upon what plant does the caterpillar of this fine moth feed? It is common near Vienna, where its food plant is *Gypsophila paniculata*, which is not found in this country. All its congeners feed upon the seed or seeds and flowers of *Caryophyllaceæ*, among which the plant last mentioned is also reckoned; aud upon the seed and flowers of this its caterpillar feeds on the continent. I thought, at first, that the rare *Silene conica*, 'Striated Silene,' might be its food plant, but searched it day and night, at the proper season, without result. I then turned my attention to *Silene Otites*, 'Spanish catch-fly,' which is peculiar to the district in question, and, ere long, had a goodly assemblage of caterpillars, which appeared to be certainly those of a *Dianthœcia*, but not to correspond exactly with those of any other member of the genus. Thus I have strong reasons for believing *Silene Otites* to be the food plant of this rare and beautiful moth, the only two indigenous specimens of which, at present known, are in my cabinet. Still, complete certainty, in this respect, cannot be attained until midsummer, when the moths ought to appear from the

chrysalids. Numerous, however, as were the caterpillars which I captured upon *Silene Otites*, nearly half of them were unprofitable, owing to the attacks of a small ichneumon, which appears to assail them in an early stage of their growth. [Since the above was in the printer's hands, my conjecture has been converted into certainty by a catalogue of insects made at Halle, in Germany, by Herr A. Stange, which gives *Silene Otites* as the food plant of this moth in that neighbourhood.]

Tuddenham Fen regularly produces *Hyria auroraria*, the 'Purple and Gold'; *Hydrelia Unca*, the 'Silver Hook'; *Melitœa Artemis*, the 'Greasy Fritillary'; and the caterpillars of *Acronycta Leporina*, the 'Miller'; and *Notodonta Dromedarius*, the 'Iron Prominent,' upon dwarf birch trees.

Icklingham and Aldeburgh have, of late years, been especially fruitful in the scarce 'Queen of Spain Fritillary,' *Argynnis Lathonia*, and Lavenham has long been a noted locality for the same beautiful butterfly. I possess a mutilated specimen which I captured near Aldeburgh myself. Aldeburgh has also yielded the scarce *Mamestra abjecta*, the 'Dusky Nutmeg'; and, in considerable quantity, the beautiful *Cymatophora ocularis*, 'the Figure of 80 moth.' *Hadena Suasa*, the 'Dog's tooth,'—which used to be considered a great rarity—abounds there; but its great glory is the magnificent *Catocala Fraxini*, the 'Clifden Nonpareil,' which was taken by my friend, Mr. N. F. Hele, at sugar, in 1868.

As regards the immediate neighbourhood of Bury St. Edmund's a good deal may be said. Shaker's Lane produces in great abundance *Anticlea Berberata*, the 'Barberry Carpet'; and *Scotosia certata*, the 'Scarce Tissue,' the former of which used to be found near Cambridge, but disappeared when the Barberry hedge, which it frequented, was stubbed up. The fact is, that the Barberry, *Berberis vulgata*, is infested by a reddish fungus, which bears a considerable resemblance to that which produces rust in wheat. Thus farmers have ignorantly supposed the barberry to have infected their corn; and the destruction of the unfortunate barberries, and with them of their inhabitants, has been the result.

Spring Lane produces the 'Small Waved Umbre,' *Phibalapteryx vitalbata*, and the hedge of 'Traveller's joy' *Clematis vitalba*, in Hospital Road, both that and the exquisite green moth, *Iodis Vernaria*, the 'Small Emerald.' The oak trunks in Ickworth Park are haunted in February and March by the 'Small Brindled Beauty,' *Nyssia hispidaria*. There are a few trees, ashes, oaks, and poplars, close to the Tollgate Inn, on the Fornham Road, and here Mr. Whelan obtained, at sugar, a considerable series of *Cirrhœdia Xerampelina*, the 'Centrebar Sallow,' the caterpillar of which feeds upon the ash.

The Railway bank, close to Bury, is an excellent locality, and has produced me a fine series of *Eremobia Ochroleuca*, the 'Dusky Sallow,' which I have invariably found on the flowers of *Centaurea Scabiosa*, and never on those of *Centaurea Nigra*. It has also given me a specimen of *Mecyna Polygonalis*, a species only lately introduced into the British list. Wherever there are railway embankments, the Entomologist may expect a harvest, and it is to them that he must look, now that high farming is cutting down hedges to the smallest possible proportions.

West Stow Wood has produced *Brepha Parthenias*, the 'Orange Underwing,' and *Trachea Piniperda*, the 'Pine Beauty,' as well as caterpillars of *Cymatophora Ridens*, the 'Frosted Green'; of *Psilura Monacha*, the 'Black Arches'; of *Notodonta Dictæoides*, the 'Small Swallow Prominent'; and, in considerable abundance, of the beautiful *Halias Quercana*, the 'Scarce Silver Lines.'

In Monk's Park Wood I have obtained *Acidalia inornata*, the 'Plain Wave'; and an abundant supply of the larvæ of the 'Broad bordered Humming Bird,' *Macroglossa fuciformis*, which feed on the common woodbine or honey suckle, and are easily found on the underside of the leaves in July and the beginning of August. At the same time the caterpillar of the 'Narrow bordered Humming Bird,' *M. Bombyliformis*, may be found, in some seasons abundantly, in a similar situation, on the *Scabiosa Succisa*, 'Blue' or 'Devil's Bit Scabious,' on Tuddenham Common, where I once took

nineteen caterpillars, of which only one, through neglect during my absence abroad, produced a perfect insect.

Among the smaller moths, the sandy district above mentioned has produced *Ononia ahenella*, *Catoptria Expallidana*, and *Citrana*; and *Argyrolepia Schreibersiana*, which I beat out of a small elm near water, at Icklingham. Norton Wood gave me *Hypolepia Scquella*, the 'Small Marvel-du-jour'; and West Stow Wood *Heusimane Fimbriana*.

Not having an unlimited amount of leisure at my disposal, I cannot chronicle any great number of captures in orders other than the *Lepidoptera*. Still there are a few things that may be worth mentioning. Among the Hymenoptera, *Sirex Gigas* and *Sirex Juvencus* are both taken in and near Bury. Among the Coleoptera, Icklingham has given me the beautiful Longhorn, *Callidium Violaceum*, and the foot of an elm tree, near Rushbrook Canal, the pretty *Eponus Nigricornis*. Tuddenham and Culford Heath have produced specimens of the 'Blister Beetle,' *Lytta vesicatoria*.

I do not think that any body, who once takes up the pursuit of Entomology, will readily lay it aside; and if a few in different parts of a county are willing to work together and compare the results of their efforts, catalogues of considerable scientific value and completeness may be formed, new species may be discovered, and the habits and peculiarities of scarce ones ascertained, while each and every individual will have a never-failing source of interest in his walks, which he will find of the highest value in the intervals of more serious employment.

A. H. Wrattislaw.

School Hall, Bury St. Edmund's, Feb. 16, 1870.