# AUCHENORRHYNCHA RECORDING SCHEME

Newsletter No. 10 June, 1985

Since the last newsletter, a number of items of interest have materialized. Peter Kirby, Walter Le Quesne and myself have drafted independent lists of the Auchenorrhyncha species which we consider to be nationally rare. Distribution maps of these species were circulated amongst selected leafhopper experts for their comments. The resultant feedback was collated to form a provisional list of species which are designated as nationally "notable". Species will undoubtedly be added to or removed from this list as our knowledge of their true distribution improves. However, we hope that it will provide a spur to members of the scheme to search through their old records and also to go out looking for the species involved. Peter Kirby has produced some notes to accompany the list, which are reproduced here in full. A postage-paid address label is enclosed for any comments that you may wish to pass on to him.

An Auchenorrhyncha week-end workshop at Warwick has been arranged for September (details below), which I hope will attract as many members of the scheme as possible. Plans are being discussed for an indoor meeting in London in the winter, which should provide another opportunity for members to get together. Various other notes which may be of interest are included below.

Apart from your records, please send me any contributions to future newsletters. Please feel free to use it as a vehicle to air your pet theories, to request information and to request or offer material. John Badmin gets the ball rolling with a note on *Cercopis vulnerata*.

With the prospect of a new field season before us, I wish you all an interesting and enjoyable summer collecting Auchenorrhyncha!

Alan J. A. Stewart
Dept. of Entomology & Nematology
Rothamsted Experimental Station
Harpenden
Herts., AL5 2JQ

Tel: (05827) 63133 Ext. 2431

## Week-end workshop at Warwick

Pam Copson from the Warwickshire Biological Records Centre at Warwick Museum has kindly agreed to provide a venue for a week-end workshop on Auchenorrhyncha on 10-11th September. The purpose of the meeting will be twofold: (a) to give newcomers to the group a brief introduction to the Auchenorrhyncha and how to identify them, and (b) to visit a range of sites in the West Midlands in an attempt to gather information for the Recording Scheme in this badly under-worked area. The main emphasis will be on the Saturday (10th), but participants will be very welcome to stay on and visit further sites on the Sunday if they wish to.

If you are interested in coming, please write for details of time and location to Pam Copson, who will also be able to recommend places to stay locally. Her address is:

Mrs. P. Copson
Warwick Museum
Market Place
Warwick, CV34 4SA

I look forward to meeting several of you there.

**NATIONAL CONSERVATION REVIEW OF AUCHENORHYNCHA**

A request for assistance.

A brief notice announcing the imminence of this project appeared in Auchenorhyncha Recording Scheme Newsletter no. 9. In that note I gave warning that when a list of target species for inclusion in the review had been completed, I would issue a plea for help with the review. The list has now been completed, and the plea follows. Thanks go to Walter Le Quesne for a considerable amount of work in producing distribution maps and biological information on the candidate species.

The aim of the review is to provide a list of nationally rare and important species of Auchenorhyncha with information on their biology, ecology, distribution and management requirements. This information can then be used in the assessment of species lists, in the selection of sites for conservation, and as material to influence the management of sites in a way sympathetic to invertebrates. A sample draft data sheet, on *Agallia brachyptera* is included as an example of the sort of information which is to be collected and the way in which it is to be presented. It is hoped that information collated in this way will be interesting and useful both to entomologists and to non-entomologists who are involved in conservation.

There are a number of status categories into which the rarer species can be placed. For information, the status categories which can be used and the criteria which define them are given below. The target species on the review list are believed to warrant at least Notable B status, that is, are likely to occur in 100 or fewer 10km. squares in Britain. Some species on the list are clearly very much rarer than others, but I have not included any estimates of status at this stage.

The NCC does not cover the Isle of Man, Ireland or the Channel Islands: species confined to any of these will not be included in the review, and the abundance or otherwise of any of the rare species in any of these places will not affect the status applied to them. Recent introductions and long-established residents which occur on introduced plants are not considered.

I would welcome any feedback on the list. If you have a large stack of records of one of these supposedly rare species of which you have not yet told anyone, and consider it to be on the list under false pretences, please let me know. Even more welcome would be any information about the habits, habitats or details of biology which you may not have committed to paper before. The review must be completed within a year, so rapid receipt of information would be appreciated. January 1989 would be a convenient deadline. A copy of the final review will be sent to each contributor on publication.

Though the review will cover only nationally uncommon species, others which are not nationally rare may be of considerable importance in at least part of their range. The Invertebrate Site Register is interested in establishing statuses for all species over the whole of Britain, to ensure that interesting species are taken into account in site selection

and assessment. If anyone would care to produce a list of local rarities for a county, region or country, I shall attempt to amalgamate the information into a set of regional statuses.

Peter Kirby
Invertebrate Site Register
Nature Conservancy Council
Northminster House
Peterborough
PE1 1UA

Telephone: Peterborough (0733) 40345 ext. 2280

**Provisional list of rare and notable Auchenorhyncha**

Agallia brachyptera
Aphrodes aestuarinus
Aphrodes albiger
Aphrodes duffieldi
Aphrodes limicola
Aphrodes trifasciatus
Aphrophora alpina
Asiraca clavicornis
Athysanus argentarius
Austroagallia sinuata
Austroasca vittata
Callipygona reyi
Chloriona dorsata
Chloriona vasconica
Chlorita dumosa
Chlorita viridula
Cicadella lasiocarpae
Cicadetta montana
Cicadula intermedia
Cicadula quinquenotata
Cicadula florí
Cixius caledonicus
Cixius cambricus
Cixius remotus
Cosmotettix caudatus
Cosmotettix costalis
Cosmotettix panzeri
Criomorphus moestus
Criomorphus williamsi
Delphacodes capnodes
Dicranotropis divergens
Diplocolenus bensoni
Doratura impudica
Ebarrius cognatus
Edwardsiana alnicola
Edwardsiana ishidai
Edwardsiana lanternae
Edwardsiana rosaesugans
Edwardsiana tersa
Emelyanovna contraria
Erythria aureola
Eupteryx heydenii
Eurhadina kirschbaumi
Eurhadina ribauti
Eurysa douglasi
Eurysula lurida
Euscelidius schenkii
Euscelidius variegatus
Euscelis ohausi
Euscelis venosus
Florodelphax paryphasma
Gargara genistae
Hephathus nanus
Iassus scutellaris
Idiocerus fulgidus
Idiocerus herrichii
Idiocerus poecilus
Issus muscaeformis
Jassargus sursumflexus
Kyboasca bipunctata
Kybos calyculus
Laodelphax striatellus
Limotettix atricapillus
Macropsis glandacea
Macropsis mendax
Macrosteles alpinus
Macrosteles cristatus
Macrosteles cyane
Macrosteles fieberi
Macrosteles frontalis
Macrosteles lividus
Macrosteles oshanini
Macrosteles quadripunctulatus
Macrosteles sordidipennis
Megamelodes lequesnei
Metalimnus formosus
Mocuellus collinus
Neophilaenus longiceps
Oliarus leporinus
Oliarus panzeri
Oncodelphax pullulus
Paradelphacodes paludosa
Paraliburnia clypealis
Paralimnus phragmitis
Pediopsis tiliae
Platymetopius undatus
Psammotettix albomarginatus
Psammotettix frigidus
Psammotettix maritimus
Psammotettix striatus
Ribautodelphax angulosus
Ribautodelphax imitans
Ribautodelphax pallens
Ribautodelphax pungens
Sagatus punctifrons
Scleroracus decumanus
Sorhoanus xanthoneurus
Stenocranus fuscovittatus
Stiroma bicarinata
Stroggylocephalus livens
Struebingianella dalei
Struebingianella litoralis
Tettigometra impressopunctata
Trigonocranus emmeae
Ulopa trivia
Xanthodelphax flaveolus
Zygina rubrovittata

## Criteria for determination of species status categories

### Red Data Book

**RDB1. Endangered.** Taxa in danger of extinction and whose survival is unlikely if the causal factors continue to operate. Included are species known from only a single population within one 10km. square of the national grid; species which occur only in habitats known to be especially vulnerable; species which have shown a rapid and continuous decline over the last twenty years and now exist in five or fewer 10km. squares, and species which are believed to have recently become extinct but which if rediscovered would need protection.

**RDB2. Vulnerable.** Taxa believed likely to move into the endangered category in the near future if the causal factors continue operating. Included are species declining throughout their range; species in vulnerable habitats, and species whose populations are low.

**RDB3. Rare.** Taxa with small populations that are not at present Endangered or Vulnerable, but are at risk. These taxa may be localised within restricted geographical areas or habitats or may be thinly scattered over a more extensive range. This category includes species which occur in only 15 or fewer 10km. squares.

**RDBK. Insufficiently known.** Taxa that are believed to belong to one of the above categories, but which cannot be certainly placed because of lack of information.

**RDB Appendix. Extinct.** Species which were formerly native to Britain but which have not been recorded since 1900.

### Nationally Notable

**Notable A.** Occurring in 30 or fewer 10km squares in Britain. (normally found in 10 or fewer vice-counties).

**Notable B.** Occurring in 100 or fewer 10km squares in Britain (normally found in 20 or fewer vice-counties).

**AGALLIA BRACHYPTERA** **NOTABLE B**

Order HEMIPTERA Family CICADELLIDAE

---

Agallia brachyptera (Boheman)

**DISTRIBUTION** Predominantly eastern. Recent records extend from Northumberland and Yorkshire in the north, in a band through the East Midlands counties to the Chilterns. An older record extends the distribution to the south coast. The absence of records from East Anglia and the extreme south-eastern counties is interesting. Under-recording may be partly responsible, but it may well be that the distribution is genuinely concentrated in the East Midlands and the north-east. Despite the eastern bias in the distribution, there are scattered older records from further west, including several from Ireland. Abroad, the distribution extends across much of Europe to Algeria.

**HABITAT AND ECOLOGY** Recorded from both dry and marshy places. It is recorded from both Wicken and Woodwalton Fens, where it has been taken by sweeping marsh vegetation, and has occurred in a saltmarsh in Ireland. The majority of records, however, are from dry localities, particularly from amongst low or sparse vegetation. There may be a preference for calcareous substrates. Habitats include chalk grassland and sparsely vegetated limestone quarries. Large populations have been observed on disturbed ground, and conditions of partial re-vegetation in such places may represent particularly good conditions for the species in Britain. On the continent, it has been found in dry and moist grassland, cultivated fields, and damp woods. It is a largely ground-dwelling species, and probably requires fairly open conditions in all its sites. Eggs overwinter. On the continent, nymphs have been found under Rumex acetosella, Trifolium repens, and Taraxacum sp. in June and July, and have been seen to feed on all these plants, and also on Achillea millefolia. Adults have been found from June to early September in Britain, and in Sweden have occurred until early October.

**STATUS** Local, but perhaps rather under-recorded because of its ground-dwelling habits.

**THREATS** In wetland sites, drainage must be considered a threat, but the precise details of water regime are probably less critical for this species than for many others; loss of short vegetation and its replacement by tall grasses or scrub as a result of lack of active management and/or lowering of the water table may be a more serious problem in many sites. In calcareous grassland, loss of open structure, and perhaps also loss of bare ground, are likely to be detrimental, and cessation of grazing or disturbance particularly so; destruction or improvement of calcareous grasslands will also be threatening. On disturbed ground, the main danger, apart from the destruction caused by development or infilling, is likely to be natural succession leading to a closing over of the vegetation cover and to scrub invasion. The species is brachypterous, and so is likely to be a poor coloniser over all but very short distances. As a result, it may prove particularly sensitive to the loss of localised colonies.

**CONSERVATION** Open conditions should be maintained in wetland sites by grazing or rotational cutting regimes. Calcareous grasslands should be grazed to maintain a mosaic of turf lengths, preferably with some bare ground. The exact timing and pattern of grazing may not be critical for this ground-dwelling species. Mowing is a less satisfactory way of maintaining vegetation structure, since it is less likely to provide areas of bare ground or disturbance. In long-neglected grassland, relatively large-scale disturbance of the ground may well prove beneficial for the species. In ruderal sites, active management is likely to prove necessary in the long term to maintain areas of open vegetation and bare ground, unless there is very intense grazing or disturbance by rabbits.

New species since publication of R.E.S. handbooks

Since the publication of the four parts of Walter Le Quesne's key, several species have been added to the British list. I thought that members might find it helpful to have a list of these, together with references to where they were first described as new to Britain.

1. *Trigonocranus emmeae* Fieber
   Le Quesne, W.J. (1964) *Trigonocranus emmeae* Fieber (Hem., Cixiidae), new to Britain. Entomologist's Monthly Magazine, 100 : 117.
2. *Iassus scutellaris* (Fieber)
   Wilson, M.R. (1981) Identification of European *Iassus* species (Homoptera : Cicadellidae) with one species new to Britain. Systematic Entomology, 6 : 115-118.

3. *Cicadula flori* (Sahlberg)
   Le Quesne, W.J. (1983) *Cicadula flori* (Sahlberg), new to Britain (Hem., Cicadellidae). Entomologist's Monthly Magazine, 119 : 177.

4. *Cicadella lasiocarpae* Ossiannilsson
   Le Quesne, W.J. (1987) *Cicadella lasiocarpae* Ossiannilsson (Hemiptera : Cicadellidae) new to Britain. Entomologist's Gazette, 38 : 87-89.

5. *Muellerianella extrusa* (Scott)
   Booij, C.J.H. (1981) Biosystematics of the *Muellerianella* complex (Homoptera, Delphacidae), taxonomy, morphology and distribution. Netherlands Journal of Zoology, 31 : 572-595.

Three further species have been found but have not yet been fully reported in the entomological literature.

6. *Issus muscaeformis* (Schrank). First reported by Keith Payne from Gait Barrows NNR, Lancashire in 1977 (Entomologist's Monthly Magazine, 114 : 210 (1978)). Fully described, with key to separation from *I. coleoptratus* in Ossiannilsson, F. (1978) Fauna Entomologica Scandinavica 7(1).

7. *Psammotettix maritimus* (Perris). First reported by Bill Ely from Dawlish, Devon in 1980. (Auchenorrhyncha Newsletter No. 2). Fully described in Ribaut, H. (1952) Faune de France 57 (II).

8. *Chlorita dumosa* (Ribaut). First reported by Peter Kirby from Scout Scar, Cumbria in 1987 (Auchenorrhyncha Newsletter No. 9). Paper by Peter Kirby currently in preparation. Fully described by both Ribaut and Ossiannilsson (see above).

Species omitted from recording card

A number of species were either accidentally omitted from the recording card or have been added to the British list since the cards were printed. The species and their code numbers are as follows:-

00903 *Aphrodes makarovi*
00910 *Aphrodes bicinctus (sensu stricto)*
00911 *Aphrodes limicola*
00912 *Aphrodes aestuarinus*
02402 *Chlorita dumosa*
02608 *Cicadula flori*

07102 *Iassus scutellaris*
09603 *Muellerianella extrusa*
11409 *Psammotettix maritimus*
14201 *Cicadella viridis*
14202 *Cicadella lasiocarpae*
14301 *Graphocraerus ventralis*
14401 *Tyrphodelphax distinctus*

*Graphocephala fennahi* Young (= *coccinea* Forster)

The so-called "Rhododendron leafhopper" was first recorded in Britain in the 19th Century, having been introduced from the USA. Since then it has spread widely around London and the Home Counties (see distribution map at end of newsletter). As it is one of the largest and most distinctive of our leafhopper species, the expansion of its range in Britain should be easy to monitor. The adult is 8-9 mm long with dark green and red wings and a yellow head that makes it quite unmistakeable. Populations reach peak numbers in September.

Mike Wilson and I have put a short note in Antenna, calling for records of this species. We would be most grateful to receive any records, however old, from members of the Recording Scheme, if possible including information on the food plant (i.e. which species of *Rhododendron* or other host plant).

Leafhopper news and new distribution maps

Relatively little has been reported since the last newsletter, although circulation of the provisional listing of notable species has turned up some useful older records. Of particular interest is a record of *Limotettix atricapillus* taken by Peter Kirby near Beaulieu Road Station in the New Forest in 1985. Previously, this species had been taken in 1910 and 1914 in the Delamere Forest district in Lancashire, but otherwise had not been reported for over 70 years. Its appearance so far from any previous records suggests that it has very specialised habitat requirements, almost certainly being confined to species-rich wetlands.

In addition, I have turned up a further record of *Aphrophora alpina* (= *major*) from Middleton in E. Suffolk and Peter Kirby tells me that it is quite common on scattered *Myrica gale* growing amongst tall sedges at Roydon Common, Norfolk. As reported in Newsletter No. 8, there is also a dark form of the common *A. alni* which occurs on *Myrica*, with which *A. alpina* could be confused, although the latter is a much stouter insect.

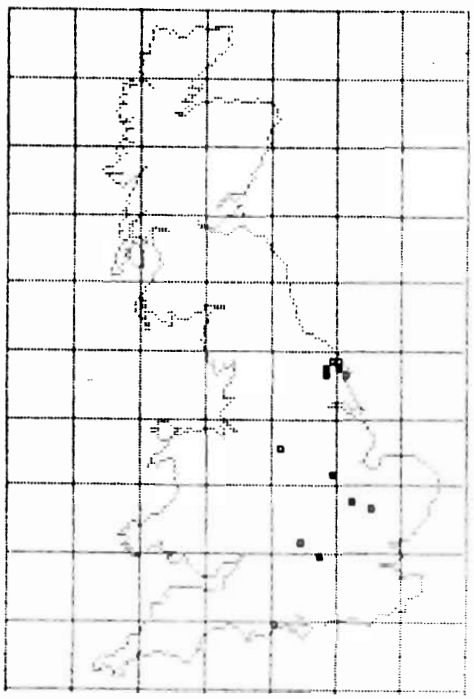
Walter Le Quesne has produced distribution maps for all the species on the provisional 'notable' list. Unfortunately, space does not allow reproduction of all of these. However, I have included five of them plus maps for three of the more common species.

The maps of *Agallia brachyptera* and *Graphocephala fennahi* are intended to complement the notes by Peter Kirby and myself. The other species suggest a pronounced southern distribution, although this may have as much to do with the regional collecting preferences of recorders as anything else. There were relatively few records of *Asiraca clavicornis* until recently; in the last 5 years it has turned up in the London and north Kent area on several occasions. The two *Oliarus* species make an interesting comparison. *O. leporinus* is a salt-marsh species associated with *Phragmites* and seemingly has a more western distribution than *O. panzeri* which has been found mostly

in the south-east and frequently inland. *Gargara genistae* is relatively rare and has only been found in the south-east of England. *Ledra aurita*, which is probably confined to oak woodland, has not been reported further north than the Midlands. Records for these two species from beyond the present known distribution would be particularly valuable. *Eurybregma nigrolineata* has a rather curious distribution. It is generally encountered in coastal salt marshes, but isolated records have also been reported from inland as well.

SPECIES 00901
*Aphelia brachyptera*
GB. STATUS Notable/Nb

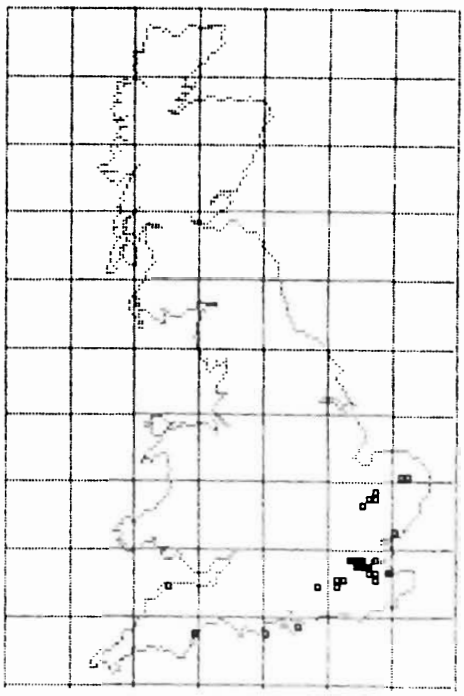
• Records after 1969
• Records before 1970



IRELAND Salt marsh, Lough Hyne, West Cork (1934). Lough Derg, Woodford, South Galway (1901).
CHANNEL ISLES not recorded
Local, reported from both marshy area and from cliffs. I suspect that it normally remains close to the ground and thus it is not easily collected. Its distribution in England appears to have a strong eastern bias. In Sweden Rumex acetosella, Trifolium repens, Taraxacum sp. and Achillea millifolium are food-plants.

SPECIES 01401
*Amiracea claviconnis*
GB. STATUS Notable/Nb

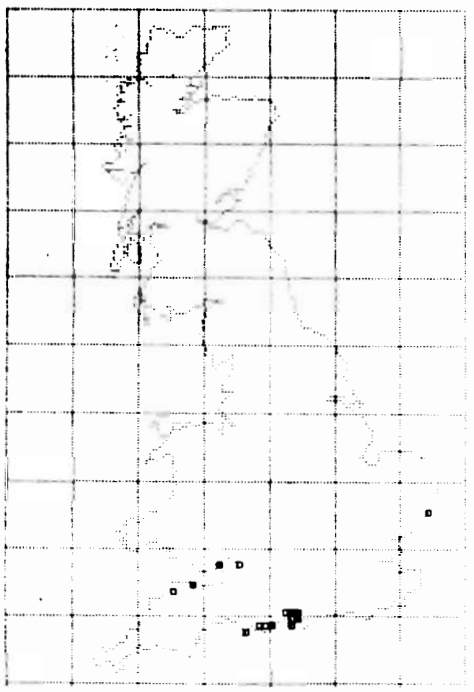
• Records after 1969
• Records before 1970



IRELAND not recorded
CHANNEL ISLES not recorded
In recent years this species has mainly been taken near London and its ecological requirements are rather puzzling.

SPECIES 10001
*Oliarus leporinus*
GB. STATUS Notable/Nb

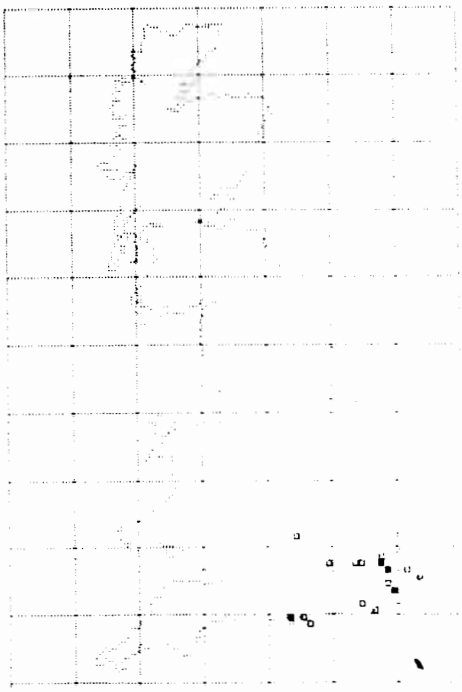
• Records after 1969
• Records before 1970



IRELAND Found commonly among coarse grass and Myrica gale on high ground south of the Upper Lake, Killarney, North Kerry (1898).
CHANNEL ISLES not recorded
Local, usually found in salt-marsh localities.

SPECIES 10002
*Oliarus panzeri*
GB. STATUS Notable/Nb

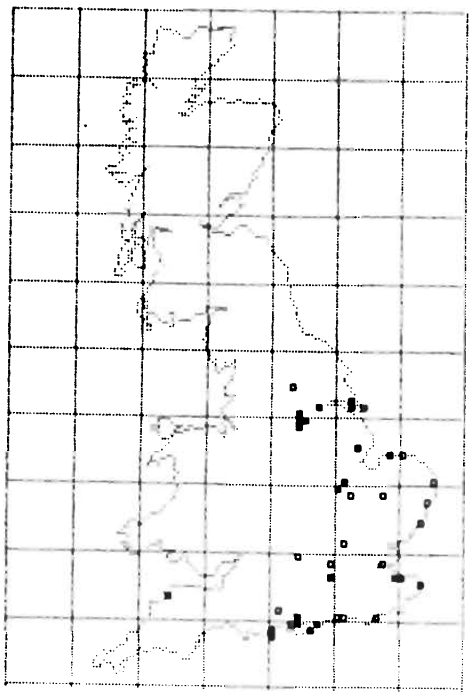
• Records after 1969
• Records before 1970



IRELAND not recorded
CHANNEL ISLES not recorded
A very local species, sometimes but not always coastal. It has been taken in areas which become waterlogged and then dry out, producing cracks in the surface. Little is known about its habits.

SPECIES 06401
Barbreyna nigrolineata
GB. STATUS Local

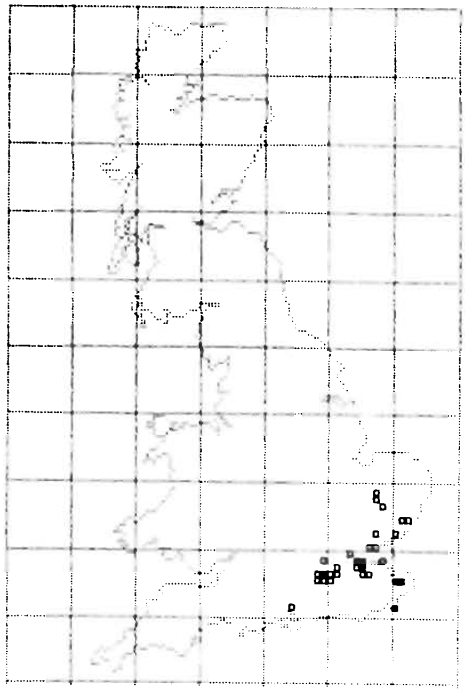
• Records after 1969
• Records before 1970



IRELAND not recorded
CHANNEL ISLES not recorded
Most often associated with coastal salt-marshes but occasionally found inland. Its ecological requirements are not clear at present.

SPECIES 06301
Gargara genistae
GB. STATUS Notable/Nb

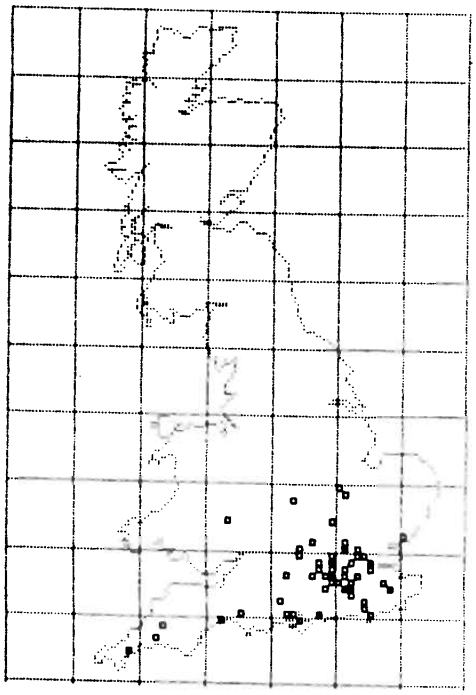
• Records after 1969
• Records before 1970



IRELAND not recorded
CHANNEL ISLES Grève-de-Lecq, Tesson Mill and Grosnez, Jersey.
On broom (Cytisus), especially the younger plants. Its range in Britain appears to be shrinking.

SPECIES 06301
Ledra aurita
GB. STATUS Local

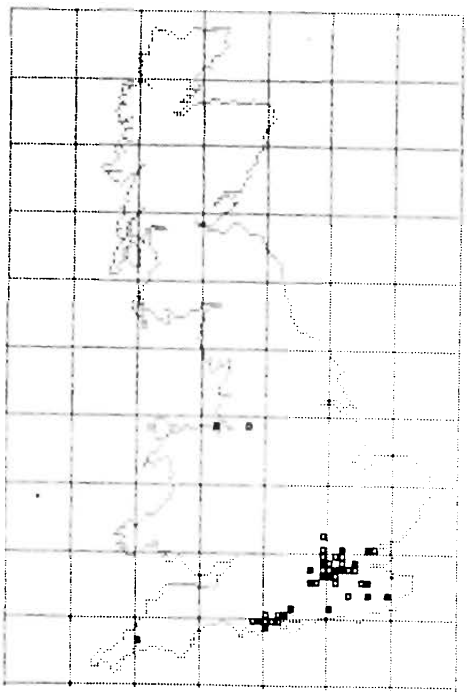
• Records after 1969
• Records before 1970



IRELAND Not recorded
CHANNEL ISLES Not recorded
A species associated with oak in woodland, where it is found mainly on the branches, the nymph being beaten more often than the adult. Adults are also sometimes taken in light traps at night.

SPECIES 06401
Graphocephala fennahi
GB. STATUS Common

• Records after 1969
• Records before 1970



IRELAND Not recorded
CHANNEL ISLES Not recorded
A species associated with rhododendrons first introduced from America about 1830. Still locally very common, but its range appears to have diminished somewhat since the 1950's.

*Cercopis vulnerata* - a note from John Badmin

By the time you receive this newsletter, the red and black froghopper *Cercopis vulnerata* should still be observable. I have been studying a large isolated population, or perhaps more correctly a group of small colonies clustered together, on the Isle of Sheppey for several years. Very occasionally, specimens appear which are a pale yellow and black colour. The numbers vary from year to year but rarely exceed 5% of the total population. So far I have not been able to locate another colony in which the yellow phenotype is present. I would be grateful to hear of any additional records of the yellow form from recorders.

The red coloration of *C. vulnerata* tends to vary in intensity as the season proceeds. Individuals emerging early in mid-May are usually a bright orangey red colour, whereas many individuals in mid June have a dull orange appearance. This is obviously an ageing process, as bright "red" individuals appear regularly throughout the season. How long it takes for the colour of an individual froghopper to fade, and if all individuals are affected remains to be investigated.

Individuals of the yellow morph differ from these older froghoppers by appearing not to possess any red pigment in the coloured regions of the cuticle. The yellowness may vary in intensity also, and even disappear, so that the wings appear black without translucent patches of grey. I have only recorded one colourless form, but Andrew Halstead exhibited another at a BENHS meeting a few years ago. Could it be that the colourless individuals are mature faded yellow phenotypes?

The genetic basis of these colour morphs is probably complex. I have tried to breed yellow morphs in the garden at home, but the conditions were obviously not quite right and no individuals emerged the following year. Yellow coloured froghoppers are far more difficult to observe in the field and so one would presume that they might possess a selective advantage over the wild type. However, the warning colouration of *C. vulnerata* appears to be very successful; I have never observed any birds attempting to feed on them.

What are the host plants of *C. vulnerata* in the UK? China (Ent. Mon. Mag. 1925) reports finding nymphs feeding in spittle on the roots of plants such as dock and nettle. I would expect it to feed also on cow parsnip *Heracleum sphondylium*, as adults congregate around this plant. It is a biennial and so the roots are not quite so permanent as nettle rhizomes and adults would have to lay their eggs on/in first year plants in order to ensure a food supply for the following year. If cow parsnip is a host plant, does *Cercopis* also feed on the introduced giant hogweed *H. mantegazzianum*? Duffield (Kent Field Club Transactions 1(4), 1963) reports Tynan recording it on the roots of lady orchid *Orchis purpurea*, a plant virtually restricted to Kent. Perhaps *C. vulnerata* is truly polyphagous. Are the nymphs entirely subterranean in habit? Various authors refer to the nymphs feeding on roots, whereas Alford (A Colour Atlas of Fruit Pests, their recognition, biology and control) refers to pale yellow nymphs feeding on the stems and roots within a protective mass of spittle.