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CECIDOLOGY

Vol. 2, No. 1 Spring 1987.

Journal of the

BRITISH PLANT GALL SOCIETY

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NOTES TO CONTRIBUTORS

Recommended guide lines, when writers have the facilities:-

Type in double spacing on one side of the paper only. Give margin of 2 cm at upper and left-hand margins.
Include a second (e.g. carbon) copy; a third copy is useful, and writers should also keep a copy.
Give sketches on a separate sheet, in black and white. Indication of scale and any other writing at least 5 cm. clear of sketch(es).
Underline scientific names, and nothing else; use a separate sheet to indicate any other special printing instructions.

Copy should be received by the Editor by end of February/August for publication in May/November. Approximately intermediate dates apply to the *Newsletter* prepared by the Secretary.

***12th June 1987* for all material for *Newsletter* No. 5, addressed to Dr. C.K. Leach.**
***31st August 1987* for all material for *Cecidology* No. 2.2 addressed to Mr. F.B. Stubbs.**

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CECIDOLOGY

Vol. 2, No. 1 Spring 1987

Journal of the British Plant Gall Society
Editor — F.B. Stubbs

EDITORIAL

It is very encouraging to find so many newcomers to the Society, and we must offer a warm welcome. There are many opportunities for taking part in the study, which gains by the discussion, personally and in print, among the assortment of naturalists and scientists who come together to work on the intricacies of cecidology. One of our aims is to bring unity to the many aspects of plant galls, and beginners can contribute just as readily as specialists.

So we will say no more than that there is bound to be something in these pages which will stimulate further interest and active observation in the field and in the (often home-made) laboratory. Let us know how you fare during the 1987 season, and we will pass word to the rest. One reservation is that space does not allow for full treatment of lists and records, but only brief mention or extracts. Such lists can be sent in to the Society, when, it is hoped, they will soon all be incorporated in a long-term survey.

DISTRIBUTION RECORDS

All members are asked please to notify the Secretary (Chris Leach) if they hold, or have knowledge of, records of Plant Galls for any locality/county/vc/region. For each set of records mentioned messages should state, as far as possible:-

Locality, etc.

Approximate number of 10-km. squares covered, even if partially or sparsely. Date(s) – e.g. 1923-37; 1979 to present; 1983 only.

Compiled by .....person(s), society, museum, BRC ... .

Held by .....if different from compiler.

If published – Where and by whom.

Completely or partially.

A National Recording Scheme must soon be actively considered in consultation with B.R.C. at Monks Wood. The above information will help in assessing both the known extent of coverage and the most suitable means of co-ordinating this aspect of cecidology.

News of some recording may be mentioned. Miss Ruth Phillips of Penzance sends a list for the Lizard Peninsula a few years ago, to which she is adding recent finds; the catalogue was published by the Lizard Field Studies Group. Mr. Stephen Robbins of Hartlepool has worked in his home district and on visits to the Bath area. His Hartlepool observations are given in The Vasculum (Northern Naturalists Union) of April 1987. All the above records have been passed to the appropriate centres for the areas.

Dr. D.T. Biggs, of Plum Tree Cottage, 76 Albert Road, Gurnard, Cowes, I.O.W. writes that the only known list of plant galls of the Isle of Wight is "A preliminary annotated list of Plant Galls of the Isle of Wight. E.W. Swanton. Proceedings of the Isle of Wight Natural History and Archaelogical Society, 1937." Dr. Biggs has heard of only two examples being reported since, one being his own find of *Andricus quercus-calicis* in 1976.

Now a "Gall Group" is being formed within the Botanical Section of that I.O.W. Society, with a view to updating Swanton's list. We wish the Group every success, and hope that BPGS members who visit the island this year will pass on their notes of galls which they see for inclusion in the new catalogue.

A SIMPLE DATABASE FOR ANALYZING OAK GALL WASP (Hym. Cynipidae) DISTRIBUTION

The following is an account of how a virtual computer illiterate set up a small database for handling biological records on a home computer. It is given to provide guidance for others to invite comment and criticism and last but not least to encourage members to submit records.

I have been collecting records of the occurrence of Cynipid-wasp induced galls on *Quercus* for several years. Thanks to the efforts of a number of .regular recorders I found myself with several hundred records. These were manually entered to record sheets, (one sheet for each species), and illustrated graphically on maps of the British Isles divided into vice-counties and 10 km. squares, as supplied by the Biological Records Centre, (ref. B.R.C. GEN 3). Each record consisted of as much of the following information as available.

1. SPECIES NAME
2. DATE RECORDED
3. LOCALITY
4. 10 KILOMETRE SQUARE
5. VICE COUNTY NAME
6. VICE COUNTY NUMBER
7. RECORDER'S NAME
8. FULL MAP REFERENCE
9. IF FROM THE WEST MIDLANDS COUNTY 1 KILOMETRE SQUARE
10. REMARKS

The acquisition of an Amstrad PCW8256 single disc-drive computer made the transfer of these records to a database a logical step. The purpose would be to allow relative ease of analysis so that the accumulated data could be put to some use. The difficulty of extracting information manually had become apparent when I was asked to supply records of galls occurring in Warwickshire to the county museum there.

My first action was to court disaster (although I did not realise it at the time) by asking the supplier of the computer for a database. Naturally he sold me the one which happened to be in stock, so that I became the owner of a Sagesoft `Retrieve' programme. Fortunately this has turned out to be eminently suitable, even though it was designed to run on the twin-disc machine. It is quite easy to understand and operate and the few problems which arose in the early stages were solved with calls to Sagesoft's support service. I was lucky – it is very easy to end up with software which is unsuitable for either your hardware, your application, or even both.

The design of the database files had to take into account the information likely to be asked for, the potential number of records and the capacity of the disc to be used for storage. The information most often required takes the form of two questions – `where is species `X' found' and `what species are found in area 'Y''. The potential number of records is 36 (the approximate number of Cynipids galling oaks in this country) times the number of the units of area to which they are allocated. The discs used in the Amstrad have a capacity of 200K minus the space taken up by the operating system, which in the case of `Retrieve' is about 20K. It was decided to try and limit the information in each file to about fifty characters, giving a capacity of around 3600 files. This gives an average of 100 files per species, not a great number, and so the vice-county was decided upon as the main unit of area to be used. There are 112 vice-counties in Great Britain, so in theory there should be nearly enough space for one record of each species from each vice-county. As it is most unlikely everything will be found everywhere however, it is expected that the `shortfall' in numbers of records associated with rare and uncommon species will be made up by introducing the dimension of time into the records by repeating records once every decade. I hope that by the time 1999 arrives technology will allow me to expand the capacity of the database!

Each file consists of a number of `fields' roughly corresponding to the information categories existing in the annual records. They are as follows.

Field No.	**Field Name**	**Length**
1.	Number	2 Characters
2.	Species	18 ”
3.	Vice County	8 ”
4.	Vice County Number	3 ”
5.	10 Kilometre Square	5 ”
6.	Locality	8 ”
7.	Decade	2 ”
8.	Reference	5 ”

The `number' field is merely to identify each file and is not related to the biological information. The other fields are self-explanatory, but it will be seen that in order to keep to about 50 characters per file, (there are actually 51), it is necessary to compress the names of recorders, (the `reference' field) and localities.

So what does information look like which is produced by the database? Shown below are 2 reports, the first a result of asking the system to show all records of *Andricus ostreus* giving the decade, vice county and reference. The second is the answer to the question which species are found in vice county 55 (Leicestershire) showing species, locality, decade and reference. In the case of the *A. ostreus* records it can be seen that there are 13 records from 9 vice counties, in 2 decades provided by, (and this is where the compressed data must be interpreted), myself, Bill Ely, at Rotherham, Birmingham Museum and Warwick Museum. On the other hand Leicestershire has had 21 species recorded by myself and Chris Leach during the last 2 decades.

Any enquiries for data, and records, will be gladly received. In addition to running the database I am still manually recording species in 10k. squares, West Midland records in 1k. squares and Warwickshire records of any sort.

A. ostreus Analysis

Decade	Vice County	Reference
80	Derbys	Own
80	SW Yorks	Own
80	Staffs	Own
80	S. Devon	Ely
40	Cheshire	BirMu
	Warks.	WarMu
80	Warks.	WarMu
80	Warks.	Own
80	Warks.	W. Ely
80	M.W. York	W. Ely
80	M.W. York	Own
80	WML + NLCS	Own
80	Leis.	

Leicestershire Analysis

Species	Locality	Decade	Reference
Aalbopunctatus		80	Own
Acurvator	Outwoods	80	Own
Afecundator		80	Own
Afecundator		70	Own
Aglandulae	Outwoods	80	Own
Akollari		80	Own
Akollari		70	Own
Alignicola		80	Own
Anudus		80	Own
Aostreus	Outwoods	80	Own
Aquercuradicis		80	Own
Aquercuscalicis	Beaconh	80	Own
Aquercuscorticis		80	Own
Aquerrcusramuli	Leicster	80	Leach
Asolitarius	Outwoods	80	Own
Atestaceipes	Chrnwood	80	Leach
Bpallida		70	Own
Bpallida		80	Own
Cdivisa	Outwoods	80	Own
Cdivisa		70	Own
Clongiventris	Outwoods	80	Own
Cquercusfolii	Outwoods	80	Own
Nalbipes		70	Own
Nalbipes	Outwoods	80	Own
Nnumismalis		70	Own
Nnumismalis	Outwoods	80	Own
Nquercusbaccarum	Ulvscrot	80	Own
Nquercusbaccarum	Malloryp	70	Own

P.R. Shirley

BBC WILDLIFE — The 1987 Oak Gall Survey

The May issue of BBC WILDLIFE carries an article by Chris Leach introducing Plant Galls in a manner which will appeal to all naturalists. The supporting illustrations are the work of several well-known nature photographers.

This leads to the announcement of a Survey of a selection of 17 Oak Galls. To assist readers to identify their finds, each gall is described and again colour illustrations are shown.

A Record Card is given so that a standard form of report can be used, and it is hoped that many readers will send their reports to BBC WILDLIFE. At the end of the year, results will be analysed by the BPGS, and a summary will appear in one of the Spring issues of the Magazine.

Many of our members already take BBC WILDLIFE, but the May issue should be seen by everyone. It is likely that very few newsagents will still have copies. A copy can be ordered by sending £1.25 (Overseas £1.50), quoting the issue required, to:- BBC WILDLIFE Subscriptions, P.O. Box 62, Tonbridge, Kent. TN9 2TS.

FIELD MEETING
Monks Wood — Saturday, 12th July, 1986.

Plant galls recorded by members of the British Plant Gall Society on 12th July, 1986. All records are of galls, except where stated.

Acer campestre
- Eriophyes macrochelus megalonyx
- Eriophyes macrorhyncha cephalonea

Carex pendula
- Wachtiella ripariae

Cirsium vulgare
- Urophora stylata (adult)

Corylus avellana
- Eriophyes avellanae

Crataegus monogyna
- Eriophyes goniothorax typicus

Euonymus europaeus
- Eroiphyes concolvens
- Eriophyes sorbi

Filipendula ulmaria
- Dasyneura ulmariae
- Dasyneura pustulans
- Triphragmium ulmariae

Fraxinus excelsior
- Eriophyes fraxinivorus
- Psyllopsis fraxini
- Dasyneura fraxini

Galium aparine
- Eriophyes galii

Glechoma hederacea
- Rondaniola bursaria
- Liposthenus latreillei

Populus tremula
- Harmandia sp

Prunus spinosa
- Eriophyes similis
- Eriophyes path

Quercus robur
- Cynips longeventris
- Cynips quercusfolii
- Neuroterus quercusbaccarum
- Neuroterus numismalis
- Andricus lignicola
- Andricus quercuscorticis
- Biorhiza pallida
- Andricus curvator
- Cynips divisa

Rosa
- Blennocampa pusilla
- Diplolepis rosae
- rosarum

Rubus
- Diastrophus rubi

Salix sp (sallow)
- Pontania bridgmanii
- Eriophyes tetanothorax

Sorbus torminalis
- Eriophyes sorbi

Ulmus
- Eriophyes filiformis
- Eriophyes ulmi
- Dasineura ulmi

Urtica dioica
- Dasineura urticae

Veronica chamaedrys
- Jaapiella veronicae Wachtiella

Paul T. Harding & John Pearson.

COMPETITION FOR YOUNG NATURALISTS

(Age Limit — under 19 on 1 September, 1987.)

An Essay of 200 to 400 words entitled:
LOOKING FOR PLANT GALLS

Three equal prizes have been donated, each of a £5 Book Token and a copy of the *Provisional Keys to British Plant Galls,* published recently by the British Plant Gall Society.

Age will be taken into account.

Judges – Mr. Rex Hancy and Mr. Ken Durrant.

Entries must give Name, Address and Age, and must be sent before 15 September, 1987 to:-

Mr. R. Hancy, 124 Fakenham Road, Taverham, Norwich. NR8 6QH.

Please mention this competition to any young people among your family, friends, pupils or society members if they are likely to be interested.

WINGED TWIGS ON ELM

In 1983, Mrs. Boyes of Cambridge saw that many elm twigs in a hedge at the Cavendish Laboratories carried longitudinal corky processes. The first impression was of the garden shrub *Euonymus alatus.* Both CTW and the RHS Dictionary mention such elms, but with different tentative varietal names. Yet Mrs. Boyes had reported that the growths had appeared and extended rapidly within one season, the twigs finally dying.

Specialised laboratory examinations revealed no trace of virus, bacterium or other cause. Now Mr. Binden sends an exactly similar specimen which he found at Dover, on a sapling elm some ten years old. Are there any more reports, please? Better still, a specimen in active growth, or a firm explanation or identification.

F.B.S.

PHYTOPHAGOUS INSECTS DATA BANK (PIDB) AND GALL INSECTS

The phytophagous insects data bank was set up by the Institute of Terrestrial Ecology to compile and collate records of British Insects and their food plants. The project began in the mid-1970's, and the data bank now contains records of all phytophagous insect and mite groups. Most of these records are from the literature; and for most groups records from recent standard works have been entered to the PIDB as basic information. This has been followed by abstraction from other sources, with the current literature being scanned since about 1981. There are also data from museum collections e.g. Cecidomyiidae (gall flies) from the British Museum (Natural History). *Ms* or other private sources have also been entered e.g. a personal index of Eriophyid (gall mite) records bequethed to the British Museum (Natural History) by Dr. A.M. Massee.

Nomenclature is updated to follow recent check-lists. Each record is source-referenced, and may contain other useful background data if these are in the original record. Fields of data include such details as – developmental stage of the insect; months of occurrence; feeding habits like galling, mining or inquiline; parts of food-plant attacked and qualifiers to the plant, such as important food-plant or European record. Comments allow for various notes and we have included very brief descriptions of galls. Data on parasites of the plant-feeding species can also be included, but compilation of comprehensive information on these species is not available yet. The PIDB includes only a summary of distribution data based on groups of vice-counties; recording geographical data proper is the responsibility of the Biological Records Centre.

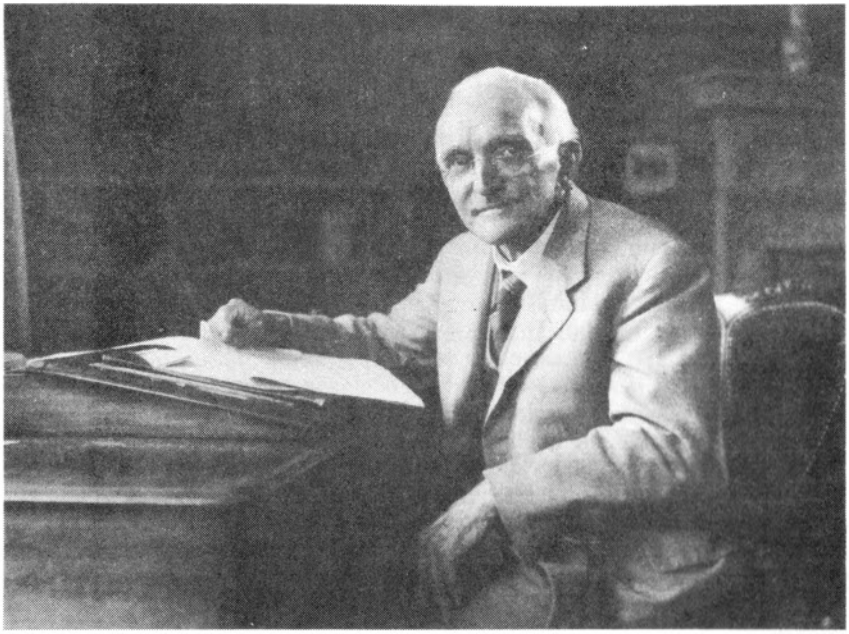
The PIDB runs on the IBM 3081 computer at the University of Cambridge. We are currently transferring the information to a new database system which will allow is greater flexibility in collating and searching the records. We now hold some 45,000 records of linkages between insects and plants.

There are 3 objectives for the project. First, we intend to produce catalogues of British insects and their food-plants and *vice versa.* Second, the data are to be used in research work on insect/plant relationships. Third, we can answer enquiries. As the information is held on computer files, we can sort out keywords or codes and list the records: e.g. we could sort out records of gall-forming species on a particular plant, or list all the records of a genus of insects. At the moment the output is rather heavily coded, but we hope to make improvements in the future. This enquiry service is available to anyone, but with current financial constraints it will normally be necessary to charge for the use of the data bank.

Lena K. Ward and D.F. Spalding
Institute of Terrestrial Ecology,
Furzebrook Research Station, Nr. Wareham, Dorset, BH2O 5AS.
February 1987.

Oak Apples: Are these above average, or below, in size or in abundance around your area this year? (F.B.S.)
Andricus corruptrix: Have you seen gall or insect recently? (MMH)

E.W. SWANTON, O.B.E., A.L.S.
His Notes on Neuroterus ostreus



Introduced by Margaret Hutchinson.

E.W. Swanton was the first curator of the Haslemere Educational Museum, appointed by its founder, Jonathan Hutchinson, F.R.S. in 1897. He retired in 1948 at the age of 78. It was to him we took our flowers, fungi, etc. for identification confident of getting interesting information and encouragement.

He was a first-rate field naturalist and, accompanied by his wife, herself a keen botanist, searched the countryside for flowers, mosses, fungi and galls. They were displayed in the entrance hall to catch one's eye on entering the museum. Explanatory labels for these and for exhibits in the galleries were written by the curator himself. Swanton often visited his patron at Inval, a mile outside the town and they would discuss the role of museums in education. While the great surgeon was teaching medical students the need for developing their powers of observation, the curator was doing the same for the public at Haslemere, particularly the school-children who attended regularly for classes.

As well as his book on British Plant Galls Swanton wrote a companion volume on Fungi. Other books, articles and unpublished notes are still very good reading. It is from his notes kept at the museum that I have taken the following *account of Neuroterus ostreus,* the Oyster Gall.

1911, July 31. The galls of *Neuroterus ostreus* are remarkably abundant on the leaf veins of the oak, their presence I suspect, causes the marginal death of the leaf which is becoming so marked that the "man-in-the-street" is beginning to notice it and attribute it to the drought and heat of this remarkable summer.

1911, Aug. 5. For a week past anyone standing under an oak tree anywhere in this district heard a sound exactly like rain-drops pattering down before arrival of a storm. This noise was caused by the falling away from the leaves of the galls of *Neuroterus ostreus* which occur this season in myriads. In falling they strike against other leaves and cause the noise. They are spherical, about the size of a millet seed, yellowish green often spotted with red or purple and become black after falling. The alternate generation is *Spathegaster aprilinus*, the green "April Bud gall". I failed to find it last spring, on the other hand I saw many D. *Taxhenbergi* galls.

Aug 11. Went to Inval this morning and had a long talk with Sir Jonathan about galls. He had recently sent a letter to The Times on the "Peppercorn" gall *(N ostreus)* as he named it, on oak leaves. He showed me the letter he had received from Sir William Church about the gall.

Aug. 21, one oak tree in Three Gates Lane which looks very brown and has but few acorns whilst two adjacent ones are almost without evidence of peripheral gangrene of the leaf and have goodly crops of acorns. In (another) wood I noticed the same phenomenon in several spots.

I have noticed lately that the majority of *Q. sessiliflora* in this district are but slightly attacked by *N. ostreus*, and at a distance show no appreciable marginal death of the leaf.

"Peppercorn" galls are still falling from the oaks in the Weald. Their enormous numbers may be guaged by the fact that on a bare patch of ground beneath one oak I counted 13 of these galls on a square inch of ground and I did not specially select a thickly populated patch.

Aug. 22. On Haste Hill Common I saw two oaks close together, one smothered with galls, the other with leaves almost completely without them. I gathered, quite at random, two twigs that were in actual contact, one from each tree. The twig without obvious indications of the presence of galls had 15 leaves all were without a trace of peripheral gangrene, and I found only 3 galls, 3 small ones of *Neuroterus laevisculus.* All the leaves, on all *acrosphaelus* was very marked, in two almost half the leaf was involved, the apex was crinkled and partly broken away. I carefully counted the galls on these leaves, 288 of which no less than 188 were those of *N. ostreus.*

From the green-leaved tree I gathered a twig with 14 leaves, one with one segment brown at the tip. The leaf with the brown tipped segment had a small green ostreus gall about ¼ inch below the brown area. Several of the leaves showed on their veins brown scars, evidently abortive galls of *N. ostreus.*

There are no galls of *N lenticularis* on the green-leaved tree, but they are very abundant on its neighbour.

(There follows a detailed analysis of the galls found on ten leaves).

Aug. 31. The predominant oak around Grayshott (about two miles from Haslemere) is Q. *sessiliflora.* It is certainly not so markedly attacked by *Neuroterus ostreus* as is *Q. pedunculata* around Haslemere.

PLANT GALLS FROM THE ISLES OF SCILLY

J.P. BOWDREY and B.M. SPOONER
53A *Finchley Road, Westclje-on-Sea, Essex. 21 First Avenue, West Molesey, Surrey.*

A preliminary survey of the plant galls of Scilly was undertaken during a visit to the islands between 23rd June and 7th July, 1984. These, and additional records, kindly supplied from the Cornish Biological Records Unit (CBRU) by Dr. Stella Turk, are presented below. A survey of the literature has also been attempted, and the following list, therefore, represents a complete summary of the gall-causers hitherto known from the islands.

The Isle of Scilly have long been of interest to naturalists, although detailed studies have been largely confined to the flora, avifauna and Lepidoptera. Invertebrate groups other than Lepidoptera have received little attention, apart from the spiders investigated by Bristowe (1929, 1935) and a list of Diptera by Smith (1963). The latter also includes a very useful bibliography of the entomology of the islands, with subsequent accounts of invertebrate groups being listed by Smith and Smith (1983). There are also important references, both for invertebrate and other groups, cited by Lousley (1971) in his excellent account of the flora. However, there appears to be no publication dealing with the plant galls of Scilly. No gall causers are included in Smith's list of Diptera and we have discovered but a single published record of a gall causer. Walker (1873) reported an individual of *Cynips kollari,* collected from an oak on St. Mary's. This represents the earliest record of a gall causer from the islands. A few potentially gall causing fungi have also been reported in a list of species collected during the spring foray of the British Mycological Society in 1965 (Holden, 1966). These are noted below.

The Isles of Scilly form an archipelago some 27 miles W.S.W. of Land's End and constitute Watsonian Vice-County la. Their total land area is a little over 1600 ha. and there are 46 islands large enough to support a vascular plant flora, five of these being inhabited. There are, in addition, some 150 named islets and rocks which are too small and exposed to support vascular plants. The islands are composed chiefly of granite, intruded during two separate periods of igneous activity, and have been separated from the mainland for at least 300,000 years. They once formed part of a larger, continuous land area and are separated now only by very shallow waters. Surface deposits comprise largely blown sand, alluvium and decomposed granite, with smaller quantities of glacial till, gravels and brickearth. Due to their geographical position the Scillies experience a very mild Atlantic climate, with plenty of sunshine and adequate rainfall. On the other hand, they are exposed and continually subjected to strong winds and salt spray, from which no part of the land surface is entirely sheltered. This has resulted in the extensive planting of exotic species such as *Escallonia macrantha, Hebe lewisii, Pittosporum crassifolium* and *Pinus radiata* as hedges and wind-breaks to facilitate bulb cultivation and other agricultural activities (Lousley, 1971).

Although extensively tree-covered in prehistoric times (Lousley, 1971), there is no longer any natural woodland in Scilly. Trees are sparse or absent, except around the Abbey Gardens on Tresco and this is particularly significant in the study of cecidology, as a high proportion of British galls occur on trees. As a

result, many species will have little or no opportunity to colonise the islands. Furthermore, individual trees and bushes are often growing in exposed locations, which might also hinder colonisation. As an example, many Hawthorns *(Crataegus monogyna)* show poor shoot development due to wind pruning, which might well present an obstacle to colonisation by species such as the shoot-infesting *Dasineura crataegi,* which we were unable to find in the islands. Most other native tree species are present only in small quantity, which perhaps further inhibits the establishment and spread of gall causing organisms. Oak *(Quercus robur),* for example, was once plentiful, but now occurs only as scattered, often stunted, solitary trees. Only three species of gall were recorded on these oaks. However small oak plantations developing on St. Mary's may eventually alter this situation. Only elms (*Ulmus spp.),* established from plantings for shelter, are comparatively frequent, but only one identified gall causer was found associated with them.

The diversity of gall causing species on Scilly appears to be low, even allowing for the absence of woodland. Although it is obviously not possible to compile a representative list of species in one short visit, it is probably significant that only 27 species were recorded in two weeks of fairly intensive searching, during which all the inhabited islands and Samson were visited. Even species ubiquitous elsewhere, such as *Phytomyza ilicis,* appear to be absent. No trace of this species could be found on a large holly hedge near the Longstone Centre, St. Mary's for example. About 600 species of flowering plants were enumerated by Lousley (1971) and, even though this total includes a significant number of naturalised aliens and of British species not known as hosts to gall cuasers, at least 130 of the represented genera do include species known to carry galls on the mainland. The exposure and isolation of the islands may be an important limiting factor for successful colonisation.

In the following list, abbreviations for the names of islands follow Lousley (1971) M= St. Mary's; A=St. Agnes; T=Tresco; B=Bryher; MN=St. Martin's; S=Samson. The layout for the list follows that suggested by Leach (1986).

DIPTERA Cecidomyidae

Dasineura affinis on *Viola* sp. 27.vi.1984 M, Bant's Cam, scarce. *Dasineura urticae* on *Urtica dioica* 28.vi.1984 T, Great Pool, frequent; 17.ix.1974 M, Old Town, J.A. Paton (CBRU); 17.ix.1974 A, J.A. Paton **(CBRU).**

Rondaniola bursaria on *Glechoma hederacea* 5.vii.1984 S, southern part, scarce. *HOMOPTERA Aphididae*

Aphis fabae on *Euonymous japonicus* 25.vi.1984 M, nr. Longstone Centre, causing severe leaf curl.

?Aphis pomi on *Crataegus monogyna* 24.vi.1984 M, Holy Vale, leaf curl. *Eriosoma ulmi* on *Ulmus sp.* 6.vii.1984 M, nr. Maypole, scarce. *?Prociphilus xylostei* on *Lon icera periclymenum* 27.vi.1984 M, nr. Long Rock. A possible record of this rare species. Greyish, waxy aphid severely curling terminal leaves. Distinct from *Hydaphis (Siphocoryne) xylostei,* a much more frequent green aphid.

HOMOPTERA Psyllidae

Psyllopsisfraxini on Fraxinus excelsior 28.vi.1984 T, Abbey grounds, scattered.

HYMENOPTERA Cynipoidea

Andricus curvator on *Quercus robur* 27.vi.1984 M, small tree in a garden nr. Bant's Cam; 30.vi.1984 M, nr. airport; 6.viii.1984 M, Holy Vale, plantation trees; 28.vi.1984 T, nr. Abbey.

Andricus kollari on *Quercus robur 27* vi.1984 M, small tree in garden nr. Bant's Cam; 6.vii.1984 M, Holy Vale, plantation trees; 16.ix.1974 T, wood N. of Abbey, J.A. Paton (CBRU); 28.vi.1984 T, nr. Abbey.

Andricus lignicola on *Quercus robur* 28.vi.1984 T, nr. Abbey, scarce. *Diastrophus rubi* on Rubus fruticosus 27.vi.1984 M, Peninnis Head, abundant; 28.vi.1984 T, nr. Abbey, scattered; 4.vii.1984 T, Carn Near, frequent; 5.vii.1984 S, by well to S., scattered.

Diplolepis rosae on *Rosa sp.* 15.ix.1974 MN, the Plains, old specimen, J.A. Paton (CBRU).

Neuroterus numismalis on *Quercus robur* 16.ix.1974 T, wood north of Abbey, J.A. Paton, (CBRU).

Neuroterus quercusbaccarum on *Quercus robur* 16.9.1974 T, wood north of Abbey, J.A. Paton (CBRU).

Phanacis hypochoeridis on *Hypochoeris radicata* 24.6.1984 M, Innisidgen, frequent; 8.vi.1984 T, Great Pool, frequent; l.vii.1984 B, southern part, scattered; 3.vii.1984 MN, Burnt Hill, scattered; undated MN, Higher Town Bay (CBRU); undated A, (CBRU); undated M, Pelistry Bay (CBRU). This species seems to be frequent in Scilly, on the mainland it is generally scarce and described by Eady and Quinlan (1963) as `very local'.

A CARINA

Eriophyes galii on *Galium aparine* 24.vi.1984 M, Innisidgen, frequent; 4.vii.1984 T, Old Grimsby, scattered.

Eriophyes goniothorax on *Crataegus monogyna* 23.vi.1984 M, Bar point, scarce. *Eriophyes macrorhynchus on Acer pseudoplatanus* 23.vi.1984 M, Trenoweth, frequent.

Eriophyes tetanothrix onSalix sp. (Sallows) 27.vi.1984 M, Lower Moors Nature Trail, scattered; 28.vi.1984 T, nr. Abbey, scattered; 14.v.1973 T, by Great pool (CBRU).

NEMATODA

Anguillulina dipsaci on *Plantago lanceolata* 2.vii.1984 M, nr. Bar Point, leaf galls, scattered.

FUNGI

Cystopus candidus on *Matthiola sp.* 1966 M, BMS Foray.

Protomyces inundatus onApium nodiflorum 24.vi.1984 M, Holy Vale Nature Trail, scarce.

Puccinia malvacearum on *Lavatera arborea* 1966 M, BMS Foray.

Puccinia punctiformis on *Cirsium arvense* 2.vii.1984 M, nr. Bar Point, plants severely distorted.

Puccinia smyrnii on *Smyrnium olasatrum* 1966 M & T, BMS Foray.

UNDETERMINED

On *Cheiranthus* pods curled 25.vi.1984 M, Garrison.

On *Echium x `scilloniensis'* massive stem fasciation 4.vii.1984 T, Old Grimsby. On *Malus sp.* Leaves curled by undetermined, ant-attended, black aphids 24.vi.1984 M, Innisidgen.

On *Salix sp.* (sallow) leaves curled by undetermined aphids 25.vi.1984 M, nr. Porthloo.

On *Rubus fruticosus* `Witches broom' effect; large clusters of tiny, stunted leaves on cut, roadside plants 6.vii.1984 M, nr. Maypole. We have occasionally seen the same effect on plants in remote mainland localities and it does not appear to be the result of chemical spraying as we initially considered.
On *Ulmus sp.* Small, raised blisters on upper leaf surface, with corresponding depression below. possibly caused by *Dasineura ulmicola* 24.vi.1984 M, nr. Maypole.

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A LIST OF INSECTS LIKELY TO EMERGE FROM CYNIPID GALLS (HYM. CYNIPIDAE)

When I saw the Secretary's plea for help in Cecidology Vol. 1 No.2 for assistance in answering a member's question regarding texts to assist in identifying those insects, apart from gall-causers, which emerge from Cynipid galls, my immediate reaction was to advise him of the following paper: `On the Biology of the Inhabitants of Oak Galls of Cynipidae (Hymenoptera) in Britain' by R.R. Askew, published by the Society for British Entomology in 1961. This excellent paper goes into great detail over the inter-relationships of the causers, parasitoids and inquilines which occupy oak galls, as well as giving a key to the Chalcids concerned. That was, so to speak, the short answer. I then realised that in the 26 years since its publication other information had become available and the gall fauna itself had increaed. I thought it would be worthwhile to bring together all of the information relating to parasitoids and inquilines of Cynipid induced galls at my disposal. This follows and is, perhaps, the long answer. A number of the papers given as references contain keys and descriptions of some of the species mentioned. Section 1 deals with galls on *Quercus;* section 2 deals with galls on other hosts.

SECTION 1. GALLS ON QUERCUS

Chalcid Parasitoids	**Cynipid Inquilines**
HOST GALL (Numbered)	
1. ANDRICUS ALBOPUNCTATUS (Agamic)	
Eupelmus urozonus / Mesopolobus tibialis	Synergus nervosus
Megastigmus dorsalis # / Caenacis divisa	S. Gallaepomiformis
Eurytoma brunniventris	
2. A. ANTHRACINUS (Agamic)	
Tetrastichus aethiops / Torymus cingulatus	S. ruficornis
Eupelmus urozonus / Mesopolobus tibialis	S. gallaepomiformis
M. jucundus / M. fasciiventris	S. nervosus
M. xanthocerus / M. fuscipes	S. albipes
Eurytoma brunniventris / Olnyx arsames	Saphonecrus connatus (SEXUAL)
Mesopolobus tibialis / m. xanthocerus / M. Fuscipes	
3. A. CALLIDOMA (Agamic)	
(SEXUAL)	
Mesopolobus jucundus / M. fuscipes?	
Eurytoma brunniventris	
4. A. CURVATOR (Agamic) Mesopolobus amaenus	
S. nervosus	
S. gallaepomiformis	
S. nervosus S. albipes	
(SEXUAL)	
Olnyx arsames / O. gallarum / Torymus auratus	S. evanescens (?)
T. cingulatus / Syntomaspis notata	S. gallaepomiformis
Eupelmus urozonus / Mesoplobus tibialis	S. nervosus
M. jucundus / M. fasciiventris / M. amaenus	S. albipes M. fuscipes /
M. albitarsus / Megastigmus dorsalis Eurytoma brunniventris	
5.A. FECUNDATOR (Agamic)	
Mesoplobus xanthocerus / Megastigmus dorsalis #	S. evanescens (SEXUAL)
Olynx trilineata / Eupelmus urozonus	
6.A. GLANDULAE (Sexual)	
Saphonecrus connatus Synergus nervosus	
7.A. INFLATOR (Agamic)	
Eurytoma brunniventris / Mesopolobus jucundus	S. ruficornis Megastigmus
dorsalis #	
(SEXUAL)	
Olynx arsames / Megastigmus dorsalis	S. evanescens
Torymus auratus	Saphonecrus connatus.
8.A. KOLLARI (Agamic)	
Megastigmus dorsalis / M. stigmatizans	Synergus umbraculus
Torymus cingulatus / T. nigricornis	S. reinhardi
Eupelmus urozonus / Mesopolobus jucundus	S. pallidipennis
M. amaenus / M. fuscipes / Hobbya kollari	S. gallaepomiformis
Caenacis divisa / Cecidostiba adana *	S. pallicornis #
Kocourekia hirtula # / Eurytoma brunniventris	Ceroptres arator
Eudecatoma bigutta / E. Variegata	

(SEXUAL)
Mesopolobus tibialis / M. xanthocerus / M. Fuscipes
9. A. LIGNICOLA (Agamic)
Mesopolobus tibialisS. pallidipennis # S. pallicornis

A. QUADRILINEATUS (Agamic)
Olynx arsames / O. eudoreschus — Synergus albipes
Torymus auratus / Mesopolobus xanthocerus — S. Gallaepomiformis
(SEXUAL) — S. nervosus

11. A. QUERCUSCALICIS (Agamic)
Cecidostiba adana # / Eurytoma brunniventris # S. umbraculus #
Megastigmus stigmatizans # / Eupelmus urozonus * S. pallicornis #
Caenacis lauta ? # / Cecidostiba adana #
Sycophila biguttata ? #
Hobbya stenonota * / Olynx trilineatus #?
(SEXUAL)
Mesopolobus xanthocerus / M. fuscipes
M. tibialis

12. A. QUERCUSCORTICIS (Agamic)
Megastigmus dorsalis # — S. incrassatus

13. A. QUERCUSRADICUS (Agamic)
Torymus nobilis / T. pleuralis / T. amoenus — S. Incrassatus
Cecidostiba geganius
(SEXUAL)
Eudecatoma variegata? / Megastigmus dorsalis # — S. apicalis
S. Rotundiventris
Saphonecrus connatus
Ceroptres arator

14. A. QUERCUSRAMULI (Agamic)
Megastigmus dorsalis #
(SEXUAL)
Olynx gall arum — Synergus
Torymus auratus — gallaepomiformis

15. A. SEMINATIONIS (Agamic)
T. auratus — S. nervosus
S. Gallaepomiformis
S. albipes

16. A. SOLITARIUS (Agamic)
Mesopolobus jucundus / M. amaenus — S. gallaepomiformis
Eurytoma brunniventris — S. nervosus

17. A. TESTACEIPES (Agamic)
Eupelmus urozonus / Caenacis divisa — S. incrassatus
Eurytoma brunniventris — Ceroptres aratus ?
(SEXUAL)
Megastigmus dorsalis #

18. BIORHIZA PALLIDA (Agamic)
Torymus nobilis
(SEXUAL)
S. Gallaepomiformis

Tetrastichus diaphantus / Olynx skianeuros / Megastigmus dorsalis / Torymus auratus / T. cingulatus / T. nobilis / Syntomaspis apicalis / Eupelmus urozonus / Ormyrus punctiger / Mesopolobus tibialis / M. jucundus / M. amaenus / M. xanthocerus / M. dubius / Hobbya stenonota / Cecidostiba leucopeza / C. semifascia / Eurtyoma brunniventris / Eudecatoma variegata.

19. CALLIRHYTIS GLANDIUM

Eurytoma brunniventris / Megastigmus dorsalis

20. CYNIPS AGAMA (Agamic)

S. Pallicornis
S. albipes

21. C. DISTICHA (Agamic)

S. Pallicornis
S. albipes

(SEXUAL)
Torymus auratus / Mesopolobus jucundus /
Eurytoma brunniventris

22. C. DI VISA (Agamic)

Tetrastichus aethioips / Torymus auratus — S. pallicornis
T. cingulatus / T. nigricornis / — S. nervosus
Megastigmus dorsalis # /
Syntomaspis cyanea / Eupelmus urozonus / — S. albipes
Mesopolobus jucundus / M. fasciiventris /
M. dubius / Caenacis divisa / megastigmus stigmatizans
Eurytoma brunniventris / Eudecatoma biguttata

23. C. LONGIVENTRIS (Agamic) Tetrastichus aethiops / Torymus auratus /

T. cingulatus / T. nigricornis / Megastigmus dorsalis #
Syntomaspis cyanea / Eupelmus urozonus /
Mesopolobus jucundus / M. fasciiventris /
Cecidostiba adana # / M. fuscipes /
Eurytoma brunniventris / Eudecatoma biguttata.
(SEXUAL)
Mesopolobus fuscipes — S. pallicornis

24. C. QUERCUSFOLII (Agamic)

Tetrastichus aethiops / Megastigmus dorsalis — S. pallicornis
Torymus nigricornis / Syntomaspis cyanea / — S. nervosus
Mesopolobus jucundus / M. fasciiventris / — Saphonecrus connatus
Eurytoma brunniventris / Eudecatoma biguttata
(SEXUAL)
Mesopolobus fuscipes

25. NEUROTERUS ALBIPES (Agamic)

Pediobius clita / P. lysis — Synergus nervosus
Mesopolobus tibialis / M. fasciiventris — S. albipes
(SEXUAL)
Tetrastichus aethiops / Olynx arsames
Torymus auratus / Mesopolobus tibialis /
M. fasciiventris / M. fuscipes /
Eurytoma brunniventris

N. APRILINUS (Sexual)

Mesopolobus fuscipes

27.N. NUMISMALIS (Agamic)

Pediobius lysis / Torymus auratus	S. albipes
Mesopolobus tibialis / M. fasciiventris	
(SEXUAL)	
Tetrastichus aethiops / Cirrospilus diallus	S. Albipes
Olynx arsames / Torymus auratus / Pnigalio agraules	
Mesopolobus tibialis / M. fasciiventris /	
M. fuscipes / Eurytoma brunniventris	

28.N. QUERCUSBACCARUM(Agamic)

Olynx gallarum	S. nervosus
Torymus auratus / Megastigmus dorsalis #	S. albipes
Mesopolobus tibialis / M. fasciiventris /	
M. dubius / Eurytoma brunniventris	
(SEXUAL)	
Olynx arsames	S. gallaepomiformis
Torymus auratus / T. nigricornis	S. thaumacerus
Mesopolobus tibialis / M. jucundus	S. nervosus
Eupelmus urozonus / Eurytoma brunniventris	S. albipes

29.N. TRICOLOR (Agamic)

29.Eudecatoma biguttata #	S. nervosus
(SEXUAL)	
Torymus auratus	S. gallaepomiformis
Eurytoma brunniventris	S. thaumacerus

30.TRIGONASPIS MEGAPTERA (Agamic)

Olynx trilineata?	S. Gallaepomiformis
	S. thaumacerus
	S. nervosus *
	S. albipes #

(SEXUAL)
Syntomaspis fastuosa / Olynx trilineata?

In addition to the above host / Cynipid / Chalcid relationships the following should also be noted.
1.Galls of Diplolepis rosae, D. eglanteriae and D. spinosissimae are subject to attacks from two Ichneumon wasps – Orthopelma mediator (all three) and O. brevicorna (not D. rosae).
1.Diplolepis galls are also inhabited by Cynipid inquilines as follows:-

Gall	**Inquiline**
D. rosae	Periclistus brandtii
D. mayri	P.brandtii
D. eglanteriae	P. caninae
D. centifoliae	P. caninae
D. spinosissimae	P. spinosissimae

SECTION 2. GALLS ON OTHER HOSTS

a) Galls on Compositae

HOST	GALL CAUSER	CHALCID PARASITOID
Centaurea scabiosa	Isocolus rogenhoferi	Eudecatoma submutica
		Habrocytus berylli?
Centaurea sp.	Phanacis centaureae	Chlorocytus diversus
		Homoporus subniger
Hieracium sp.	Aulacidea hieracii	Habrocytus hieracii
		H**.** berylli?
		Eudecatoma submutica

Hypochaeris radicata	Phanacis hypochoeridis	Syntomopus incisus
		Stinoplus etearchus
		Mesopolobus mediterraneus
Picris echioides	Phanacis caulicola	Stinoplus etearchus
Tragopogon sp.	Aulacidea tragopogonis	Habrocytus hieracii
b) Galls on Labiatiae		
b) Glechoma hederacea	Liposthenus latreillei	Torymus glechomae?
b) Galls on Rosaceae		
Potentilla erecta	Xestophanes brevitarsus	Habrocytus isarchus
		Eudecatoma concinna
Potentilla reptens	Xestophanes potentillae	Habrocytus isarchus
Eudecatoma concinna Rosa sp.	Diplolepis rosae	Caenics inflexa
		Eurytoma rosae
		Habrocytus bedeguaris
		Mesopolobu jucundus?
Rubus caesius / R. sp.	Diastrophus rubi	Torymus macropterus ?

NOTES

1.Symbols

= An association or species recorded in Europe but not in Britain.

? = An unconfirmed or doubtful association. (All *of* the host Cynipids are British with the exception *of* Callirhytis glandium which is doubtfully British).

2.Nomenclature

All names used in the lists are as they appear in the various references, with the exception *ofAndricus anthracinus* which is now the correct name *ofAndricus ostreus.* This change was made after the publication *of* the latest Hymenoptera check list in 1978. The oak Cynipids are all listed under their correct names with no reference to the separate names once in common use for their alternate generations, this aspect *of* their biology being indicated by the split between `Agamic' and `Sexual' galls. *Callirhytisglandium* does not, so far as I am aware, have alternating generations. Changes which were indicated in the 1978 check list are as follows.

Name in above list	**Name in check list**
Caenacis divisa	C. lauta
Cecidostiba leucopeza	C. hilaris
Eudecatoma	Sycophila
E. submutica	Not in list
Habrocytus now a sub-genus of	Pteromalus
Hobbya kollari	H. stenonata
Olynx now a sub-genus of	Aulogymnus
0. trilineata	O. trilineatus
Syntomaspis now a sub-genus of	Torymus
S. cyanea	S. cyaneus
S. fastuosa	S. fastuosus
S. apicalis	S. affinis
S.notata	S. notatus
Torymus nigricornis	T. nitens
T.pleuralis	T. scutellaris
T. amoenus	T. formosus
T. machopterus	T. chloromerus
T. glechomae	Not in list.

3. Chalcid Families

The Chalcid genera are in the following families:

EULOPHIDAE – Tetrastichus / Olynx / Pediobius / Pnigalio / Kocourekia.
EUPELMIDAE – Eupelmus
EURYTOMIDAE – Eurytoma / Eudecatoma
ORMYRIDAE – Ormyrus
PTEROMALIDAE – Ormocerus / Mesopolobus / Hobbya / Cecidostiba / Caenacis
TORYMIDAE – Megastigmus / Syntomaspis / Torymus

I am sure that the above lists are not complete, as mentioned at the beginning they are compiled from material at my disposal. This is sometimes incomplete, for example Claridge (1959) mentions that Mayr recorded E. biguttata from 45 different Cynipid gall species on oak, E. variegata from 10 and E. flavicollis from *2 Andricus* species, but I do not have access to the original paper. Any additional information will therefore be most welcome.

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APHID GALLS AND LADYBIRDS

On the Ufton Fields Nature Reserve (SP380615) in Warwickshire the Lombardy Poplar, *Populus italica* (Duroi) Moench, is fairly numerous and they support the galls of three species of *Pemphigus* aphids: *filaginis* (Boy.deFon.), *bursarius (L.)* and *spirothecae* Pass. The latter species is usually the commonest of the three and in some years is abundant.

An association of a Ladybird beetle, *Adalia bipunctata (L.)*, (Coleoptera, Coccinellidae) with the galls of *P. spirothecae* has been observed on two occasions:

1.11th Sept. 1973. Two *spirothecae* galls were noted, on the same tree, each with an adult Ladybird standing guard at the exit hole. There were no other Ladybirds in the near vicinity of the galls.

1.18th August 1979. One *spirothecae* gall was seen with an adult *A. bipunctata* positioned with its head very close to the exit hole. Again, there were no other Ladybirds in the near vicinity of the gall. Also on this occasion I noted a gall of P. *bursarius* on which sat a Hoverfly (Syrphidae) with its tongue inserted in the exit hole of the gall. I pushed the fly away slightly from the exit hole whereupon it moved back to its former position and re-inserted its tongue.

On neither occasion did I see the Ladybird actually capture an aphid but I can only assume they were in fact waiting to feed on the aphids as they emerged from the galls.

Just what the Hoverfly was doing with its tongue in the exit hole of the *bursarius* gall I'm not sure. Since these flies are not carnivorus perhaps it was feeding on a secretion of the aphids or the gall tissue.

There are several other common species of Ladybirds on the Ufton Fields site, for instance *Propylea 14-punctata (L.)* and *Coccinella 7-punctata* L., but no other species has been observed on (or even near) the galls.

It would be interesting to learn if there have been any other observations of this type of association with a gall, for instance have any of the Ladybirds associated with conifers *(eg. Anatis occellata (L.), Aphidecta obliterata (L.)* etc.) been observed on the *Adelges* galls?

Peter Cooke
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PLANT GALLS IN NORTHANTS

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Sunnyside, Main Street, East Haddon, Northampton. NN6 8BU.

Host		Status in Northants
Taxus baccata	Taxomyia taxi	Few records.
Yew	Artichoke Gall	Probably overlooked.
Papaver rhoeas	Aylax papaveris	One record only. Quarry near
Corn Poppy		Pitsford.
Capsella bursa-pastoris	Albugo spp.	Common in some areas in
Shepherd's Purse	White mould	some seasons
Tilia vulgaris (Europaea)	Eriophyes tiliae typicus	Occasional
Lime	Nail Gall. Bugle Gall	
Acer campestre	E. macrochelus	Fairly common
Field Maple		
Acer campestre	E. macrorhyncus cephalodes	Very common and widespread
Acer pseudoplatanus	E. macrorhynchus aceribus	Very common and widespread
Sycamore		
Acer pseudoplatanus	E. megalonyx	Fairly common
Ilex aquifolium	Phytomyza ilicis	Common and widespread
Holly		
Trifolium repens	Phyllanthous gall	Two records. Nene Valley
Filipendula ulmaria	Dasyneura ulmariae	Fairly common
Rubus fruticosus	Diastrophus rubi Bramble	
Rosa caninia	Blennocampa pusilla	Very common
Dog Rose		
Rosa caninia	Diplolepis eglanteriae	Common
	Smooth Pea Gall	
Rosa caninia	D. nervosus	Fairly
common		
	Spiked Pea Gall	
Rosa caninia	D. rosae	Very common
	Bedeguar.	
	Robin's Pincushion	
Prunus spinosa	Eriophyes similis	Very common
Blackthorn		
P. persica	Taphrina deformans	Garden. East Haddon
Peach		
Crataegus monogyna	Eriophyes goniothorax	Quite common
Hawthorn		
Crataegus monogyna	Dasyneura crataegi	Frequent
Ribes rubrum	Capitophorus ribis	Garden East Haddon
Red Currant (cultivar)		
Thelycrania (Cornus)	Craneiobia corni	Aug. 72. Wakerly Woods.
sanguinea		
Polygonum persicaria	Wachtiella persicariae	Occasional
Urtica dioica	Dasyneura urticae	Very common
	Nettle gnat	

Juglans regia	Eriophyes tristriatus typicus	Occasional
Betula pendula	Taphrina turgida Witches Broom	Fairly common
Alnus glutinosa Alder	Eriophyes axillare	Very common
Alnus glutinosa	E. Laevis inangulis	Fairly common
Fagus sylvatica Beech	Hartigiola annulipes	Quite common
Quercus robur	Biorhiza pallida	Very common and widespread
Quercus robur	Andricus kollari	Very common and widespread
Quercus robur	A. fecundator	Occasional
Quercus robur	A. curvator	Leaf gall sexual
Quercus robur	Cynips divisa Red Pea Gall	Fairly Common
Quercus robur	C. quercus-folii Cherry Gall	Common
Quercus robur	Neuroterus quercusbaccarum Common spangle gall Currant gall - male catkin	Very common. Unisexual
Quercus robur	N. numismalis	Very common
Quercus robur	N. albipes	Less common
Quercus robur	Knopper Gall	First county record 1971.2 reports. Frequent from 1977. Abundant 1984.
Salix caprea Goat Willow	Saperda populnea Timberman	1971. Sywell Wood. unconfirmed report 1985.
Populus sp.	Ascomyces aureus	Frequent
Salix caprea Goat Willow	Eriophyes tetanothorax	Fairly common
Salix sp. Willows	Pontania proxima	Very common
Salix sp.	P. viminalis	Occasional
Salix sp.	Rhabdophaga rosaria Camellia Gall	Regular at 2 sites
Fraxinus excelsior Ash	Eriophyes fraxinivorus	Inflorescence galled
Fraxinus excelsior	Psyllopsis fraxini	Fairly common
Fraxinus excelsior	Dasyneura fraxini	midrib; common
Veronica chamaedrys Germander Speedwell	Jaapiella veronicae	Very common
Glechoma hederacea Ground Ivy	Liposthenus latreillei	1970 Pitford. 1985 Newton
Galium sp. Bedstraw	Geocrypta galii	One record. 1972
Galium aparine Goosegrass	Eriophyes galii	Common
Viburnum lantana Wayfaring Tree	E. viburni	1 county record. Wakerly 1972

Cirsium arvense Creeping Thistle	Euribia cardui	
Hypochaeris radicata Cat's Ear	Phanacis hypochaeridis	Moulton 1974
Populos nigra (var. iteliva)	Pemphigus spirothecae	1985 Long Buckby
Tilia sp	Contarinia tiliarum	One record 1976.
Filipendula ulmaria	Triphragmium ulmariae	Occasional
Geranium pratense Meadow Cranesbill	Rust gall causing distortion of leaf veins	Verge near Newton. 1978
Euonymus europaeus Spindle	Leaf margins finely rolled. c.f. Eriophyes goniothorax typicus on Hawthorn	Recorded at several sites. Salcey Forest, Geddington Chase
Rhamnus catherticus Buckthorn	Takes form of orange patch on leaf early in season developing into pouch gall later in season	Very common where host occurs
Prunus spinosa Blackthorn	Small pustule gall evenly distributed over leaf surface. (not edge as in E. similis)	Occasional
Ulmus sp. Elm	Aphid activity causing distortion of leaf	Regular at some sites. Could be Darlington 135 or 137.
Ulmus sp. Elm	Small pustule gall on leaf. c.f. E. macrorhynchus cephalodes of Field Maple - but remains green	One record only from county. Also recorded Warwickshire and Ashdown Forest
Salix sp. Willows Witches broom	Recorded from several sites.	

RECORDS OF WILTSHIRE GALLS

S.A. MANNING
(9 Eversley Court, Prince of Wales Road, Cromer, NR27 9HR)

The following galls were identified during a short visit to North Wiltshire (vice county 7) between 7th and 17th July 1986. The names of localities are abbreviated as follows: C = Calne, 10 km square 31/97 L = Lacock Abbey grounds, 31/96 S = Smallgrain Plantation Picnic Area and Morgans Hill Nature Reserve, 41/06 Generally names of gall causers follow Buhr (1965), but where a different name is used in the Society's **Provisional Keys** (Stubbs, 1986) it is included in brackets. *Acer campestre* (Field Maple)

Aceria eriobia eriobia, C

Aceria macrochela macrochela (Eriophyes m.), C

Aceria macrorrhyncha cephalonea f. aceris campestris (Eriophyes m.), C

Acer pseudoplatanus (Sycamore)
Aceria macrorrhyncha (Eriophyes m.), C
Aceria pseudoplatani, C, S
Alnus glutinosa (Alder)
Aceria brevitarsa brevitarsa (Eriophyes b.), C
Eriophyes inangulis (E. axillare), C
Eriophyes laevis laevis (E. laevis inanguilis), C
Centaurea scabiosa (Greater Knapweed)
Aceria centaureae, S
Corylus avellana (Hazel)
Phytoptus avellanae (Eriophyes a.), C, S
Crataegus (Hawthorn)
Dasineura crataegi, C
Eriophyes goniothorax (E. g. typicus), C,S
Fagus sylvatica (Beech)
Aceria nervisequa faginea (Eriophyes n. var. *maculifer), L*
Aceria nervisequa nervisequa (Eriophyes nervisequus), S
Filipendula ulmaria (Meadow-sweet)
Dasineura pustulans, C Dasineura ulmaria, C
Fraxinus excelsior (Ash) *Psyllopsis fraxini, C,S*
Galium aparine (Goosegrass)
Cecidophyes galii (Eriophyes g.), C, S
Dasineura aparines, C
Glechoma hederacea (Ground Ivy)
Liposthenus latreillei, C
Rondaniola bursaria, C, L
Helianthum nummularium (Common Rockrose)
Aceria rosalia, S
Ilex aquifolium (Holly)
Phytomyza ilicis, C, L
Juglans regia (Walnut)
Aceria erinea, C, L
Populus sp. (Poplar)
Taphrina populina, C
Populus nigra var. *italica* (Lombardy Poplar)
Pemphigus bursarius, C Pemphigus spirothecae, C
Prunus spinosa (Blackthorn)
Eriophyes padi prunianus (E. padi), C
Eriophyes similis pruni-spinosae (E. similis), C
Quercus robur (Pedunculate Oak)
Andricus kollari (agamic generation), C
Biorhiza pallida (sexual generation), C
Neuroterus albipes (sexual generation), C
Neuroterus quercusbaccarum (sexual generation), C
Rhamnus catharticus (Buckthorn)
Trichochermes walkeri, S

Rosa sp. (Wild Rose)
Blennocampa phyllocolpa (B. pusilla), C
Diplolepis sp. (Smooth pea-gall), C
Salix alba (White Willow)
Nematus proximus (Pontania p.), C
Salix caprea (Great Sallow)
Nematus pedunculi, C
Salix fragilis (Crack Willow)
Nematus proximus (Pontania p.), C
Sorbus aria (White Beam)
Eriophyes sorbi (E. pyri), S
Sorbus aucuparia (Rowan)
Eriophyes sorbi (E. pyri), C
Tilia (Lime)
Contarinia tiliarum, C, L
Didymomyia tiliacea (D. reamuriana), L
Eriophyes exilis, C
Eriophyes leiosoma, C, L
Eriophyes tiliae tiliae, C
Phytoptus tetratrichus tetratrichus, C
Ulmus procera (English Elm)
Eriosoma ulmi, C
Tetraneura ulmi, C
Urtica dioica (Stinging Nettle)
Dasineura urticae, C
Veronica chamaedrys (Germander Speedwell)
Jaapiella veronicae, C, L
Viburnum lantana (Wayfaring Tree)
Eriophyes viburni, S

References

Buhr, H. (1965). *Bestimmungstabellen der Gallen (Zoo-und Phytocecidien) an Pflanzen Mittel-und Nordeuropas.* V.E.B. Gustav Fisher Verlag, Jena, 2 vols. Stubbs, F.B. (Ed.) (1968). *Provisional Keys to British Plant Galls.* British Plant Gall Society.

Acknowledgement

I thank my friend Neil F. Hocquart for his kind hospitality and help with *transport* during this fieldwork.

THE BREEDING OF THE SEXUAL AND ASEXUAL GENERATIONS OF ANDRICUS KOLLARI & A. LIGNICOLUS

The materials needed for this exercise are a number of muslin bags about ten inches long and eight wide, garden twistits or string, plant labels and indelible pencil, a fine paint brush and a hand-lens. Small transparent boxes and phials can often be got from a doctor or vet.

To make a quick start collect forty or fifty oak marbles in the brown state in September and put each one in a separate container. Insects should emerge quite soon and buds on *Quercus cerris* (the Turkey Oak) will be ready to receive them.

Sleeve one insect in each bag with a plant label bearing the date and any other information you wish to record. Choose the twig carefully for its freshness and remove the leaves from it before slipping the bag over. Secure it with a twistit or string without pinching the twig. In my experience many sleeves get lost one way or another so sleeve plenty.

The most satisfactory method is to have your own *Q. cerris* trees. Two little trees a foot high with several branches, grown in flower pots sunk in a garden bed proved invaluable in my work. I also had access to a tree about ten feet high growing near my drive, well hidden in a wood. Even here some sleeves disappeared.

The sleeves should be examined in mid-February by which time some buds should show little red succulent galls. Leave them to become biscuit coloured and brittle before taking the whole twig indoors. Some galls do not appear at all until late April and will then mature rapidly.

Keep each twig in a separate container. They need no water but the little black insects, when they emerge, need a smear of rain-water in the container. Do not drown them!

The insects emerging from one sleeve will all be of the same sex. As they do not live more than about a week it is necessary to have quite a number of galls in order to get both sexes emerging at the same time. After several years of failure at this stage I eventually got thirty-one males and thirty-nine females out together.

Now take a few of each sex, carefully lifted on the fine paint-brush, and place them in a small phial together. Take them to your chosen twig of scrub oak, Q. *robur* or *Q. petrae.* Cut away the leaves and put the sleeve over, leaving the phial] open so that the insects can find their way out and onto the embryonic buds in the axils of the leaves. As this operation is done in May or Early June it is important to realise that it is the newest buds that will be used for ovipositing by these sexual insects and that the galls growing from them will prevent these buds from further development.

When safely tied up, leave them for a month or two. By mid-August oak marbles should be well grown. There probably will not be total success but I was well satisfied to get 50% results. I had put out twelve sleeves, in May, of which six contained galls in August. By mid-September I was seeing the second generation of the asexual insects emerging from these "induced" oak marbles.

My experience with the nearly related species, *Andricus lignicolus,* the Cola Nut Gall, is that asexual insects emerge mostly in April and July. My July insects were sleeved on *Q. cerris* and produced galls of the sexual generation the following April. In the early stages these were dark red, later they were yellowish, very much like *A. kollari.*

Sexual insects emerged in July and were sleeved in nine bags on scrub Q. *robur* in the same little wood by my drive where I had been successful with the oak-marbles. But in a couple of months all had gone! Whether they were vandalised by lads or by roe-deer I do not know.

Margaret M. Hutchinson.

GALL MIDGES IN YORKSHIRE

Working with the entomological section of the Yorkshire Naturalists' Union I know just how much work has been done on studying and recording the county's insect fauna. However, one insect group, the gall midges, *Cecidomyiidae, is* most seriously under studied. This was brought to my notice by Peter Skidmore, Keeper of Natural History at the Doncaster Museum, and one of the country's leading dipterists.

That this should be so is hardly surprising and is largely due to the fact that most of the gall midges can be identified only by the galls they cause. There are no identification keys for most of the *Cecidomyiidae* and until the formation of the B.P.G.S. and the publication of its "Provisional Keys to British Plant Galls", no means whereby most people could identify any galls they found.

In order to try and overcome the lack of gall midge records in Yorkshire I am setting up a computer data base and forming a team of interested and willing entomologists who will search for, and record, any of these midge galls and send me their records. The plan at the moment is to continue this work for the next five years and then review the records at the end of this period. If it is then felt that even more records are needed the scheme will be extended for a further period.

It doesn't seem unreasonable to believe that the gall midges of other counties will be equally under recorded, and for the same reason as in Yorkshire. If this is so it presents cecidologists with an interesting, rewarding and worth while field of research.

As far as the future Yorkshire records are concerned I am proposing that they should be recorded for the vice county, 1km. square and site name where appropriate. Hopefully, in between five and ten years time I shall be able to send the editor of Cecidology an article giving a detailed account of the *Cecidomyiidae* in Yorkshire.

John A. Pearson.

AN URBAN STUDY ON GALLS IN KNAPWEED

A short study was made of galled Knapweed on the Harborne Walkway, Birmingham. For those who do not know the City, the Walkway was developed on the course of the former short commuter railway from New Street to the suburb of Harborne, by the City Development Department, with advice from the Birmingham Natural History Society.

On the top of the embankment near the terminus there are bright patches of Knapweed. *Centaurea nigra,* and the dead plants were examined late in October 1986. On a subjective judgement, based on feeling the capitulae, 1/3 were galled. 20 heads were taken and each cell of every woody gall was opened up.

The cause of the woody galls is the dipteron *Urophora jaceana,* and there were from 1 to 8 cells in each capitulum (Av. 4.05, s 1.57). 5 3 cells were occupied by apparently normal larvae, and 7 more by larvae which seemed to have endoparasites, though still alive. 11 cells contained larvae of the parasite *Torymus chloromerus* which had replaced their hosts. 2 larvae of *T. chlor.* seemed to be subject to (unidentified) hyper-parasites, and 10 cells were empty or contained debris, while one had an (apparently) lepidopteran pupa.

From such a small study few conclusions can be drawn. The embankment passes gardens and allotments, and the housing density is not great; and there would be no obstacle for flies to travel from the countryside. The extent of infestation of the plants, and the frequency of parasites on the gall-flies, suggests that these insects are long established components of the district fauna; not destroyed by suburban development.

References

Redfern, M. (1968) Field Studies Vol. 2, No. 5. The Natural History of Spear Thistle Heads. E.W. Classey Ltd.

Redfern, M. (1983) Naturalists Handbooks 4. Insects and Thistles. C.U.P.

N.B. Map Ref. No. OS 1:50000. Sheet 138 SP035852

L.H Pinkess.
17 Wheatsheaf Road, Edgbaston, Birmingham. B16 ORZ.

Découvrir et Reconnaître les Galles: E. Westphal, R. Bronner & P. Michier. 96 pp., publ. Delachaux & Niestle, Lausanne. An introduction to gall causers and to the forms taken by galls, based on some 70 examples, with fine coloured illustrations. This is a handbook for the beginner which the hardened gall-hunter will fmd most useful; the work of members of La Laboratoire de Cécidologie, Strasbourg, whose scientific researches have added greatly to our understanding of the subject. Details of price and availability in Britain are not yet to hand.

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PROGRAMME 1987.

Saturday, 25th July	Newton Field Centre, near Kettering, Northants. (SP 880 830). Field Meeting from 11.00, then at 2.30 p.m., ANNUAL GENERAL MEETING Formal Resolutions for discussion at the AGM must be received by the Secretary in writing with signatures of Proposer and Seconder, by 30 June. Questions, problems and suggestions may be raised on the day, to be referred to the Committee for early consideration if approved.
Saturday, 23 August	Burbage Common, near Hinckley, Leics. (SP447 953). Meet 10.00 a.m. Details Ray Morris, (With Hinckley NHS). Tel: Earl Shilton 43145.
Weekend 21-23 August	Field Studies Council course run by Dr. Margaret Redfern at Juniper Hall, Dorking, Surrey, RH5 6DA. Insects and Thistles. Details – Warden 0306-883849.
Sunday, 6 September	Furzebrook Research Station, Wareham, Dorset. (Institute of Terrestrial Ecology) (SY 931 837) Details – Dr. Lena Ward, ITE, Furzebrook.
Saturday, 12 September	Lomond Hills, Fife. Meet 10.30 a.m. at the Pitcairn Centre, Glenrothes, Fife. Jointly with the Pitcairn Society; field meeting for Fungi and Plant Galls. Details – Alan Bennell, R.B.G. Edinburgh.
Saturday, 12 September	Meanwood Valley, Leeds. Plant Gall Workshop in association with YNU and Leeds City Parks Dept. Leader – John Pearson, with Dr. L. Llyod-Evans, David Savage, Bill Ely.
Sunday, 27 September	Sutton Park, Sutton Coldfield (SP 090 995) Meet at 10.30 a.m. Enquiries – Peter Shirley.
Sunday, 4 October	Outwoods, near Loughborough. Meet 11.00 a.m. at Cu Park SP 511 161. Details – Chris Leach.

Regional Co-ordinators: As the country is only thinly covered so far offers or nominations are welcome. The Committee has recently approved two additions:

Dr. Lena Ward, I.T.E., Furzebrook Research Station, Nr. Wareham, Dorset. BH2O 5AS. (See her article in this issue) ("Wessex").

Dr. Phil Gates, 1 Westfield Drive, Crook, Co. Durham. (Dept. of Botany, University of Durham; active in the NNU and in introducing the general public to natural history).

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Scotland: Mr. A.P. Bennell, Royal Botanic Garden, Edinburgh. EH3 5LR (031-552-7171 ext. 313).

Please address correspondence to the Secretary, OR, for specific purposes, to the officer concerned.