

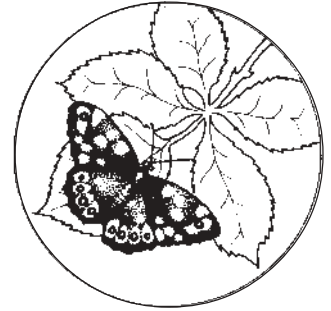
THE ESSEX FIELD CLUB

HEADQUARTERS:

THE PASSMORE EDWARDS MUSEUM,

ROMFORD ROAD, STRATFORD,

LONDON, E15 4LZ



NEWSLETTER NO. 15

November 1995

FOCUS ON FRESHWATER ALGAE

"There are a sort of men whose visages

"Do cream and mantle like a standing pond"

-The Merchant of Venice, act 1, scene 1, lines 88-89

Some ponds can indeed produce a mantle of green scum, or their water may be entirely green. It is also noticeable how green many trees and fences are in damp weather, as may also be concrete or tarmac paths, tiles, flower pots etc. These manifestations are due to members of the very large and heterogeneous group of the freshwater algae. Yet, apart from the decorative desmids and the intricately patterned diatoms, they have had comparatively few enthusiasts in this country, and as a consequence the occurrence and distribution of the British species is very poorly known. There is no mapping scheme, nor are there more than a few county lists.

The plate gives a slight idea of the diversity of algae which are to be found in local ponds and rivers. Most of them are clearly visible with a school-type microscope. There are very many more genera than those illustrated, and some of those genera have dozens or even hundreds of species, many of which are badly described. There is plenty of work for an interested amateur, but one of the chief drawbacks is the need for numbers of large and expensive German monographs when dealing with the smaller species.

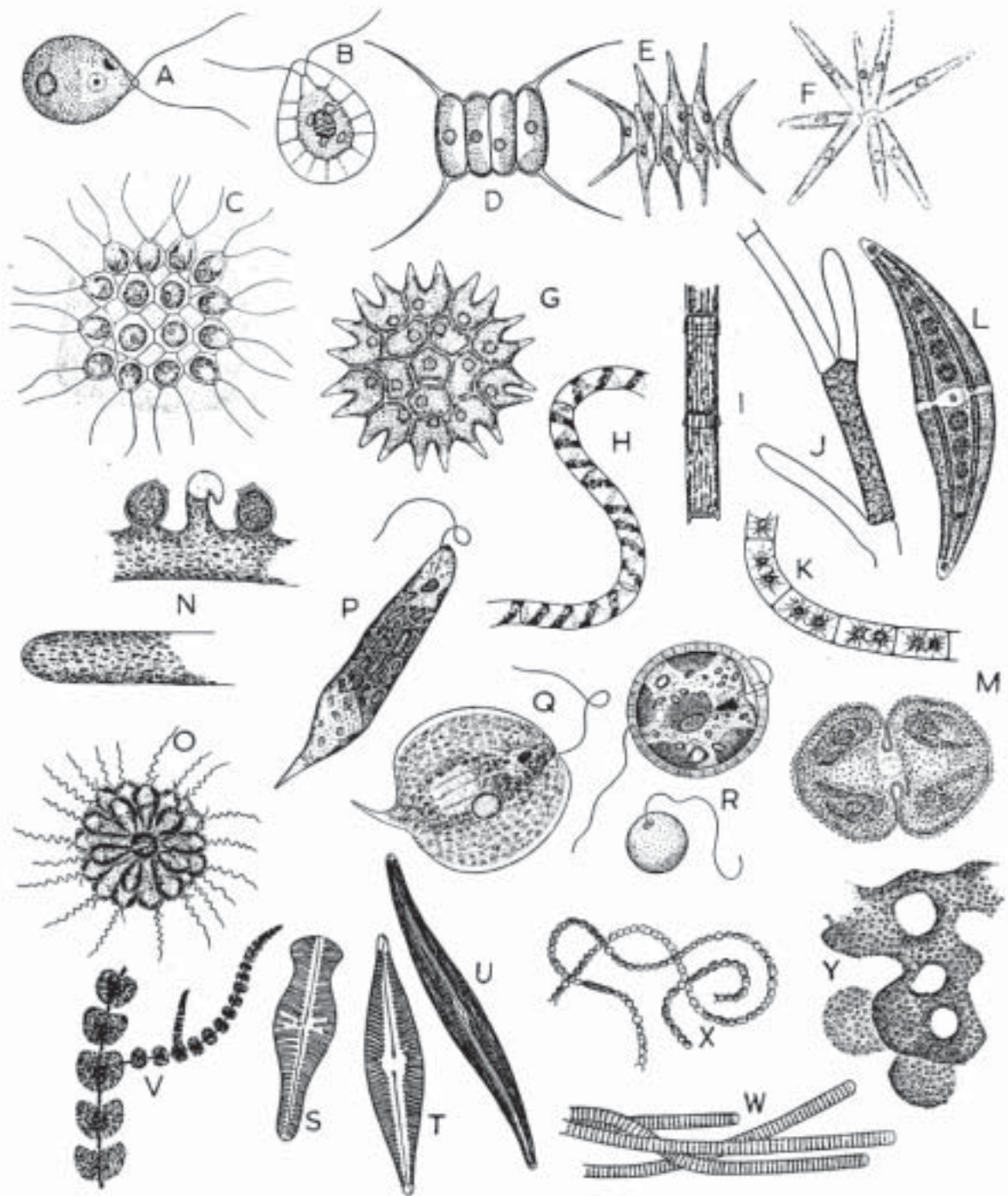
As the Field Club's recorder for freshwater algae I am prepared to look at any samples members care to send me. Please indicate details of the collecting site, with grid reference if possible. Water samples from ponds etc. may be sent in polythene bottles or in small plastic (PET) drinks bottles, or even in tubes for a less complete list. Bits of filamentous algae or encrusted higher plant material etc. can be included, but do please remember to leave an air space. Plant material should not be packed tightly in a tube or it will go bad.

Notes on the illustrations:-

- A, *Chlamydomonas*. There are over 1000 species of this tiny swimming alga (or flagellate), mostly under 20 μm long, many badly described, many seen once only!
- B, *Haematococcus*, another small flagellate. The very common *H. pluvialis* stores oil coloured red by carotenoid pigments, and this gives a red colour to bird baths etc.
- C, *Gonium*. A colonial flagellate in the form of a flat plate.
- D,E. Two species of *Scenedesmus*, a colonial non-motile alga up to 30 μm wide.
- F, *Actinastrum*, a radially arranged non-motile colony, with cells up to 25 μm long.
- G, *Pediastrum*. A colony in the form of a flat plate up to 100 μm across.
- H, *Spirogyra*, I, *Oedogonium*, J, *Cladophora*, K, *Zygnema*, and N, *Vaucheria*, five genera of filamentous algae. These may form the fluffy masses often called "blanket weed".
- L, *Closterium*, and M, *Cosmarium*. These are desmids, related to *Spirogyra*. There are many desmids, often very beautiful, varying from 10 to 1000 μm long.
- P, *Euglena*, Q, *Phacus*, and R, *Trachelomonas*, are flagellates related to each other, and are often abundant in farm ponds and other highly nitrogenous waters.
- S, *Gomphonema*, T, *Navicula* and U, *Gyrosigma*, are diatoms, with a silica wall or "frustule", the frustule of each species having its characteristic pattern. These frustules may endure for thousands or even millions of years, and are often useful in dating sediments.
- V, *Batrachospermum*, the frog-spawn alga, may be up to several centimetres long. Although brown or green in colour, it is related to the red seaweeds.
- W, *Oscillatoria*, X, *Anabaena*, and Y, *Microcystis* are blue-green algae, related to the bacteria. Some species may float to the surface in calm weather and can form the paint-like often toxic water blooms.

Hilary Belcher, 23 Pepys Way, Girton, Cambridge CB3 0PA.

(Drawings by Erica Swale)



THE HARWICH EARTHQUAKE

On September 1994 at 7.36 am Essex experienced its largest earthquake for more than 100 years. The magnitude 3.2 earthquake had an epicentre in the North Sea, 40 Km south-east of Harwich, and was reported felt by coast guards at Walton-On-the-Naze. The focus of the earthquake was at a depth of 7.3 Km and was in an area where no previous seismicity has been detected in the last 20 years.

On average about 360 earthquakes occur in Britain every year, of which about 30 are strong enough to be felt. Very few are damaging although eleven people are known to have died as a result of British earthquakes, mostly from falling masonry.

The most damaging U.K. earthquake occurred at Colchester in 1884 and the Essex Field Club played an important part in researching this event. It most seriously affected the villages to the south of Colchester and it is thought that the shallow depth of the focus (2 Km) was a major contributory factor to the damage. The club published the results of this research in an illustrated Special Memoir in 1885, which makes fascinating reading.

The most devastating earthquakes in the world occur at the boundaries of the earth's tectonic plates; Britain is located near the centre of one of these plates and so is fortunately not affected by large scale plate motion. Nevertheless, it is under great pressure as it is squeezed from the north-west by the mid-Atlantic spreading ridge and from the south-east by the effects of the Alpine mountain building phase. Deep underground the rocks adjust to this stress by the occasional sudden and violent release of energy which we experience as an earthquake.

The British Geological Survey has a national network of seismic monitoring stations which detect and record not only British earthquakes, but also large earthquakes elsewhere in the world. The devastating earthquake at Kobe, Japan on 16 January 1995 was detected by monitoring stations throughout Britain. A typical station is solar-powered and entirely automatic, relaying information on an event direct to the BGS in Edinburgh. Two of these stations are situated in Essex, at Brentwood and Colchester.

I am grateful to Frances Wright of the BGS Global Seismology Group in Edinburgh for the above information, and to James Berry of the Geologists' Association (Essex Group) for bringing the Harwich earthquake to my attention.

Gerald Lucy

EFC NATIVE BLACK POPLAR SURVEY

Although male trees are said to dominate the Native Black Poplar population nationally, and certainly seem to do so in N.E. Essex, our survey has so far this year been turning up more female trees than males.

On the EFC Black Poplar Hunt on the 9th April we checked out the three huge magnificent trees on the east bank of the Chelmer, just south of the footbridge and the ruins of Lt. Waltham watermill, at TL 710122. These trees (notified to us by Mrs Ruth Phillips), were all female. The northernmost tree was smothered in ivy, which perhaps ought to be removed, and the southernmost had obviously regrown from the rootstock after the original trunk had fallen.

The population by the R. Rom just south of the bridge east of Hook's Hall Farm Dagenham, at TQ 517861-2, is again all female, with nine fully grown trees, one quite young, as again a new tree has grown up from the rootstock of a large tree that had fallen from the base. One old tree has had professional minor surgery, and four new sapling trees have been established from truncheons, and are now 7-8 ft. high.

The large well known tree at Chingford, just south of the Warren Pond on Epping Forest, TQ398943, is however a male. We also have a new male to report from the R. Roding between Passingford Bridge and Curtismill Green at TQ 509972 spotted by KJA from the M25 motorway! Apart from the fact that it is leaning at a rather steep angle it seems quite healthy.

Back to females again, two new ones have been discovered in the Hatfield Forest area, one in the corner of a small pasture just west of Woodside Green, in the parish of Great Hallingbury, at TL 515181 found by KJA (can be seen from the M11!), and the other on the east bank of Hallingbury Brook at TL 503170 just west of the village of Little Hallingbury, found by John Fielding. Both are huge trees, but both unfortunately are in trouble. The Woodside Green tree has been partially bark-ringed by a voracious goat, and the Hallingbury Brook tree is now in the garden of a new house, and during my visit was being singed by a bonfire!

Keep your records coming in - don't assume that someone else must have already reported any trees that you find. All these trees will be submitted to district councils for tree preservation orders in due course, so you can do something to protect your favourite Native Black Poplar by letting us know about it.

Ken Adams

Philanthus triangulum (Fabr.) THE BEE WOLF IN NORTH EAST ESSEX

There have been several reports in Essex Field Club Newsletters (1992 No.3; 1993 Nos 7&8) about the increasing spread of this nationally vulnerable solitary wasp.

On August 11th 1995, whilst surveying insects on the Middlewick Ranges in Colchester (TM0022) I came upon an extensive breeding colony of this species situated on a south facing slope at the back of the range butts. Several individuals were observed bringing in prey, slung characteristically below their bodies. An individual was captured and its prey proved to be the more usual *Apis mellifera*.

As far as is known, this is the first north east Essex record for this species since the discovery of a small breeding colony at Fingringhoe Wick N.R. in 1986 (Falk, 1991 A review of the scarce and threatened bees, wasps and ants of Great Britain).

Jerry Bowdrey

Editor's note: I found the species last year at Heybridge near Maldon and it was also taken last year at Rushey Mead in north west Essex by Charles Watson. There are further new records this year, in particular a colony of about 50 nesting tunnels has been reported to me from the side of Alexandra Lake at Wanstead Flats by Amanda Samuels and confirmed by Colin Plant.

CAMBERWELL BEAUTY BUTTERFLY IN MALDON



camberwell Beauty Maldon, Essex, 2.8.95

On Wednesday 2nd August at 2.15 pm I noticed the above butterfly on the white buddleia in my back garden. It stayed on and off until around 7.00 pm. The next day it arrived at 8.00 am staying feeding until 7.30 pm then on the Friday it arrived at 9.00 staying until 4.15 when it got cloudy and dull. On the Saturday it arrived at 9.50 settling on the house down pipe sunning itself then it flew away.

This butterfly had a definite nick out of the base of its wings where a bird had taken a peck out of it. All the time I saw it, it was feeding. I took lots of photos and video footage of it.

Lots of people from all over the place came to see it and we raised £13.50 for the Butterfly Conservation Society.

Simon Patient (17)
18 Wordsworth Avenue, Maldon

MY OWN LITTLE NATURE PATCH

Less than 50' from my house is a small green which has a block of garages backing onto it. It belongs to the Council but my dad cuts the grass to keep it looking tidy. The area which runs along the back of the garages is about 4' x 60' and was very rough with broken glass and rubbish.

I went with mum to the M.D.C. and asked if we could look after this strip of land and put in some buddleias for the butterflies, this was in 1991. They said yes. So I helped mum tidy it up and planted 5 buddleias, mauves and white. The next summer the Council came along and cut down half of it before we could stop them. It made the front page news of our local paper.

The buddleias have grown really well now and the nature patch is proving a great success for the butterflies.

These include:

Red admiral	Small tortoiseshell	Meadow brown	Green veined white
Peacock	Orange tip	Speckled wood	Common blue
Comma	Small skipper	Large white	Gatekeeper
Painted lady	Large skipper	Small white	various moths

This year we had 5 Painted ladies there all at the same time and also 6 Red admirals at once.

Each year a different main wild flower comes up more than the others. This year it was Cut-leaved cranes bill, other years it has been Creeping buttercup and White deadnettle, Pink mallow, Bristly ox-tongue.

The flowers I have recorded there are:

Buddleia	Cut-leaved cranesbill	White daisies	Pink campion
Parsley	White deadnettle	Sorrell	Spear head thistle
Teasel	Pink deadnettle	White clover	Stinging nettle
Creeping buttercup	Pink clover	Bristly ox-tongue	various grasses
Horehound	Common mallow	Ragwort	

Insects I have seen are honey bees, spiders , gnats, horseflies, hoverflies, green lacewings, red and yellow black spot ladybirds, ants, buff tailed bumble bees and red tailed bumble bees.

I have even seen our baby frogs in the nature patch, I think they must go there to hibernate. Last year John Hall from the E.W.T. came out and did a recording with me about the nature patch which went out on BBC Essex Radio in August.

Simon Patient (17)
18 Wordsworth Avenue, Maldon, Essex

STOP PRESS - NEW ESSEX PLANT

While exploring the overburden dump at Elsenham gravel pit on the 28th June, Peter Harvey came across a patch of Yellow Bartsia *Parentucellia viscosa* in full flower. 35 spikes were found at the eastern end of a gully, between the first two overburden ridges to the north of the footpath at 549-550,265. When KJA visited the site on 18th July it had begun to drop its seed. It's an annual with a markedly southern, (particularly southwestern) distribution in Britain, with a scattering of sites on the west coast. Elsewhere it is sporadic, and typical of damp grassland habitats on sandy soils. There is a mysterious record on the BRC database for the Colchester square TM01, as an extra on a 1960 record card, and a corresponding dot appears in the new Scarce Plants in Britain atlas 1994. Can anyone enlighten me re its origin? Otherwise it has never been recorded in Essex before.

I have collected some seed from the Elsenham site. Has anyone got a suitable damp gravel pit they would like to put it in?

Ken Adams

BOTANY GROUP MEETING - AUDLEY END

Ten members turned up for a leisurely stroll around the grounds of the Audley End Mansion on rather a hot day. The original incentive for the meeting was to try and refind Squinancywort, reported there in 1990 during a botanical survey for English Heritage, and to see the only known site in the county for Wall Bedstraw. Our initial investigations were concentrated on the marshy area to the north of the mansion where in all 33 Southern Marsh Orchids were located, along with *Carex spicata*, *C. acutiformis* and *C. riparia*. Flora keys were put to the test on what we finally decided was just *Symphytum X uplandicum* and came to the conclusion that in this case Clive Stace's new key characters just did not work as well as the old CTW! To the east of the mansion a grassy bank sloping down to the ha ha produced Stemless Thistle, (*Cirsium acaule*), *Koeleria cristata*, and the grass *Helictotrichon pubescens*, which is close to, and easily overlooked for *Arrhenatherum*, but has slightly larger brownish florets and hairy leaf sheaths. Under a tree on top of the ha ha Tim Pyner spotted another unusual grass *Poa angustifolia* which has narrow leaves like those of *Festuca ovina*. This grassy bank, (which on Joan Mummery's advice is not cut until the end of the flowering season), also produced 26 spikes of Common Spotted Orchid.

Having reached the end of the ha ha, the party then explored the outer wall for the very rare Wall Bedstraw, *Galium parisiense*, but we were unable to find any new colonies. The original colony found by Tim Pyner in 1992, occurs on the top of the wall, just east of where the ha ha meets the outer wall. Unfortunately when he found it, English Heritage were having the top of the wall rebricked using new bricks and cement instead of lime mortar. Joan Mummery was able to intervene in time to ensure that an open box was created on top of the wall to contain the original colony, but the rest of the wall is now an unsuitable substrate.

Returning to the car park for lunch we had great difficulty in finding a spot on the grass sans Canada Goose droppings! - and concluded that any Squinancywort that had come up this year was probably flying overhead. Similarly the lake was heavily polluted with goose droppings, and *Zanichellia palustris* was the only macrophyte in evidence. Exploring the gardens to the west of the boathouse however we found quite a large colony of Wall Lettuce, *Mycelis muralis*, this also turned up in quantity on the rocks of the waterfall bridge. The large liverwort *Conocephalum conicum* was evident in several places on stream banks, and Tim Pyner found the moss *Trichostomopsis umbrosa* on the damp walls by the waterwheel. The alien waterweeds *Lagarosiphon major* and *Myriophyllum aquaticum* were noted in a fountain pool to the west of the old mill bypass channel.

Members of the party resolved to return in the winter to look for aquatic bryophytes in the watermill area and to search the outer walls more thoroughly next year for Wall Bedstraw.

Ken Adams

Mark Hanson will be leaving his present address (and giving up his present phone number) in November 1995. Any correspondence should be sent to his parents' address at 160 Princes Road, Buckhurst Hill, Essex IG9 5DJ. He would like to acquire EFC bulletins Nos. 2,3,5,9 and 11 in order to complete the set he has and will pay for them and the postage. Any offers please contact Mark at the above address.

JOINT BRITISH GALL SOCIETY/ESSEX FIELD CLUB VISIT TO STOUR AND
COPPERAS WOODS, ESSEX ON 19th AUGUST 1995

A somewhat disappointing turn out of three (including the leader!) did not prevent some useful records from being made in these two woodlands overlooking the Stour Estuary.

The morning was spent walking around Stour Wood, a joint Woodland Trust R.S.P.B. reserve. Despite the recent high temperatures and lack of rainfall, which gave the woods an almost autumnal feel, galls were present in good numbers. Although Stour Wood is fairly well recorded for galls we added several new species. A stand of rosebay produced several vacated galls of *Mompha nodicolella*, a local micromoth. On oak, *Andricus testaceipes* and *A. quercusradicus* were recorded for the first time in the wood.

In the afternoon we moved on to Copperas Wood, an Essex Wildlife Trust reserve where little, if any, gall recording has been carried out. We again found *Mompha nodicolella* galls along the edges of the paths, but the final total for this site was lower than that for the morning.

STOUR WOOD TM1831, TM 1931

***Acer campestre* Field Maple**

Artacris macrorhynchus

***Chamaenerion angustifolium* Rosebay Willowherb**

Dasineura epilobii

Mompha nodicolella

***Glechoma hederacea* Ground Ivy**

Rondaniola bursarius

***Populus tremula* Aspen**

Dasineura populeti

Harmandia cavernosa

Harmandia globuli

Harmandia loewi

Syndiplosis petioli

***Prunus spinosa* Blackthorn**

Eriophyes similis

***Pteridium aquilinum* Bracken**

Chirosia parvicornis

***Quercus robur* Pedunculate Oak**

Cynipidae

Andricus anthracinus

Andricus curvator

Andricus fecundator

Andricus kollari

Andricus lignicola

Andricus quercuscalicis

Andricus quercusradicis

Andricus testaceipes

Cynips divisa

Neuroterus numismalis

Neuroterus quercusbaccarum

Diptera

Macrodiplosis volvens

Rosa Rose
Diplolepis rosae

Rubus fruticosus agg. Blackberry
Lasioptera rubi

Salix sp. Sallow
Iteomyia capreae
Pontania bridgmanni

Sarothamnus scoparius Broom
Asphondalia sarothamni

COPPERAS WOOD TM2030

Acer campestre Field Maple
Artacris macrorhynchus
Eriophyes macrochelus

Chamaenerion angustifolium Rosebay Willowherb
Dasineura epilobii
Mompha nodicolella

Corylus avellanae Hazel
Eriophyes avellanae

Dryopteris sp.
Chirosia betuleti

Euonymus europaeus Spindle
Eriophyes convolvens

Fraxinus excelsior Ash
Dasineura fraxini
Psyllopsiis fraxini

Prunus spinosa Blackthorn
Eriophyes similis

Ranunculus sp.
Urocystis ranunculi

Salix sp. Sallow
Iteomyia capreae

Urtica dioica Stinging Nettle
Dasineura urticae

THE FOUR SEASONS RECORDING PROJECT
GALLEYWOOD COMMON SUNDAY 13th AUGUST 1995

Today we concentrated on the grassland areas. Rainfall in recent weeks was very sparse resulting in a virtual absence of fungi and slime moulds. The higher plants were recorded by Jeremy Ison, Tony Boniface and Martin Gregory. A consolidated list from today's records and those of the meeting of the 14th April 1995 was compiled by Jeremy Ison and is included below. A total of 185 species must be a fairly comprehensive list. Birds were recorded by John Bath and Judith Boniface.

Wood Pigeon
Collared Dove
Blackbird
Blue Tit
Great Tit
Song Thrush
Magpie
Carrion Crow
Sparrow Hawk
House Martin
Goldfinch
Swallow
Green Woodpecker
Jay
Robin

A modest list of fifteen species.

Butterflies were conspicuous and 12 species were identified by Tony Walentowicz.

Large white
Small white
Green veined white
Small tortoiseshell
Red admiral
Holly blue
Common blue
Small heath
Meadow brown
Gatekeeper
Speckled wood
Small skipper

A Cinnabar moth caterpillar was located on Ragwort.

Tony Boniface collected grasshoppers and identified 3 species.

Chorthippus brunneus Common field grasshopper
Chorthippus albomarginatus Lesser marsh grasshopper
Chorthippus parallelus Meadow grasshopper

A large spider was identified by Tony Boniface as *Araneus quadratus*

Martin Gregory provided the following records:

- (A)(B)(C) Moles on evidence of mole hills only.
- (A)(B)(C) Rabbits on evidence of droppings, scratchings and burrows only.
- (B) Bank Vole in dried out pond.
- (B) Grass Snake which lay freshly dead on the side of a track with no obvious cause of death. (I believe this was a new record for the Common).
- (B) Frogs, presumably Common frogs were seen in a dried out pond. They were all young individuals.

Galls on *Quercus robur* in woodland:

- (A)(B) *Andricus quercuscalicis* Knopper gall (agamic: Cynipid)
- (A)(B) *Andricus knollari* Marble gall (agamic: Cynipid)
- (A) *Biorhiza pallida* Oak apple (sexual: Cynipid)
- (A) *Andricus fecundator* Artichoke gall (agamic: Cynipid)
- (A)(B)(C) *Neuroterus quercusbaccarum* Common Spangle gall (sexual: Cynipid)

Galls on *Quercus robur* in grassland:

- (A)(B) *Andricus lignicola* Cola nut (agamic: Cynipid)

Galls on *Cirsium arvense* in grassland:

? *Urophora cardui* (gall fly)

Galls on *Acer pseudoplatanus* along a trackside:

- (B)(C) *Eriophyes macrorhynchus* (mite)

Galls on *Cytisus scoparius*

? *Aceria genistae* Broom gall (mite)

- (B) The only fungus recorded was the sclerotial stage of *Claviceps purpurea* on the seed head of *Festuca arundinacea* in grassland. This is ergot.

Records were kept in the three following 1 Km grid squares:

TL7002 (A)

TL7001 (B)

TL6902 (C)

Separate vascular plant lists were kept by Jeremy Ison. Martin Gregory's records are indicated by the letters (A), (B) and (C) above.

The last meeting in the series is to be held on Sunday 22nd October 1995 in which the main organisms to be recorded will be the fungi. (10.00 am at the car park off Margaretting Road TL702026)

Tony Boniface

Consolidated list of vascular plants

<i>Acer campestre</i>	Field Maple
<i>Acer pseudoplatanus</i>	Sycamore
<i>Achillea millefolium</i>	Yarrow
<i>Aegopodium podagraria</i>	Ground Elder
<i>Aesculus hippocastanum</i>	Horse-chestnut
<i>Agrostis capillaris</i>	Common Bent
<i>Agrostis stolonifera</i>	Creeping Bent
<i>Aira praecox</i>	Early Hair-grass
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Alopecurus pratensis</i>	Meadow Foxtail
<i>Anagallis arvensis</i>	Scarlet Pimpernel
<i>Angelica sylvestris</i>	Wild Angelica
<i>Anisantha sterilis</i>	Barren Brome
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Aquilegia vulgaris</i>	Columbine
<i>Arctium minus</i>	Lesser Burdock
<i>Arrhenatherum elatius</i>	False Oat-grass
<i>Artemisia vulgaris</i>	Mugwort
<i>Azolla filiculoides</i>	Water Fern
<i>Ballota nigra</i>	Black Horehound
<i>Bellis perennis</i>	Daisy
<i>Betula pendula</i>	Silver Birch
<i>Betula pubescens</i>	Downy Birch
<i>Bidens tripartita</i>	Trifid Bur-marigold
<i>Bromus hordeaceus</i>	Soft Brome
<i>Buddleja davidii</i>	Butterfly-bush
<i>Calluna vulgaris</i>	Heather
<i>Calystegia sepium</i> ssp. <i>sepium</i>	Hedge Bindweed
<i>Campanula rotundifolia</i>	Harebell
<i>Cardamine flexuosa</i>	Wavy Bitter-cress
<i>Cardamine pratensis</i>	Cuckooflower
<i>Carduus crispus</i> ssp. <i>multiflorus</i>	Wetted Thistle
<i>Carex hirta</i>	Hairy Sedge
<i>Carex nigra</i>	Common Sedge
<i>Carex otrubae</i>	False Fox-sedge
<i>Carex pendula</i>	Pendulous Sedge
<i>Carex pilulifera</i>	Pill Sedge
<i>Carex viridula</i> ssp. <i>oedocarpa</i> (<i>C. demissa</i>)	Common Yellow-sedge
<i>Carpinus betulus</i>	Hornbeam
<i>Centaurea nigra</i>	Common Knapweed
<i>Centaureum erythraea</i>	Common Centuary
<i>Chamerion angustifolium</i>	Rosebay Willowherb
<i>Chelidonium majus</i>	Greater Celandine
<i>Chenopodium album</i>	Fat Hen
<i>Cirsium arvense</i>	Creeping Thistle
<i>Cirsium palustre</i>	Marsh Thistle
<i>Cirsium vulgare</i>	Creeping Thistle
<i>Conium maculatum</i>	Hemlock
<i>Conopodium majus</i>	Pignut

<i>Convolvulus arvensis</i>	Field Bindweed
<i>Conyza canadensis</i>	Canadian Fleabane
<i>Cornus sanguinea</i>	Dogwood
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Crepis capillaris</i>	Smooth Hawk's-beard
<i>Cytisus scoparius</i>	Broom
<i>Dactylis glomerata</i>	Cock's-foot
<i>Deschampsia cespitosa</i>	Tufted Hair-grass
<i>Digitalis purpurea</i>	Foxglove
<i>Dipsacus fullonum</i>	Teasel
<i>Dryopteris dilatata</i>	Broad Buckler-fern
<i>Dryopteris filix-mas</i>	Male-fern
<i>Elytrigia repens (Elymus repens)</i>	Common Couch
<i>Epilobium hirsutum</i>	Great Willowherb
<i>Epilobium tetragonum</i>	Square-stalked Willowherb
<i>Equisetum arvense</i>	Common Horsetail
<i>Equisetum sylvaticum</i>	Wood Horsetail
<i>Fagus sylvatica</i>	Beech
<i>Fallopia japonica (Reynoutria japonica)</i>	Japanese Knotweed
<i>Festuca arundinacea</i>	Tall Fescue
<i>Festuca filiformis (Festuca tenuifolia)</i>	Fine-leaved Sheep's-fescue
<i>Festuca rubra</i>	Red Fescue
<i>Galeopsis tetrahit</i>	Common Hemp-nettle
<i>Galium aparine</i>	Cleavers
<i>Galium saxatile</i>	Heath Bedstraw
<i>Galium uliginosum</i>	Fen Bedstraw
<i>Galium verum</i>	Lady's Bedstraw
<i>Glechoma hederacea</i>	Gound-ivy
<i>Glyceria fluitans</i>	Floating Sweet-grass
<i>Hedera helix</i>	Ivy
<i>Heracleum sphondylium</i>	Hogweed
<i>Hieracium ?sabaudum (Hieracium perpropinquum)</i>	
<i>Holcus lanatus</i>	Yorkshire Fog
<i>Holcus mollis</i>	Creeping Soft-grass
<i>Hordeum murinum</i>	Wall Barley
<i>Humulus lupulus</i>	Hop
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Hyacinthoides hispanica</i>	Spanish Bluebell
<i>Hydrocotyle vulgaris</i>	Marsh Pennywort
<i>Hypericum humifusum</i>	Trailing St John's-wort
<i>Hypericum perforatum</i>	Perforate St John's-wort
<i>Hypericum pulchrum</i>	Slender St John's-wort
<i>Hypericum tetrapterum</i>	Square-stalked St John's-wort
<i>Hypochaeris radicata</i>	Cat's-ear
<i>Ilex aquifolium</i>	Holly
<i>Iris pseudacorus</i>	Yellow Iris
<i>Juncus acutiflorus</i>	Sharp-flowered Rush
<i>Juncus conglomeratus</i>	Compact Rush
<i>Juncus effusus</i>	Soft Rush
<i>Juncus inflexus</i>	Hard Rush
<i>Lactuca serriola</i>	Prickly Lettuce

<i>Lactuca virosa</i>	Great Lettuce
<i>Lamium album</i>	White Dead-nettle
<i>Lamium purpureum</i>	Red Dead-nettle
<i>Lapsana communis</i>	Nipplewort
<i>Lemna minor</i>	Common Duckweed
<i>Leontodon autumnalis</i>	Autumn Hawkbit
<i>Leontodon saxatilis</i> (<i>L. taraxacoides</i>)	Lesser Hawkbit
<i>Lepidium draba</i> (<i>Cardaria draba</i>)	Hoary Cress
<i>Linaria vulgaris</i>	Common Toadflax
<i>Lolium perenne</i> (<i>L. perenne</i> ssp. <i>perenne</i>)	Perennial Rye-grass
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil
<i>Lotus pedunculatus</i> (<i>L. uliginosus</i>)	Greater Bird's-foot-trefoil
<i>Luzula campestris</i>	Field Wood-rush
<i>Lycopus europaeus</i>	Gypsywort
<i>Malus domestica</i>	Apple
<i>Malus sylvestris</i>	Crab Apple
<i>Malva sylvestris</i>	Common Mallow
<i>Matricaria discoidea</i> (<i>M. matricarioides</i>)	Pineappleweed
<i>Nardus stricta</i>	Mat-grass
<i>Pentaglottis sempervirens</i>	Green Alkanet
<i>Persicaria hydropiper</i>	Water Pepper
<i>Phleum bertolonii</i>	Smaller Cat's-tail
<i>Phleum pratense</i>	Timothy
<i>Picris echioides</i>	Bristly Oxtongue
<i>Pinus sylvestris</i>	Scots Pine
<i>Plantago coronopus</i>	Buck's-horn Plantain
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Plantago major</i>	Greater Plantain
<i>Poa annua</i>	Annual Meadow-grass
<i>Polygonum aviculare</i>	Knotgrass
<i>Populus x canescens</i>	Grey Poplar
<i>Populus tremula</i>	Aspen
<i>Potentilla reptans</i>	Creeping Cinquefoil
<i>Prunella vulgaris</i>	Selfheal
<i>Prunus domestica</i> ssp. <i>domestica</i>	Wild Plum
<i>Prunus laurocerasus</i>	Cherry Laurel
<i>Prunus spinosa</i>	Blackthorn
<i>Pteridium aquilinum</i>	Bracken
<i>Quercus robur</i>	Pedunculate Oak
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Ranunculus bulbosus</i>	Bulbous Buttercup
<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Rosa canina</i>	Dog-rose
<i>Rubus fruticosus</i> agg.	Bramble
<i>Rubus idaeus</i>	Raspberry
<i>Rumex acetosa</i>	Common Sorrel
<i>Rumex acetosella</i> ssp. <i>pyrenaicus</i>	Sheep's Sorrel
<i>Rumex conglomeratus</i>	Clustered Dock
<i>Rumex obtusifolia</i>	Broad-leaved Dock
<i>Rumex sanguineus</i>	Wood Dock

<i>Salix caprea</i>	Goat Willow
<i>Salix cinerea</i> ssp. <i>cinerea</i>	Grey Willow
<i>Salix cinerea</i> ssp. <i>oleifolia</i>	Rusty Willow
<i>Sambucus nigra</i>	Elder
<i>Scutellaria minor</i>	Lesser Skullcap
<i>Senecio jacobaea</i>	Common Ragwort
<i>Silene dioica</i>	Red Campion
<i>Silene latifolia</i> ssp. <i>alba</i> (<i>Silene alba</i>)	White Campion
<i>Sison amomum</i>	Stone Parsley
<i>Sisymbrium officinale</i>	Hedge Mustard
<i>Solanum dulcamara</i>	Bittersweet
<i>Sonchus arvensis</i>	Perennial Sow-thistle
<i>Sonchus asper</i>	Prickly Sow-thistle
<i>Sonchus oleraceus</i>	Common Sow-thistle
<i>Sorbus aucuparia</i>	Rowan
<i>Spergularia rubra</i>	Sand Spurrey
<i>Stellaria graminea</i>	Lesser Stitchwort
<i>Stellaria holostea</i>	Greater Stitchwort
<i>Stellaria media</i>	Common Chickweed
<i>Stellaria uliginosa</i> (<i>Stellaria alsine</i>)	Bog Stitchwort
<i>Taraxacum</i> agg.	Dandelion
<i>Teucrium scorodonia</i>	Wood Sage
<i>Trifolium repens</i>	White Clover
<i>Tripleurospermum inodorum</i>	Scentless Mayweed
<i>Ulex europaeus</i>	Gorse
<i>Ulmus</i> sp.	Elm
<i>Urtica dioica</i>	Stinging Nettle
<i>Vicia cracca</i>	Tufted Vetch
<i>Vicia tetrasperma</i>	Smooth Tare
<i>Vulpia bromoides</i>	Squirreltail Fescue

Total species 185

CONTRIBUTIONS TO THE NEXT NEWSLETTER

Please send contributions for the next Newsletter, due out at the end of February, to the Editor, Mr Peter Harvey, 9 Kent Road, Grays, RM17 6DE by the first week of February.

Remember that the production of the Newsletter depends on contributions from members. I am sure that many members must have news, observations or the results of fieldwork that would be of interest to others. If text has been typed on a PC computer then a disk with the file would be very helpful.

WHATS ON: ESSEX FIELD CLUB

NOVEMBER

- Saturday 11th **General Meeting 1401.** "Birds of Spain". Talk by Martin Henry at 3.00 pm Red Cross Hall, London Road, Chelmsford (car park entrance in Writtle Road).
- Sunday 19th **Bird Group.** Maylandsea for wintering birds. Meet 10.30 am opposite boat yard entrance TL 904024. Leader David Williams. Phone: (01245) 225119 for details.

DECEMBER

- Saturday 9th **Botany Group and British Mycological Society.** review of the progress of the "Essex Fungi Project". 3.00 pm at the Boniface's house, 40 Pentland Avenue, Chelmsford. Phone Tony Boniface for details: (01245) 266316. This meeting is intended only for those people involved in the project.
- Tuesday 26th **Boxing Day Ramble.** Thorndon Park South. Childerditch Street and Jury Hill. 3 or 5 miles. Meet country park car park at 11.00 am TQ 634899.

JANUARY

- Saturday 20th **General Meeting 1402.** "Bumblebees" talk by Ted Benton at 3.00 pm Red Cross Hall, London Road, Chelmsford (car park entrance in Writtle Road).
- Sunday 28th **Bird Group.** Fingringhoe Wick Nature Reserve. Meet at 10.30 am at the centre car park TM 048193. Leader Carole Wilken. Phone: (01245) 450782 for details.

FEBRUARY

- Saturday 17th **Bird Group.** Hamford Water. Meet at 10.30 am at Little Oakley TM 215284. Leaders Judith and Tony Boniface. Phone: (01245) 266316 for details.

MARCH

- Sunday 10th **Botany Group.** Mistletoe mapping in Hatfield Forest. Meet main car park (bush end) at 11.00 am TL 547202.
- Saturday 16th **Annual General Meeting 116.** Red Cross Hall, London Road, Chelmsford (car park entrance in Writtle Road) at 3.00 pm followed by address by vice-president Roger Payne, "The Natural History of the Tilbury Area".
- Sunday 17th **Bird Group.** Dagenham Chase. Meet at 10.30 am outside "The Farmhouse Tavern" P.H. TQ 508861. Leader John Bath. Phone: (01277) 651890.

ESSEX FIELD CLUB PUBLICATIONS

The following publications are still available from Essex Field Club (Publications), Mark Hanson, 28 Sylvan Road, Forest Gate, London E7 8BN.

All titles are available to individuals on a cash with order basis. Please add 50p towards postage and packing irrespective of the size of the order.

THE ESSEX NATURALIST SERIES

- No. 1. **Deer of Essex** by Dr Donald Chapman.
A 50 page paperback describing the distribution and history of deer in Essex. Photographs, maps, etc. ISBN 0 905637 06 2 (published 1977) PRICE £2.00
- No. 3. **Tiptree Heath - its history and natural history** by Laurie Forsyth.
19 page booklet describing the most important heathland habitat in Essex. ISBN 0 905637 08 9 (published 1978) PRICE 60p.
- No. 4. **The Wildlife of Epping Forest** edited by Dr David Corke.
60 page paperback with photographs and line illustrations. A review of the animal life of the Forest by the leading experts on each group of animals. ISBN 0 905637 09 7 (published 1979) PRICE £1.50
- No. 5. **The Essex Field Club - the first 100 years** by L. S. Harley.
21 page booklet describing the history of the Club on the occasion of its centenary. Photographs. ISBN 0 905637 10 0 (published 1980) PRICE £1.00
- No. 6. **The Smaller Moths of Essex** by A. M. Emmet.
The most detailed account of the smaller moths ever published for any British county. Distribution maps and details of over 1000 species. Illustrations of representative moths in each major group. ISBN 0 905637 11 9 (published 1981) PRICE £5.00 (reduced from £7.00).
- No. 7. **Lords Bushes** by M. W. Hanson.
The history and ecology of an Epping Forest woodland. 69 page paperback with 8 pages of photographs and additional line drawings. ISBN 0 905637 12 7 (published 1983) PRICE £3.00
- No. 8. **The Larger Moths and Butterflies of Essex** by A. M. Emmet and G. A. Pyman.
The companion volume to No. 6. Distribution maps for every species and a complete analysis of the changing butterfly and moth fauna of Essex. ISBN 0 905637 13 5 (published 1985) PRICE £6.00 (reduced from £9.00).
- No. 9. **The Dragonflies of Essex** by Dr Edward Benton.
A very comprehensive and readable account of the county dragonfly fauna. It includes the results of a recent county-wide survey and much historical information. ISBN 0 905637 14 3 (published 1988) PRICE £5.95
- No. 10. **Essex Elm** by M. W. Hanson.
Elms were devastated by Dutch Elm disease. In this booklet Mark Hanson examines the role of elms in the landscape and their uses, and also gives an up-to-date account of their status in Essex today. 87 pages, 19 photographs, maps and illustrations. ISBN 0 905637 15 1 (published 1990) PRICE £3.95
- No. 11. **Epping Forest - through the eye of the naturalist** edited by M. W. Hanson.
A book chronicling the complex land-use history of Essex's most famous Forest with modern accounts of its flora and fauna. ISBN 0 905637 16 X (published 1992) PRICE £10

OTHER

The Clay Tobacco-pipe in Britain by L. S. Harley. 51 page paperback covering the history and identification of these pipes. Special attention is given to pipes made in Essex and East Anglia. ISBN 0 905637 00 3 (second edition 1976) PRICE £2.50.

SPECIAL OFFER

Volume 6 (The Smaller Moths) and Volume 8 (The Larger Moths and Butterflies) are available together for £9.00 post free.