THE ESSEX FIELD CLUB

DEPARTMENT OF LIFE SCIENCES

UNIVERSITY OF EAST LONDON

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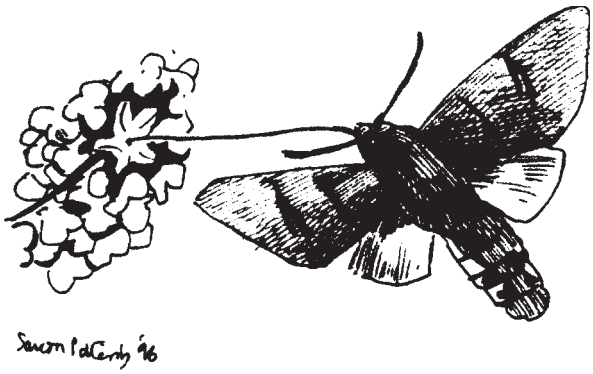
NEWSLETTER NO. 19 November 1996

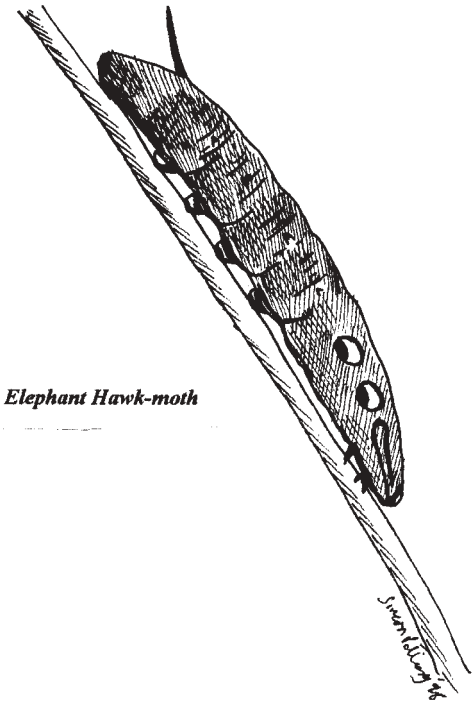
SOME OBSERVATIONS FROM SIMON PATIENT

On the 26th July I noticed a Hummingbird Hawk moth hovering over a Buddleia in the liitle nature patch near my house. This was a really good find there.

Then in August we had a phone call from a lady in Althorne who had sixteen Elephant Hawk moth caterpillars in her garden. They were devouring her fuchsia. We went to see them by which time there were only six left. The others had dispersed. They were really a sight to see and when you touched their head they shrank back and did indeed look like an elephant's head.



Hummingbird Hawk-moth 26.7.96



Elephant Hawk-moth

SECOND ESSEX RECORD FOR THE RARE BEE *Macropis europaea*

Macropis europaea is a Nationally Scarce (Notable A) bee which is closely associated with the flowers of Yellow Loosestrife *Lysimachia vulgaris*. Female bees collect pollen and a special floral oil from the flowers. The bee is thought to use the floral oils to line its cells with a greenish-yellow wax-like waterproof substance. This may help ensure constant humidity inside the cell and also prevent water entering the nest, especially in winter when nesting areas may become flooded.

Yellow Loosestrife is a very attractive plant which usually occurs beside rivers, canals, lakes or in bogs and fens. In the Flora of Essex (Jermyn, 1974) the plant is described as rare and twelve localities are listed. However it seems to have declined considerably since, and it is considered lost to north east Essex by Tarpey and Heath in Wild Flowers of North East Essex, 1990.

It is therefore interesting that Colin W. Plant captured a male on the 14th August 1984 near Orsett Fen. (determined by George Else) where Yellow Loosestrife has not been recorded.. In the past, when they were still fen-commons, the Orsett and Bulphan Fens in Thurrock must have been a very interesting area indeed for wildlife. The New Naturalist 'Common Lands of England and Wales', 1963 describes them as low-lying areas so ill-drained as to constitute fen or marsh of little value or interest, commons with little appeal aesthetically and of little use for recreation, but which could by drainage be converted into good agricultural land. How times have changed! They appear to have been drained and turned into arable land soon after this in the 1960s.

I knew that some Yellow Loosestrife occurred at Cranham Marsh Nature Reserve, so in August 1993 I went to search for the species, but without any luck. I found the Yellow Loosestrife in two parts of the reserve, but hours of waiting and gazing at the flowers was to no avail. Then on the 2nd August this year I decided to have another look. At the western side of the reserve there is a good stand of Yellow Loosestrife. This time my patience was rewarded with a single male flying rapidly round the stand of flowers. The following day I returned with my camera to photograph the Yellow Loosestrife and again found a single male flying around the flowers. No females were seen, but there is obviously at least a small population present.

A visit to the Orsett Fen area where Colin had recorded the bee in 1984 was not at all hopeful. Virtually the whole area seems to consist of arable land with ditches alongside tracks and fields. There was no sign of any Yellow Loosestrife.

The bee has probably always been very rare in Essex but with the decline of Yellow Loosestrife it is clearly vulnerable in the county. Every effort should be made to preserve known Yellow Loosestrife sites and manage them for the plant.

Peter Harvey

THE EAST THAMES CORRIDOR IN ESSEX

Fieldwork this year by Colin Plant and myself continues to demonstrate that this area of south Essex is of outstanding interest for invertebrates, particularly aculeate Hymenoptera (bees and wasps) and Diptera (flies). It is certainly the best area in Essex for aculeates and without doubt of national importance for its populations of rare species and astonishing biodiversity.

We have looked at a wide range of sites in south and north Essex and there are recent records in the county for 334 species of aculeate Hymenoptera. 289 of these species are recorded in the two grid squares TQ57 and TQ67 (part squares with a total area of less than a single 10Km square!) containing sites such as Mill Wood Pit (see Newsletter No.11), Ferry Fields (Newsletter No.12) and the Thames Terraces at West Tilbury (to be described in the forthcoming Naturalist). This is 48% of the total british aculeate fauna and 86% of the county fauna, a very remarkable total indeed. A total of 314 species are recorded from the East Thames Corridor squares TQ57, 67, 48, 58, 68, 78, 88 and 98, forming 52% of the national fauna and 94% of the county fauna!

Coincidence map showing the concentration of hymenoptera recorded in each 10Km square in Essex

(using DMAP, a computer mapping program produced by Dr Alan Morton)

There is little doubt that this is a genuine concentration of biodiversity. Fieldwork elsewhere in the county has identified other important sites particularly in the most interesting area south of Sudbury, but nothing to come close to the south Essex area.

This concentration of species seems to be due to a combination of factors: the East Thames Corridor has unique combination of climatic factors, with the lowest rainfall and one of the warmest parts of the country, but with a greater range of temperature and a more continental climate than the rest of Britain. The Essex side of the Thames has a series of south-facing escarpments between Purfleet in the west and Southend to the east, with various exposures of chalk, thanet sands, Thames terrace gravels and London clay. The Purfleet-Grays area also has a long history of chalk extraction, with old leases dating back to the sixteenth century. Modern times have seen much more extensive extraction of chalk and sand resulting in many abandoned exposures of different ages. These areas have provided many Hymenoptera with a complex of nesting sites and flower-rich foraging sites. The survival of pockets of old and unimproved habitats within this 'post-industrial' landscape has I believe provided the nucleus from which species have been able to spread, to take advantage of the new habitat.

This may have been one of the main reasons traditional agriculture in the past provided such a good landscape for many invertebrates and other wildlife. The complex of unimproved grasslands, pasture, heathlands, woodlands ***and*** small disturbed areas created by traditional practices would have provided a similar (but probably much richer!) combination.

The problem now is that most of the East Thames area has already been developed for industrial use and housing and much of what remains is threatened in the near future. Once the area is covered with concrete there can be little optimism for the future. The East Thames area must still have more surprises to provide, but it can only be hoped that enough sites can be saved from development to prevent the continued fragmentation of the habitat and allow the survival of viable populations.

Peter Harvey

NEW GEOLOGY EXHIBITION - SAFFRON WALDEN MUSEUM

'The Changing Face of Geology in Essex' Open until 2nd March 1997. Entrance £1, children free, discounts 5Op. Tel: 01799 510333.

SEDGES IN GARDENS

With the gradual thinning of the natural distribution of our native sedges in the open countryside through loss of habitat, it is something of a compensation to see that, like the fox, some species are moving into suburbia. The Pendulous Sedge, *Carex pendula,* is a common weed here in Loughton, plants seeding all over the place in flower beds and passageways, as well as being encouraged as an attractive garden plant. More surprising however, is the occurrence of the Grey Sedge *Carex divulsa* ssp. *divulsa,* which occurs in garden borders in at least three gardens in Loughton in the Queen's Road area, and in Staples Road has completely take over a derelict front garden. I have also seen it taking over front gardens in Walthamstow and in Southgate. Have you found any sedges in gardens in other Essex towns? If so please let me know.

Ken Adams

BSBI ATLAS 2000 & THIRD ESSEX FLORA PROJECT

SQUARE BASHERS GUIDE UPDATE - & TIT BITS

Thanks to all those who responded with their batches of cards after the last newsletter. I am glad too that the last 'tit-bits' was appreciated. I have managed to send out a few more packs of lists and I.D. tips and BSBI recording booklets, please let me know if you have still been left out.

CASUAL/NATURALIZED/NATIVE

Can you please give an indication by entering the taxon on the back of the card if you turn up plants which are well recorded elsewhere, perhaps even in Essex, that are nevertheless unexpected in your squares. For example on the chalk and calcareous sands around Grays, Viper's Bugloss is relatively widespread. It has however turned up twice as a one off casual in TQ49 (Epping Forest), and once to my knowledge in TL72. If we simply cross it off on the card it will come up in the ensuing Atlas database as a native for that square.

NATIONAL GRID COORDINATES.

A few cards are coming in with back to front grid references and some other weird combinations as well. Can you please enter where it says Tetrad on the back of the card, the four figure reference for the monad, and write monad beside it. e.g. the top right hand (north eastmost) 1x1km square for TQ49 would be notated TQ49,99 MONAD and the northeast 100 meter square would have the following 6-figure reference TQ499,999. Remember

eastings first then northings, or in at the door before going up the stairs.

Hydrocotyle ranunculoides

Can you please let me have any new records for this aquatic alien which is spreading like wild fire, before trying to pull it all out of any pond or stream you find it in! Its very easy to mistake for well-grown *H. vulgaris.* Two diagnostic characters will clinch it. The leaves of H. *vulgaris* are peltate, that is, circular with a centrally inserted petiole or leaf stalk. In *H. ranunculoides* the lamina appears to be peltate but there is a slit on one side that reaches the centre. It may however be obscured by the overlap of the two edges. The petioles are fat and spongy (c.5mm diameter), and glabrous, whereas those of *H. vulgaris* are somewhat wiry and spindly (c.l-2mm diameter) and usually thinly clothed with a few fine spreading hairs.

Lemna minuta (=minuscula)

This tiny alien Duckweed is now widespread in Essex and almost certainly occurs in every 10km square. But beware tiny forms of *L. minor* during the winter months.

GRASS GRIPES

'AGROPYRON'

Hopefully this genus will one day be reinstated! Meanwhile we have to put up with *Elytrigia repens (= Agropyron repens)* and *Elymus caninus (Agropyron caninum).* Please be careful in recording *caninus/um.* It is a relatively uncommon, distinctly droopy plant of woodland margins, and grows in tufts without rhizonies. On the other hand the awned form of the rhizomatous *repens* is common in all sorts of habitats, including woodland.

AGROSTIS

This is probably the most difficult genus of British grasses to identify, and to quote Tom Cope at Kew, who is producing a new book on British Grasses, there is no getting away from having to dissect the one-flowered spikelets (by removing the two enclosing glumes) to see if the palea is vestigial or well developed, and to see whether the awn on the lemma, if present, is inserted near the base, on the back or on the tip. Identification is also frustrated by the need to have the flowers at anthesis to see the palea, and in post-anthesis to see the position of the closed panicle! As a double check, the small (vestigial) palea character is correlated with a long pointed ligule, whereas a well developed palea correlates with a short truncate ligule. Another character that gives difficulty is the position of the spikelets in the panicle. If these are largely confmed to the outer branches the panicle appears to be a hollow cone, whereas if the spikelets occur on the lower branches the density of the panicle appears to be even throughout. This is very obvious in pressed material. The presence or absence of an awn is not a good character, as for example, *A. stolonifera* often has an awn, whereas some forms of *A. castellana* sometimes do and sometimes don't. Of more importance is the position of the insertion of the awn. So while you are dissecting your spikelet with a fine pair of forceps or a mounted needle under a lens or microscope to look for the palea, make a note of whether any lemma awn present arises from the base, back or tip of the lemma.

The situation is not helped by name changes (see synonyms overleaf). *Agrostis* merges into *Calamagrostis* and Tom says probably ought to be lumped with it. *A. castellana* for example, has a (minutely) hairy lemma callus (to 0.3mm long) which is a character of *Calamagrostis*. Unless you are happy with sorting them out, can we just make sure that we have them accurately recorded for each 10km square, and then for each 1xlkm square, if you have not sorted them out simply put *Agrostis* aggregate on the back of the card.

The following is a summary of the *Agrostis* species we are likely to encounter in Essex. A key to the more exotic ones is to be found in 'Alien Grasses' BSBI 1996. By Ryves, Clement and Foster.

1 Plants with VESTIGIAL palea, & ligule of FLOWERING stems ACUTE, awn 0 or from BASE of lemma, panicle open or closed after anthesis.

The *A. canina* complex:

A. canina - wet grassland, flowers early, NEVER any rhizomes, but occasionally has stolons.
A. vinealis (*montana*) - dry grassland, flowers late, rhizomes PRESENT, but NEVER any stolons.

2. Plants with WELL DEVELOPED palea, ligule of FLOWERING stems TRUNCATE:

Panicle OPEN after anthesis:

A. capillaris (=*tenuis*) - ligule of STERILE shoots WIDER than LONG, rhizomes AND stolons present, awn 0 or arising ON BACK OF LEMMA. Panicle branches smooth or only thinly scabrid.

A. gigantea - ligule of STERILE shoots LONGER than BROAD, rhizomes present but NEVER stolons, awn 0 or SUBAPICAL. Panicle branches scabrid.

Panicle CLOSED after anthesis:

A. stolonifera - stolons present but NEVER HAS rhizomes, awn 0 or SUBAPICAL, not exceeding the glumes, primary panicle branches bearing spikelets to the base, lemma with glabrous callous.

A. castellana - rhizomes present but NO stolons, awn 0 or from base of lemma, primary panicle branches naked below, lemma with shortly bearded (0.3mm) callus.

There are said to be three distinct forms of *A. castellana:*

var. *aristata* -	awns present on all lemmas, lateral nerves of lemmas prominent and excurrent at tip.
var. *neuta* -	No awns OR excurrent nerve.
var. *mixta* -	awned and awnless spikelets in the same panicle, usually only the spikelets of the final branchlets have awns.

ANISANTHA

The alien Great Brome *A. diandra* and the Ripgut Grass, *A. rigida* are dubiously distinct and should perhaps only be allotted varietal status, as morphological characters intergrade. The former is soft and pendent and the latter stiff and erect. Most if not all our south Essex material would appear to be *A. diandra.*

BROMUS

Two other grasses with morphological overlap, that are doubtfully distinct according to Tom Cope, are *Bromus commutatus* and *Bromus racemosus. B. commutatus* is supposed to be a good ancient grassland indicator, but a very different form occurs as a robust and abundant arable weed, also occurring on waste ground. To separate *B. racemosus* and *B. commutatus* Tom Cope recommends scoring all five of the following characters:

	racemosus	*commutatus*
Spikelet length	10-l6mm	15-28mm
Length of lowest rachilla joint	0.7-1.0mm	1.3-1.7mm
Length of lemma	6.5-8.0mm	8.0-11.0mm
Lemma margin	rounded	angled
Anther length	1.5-3.0mm	1.0-1.5mm

It would be useful to record the habitat (old grassland/arable-waste ground) for B. *commutatus* in case the two forms turn out eventually to be different.

Ken Adams

WHATS ON: ESSEX FIELD CLUB

NOVEMBER

Saturday 24th **Bird Group**. RSPB Reserve, Old Hall Marsh. Meet 10.30am at Reserve car park TL 958122. Leader John Bath (01277) 651890.

Saturday 30th **General Meeting 1408.** "The Fascination of Flies" talk by Del Smith at 3.00pm. Red Cross Hall, London Road, Chelmsford (car aprk entrance in Writtle Road).

DECEMBER

Saturday 7th **Essex Fungi Group.** Review of the second year. 3.00pm at the Boniface's house, 40 Pentland Avenue, Chelmsford, CM1 4AZ. (01245) 266316 for details.

Thursday 26th **Boxing Day Ramble**. South Weald Park and Navestockside. 4 or 6 miles depending on the weather. Can be muddy if wet. Meet South Weald Country Park car park in Lincoln's Lane. TQ 564946 at 11.00am. Leaders John and Maureen Tollfree (01708) 742206.

JANUARY

Saturday 18th **General Meeting 1409.** "Gall Wasps" talk by Jerry Bowdrey at 3.00pm. Red Cross Hall, London Road, Chelmsford (car park entrance in Writtle Road).

Saturday 25th **Botany Group Annual Meeting**. Review of the year and planning for the next. Southend Central Museum, Victoria Road, Southend. Parking details from John Skinner (01702) 215130.

FEBRUARY

Saturday 8th **General Meeting 1410**. "The Ice Age in East Anglia" talk by Gerald Lucy at 3.00pm. Red Cross Hall, London Road, Chelmsford (car park entrance in Writtle Road).

Sunday 16th **Bird Group**. Visit to Bradwell Bird Observatory by courtesy of the Essex Birdwatching Society. Meet at 9.45am Park at TM 024078. Details from John Bath (01277) 651890.

CONTRIBUTIONS TO THE NEXT NEWSLETTER

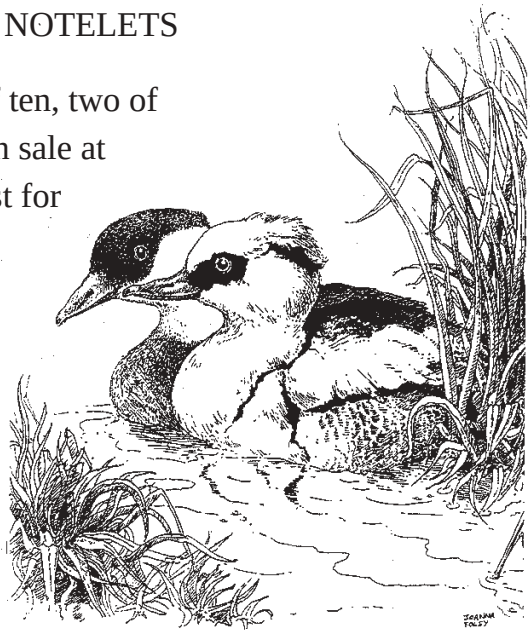
Please send contributions for the next Newsletter, due out in February, to the Editor, Mr Peter Harvey, 9 Kent Road, Grays, RM17 6DE by the end of December.

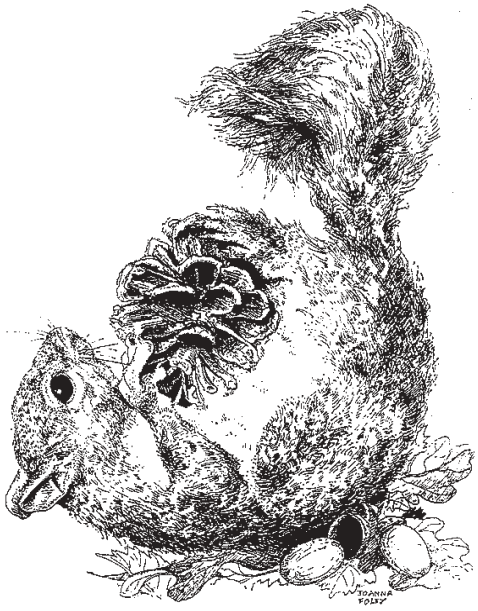
Remember that the production of the Newsletter depends on contributions from members. I am sure that many members must have news, observations or the results of fieldwork that would be of interest to others. If text has been typed on a PC computer then a disk with the file would be very helpful.

ESSEX FIELD CLUB NOTELETS

The notelets illustrated are marketed in packets of ten, two of each design, together with envelopes. They are on sale at Field Club Meetings at £1.00 per packet or by post for £1 + 75p to cover postage and packing.

Orders to Tony Boniface at 40 Pentland Avenue, Chelmsford, Essex, CM1 4AZ. Write now to ensure your supply while stocks last.





ESSEX FIELD CLUB PUBLICATIONS

The following publications are still available, now from Tony Boniface, 40 Pentland Avenue, Chelmsford, Essex, CM1 4AZ.

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 143 (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.