



Newsletter 2 JANUARY 2007

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Thank you all for the encouragement and notes contributed since the previous newsletter was sent out last spring. This issue contains a variety of articles dealing with national and local recording, conservation status, behaviour and taxonomy. I am especially pleased that some of the notes in the last issue have been followed up and enhanced by what appears in this one. Because of costs, this is the last newsletter that will be sent out as printed copies unless specifically requested, so, if you have not already done so, please let me know if you can receive it electronically or require it on paper. Best wishes for a productive new year and please continue to send any contributions to me at the address above.

RECENT LITERATURE

This list is not exhaustive, but highlights some key literature and websites that have come to my attention in the past year.

The end of last year saw the publication of the excellent **Recent Sawfly Research: Synthesis and Prospects** edited by S. Blank, S. Schmidt & A. Taeger (Goetze & Evers, Keltern, ISBN 3-937783-19-9, 704pp). The book is a collection of about 40 papers detailing recent research on European and world sawfly life history & ecology, taxonomy, faunistics and checklists as well as reviews, biographies and a CD ROM of valuable 'historic' literature and colour plates. Several of the papers mentioned as 'in prep' or 'in press' in the note on recent additions to the British list in the last newsletter have now been published. These are:

- Gibbs, D. (2006). Rose Bud Sawfly, *Monardis plana* (Klug) (Hymenoptera: Tenthredinidae), new to Britain, discovered in South Wales. *British Journal of Entomology and Natural History*, 19, 105-108
- Grearson, K.J. (2006). A sawfly, *Pristiphora leucopus* (Hellén), (Hymenoptera: Tenthredinidae) new to Britain. *British Journal of Entomology and Natural History*, 19, 1-5
- Knight, G.T. (2006). First British records of the sawfly *Emphytus laticinctus* (Serville) (Hymenoptera: Tenthredinidae). *British Journal of Entomology and Natural History*, 19, 193-198

Also on the subject of additions to the British fauna, A.D. Liston & S.M. Blank record four species (*Xyela curva* Benson, *Heterarthrus cuneifrons* Altenhofer & Zombori, *Pseudodineura mentiens* (Thomson) and *Pontania myrsiniticola* Kopalke) for the first time from the British Isles:

- Liston, A.D. & Blank, S.M. (2006). New and little-known British Xyelidae and Tenthredinidae (Hymenoptera, Symphyta) *Entomologist's Monthly Magazine*, 142, 219-227

Excellent photographs and information about leaf-mining sawflies and other leaf-mining insects are contained in website www.leafmines.co.uk

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STATUS OF THE SPECIES OF THE SAWFLY GENUS *DOLERUS* (INC. *LODERUS*) IN THE BRITISH ISLES

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For the past couple of months, I have been up-dating my records of *Dolerus* and *Loderus* from the various lists sent to me and from the literature available to me. The resulting data set lends itself to a lot of analysis but I thought it may be useful to circulate my preliminary assessment of the current status of each species. The data set comprises 4133 records, of which 1586 are from post 1970. I have given the last year of capture for the scarcer species.

NO RISK

aeneus, *aericeps*, *cothurnatus*, *ferrugatus*, *germanicus*, *gonager*, *haematodes*, *niger*, *nigratus*, *picipes*, *puncticollis*, *sanguinicollis*, *varispinus*, *vestigialis*.

SCARCE

eversmanni (1996), *madidus* (1999), *nitens* (1996), *planatus* (1996), *possilensis* (1985), *pratensis* (1993), *triplicatus* (1996).

RARE

anthracinus (1977), *bimaculatus* (1994), *megapterus* (1991), *yukonensis* (1987).

THREATENED

anticus (1969), *coracinus* (1974), *gessneri* (1994), *harwoodi* (all found 1936-1949), *pachycerus* (2000), *pratorum* (1979).

REMARK CONCERNING *DOLERUS BREVITARSUS* HARTIG AND *DOLERUS LIOGASTER* THOMSON

David Sheppard

Translated from: Lacourt, J. (1988). Description de cinq nouvelles espèces de *Dolerus* des Alpes françaises et du Massif Central, et remarques sur deux autres espèces [Hym. Tenthredinidae]. Bull. Soc. Ent. Fr. 92(7-8):231-239

These two species, although showing many distinct differences, are often confused and *D. liogaster* Thomson 1871 has even been considered as a simple synonym of *D. brevitarsus* Hartig 1837. This confusion arises from the ambiguity and unclear work on the subject of *D. liogaster* (Benson 1952; 1956) and of *D. brevitarsus* (Benson 1947). In fact, in 1947 Benson considers *D. rugosulus* Dalla Torre 1894 as a synonym of *D. brevitarsus*. This note is very short, a few lines only, and unconvincing. A few years later, in 1952, in the 'Handbooks', he gives a key to the genus *Dolerus* figuring *D. liogaster* and *D. brevitarsus*. These two species are perfectly recognisable. The differences between the saw sheaths of the two females, represented by figure 191 for *D. liogaster* and by figure 199 for *D. brevitarsus* are perfectly exact and the male penis valve of *D. brevitarsus* (fig. 242) is clearly that of this species and not that of *D. liogaster*. That Benson did not figure this species in his 'Handbooks' is an acknowledgement that he did not know it. Then, in 1956, this author considers that *D. rugosulus* is a synonym of *D. liogaster* but equally that *D. brevitarsus* Hartig, Benson 1947 nec Hartig is a synonym of *D. liogaster*. Benson recognises, therefore, but without commenting having combined *D. liogaster* and *D. brevitarsus* in his article of 1947, that this is the case. Two years later, in 1958, Benson having considered further, in the corrections and supplements to section B of the 'Handbooks' (1952), that his interpretation of *D. brevitarsus* is erroneous and that he questions that *D. liogaster* is the one that is incorrect. In fact there are two distinct species and it is the interpretation of 1952 which is correct.

These two species are quite close. The saw sheaths, similarly the penis valves are quite similar in general form although show distinct differences. On the point of colouration, *D. brevitarsus* is always entirely black, whereas that of *D. liogaster* is very variable. Usually black with red femora, this species can show an entirely black form, in which case it closely resembles *D. brevitarsus*. Apart from the differences noted above, the saw sheath or penis valve, the species can be readily distinguished by the following characters:

- the head is quite contracted behind the eyes (especially in the male) in *D. liogaster*, but almost parallel in *D. brevitarsus*.
- the hind tarsi are very short in *D. brevitarsus*, especially in the female, where they are scarcely half as long as the tibia. In *D. liogaster* they are a little longer, about two thirds of the length of the tibia.

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KENT SAWFLIES

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(Reproduced from Clemons, L. 2006. Sawfly Recorder's Report. *The Bulletin of the Kent Field Club* 51: 148-150. ISSN 0140-9565. February 2006).

Although the task of researching the distribution, diversity and history of the Kent sawfly fauna is still at an early stage the situation, as of 7th October 2005, is that data have been ascertained for three hundred and ten species from one hundred and eleven named collectors/recorders. Those for the latter are summarised below, the numbers in brackets denoting records and species respectively obtained by each. An asterisk * replaces unknown first name initials.

J.H. Allchin (1; 1), G.W. Allen (16; 13), P. Allen (8; 7), J.S. Badmin (10; 5), A. Beaumont (77; 60), I. Beavis (2; 2), R.B. Benson (21; 19), K.G. Blair (1; 1), R. Bolton (1; 1), J. Brook (2; 2), D.A. Burrwin (1; 1), L.C. Bushby (10; 7), * Butler (1; 1), * Cahaton (1; 1), P.J. Chandler (101; 64), A.J. Chitty (58; 44), D. Clay (2; 2), A.N. Clements (2; 2), L. Clemons (2167; 226), J. Cobbold (1; 1), M. Cotton (1; 1), R.A. Crowson (71; 49), C.W. Dale (1; 1), W.H. Daltry (1; 1), P. Davidson (1; 1), O. Davis (2; 1), G.H.L. Dicker (22; 11), M.H. Dolling (1; 1), W.R. Dolling (3; 3), H.St.John.K. Donisthorpe (2; 2), C.M. Drake (72; 46), C.A.W. Duffield (49; 41), H. Elgar (106; 44), W.A. Ely (14; 11), M. Enfield (1; 1), * Ephick (1; 1), A. Farmer (3; 3), J.C. Felton (199; 77), J.P. Fisher (1; 1), * Friday (1;1), G.E. Frisby (32; 28), J.W. Fryday (1; 1), A. Gaffry (1; 1), E. Godwin (1; 1), D.W. Grant (1; 1), F. Grice (1; 1), L.A.R. Grove (1; 1), T.W. Harman (2; 2), A. Harris (1; 1), N.F. Heal (7; 6), G. Hemington (7; 5), J. Hendey (1; 1), D. Hill (1; 1), B. Hollands (1; 1), * Hooker (1; 1), G. Hughes (1; 1), S. Hunt (2; 1), D.W. Jenner (5; 5), A. Keaton (2; 1), R.J. Knight (1; 1), C.G. Lamb (2; 2), H. Lamb (6; 3), * Leach (5; 5), J. Lee (1; 1), P. Lee (6; 3), A.M. Massee (5; 3), C. McDermott (1; 1), A.V. Measday (1; 1), S. Melville (1; 1), H.W. Miles (1; 1), J.A. Moreton (1; 1), F.D. Morice (4; 4), * Morran (1; 1), R. Morris (20; 20), R. Moseley (2; 1), R. Moyse (2; 2), * Muggaridge (1; 1), J.T. Murphy (1; 1), E. Newman (1; 1), C.G. Nurse (2; 2), P. Page (2; 1), L. Parmenter (1; 1), A.E. Patterson (1; 1), E.G. Philp (158; 71), J. Pitt (1; 1), D.N. Rampley (1; 1), R. Reid (1; 1), J. Robbins (30; 16), R.B. Robertson (16; 16), D.T. Rolfe (1; 1), E. Scott (1; 1), K.C. Side (333; 102), F.W.L. Sladen (23; 17), * Smith (4; 3), R. Smith (2; 2), P. Sokoloff (1; 1), J.F. Stephens (40; 25), T. Stockham (2; 1), A.E. Stubbs (10; 9), R. Stutely (2; 2), * Theobald (2; 2), J. Tyler (17; 13), R.W.J. Uffen (4; 4), R.I. Vane-Wright (1; 1), E.A. Waterhouse (1; 1), I.A. Watkinson (1; 1), I.M. White (1; 1), S.A. Williams (1; 1), N.E. Winck (1; 1), B. Woodhams (21; 17), J.W. Yerbury (1; 1). Unknown (81; 58).

As the main, extant, recorder for the group the following personal statistics may be of interest. Firstly, the ten best 'sites' for species diversity.

Site	10km square	No. of separate grid references	No. of visits	Total of species
Murston near Sittingbourne	TQ96	15	45	60
Birchett Wood near Hamstreet	TQ93	1	7	42
Hothfield Common LNR	TQ94	16	16	41
Kingsnorth-on-Hoo	TQ77/87	8	11	34
Old Park, Canterbury	TR15	2	6	31
Brockhill Country Park near Saltwood	TR13	5	12	30
Hamstreet Woods NNR	TR03	2	7	29
Stodmarsh NNR	TR26	4	6	29
Queendown Warren, Hartlip	TQ86	1	8	27
Lydden LNR	TR24	3	8	27
Denge Wood Woodland Trust Reserve near Petham	TR15	1	11	27

The obvious conclusion from this assessment is that the total number of species found is related to the number of visits made. Hence the second table shows the areas which have produced the greatest diversity on a single visit.

Site	Grid	Date	Total species
Birchett Wood	TQ987359	6th June 1998	30
Eccles Pit	TQ7261	29th May 1994	15
Denton Bank KWT Reserve	TR209452	20th June 1982	15
Gorsehill, Dover	TR298426	25th May 1987	14
Queendown Warren KWT Reserve, Hartlip	TQ828628	23rd May 1983	14
Old Park, Canterbury	TR168589	3rd June 1988	14
Gibbins Brook, Sellindge	TR116386	7th July 1985	13
Chilston Park	TQ8950	18th June 1989	13
Heath Farm, East Malling Heath	TQ6955	5th May 2003	13
Cowtye Wood	TR152375	20th May 1989	12
Hale Street ponds	TQ6749	4th June 1993	12
Polhill Bank KWT Reserve, Shoreham	TQ508604	3rd June 2000	12
Stodmarsh NNR	TR2261	17th June 1989	12
Brockhill Country Park near Saltwood	TR1435	1st June 1988	12

Of all data only two species, *Athalia cordata* Lepeletier and *Selandria serva* (Fabricius), are represented by more than one hundred records. Two hundred and seventeen species are known from less than ten and of these sixty-five by single records only. The ten best recorded species (with number of records and number of grid references) are shown below.

Athalia cordata Lepeletier (186, 153)
Selandria serva (Fabricius) (150, 122)
Aglaostigma aucupariae (Klug) (83, 74)
Dolerus nigratus (Müller) (75, 69)
Macrophya annulata (Geoffroy) (65, 54)
Tenthredo mesomelas Linnaeus (65, 56)
Dolerus aeneus Hartig (60, 52)
Calameuta pallipes (Klug) (60, 57)
Tenthredopsis nassata (Linnaeus) (60, 54)
Cephus cultratus Eversmann (58, 54)

A NOTE ON REARING *TRICHIOCAMPUS GRANDIS* (LEPELETIER)

Laurence Clemons

Some of the observations by Andrew Halstead (Sawfly Study Group Newsletter 1: March 2006) on *Finding the Poplar Sawfly* match my own. Like Andrew, I have swept many poplars and aspens for sawflies over the past twenty-five years without finding *Trichiocampus grandis*. Furthermore most attempts to rear sawfly larvae to the adult stage have been met with failure. On 25.viii.1982 a sample of gregarious larvae found defoliating Alder *Alnus glutinosa* at Murston TQ928648 in north Kent (VC 15) gave rise to imagines of *Croesus septentrionalis* (Linnaeus) one month later.

On 10.ix.2005, when Andrew's females of *grandis* emerged from larvae found on 20.viii.2005, I collected several mature sawfly larvae from a cultivated poplar variety growing at Nickolls Quarry, Palmersh TR133329. These, along with a few leaves of the plant, were placed in a jar of dry sand and left in my kitchen for observation. Within a day or two the larvae had abandoned the leaves and burrowed into the sand.

On 15.vii.2006 a single male was noticed in the jar. It was fully developed i.e. not teneral and so must have emerged at least a day earlier. This is possibly the first record for Kent.

MORE ON RECENT ADDITIONS TO THE SAWFLY FAUNA OF THE BRITISH ISLES

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Guy Knight, in the last Newsletter (Knight 2006), presented a list of sawfly species added to the fauna of the British Isles since the publication of Benson's 'Sawfly Handbooks'. Some comments and additional information are offered below, intended to clarify the status of these species in the UK and Ireland, or to draw attention to the presence of yet further additional taxa.

TENTHREDINIDAE

Blennocampinae

Claremontia uncta (Klug, 1816)

Closely resembles *C. tenuicornis* (Klug). It was redescribed, and first recorded as British by Koch (1988). It is not yet clear whether a third taxon belonging to the same group of species, ***C. alchemillae*** (Cameron, 1876) (described from Scotland), represents a valid species (see Liston *et al.* 2006).

Fenusa altenhoferi (Liston, 1993)

= *Kaliofenusa carpiniifoliae* Liston, 1993

This species occurs on Field Elms (*U. minor*, *U. procera*) and is bisexual (males about as common as females). *F. ulmi* (on *U. glabra* in Europe) is mainly parthenogenetic, with very rare males (Pschorn-Walcher & Altenhofer 2001). One perplexing anomaly concerning *F. ulmi*, is that in N. America (where it is considered to be introduced), the hostplant range apparently covers nearly all available species of *Ulmus* (Smith 1995).

Scolioneura vicina Konow,

Distinguished biologically, but not morphologically from *S. betuleti* (Klug). Two univoltine species are involved (see Altenhofer & Taeger 1998). Leaf-mines of *S. vicina* are found from about mid May to mid June, mines of *S. betuleti* from mid July to the start of September.

Heterarthrinae

Heterarthrus wuestneii (Konow, 1905)

= *Heterarthrus healyi* Altenhofer & Zombori, 1987

H. cuneifrons was wrongly synonymised with *H. wuestneii* by Liston (1995). Blank *et al.* (2001) corrected this, making the above synonymy. *H. cuneifrons* A. & Z. is a valid species. In the British Isles the host of *H. wuestneii* is only *Acer campestre*. *H. aceris* uses only *A. pseudoplatanus*. Note: some of the *Heterarthrus* species attached to *Acer* are not strictly monophagous. *H. leucomela* (not known in British Isles) feeds on both *A. pseudoplatanus* and *A. campestre*, and in continental Europe *H. wuestneii* also occurs on *A. monspessulanum*.

Tenthredininae

Tenthredopsis scutellaris (Fabricius, 1804)

This taxon was treated by Benson (1952) as a synonym of *T. nassata* (L.). At present, its status as a separate species seems justified (Blank & Ritzau 1998). *T. scutellaris* occurs throughout much of the British Isles, including Ireland.

Nematinae

Genera ***Pontania*** and ***Euura***. Recent specialists have tended to recognise many more species in these genera than previous taxonomists. Particularly J.-P. Kopelke, in numerous revisionary works, has recognised numbers of biological species, nearly all of which are strictly monophagous on a single *Salix* species or at most some of its hybrids. An overview is provided by Kopelke (1999), but note taxonomic / nomenclatural alterations particularly in Vikberg (2003). Often, these sawfly taxa are morphologically barely distinguishable from each other. The combination of gall type / host species is the best method of identification. Apart from the species mentioned below, Kopelke (2001) also regards *Euura mucronata* (Hartig) as comprising a complex of strictly monophagous biological species (but note that the status of some of these is disputed: Nyman 2002). It is not clear which of these taxa occur in the British Isles.

The following British species were formerly confused under the name *P. dolichura* (Thomson):

[***Pontania dolichura*** (Thomson, 1871)

Host: *Salix phylicifolia*. Old British records under this name often refer to *P. nigricantis*. Occurrence outside Scottish Highlands needs confirmation.]

Pontania lapponicola Kopelke, 1994

Host: *Salix lapponum*. Galls of this species recorded from Scotland as *Nematus dolichurus* by Benson (1954).

Pontania nigricantis Kopelke, 1986

Host: *Salix myrsinifolia* (= *nigricans*). This is probably the most widespread British species in the *dolichura*-group. I have seen galls from Teesdale and various parts of the Highlands.

***Pontania* sp.** unidentified

Host: *Salix myrsinites*. Galls are recorded in Scotland by Benson (1954). Identity of the sawfly species is not yet clarified.

The following British / Irish species (based on examined reared material) were formerly confused under the name *Euura atra* (Jurine):

[***Euura atra*** (Jurine, 1807)

Hosts: *Salix alba*, *S. fragilis*]

Euura auritae Kopelke, 2000

Host: *Salix aurita*

Euura purpureae Kopelke, 1996

Host: *Salix purpurea*

Euura weiffenbachii Ermolenko, 1986

Host: *Salix repens* agg.

The following two species were mostly confused under the name *P. fulvipes* (Fallén) (name unavailable, *Tenthredo fulvipes* Fall. is a junior primary homonym) before the revision by Vikberg (2006), who lists some British records of both:

Pristiphora aphantoneura (Förster, 1854)

Host: *Lathyrus pratensis*. Vikberg gives records from Southern England, and Wales.

Pristiphora luteipes Lindqvist, 1955

Hosts: a wide variety of *Salix* species. Throughout Britain, reaching high altitudes in Highlands (Vikberg 2006). Also in Ireland.

PAMPHILIIDAE

Pamphilius albopictus (Thomson, 1871)

Host: *Prunus padus*. Liston (1995) tentatively listed this species as occurring in Scotland, based on the illustration and mention in Cameron (1890: 105-106) of a single specimen as *P. vafer* var. *albopictus* from Kingussie (Inverness.). Cameron's record seems quite plausible, because preserved specimens of *P. albopictus* resemble *P. vafer* (= *depressus*) quite closely (but in life, the pale parts of the former are a distinctive bright, pale green). That *P. albopictus* does however definitely occur in the British Isles was shown by Shinohara (1998), who identified two females in the BM(NH) collection collected by P. Harwood (13.5.1944, 19.6.1944), labelled 'Aviemore'. Benson had labelled one of them '*Pamphilius* ? dark form of *vafer* L. (= *depressus*) or sp. nov., dark antennae!!'. *P. albopictus* is remarkable in this genus for its parthenogenetic reproduction. It is apparently not uncommon in parts of Northern Europe, but becomes progressively rarer southwards through Central Europe.

SPECIES WHICH DO NOT OCCUR IN BRITAIN

It is easy to fall into the trap of placing too much credence on records, never since confirmed, of certain species mentioned from Britain in the older literature. *Pamphilius jucundus* (Eversmann) (= *nemorum* (Gmelin): misidentification) is one example. It was listed as having occurred in England (Liston 1995), because the type locality of *P. nemorum* (as *Tenthredo lucorum* Fabricius, junior primary homonym) is 'Anglia' according to Fabricius. The rather complex reasons for regarding it

as not occurring in the British Isles are explained by Liston *et al.* (2006). Many further examples of unconfirmed British species are to be found in Stephens (1835). Benson (1943) dealt with a few of these. In fact, there are several more species mentioned by Stephens, disregarded by Benson, which have never since been confirmed as really having been present. Just one example is *Allantus didymus* (Klug) (Stephens, p. 90, 'Birch Wood'). The description fits *A. didymus* well. This sawfly would still be worth searching for on chalk downland with sufficient quantities of its host, *Sanguisorba minor*. Of course it is quite possible that some of these species have become extinct in Britain since the early 19th Century, but probably we will never know. Knight (2006) was correct in regarding the presence of *Calameuta haemorrhoidalis* (F.) in England as doubtful. Liston (1995) rashly accepted the Stephens records of *Cephus floralis* (Klug) and *C. analis* (Klug), both of which are synonyms of *Calameuta haemorrhoidalis*, as sufficient evidence for regarding the species as British. The tentative proposal that *Sirex atricornis* Kjellander occurs in Britain (Liston 1995) should be discounted. There are no definite records, and the validity of the taxon is questionable: perhaps only a form of *S. juvencus* (L.).

VALIDITY OF RECORDS BASED ON ADULTS, LARVAE AND FEEDING TRACES

Few entomologists are completely satisfied when a distribution record is based only on the larval stage, or the feeding traces (galls, leaf-mines) produced by it. It is always more satisfying to have been able to examine both adults *and* the immature stages. A prejudice against records based only on immature stages is however not very rational. There are numerous examples of sawflies which can be identified as larvae much more easily than as adults. This applies not only to the galls of most *Pontania* and *Euura*, and several leaf-miners, but also to a number of externally feeding larvae of species whose imagines can be quite difficult to separate (e.g. *Craesus septentrionalis* and *C. latipes*, *Diprion pini* and *D. similis*). In the most extreme cases (e.g. *Pontania*), the risk of misidentifying the adults is very much higher than for the galls. Of course, when making such records it is important to preserve as much evidence as possible. If rearing is not attempted (obviously risky with a single larva), the larva should be preserved. Where possible, this should be done before the larva stops feeding and undergoes the last moult, because colour pattern, and even structures on the integument such as setae, may be much reduced or extremely altered during this stage. The leaf-mine or gall should be preserved as a matter of course. Larval exuvia can also be useful as voucher specimens. I wonder if the statement by Knight (2006) that there is a lack of 'authenticated material' supporting the single British record of *Endophytus anemones* (Hering) by Benson (1961) is really justified. Is it certain that no such material exists? In any case, there seems no possibility of confusing an inhabited mine made by this sawfly with that of any other insect. That no subsequent records have been made in Britain is not particularly surprising. *E. anemones* is thelytokous, and throughout its range is normally found at very low population densities. Although I regularly try to find it in Germany, only once was I successful. One question whether enough serious effort has been made to re-discover it in Britain. The continental range, north to Sweden and Finland, suggests that it might be looked for in any area of the British Isles where *Anemone nemorosa* occurs.

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LARVAL BEHAVIOUR OF *BLASTICOTOMA FILICETI*

Andrew D. Liston

During the period 25.-29.05.2006 I collected 6 female *Blasticotoma filiceti* (Klug) from extensive stands of Lady Fern, *Athyrium filix-femina*, in carr woodland near Müncheberg, East Brandenburg, (Germany). This was my first encounter with live individuals of this fascinating insect. The



indication that *B. filiceti* was (unusually?) abundant at this locality encouraged me to make several subsequent searches for larvae, of which the first were detected on 01.07.06, all in *A. filix-femina*.

Although the larval habits of *B. filiceti* have been quite fully described in the classic paper by de Meijere (1911) and recently by Shcherbakov (2006), some features of their biology, as observed by myself, seem worth highlighting. Firstly, for those wishing to detect the presence of this sawfly, it is important to note that the larvae by no means always produce the well-documented 'froth balls' (see photos in Knight & Howe 2006: last Newsletter). This fact was first pointed out to me by Ewald Jansen, who is lucky enough to have a population of *B. filiceti* in ferns in his garden. Of a total of 48 mines containing living larvae examined at the Brandenburg locality, only two displayed small (longest dimension approx. 15mm) clumps of white froth. Several mature larvae were found, also without balls of froth, proving that larval development can be successfully completed without the appearance of this sign. Larvae can be located with a little practice by the discolouration of the rachis directly around the larval cell, usually accompanied by death of at least small basal portions of the adjacent pinnule. It is not clear what determines the presence or absence of the balls of froth (see below). The highly distinctive morphology of the larva, with two pairs of caudal processes (photo), will confirm that this is *Blasticotoma*. The larva of *Heptamelus ochroleucus*

(Stephens) also inhabits ferns, but is a true miner (mine up to several centimetres long), and it lacks the caudal processes.

The larval cell of *B. filiceti* is very short, typically about 1.5 times as long as the length of the larva, with an absolute maximal length of 20mm. It is no wider than the larva, so that it seems unlikely that the inhabitant can reverse its attitude. Up to four were sometimes found in the same rachis. Orientation of an individual larva in the rachis may be 'head up' or 'head down', but where a pair of larvae were located next to each other, the upper one was orientated 'head up' and the lower 'head down'. Where two or more larvae occur next to each other, the mines always remain separated by at least a thin wall of plant tissue. Larval exuvia are ejected from the cell. As already suspected by de Meijere and more fully discussed by Shcherbakov, the only possible explanation for the very small size of the larval chamber, is that the larva subsists principally on liquid food, presumably derived from the phloem. The chamber lies on one side of the rachis, so that water / nutrient transfer past the larval chamber is not completely stopped. Such a feeding method (termed 'phloem-miner' by Shcherbakov) is probably unique amongst extant insects with chewing mouthparts (see discussion in Shcherbakov).

Particularly interesting is the attendance on the larvae by ants, only recently discovered by Shcherbakov (2006), who studied the species in Central European Russia. At the Brandenburg locality, the ant species involved was always *Myrmica rubra* (L.) (based on specimens attending 10 larvae collected from ferns growing as far apart from each other as possible, identification confirmed by B. Seifert), although Shcherbakov also noted *M. ruginodis* Nylander, and *Lasius* sp. Of the 48 mines containing living larvae which I found, all but 2 were attended by 5-12 (but in one case approx. 20) workers of *M. rubra*. Empty mines and those containing dead or perhaps parasitized larvae never had ants in attendance. The ants congregate around the hole(s) in the larval chamber, of which there may be only one, or often one large one at which the caudal end of the larva is situated, and a smaller one at the anterior end. Usually one ant at a time is engaged in feeding, moving its head around the rim of the hole, over it, and sometimes placing its whole head just inside it (even the larger holes are too small to allow more than one ant to feed simultaneously). Never was an ant seen to completely enter the larval chamber. Although at least the antennae of the ant must make frequent contact with the sawfly larva, it could not be observed whether this contact directly stimulated the production of secretion by the larvae. Prof. Seifert confirms that this ant trophobiosis is unique in the Symphyta to *Blasticotoma*. Indeed, he points out that it is the first case of a true ant trophobiosis in the Hymenoptera at all. Otherwise, only the galls of *Andricus* (Cynipidae) are attended by *Lasius* spp. This is however not a direct trophobiosis because the sweet secretions attracting the ants are elicited in this case from the plant tissue (galls on *Quercus*) after stimulation by the gall wasp larvae. Like Shcherbakov, I also noted the strong attraction for Vespidae of the *Blasticotoma* larvae, although no actual feeding on secretion was observed.

It seems possible that the general absence of froth balls at Müncheberg was a direct effect of the removal of the secretion by the ants. On the other hand, the larvae studied by Shcherbakov seem to have produced conspicuous froth masses despite attendance by ants. An alternative explanation is that the amount of water available to the hostplant affects the amount of larval secretion produced. Particularly in July 2006, the weather in Brandenburg was more than usually hot and dry.

A final interesting observation concerns the apparently widely different speed of development of the larvae. Even in the first batch of larvae (coll. 01.07.), their length varied from 3-10 mm. I do not think that this was the result of a correspondingly long period of adult activity: the locality was visited frequently, but the adults were only found within a period of ca. 1 week, and literature records of adults also indicate that the adult flight period at any single locality is quite short). On 19.08.06 the sample (8 larvae) contained individuals between 7-15 mm length. The largest were nearly fully fed. The last living larvae, also mature, were found on 16.09.06.

In conclusion, the following points are worth considering, or require further investigation:

- The attendance on the larvae by ants is, at least at some localities, a better aid to detection of this species than the clumps of froth (which may be entirely absent).
- The benefits to both the ants and the larvae of *Blasticotoma* of the trophobiotic relationship require closer investigation. For example, what exactly does the secretion contain? Sugars seem

probable, but possibly amino acids are also present. What anabolic and energetic value does it possess? The mutualistic nature of the relationship is suggested, but not proved. Do the ants protect the larvae against parasitoids and predators?

- If, as postulated above, the larva can not alter its relative positions of head / abdomen tip inside the very small cavity, how is the hole at the caudal end produced? Do the ants themselves form the hole, or enlarge an initial small hole created by the very young larva?
- At least in the West Palaearctic, the male of *B. filiceti* is entirely unknown (see Schedl 1974). The inclusion by Thomson (1871) of the male gender symbol in his description of the adult is most probably a mistake. If males should ever be found, this would be well worth reporting. The ability to reproduce parthenogenetically helps to explain why the species, usually regarded as very rare, can nevertheless be apparently easily introduced to, and survive for long periods, in isolated situations (gardens).
- Principal, apparently favoured, host of *B. filiceti* is *Athyrium filix-femina*. Reliable reports of various other fern species exist (see Schedl, Shcherbakov), confirmed independently by primary data of more than one observer. This is not so with the single record from *Pteridium aquilinum*, apparently mentioned as a host only by Lindqvist (1966). At the Brandenburg site, *P. aquilinum* is one of the few other fern species other than *A. filix-femina*, but no larvae could be found on the former.

I am most grateful to Prof. B. Seifert (Görlitz) for his identification of *M. rubra*, and interesting comments on ant-*Blasticotoma* trophobiosis.

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POSTSCRIPT:

Benson (1951: Symphyta Handbooks, part a) stated that the first known British occurrence of *B. filiceti* was at the RHS Gardens, Wisley in 1905. However, Edward Newman recorded the larvae from Lady Fern (with an unmistakable description of the larva, although he could not identify the species) as early as 1870 (Newman, E. 1870: Sawfly Larva feeding within the Stem of a Fern. *Entomologist*, 5, 148-149). Most unfortunately, he does not explicitly state where. It can be inferred from his use of the word 'here' that the locality was at or near his home address. According to the wrappers of the entomologist (No. 98, December 1871, 'At Home..') this was '7, York Grove, Peckham'. Less likely is that he was referring to his business address '9, Devonshire Street, Bishopsgate'. One might suspect that Newman's observations involved an infestation of garden plants. He observed the larvae for an unspecified period of several years.

LARGE NUMBERS OF THE TURNIP SAWFLY *ATHALIA ROSAE* (L.)

Guy Knight

Although not uncommon, the distinctive Turnip Sawfly *Athalia rosae* (L.) is a species which I had always considered quite local in the UK and up until 2005 had encountered on few occasions. Benson (1952) gives a relatively detailed account of its history in Britain. It was, during the late 18th and early 19th centuries, a serious pest of cultivated crucifers in Britain, especially turnips and radish. During this time it reportedly invaded this country from the continent, becoming rare throughout much of north-west Europe in the late 19th century only to increase and reappear as a pest in Britain in the mid 1940s. It was, however, probably extinct as a breeding species in Britain in the three decades preceding this and was only found on the south and south-east coast of England.



The periodic abundance of this sawfly is well-known and I wonder whether readers' experiences match my own in having found it to be especially numerous during the last few years. In 2005 I was pleased to find adults commonly, especially on umbels of Wild Parsnip (*Pastinaca sativa*), at several coastal sand dune sites South Wales. In 2006, during July and August, I recorded or received reports of the insect much more widely. It was common, but in relatively small numbers at coastal sites in Pembrokeshire and inland sites in Staffordshire, including my parents' garden in Wolverhampton for the first time. Subsequently, my colleague reported thousands on *Scirpus* saltmarsh at Birkdale on the Sefton Coast in Lancashire and other reports detailed swarms of tens of thousands resting on *Sueada* at Blakeney Point in North Norfolk in the company of Small Red-eyed Damselflies (*Erythromma viridulum*), which were almost certainly migrants. Swarms disappeared from both sites within a matter of days. Further reports concerned an adult apparently in association with a Cauliflower crop in Cornwall and larvae feeding on an organic Turnip crop in Gwynedd. Perhaps coincidentally, it was also amongst the most abundant sawflies I saw when I visited Stockholm in August 2006.

A Turnip Sawfly at Blakeney Point, Norfolk where tens of thousands of these insects were sighted in July 2006. Photograph: R. Porter

It appears that this species is currently in resurgence in the UK and many of the records suggest that this may, at least in part, be the result of influxes of migrants from continental Europe. Even so, it seems very unlikely that *A. rosae* will ever again become the serious agricultural pest it was centuries ago. I cannot find any references to such movements in sawflies outside of the genus *Athalia* (Benson, 1935, 1946, 1950; Marshall, 1783; Newport, 1838; Scott, 1926), where in some cases similar events are recorded after periods of successive hot, dry, summers.

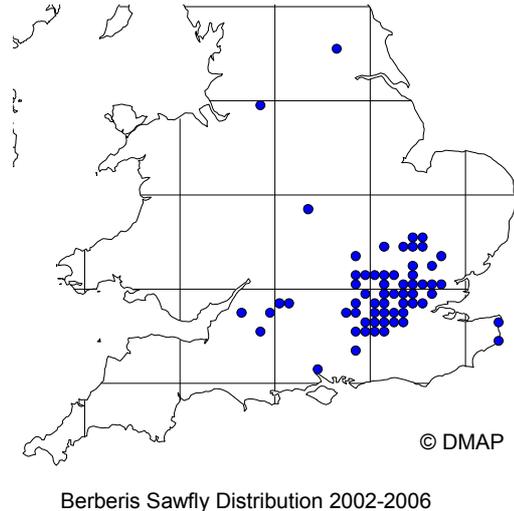
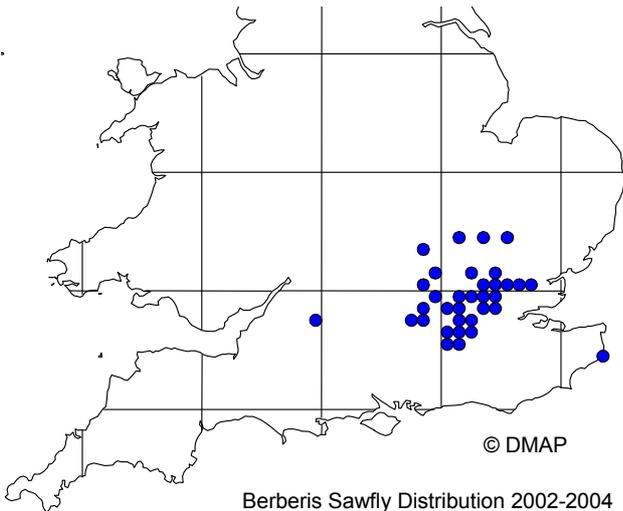
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BERBERIS SAWFLY

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Berberis sawfly *Arge berberidis* is a European species that was first confirmed as being present in Britain when an adult female was sent to the Royal Horticultural Society's members' advisory service on 18.4.2002. It came from a private garden at Church Langley, Essex where *Berberis thunbergii* plants had been defoliated in the previous year. Other records of this pest in the London area came to my attention during 2002 and it was clear that in some gardens damage to *Berberis* plants had been occurring since at least 2000. As *Berberis* has no significant defoliators other than the sawfly, it is reasonable to assume that this pest first entered Britain, possibly with imported nursery stock, at some time in the late 1990s.



Records of the sawfly's distribution have been kept in subsequent years through enquiries sent to the RHS advisory service and my own observations. The two maps, prepared by Andrew Salisbury with DMAP software, show the distribution up to the end of 2004 and 2006. Initially the sawfly made slow but steady progress from the original area of infestation in the counties around London but by 2004 there were a couple of more distant records near Lacock, Wiltshire and Dover, Kent. These may have resulted from the movement of infested plants, rather than flight dispersal by adult sawflies. By the end of 2006, Berberis Sawfly had consolidated its presence in south east England and has now been found in the Southampton, Bristol, Coventry, Manchester and York districts. It is likely that Berberis Sawfly will continue to spread and before long may be found in Wales and Scotland. I would be interested to receive sightings of the adults, larvae or defoliated *Berberis* plants, particularly from areas outside south east England.



Berberis Sawfly larvae on *Berberis thunbergii*
Photograph: A. Emmans Dean



Berberis Sawfly adult ♀
Photograph: G.T. Knight

Berberis Sawfly is likely to be mainly a garden insect in the UK, as that is where its food plants are most likely to be found. There are two or three generations during the summer and autumn and so larvae can be found at almost any time between May and the end of October. The sawfly's larvae are found most frequently on *Berberis thunbergii* and its many cultivars in gardens and amenity plantings. The larvae also feed on *Berberis vulgaris*, but that is a relatively scarce wild plant in Britain. Other *Berberis* species and hybrids on which I have found larvae are *Berberis* 'Georgei', *Berberis jamesiana* and *Berberis x ottawensis*. The larvae also feed on the foliage of some *Mahonia* species and hybrids. I have found adult *Arge berberidis* visiting the flowers of *Eryngium caerulescens* and fennel (*Foeniculum vulgare*).

For further information on the biology and identification of *Arge berberidis*, see Halstead, A. J. (2004). British Journal of Entomology and Natural History 17 p131 - 135.

REQUEST FOR WELSH RECORDS

Guy Knight

I am currently working with the Countryside Council for Wales in compiling a provisional checklist of sawfly species recorded from Wales. On the whole, the country has been relatively poorly recorded for this group in the past, however, apparent growing interest and a recent spate of interesting records suggest that it is timely to produce a provisional list at least to engender enthusiasm for future recording.

I would be very grateful to receive any records of sawflies (address above) from Wales in just about any format. Similarly, I would be very happy to look through any unidentified material from trap samples or prepared collections.

MEMBER PROFILES

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Current sawfly project: Collating records of the sawflies of Kent Watsonian Vice-Counties 15 and 16 with the view to producing a definitive historical account.