The Coleopterist

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Cover: *Malthodes marginatus* (Latreille) (Cantharidae) *R. S. Key*

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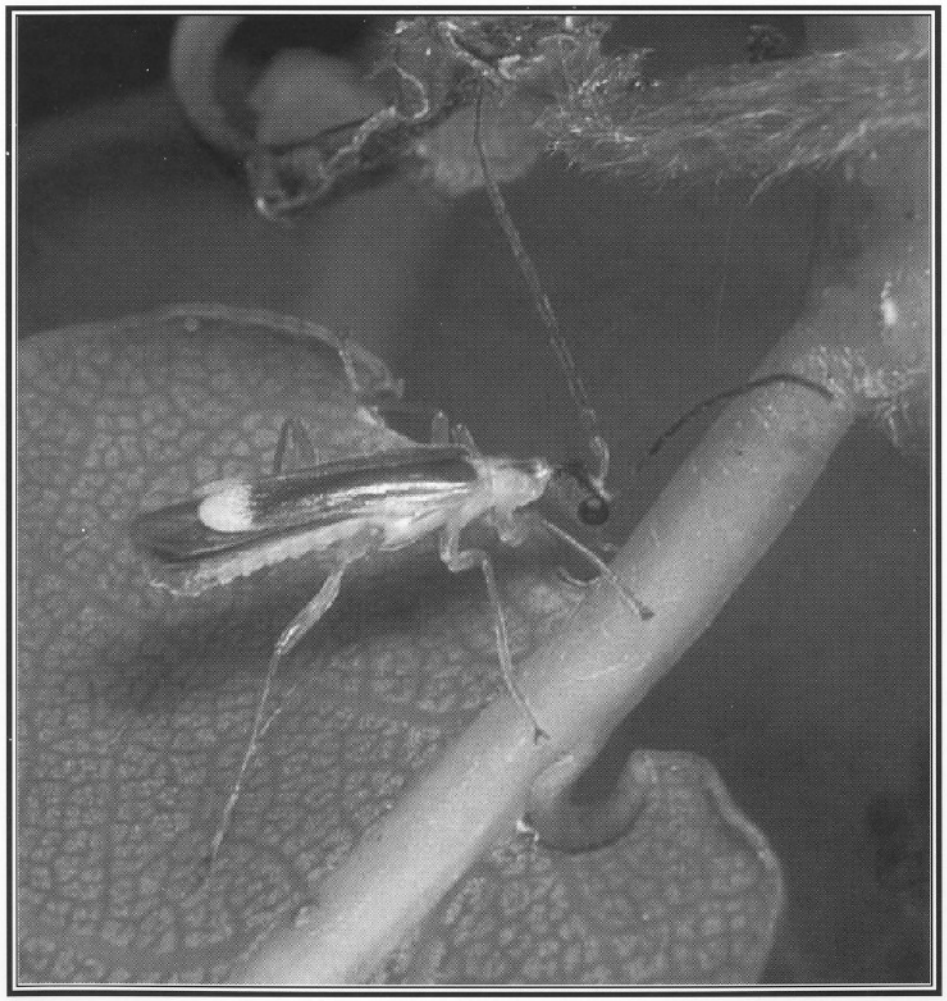

Statistical summary of Staphylinidae checklist
Glow-worm defensive organ
Saproxylic Coleoptera of Thursley Common, Surrey
Wood decay fauna from Mottisfont Abbey Estate, Hampshire
***Caulophilus oryzae* as a British insect**
Notes ◆ Review

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The Coleopterist publishes material about the Coleoptera and Strepsiptera recorded from, or likely to occur in, the British Isles. General articles, news items and letters on subjects of relevance to British and Irish coleopterists are also welcome. Suitable subject areas include: systematics, nomenclature, identification, first country or county records, recording schemes, conservation, ecology, biology, behaviour, sampling and collecting techniques, rearing, specimen preparation, curation, field meeting news, and book reviews. Material accepted for publication must not be submitted in a similar form to any other journal.

Material should preferably be submitted in either ASCII or Microsoft Word format and sent as an e-mail attachment, or on DOS-formatted computer diskette, or typewritten double-spaced with 3 cm margins, on one side only of white A4 or letter sized paper, one copy only. Footnotes should be avoided and pages must be clearly numbered. Only names of species and genera should be underlined. Authority names should be given in full. Illustrations should be in black ink, boldly hand-drawn or laserprinted and scaled to allow for a 50% reduction. Inkjet printer output and photocopies are unsuitable. The ideal position of figures should be indicated in the text. Every effort will be made to care for original artwork but the Editor cannot be held responsible for their loss or damage. For formatting of references, refer to a recent article in *The Coleopterist.*

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Editorial

Having edited *The Coleopterist* for the last seven years, I've now decided that it's time to hand over the job to someone else. Seven years is classically the period in which a married man develops a certain itch, but although being a journal editor is a bit like being married, my reasons for running off like this are I hope reasonably honourable. Firstly, some of the time released by not editing this journal will be spent looking at beetles, something I've sadly neglected in recent years. More importantly, I want to be able to spend enough time to ensure that the *Beetles of the British Isles* project starts to come to fruition in the near future.

As usual in these rare editorials, I'd like to try to take stock of the way the journal is progressing. In the last seven years, I believe there have been a number of important milestones. I'm confident that Mike Cox's monograph on *Psylliodes* and review of the British Bruchidae, and Colin Welch's monograph on *Aleochara*, will certainly stand the test of time. This journal has also been at the forefront in the development of measures of woodland habitat quality, as assessed by the presence of saproxylic Coleoptera. But these achievements apart, each one of the twenty-one issues has been something of a challenge, both in terms of getting enough good material and ensuring that the editorial checks are completed in a timely fashion. Good quality notes and papers are the lifeblood of this journal but maintaining a consistent standard has been surprisingly difficult. Some issues, such as this one, consist mainly of longer papers, while others are made up largely of short notes. Unfortunately there is no way to achieve a more even balance without introducing publication delays that would run the risk of sending authors into the arms of competing journals. Most frustratingly, papers describing species new to Britain are even now more likely to be placed in one of the general entomological journals, even when authored by coleopterists who are otherwise regular contributors to this journal. I hope that everyone will continue to support this journal and that the new Editor will be able to count on a steady flow of notes and papers about our fascinating beetle fauna.

We have been gratified at the slowly increasing number of subscriptions, now hovering around the 300 mark, although it is surprising how many subscribers forget to renew each year. The journal continues to be excellent value for money but we would not be able to maintain this level of affordability while sending payment reminders and journals to those who have not resubscribed. We also keep a very limited stock of back numbers, so please take this opportunity to renew your subscription now!

The new Editor, Tony Allen, is a current member of the Editorial team, who in recent years has become a respected field coleopterist, most famous perhaps for his discovery of *Philonthus spinipes* new to Britain (*Coleopterist* **6**(3): 81-83, 1997). In future all material for publication and other editorial correspondence should be sent to **A.J.W. Allen, 56 Windsor Way, Alderholt, Fordingbridge, Hampshire SP6 3BN.**

Finally, I would like to offer my sincere thanks to the Board of Governors and the Editorial Panel, all of whom have given me their unstinting support while I have been in office. I trust they will support the new Editor in a similar way. *Andrew Duff*

Platyderus ruficollis (Marsham) (Carabidae) in Scotland

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On 15th April 2001 I found a single specimen of *Platyderus ruficollis* at Hawkcraig Point, Aberdour, on the south coast of Fife (NT 200849). It was on an exposed rocky headland, under Thrift *Armeria maritima* and Sea Plantain *Plantago maritima* amongst short turf and rock. No Scottish records of this species were shown in the atlas by Luff (1998), the northernmost record being around the mouth of the (English) River Tyne (NZ 36). However there is a previous published Scottish record from Seton, East Lothian [c.NT 4275] in 1935 (Kevan, 1936), but there are no specimens of certain Scottish provenance in the Royal Museum of Scotland.

This same site at Aberdour is also the northernmost known locality for another coastal carabid, *Aepus robini* (Laboulbène) (Luff, 1998).

Acknowledgements

I thank Mark Shaw and Andy Whittington for help in accessing the collections of the Royal Museum of Scotland and the Scottish Insect Record Index.

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Abdera flexuosa (Paykull) (Melandryidae) and *Soronia grisea* (Linnaeus) (Nitidulidae) in Cornwall

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A single *Abdera flexuosa* was tapped from brackets of the fungus *Inonotus radiatus* on a streamside alder *Alnus* in Lower Cabilla Wood in the Fowey Valley (SX 1365), Cornwall, on 20.v.2000. This represents a new county record.

Fragments of *Soronia grisea* were subsequently found beneath ash *Fraxinus* bark in a small copse on Lower Tresmorn Farm, near Crackington Haven (SX 1597), on 8.vi.2000. The *Soronia* is mentioned as occurring in the county in Clark (1906) but there have been no subsequent reports. These two finds emphasise once again the interest of the Cornish woodlands and wood-pastures for saproxylic beetles (Alexander, 1993).

Acknowledgement

Many thanks to the Environmental Records Centre for Cornwall and the Isles of Scilly for information from their extensive database.

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A statistical summary of the new checklist of Staphylinidae of the British Isles

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Introduction

A new checklist of the Staphylinidae of Britain and Ireland (Lott & Duff, 2001) is now published on *The Coleopterist* web site (www.coleopterist.org.uk). It aims to provide current standard names for species, genera, tribes and subfamilies and to enable other commonly used names to be interpreted as current standard names. It can also be used as an inventory of biodiversity in British Staphylinidae.

Footnotes identify species that have not been recorded since 1970 using information published by Hyman (1994) and updates by subsequent authors. Footnotes also identify several species that may have colonised the British Isles from more distant parts of the world in the recent historic period. In a departure from normal practice for regional checklists, additional species known from late glacial and Holocene subfossil deposits have been included in order to give a more complete picture of the fauna. The relevant data were taken from the subfossil insect database, BUGS (Buckland *et al.*, 1996).

The new checklist updates part of the Coleoptera volume of the second edition of Kloet & Hinck's checklist of British insects (Pope, 1977). The changes are outlined below and the opportunity is taken to compare the composition of the British fauna with those published in checklists from other areas of Europe.

Changes to the 1977 checklist

Recent work on the phylogeny of Coleoptera has led to several changes to higher classification including family boundaries (Lawrence & Newton, 1995). The British Staphylinidae are now widely accepted to include two new subfamilies, which were both previously accorded full family status. The Pselaphinae were added by Newton & Thayer (1995) who placed them within the Omaliinae group of Staphylinidae. The Scaphidiinae were added on grounds of larval morphology by Kasule (1966). This approach was supported by Lawrence & Newton (1982) and adopted by most subsequent authors, except for Hansen (1997).

43 published additions to the British and Irish list of Staphylinidae *sensu lato* have been incorporated into the list, while sixteen species have been deleted without being replaced. The new checklist incorporates 108 published changes to binomial names, arising from synonymy, homonymy, the discovery of misidentifications, intergeneric transfers of species and changes in the rankings of genera and subgenera. As far as possible, footnotes link these changes back to published sources. However, an apparent

lack of such sources has frustrated efforts to do this for several nomenclatural changes that appear without supporting explanations in other checklists and faunal works.

Perhaps controversially, many former subgenera of the large genus, *Atheta*, have been treated as separate genera, an approach consistent with that adopted by Seevers (1978). There has been little consensus among workers on generic limits within this large and difficult group and it was felt that this was the approach of greatest value to non-specialist checklist users until further revisional work can stabilise the nomenclature.

Numbers of species

1,083 species from 260 genera are listed in the checklist published on 23rd March 2001. The number of genera and species listed in each subfamily are shown in Table 1.

Table 1: Numbers of species listed in checklist (numbers of genera given in brackets).

Subfamily	*No. species (genera) recorded since 1970*	*No. species (genera) believed to be extinct or unrecorded since 1970*	*No. species (genera) known only as subfossils*	*Total*
Omaliinae	66(26)	2	10(4)	78(30)
Proteininae	11(3)			11(3)
Micropeplinae	4(1)	1		5(1)
Pselaphinae	47(19)	4	1(1)	52(20)
Phloeocharinae	1(1)			1(1)
Tachyporinae	62(11)	2	2	66(11)
Trichophyinae	1(1)			1(1)
Habrocerinae	1(1)			1(1)
Aleocharinae	419(121)	33(3)		452(124)
Scaphidiinae	4(2)	1(1)		5(3)
Piestinae	1(1)			1(1)
Oxytelinae	86(15)	3		89(15)
Oxyporinae	1(1)			1(1)
Steninae	71(2)	3	1	75(2)
Euaesthetinae	3(1)			3(1)
Pseudopsinae	1(1)			1(1)
Paederinae	55(12)	5(1)		60(13)
Staphylininae	174(31)	6	1	181(31)
Staphylinidae (total)	1008(250)	60(5)	15(5)	1083(260)

Fifteen species are represented only in the subfossil record. One of the subfossil species, *Batrisus formicarius* Aubé, is recorded from the Bronze Age, and the remainder are late glacial. The high proportion of late glacial species belonging to the Omaliinae reflects the fact that this subfamily is well represented in the present-day Arctic staphylinid fauna, but is possibly also due to under-recording in other subfamilies because of identification

problems. The study of insect subfossil assemblages is still at an early stage of development and further work in this area will undoubtedly discover more species from the late glacial and Holocene periods that have become extinct in the British Isles.

Over five percent of the Staphylinidae have not been recorded since 1970. Some conspicuous species such as *Paederidus rubrothoracicus* (Goeze) have probably become extinct. However, it is quite possible that populations of many species survive undetected. Other species are represented by very few records and may either be of doubtful taxonomic status or may never have established sustained breeding populations in the British Isles. Two species with post-1970 records are probably extinct as breeding species. *Stenus palposus* Zetterstedt has not been recorded since 1983 following changes to its habitat in its only known locality on Lough Neagh (Nelson & Anderson, 1999). A breeding population of *Bledius furcatus* (Olivier) in north Norfolk died out in the early years of the 20th Century and a 1976 record from a light trap in Sussex could be due to vagrancy (Hammond in Shirt, 1987).

A comparison of the British and Irish faunas

Table 2: Number of species recorded from Britain and Ireland (numbers of genera given in brackets). Figures do not include consideration of subfossil records.

Subfamily	*Britain*	*Ireland*	*British Isles*
Omaliinae	68(26)	49(21)	68(26)
Proteininae	11(3)	9(3)	11(3)
Micropeplinae	4(1)	5(1)	5(1)
Pselaphinae	51(19)	27(13)	51(19)
Phloeocharinae	1(1)	1(1)	1(1)
Tachyporinae	64(11)	45(9)	64(11)
Trichophyinae	1(1)	0(0)	1(1)
Habrocerinae	1(1)	1(1)	1(1)
Aleocharinae	452(124)	250(87)	452(124)
Scaphidiinae	5(3)	2(1)	5(3)
Piestinae	1(1)	1(1)	1(1)
Oxytelinae	89(15)	44(12)	89(15)
Oxyporinae	1(1)	0(0)	1(1)
Steninae	72(2)	51(2)	74(2)
Euaesthetinae	3(1)	3(1)	3(1)
Pseudopsinae	1(1)	1(1)	1(1)
Paederinae	60(13)	32(10)	60(13)
Staphylininae	179(31)	128(23)	180(31)
Staphylinidae (total)	1064(255)	649(187)	1068 (255)

Table 2 compares the number of species in each subfamily recorded in Ireland, according to Anderson *et al.* (1997), to the number recorded in Britain, excluding subfossil records. Just 61% of the total staphylinid fauna of the British Isles has been recorded in Ireland, which is slightly less than the average of 65% for invertebrate groups and appreciably less than the ratio of 0.71 to 0.81 between Ireland and Britain predicted by island biogeography theory from their respective areas (McCarthy, 1986). However, the relatively low Irish figures for subfamilies whose species are more difficult to identify, such as Aleocharinae (55%), Pselaphinae (53%) and Oxytelinae (49%), suggest that these groups may be under-recorded in Ireland.

Only four species have been recorded in historical times from Ireland, but not from Britain (*Micropeplus caelatus* Erichson, *Stenus glabellus* Thomson, *S. palposus* Zetterstedt and *Philonthus furcifer* Renkonen). *M. caelatus* has been widely recorded as a Holocene subfossil in England (Buckland *et al.*, 1996). The single known Irish locality presumably represents a relict of a distribution that once extended across the British Isles. The continental distributions of the other three species are localised but range far to the east. It may be that they too were Holocene residents in Britain and have since become extinct there. The Irish staphylinid fauna is probably a subset of what once occurred in Britain.

The fauna of the British Isles compared with areas of continental Europe

The number of species that are included in the checklist of the British Isles on the basis of historical records amounts to 1,068. This figure compares with 2,567 species for Italy (Angelini *et al.*, 1995; Ciceroni *et al.*, 1995), 1,553 species for Germany (Köhler & Klausnitzer, 1998) and 935 species for Norway (Silfverberg, 1992), all countries similar in size to the British Isles as a whole. Species richness declines with increasing latitude and the number of species found in the British Isles is roughly what would be expected from a consideration of area and latitude in comparison with other regions in Western Europe. Of the three countries listed above, the fauna of the British Isles is most similar to that of Germany (Cs = 0.77) closely followed by Norway (Cs = 0.73), and most dissimilar to that of Italy (Cs = 0.50), where Cs is Sørensen's coefficient of similarity.

Only 57 British species, representing just 5% of the total fauna, have not been recorded from Germany (see Table 3), although it is worth noting that other species are both widespread in the British Isles and rare in Central Europe. Excluding four species whose taxonomic status requires investigation, they can be divided into four groups based on their distribution in continental Europe. The first group contains six species that are possibly endemic to Britain. The second group contains nine species with a boreal distribution extending to Scandinavia and Siberia. The largest group contains 35 species with an Atlantic distribution on the West European seaboard often extending into southern Europe. The last group contains three species that are generally believed to have arrived in the British Isles as a result of casual importation from exotic locations.

Table 3: Species recorded from the British Isles but not from Germany (according to Köhler & Klausnitzer (1998) and Schillhammer & Lott (in press)).

Endemic species	Atlantic/Mediterranean species
Myllaena fowleri Matthews, A., 1883	Phyllodrepa devillei Bernhauer, 1902
Meotica anglica Benick in Muona, 1991	*Phyllodrepa heerii* (Heer, 1841)
Anopleta verulamii (Allen, 1994)	*Hadrognathus longipalpus* (Mulsant & Rey, 1851)
Halobrecta princeps (Sharp, 1869)	*Bibloplectus delhermi* Guillebeau, 1888
Aleochara phycophila Allen, 1937	*Tychobythinus glabratus* (Rye, 1870)
Thinobius newberyi Scheerpeltz, 1925	*Tychus striola* Guillebeau, 1888
	Brachygluta waterhousei (Rye, 1869)
Boreal species	*Sepedophilus lusitanicus* Hammond, 1973
Psephidonus longipes (Mannerheim, 1830)	*Tachinus flavolimbatus* Pandellé, 1869
Eudectus whitei Sharp, 1871	*Ocyusa defecta* Mulsant & Rey, 1875
Mycetoporus monticola Fowler, 1888	*Ischnoglossa turcica* Wunderle, 1992
Oxypoda islandica Kraatz, 1857	*Dacrila pruinosa* (Kraatz, 1856)
Gnypeta caerulea (Sahlberg, C.R., 1831)	*Hydrosmecta delicatissima* (Bernhauer, 1908)
Microdota spatuloides (Benick, 1939)	*Parameotica difficilis* (Brisout, 1860)
Bledius arcticus Sahlberg, J., 1890	*Alevonota aurantiaca* Fauvel, 1895
Lathrobium zetterstedti Rye, 1872	*Myrmecopora brevipes* Butler, 1909
Bisnius scoticus (Joy & Tomlin, 1913)	*Myrmecopora oweni* Assing, 1997
	Heterota plumbea (Waterhouse, G.R., 1858)
Species of exotic origin	*Actocharis readingii* Sharp, 1870
Phyconoma immigrans (Easton, 1971)	*Phytosus nigriventris* (Chevrolat, 1843)
Teropalpus unicolor (Sharp, 1900)	*Pseudopasilia testacea* (Brisout, 1863)
Phacophallus tricolor (Kraatz, 1859)	*Planeustomus flavicollis* Fauvel, 1871
	Ochthephilus andalusiacus (Fagel, 1957)
Species requiring taxonomic review	*Ochthephilus angustior* (Bernhauer, 1943)
Dimetrota clintoni (Kevan, 1969)	*Stenus butrintensis* Smetana, 1959
Thecturota williamsi (Bernhauer, 1936)	*Stenus canescens* Rosenhauer, 1856
Bledius annae Sharp, 1911	*Stenus aceris* Stephens, 1833
Xantholinus gallicus Coiffait, 1956	*Medon pocofer* (Peyron, 1857)
	Ochthephilum jacquelini (Boieldieu, 1859)
	Gabrius velox Sharp, 1910
	Cafius fucicola Curtis, 1830
	Ocypus fortunatarum Wollaston, 1871
	Quedius aetolicus Kraatz, 1858
	Quedius schatzmayri Gridelli, 1922

The low proportion of endemic species in the British Isles (<1%) contrasts strongly with the 21% of Italian Staphylinidae that are considered to be endemic by Angelini *et al.* (1995) and Ciceroni *et al.* (1995). Hammond (1996) discussed candidate endemic species of Coleoptera in the British Isles and suggested that most, if not all, would turn out to be either indistinct from other species, overlooked in other parts of Europe, or of exotic origin. In addition to these putative endemic species, several further British staphylinids appear on current evidence to have a very restricted global range centred on Britain, France and

the low countries. They include *Myrmecopora oweni* Assing and *Planeustomus flavicollis* Fauvel, although further work is required in underworked areas of southern Europe to clarify their distribution.

Closing remarks

It is envisaged that the checklist will be periodically updated to keep abreast of published changes and suggested amendments from correspondents. In particular, it will conform to the forthcoming World Checklist of Staphylinidae (Herman, in press) which is based on extensive research of the literature and should serve as a basis for a standard nomenclature for some years to come. Consequently, citations of the checklist should include the date of the latest revision.

It is planned to expand the on-line checklist to other families of Coleoptera in the future.

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Lomechusa paradoxa Gravenhorst (Staphylinidae) new to Dorset

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I found a single example of this rare species near Eype's Mouth, Dorset (SY 435913) on 16th April 2001. The beetle was running in bright sunshine on a small patch of bare sand.

This appears to be the first record for Dorset. Hyman (1994) gives only old records but Gibbs (2001) found an example in Somerset in 2000. I know of one further capture, by David Appleton near Ventnor, Isle of Wight, 23rd March 1967.

Acknowledgements

I thank J. A. Owen for confirming my identification and for providing the Isle of Wight record.

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Epierus comptus (Erichson) (Histeridae) discovered in the New Forest, Hampshire

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[2] Leicestershire Museums, Arts and Records Service, Holly Hayes, 216 Birstall Rd, Birstall, Leicester LE4 4DG

Since the first discovery of this small histerid beetle in 1980 (Nash, 1982) at Grovely Wood, south Wiltshire, further records of *Epierus comptus* from this wood were published by Nash (1999) in this journal. In his first note, Nash stated that *Epierus* was most likely indigenous and that it was surprising that it had not been discovered in the New Forest, given the prevalence of its apparent favoured habitat — old beeches *Fagus* with lifting bark.

On 17th September 1999, as part of the Coleoptera survey team co-ordinated by the Forestry Commission and funded by the European LIFE 2 Programme, the authors selected Mark Ash Wood (SU 2407) as a first site for survey. Following the main path into the wood on the opposite side of the road to the car park, a large ancient beech bole was found, which was covered in fungi and with extensive lifting bark. Investigation of the loose bark areas by one of us (ABD) revealed an extensive sub-cortical population of histerids. The micro-habitat was moist with black frass fringing bare areas of bark-covered sappy wood. Many *Abraeus globosus* Hoffmann were to be found in the black frass with *Plegaderus dissectus* (Erichson) in the moist bare areas. In addition to these beetles there were many medium-sized black histerids which were pooted up by the authors for later examination. On returning home, reference to Vienna (1980) and Witzgall (1971) by DAL established that they were *Epierus comptus* (Erichson). Once under magnification the differences from other British species is obvious using the characters described by Nash (1982). The occurrence in numbers concurs with the observations of Nash (1999) and would seem to indicate that, where conditions are favourable, *Epierus* can occur in large aggregations. These conditions appear to be quite distinct in terms of age and condition of bark. During the course of the survey many fallen beeches were investigated by the authors and by other coleopterists, but no more *Epierus* were found. No other specimens were found in any of the other woods surveyed by the team.

Mark Ash Wood was re-visited by one of us (ABD) on the 9th October 1999 to see if *Epierus* could be found on other fallen trees and two specimens were found nearby under the bark of an old, but less massive, fallen beech. Subsequent visits by other coleopterists have produced more specimens at Mark Ash Wood and it should now be looked for in the other compartments dominated by veteran beeches.

Following the discovery of *Epierus* in the New Forest, David Nash (pers. comm.) was not surprised at its occurrence at Mark Ash Wood and felt that this lent weight to the argument that the beetle could probably be indigenous but of restricted distribution. However, the absence of historical records from what has for decades been a well-worked area by entomologists, must still leave open the possibility that it is an introduced species, which is extending its range.

Acknowledgements

We are grateful to Michael Salmon and the Forestry Commission for organising the New Forest meeting.

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A description of a possible defensive organ in the larva of the European Glow-worm *Lampyris noctiluca* (Linnaeus) (Lampyridae)

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Introduction

In an earlier article (Tyler, 2001b) one of us (JT) described an encounter between a larva of the European Glow-worm *Lampyris noctiluca* and a nest of wood ants *Formica rufa* in which the larva was seen to evert a row of pale structures along either side of its abdomen. After an hour of almost constant attack by the ants, the larva was still apparently unscathed. The purpose of the present article is to describe in greater detail the structure of these organs, which to the best of our knowledge have not been studied before.

Method

A fully-grown female larva was killed in ethyl acetate and preserved in 70% propyl alcohol. After examination *in situ* with a low-magnification stereoscopic microscope the organs were dissected out, mounted in ester wax, sectioned using a sliding microtome, de-waxed in xylene, mounted unstained in Canada balsam and examined at a range of magnifications from 40X to 1000X.

Description

The organs are located on abdominal segments 1 to 7, but appear to be absent from segments 8 (which bears the larval light organ), 9 and also 10 (the terminal segment). When everted they are clearly visible to the naked eye as roughly circular tubercles close to the anterodorsal corners of the pleurites, their cream-coloured cuticle contrasting strongly with the black and browns of the rest of the body, but when not deployed they lie hidden within a longitudinal furrow of unsclerotized cuticle running parallel to the anterior third of the dorsal margin of the pleurite. This furrow is in turn situated on the rim of a deeper fold of largely unsclerotized but pigmented cuticle connecting the pleurite and tergite (Fig. 1).

Each organ consists of a thin, unpigmented membrane, which at about 40X magnification is seen to be dotted with pale brown spots. At magnifications of 100X and above it is possible to distinguish the structure of the brown spots (Figs. 2-3) as circular discs, approximately 14 micrometres in diameter and 5 micrometres thick. These lie parallel to the surface of the organ but are set into the floor of flat-bottomed pits formed by invagination of the membrane. Each disc is pierced by a central pore, from which arises a transparent vesicle. The form of these vesicles varies from tubes about 4 micrometres

in diameter to approximate spheres with a diameter of about 7 micrometres. It is not clear whether these shapes are fixed, or simply represent different degrees of inflation.

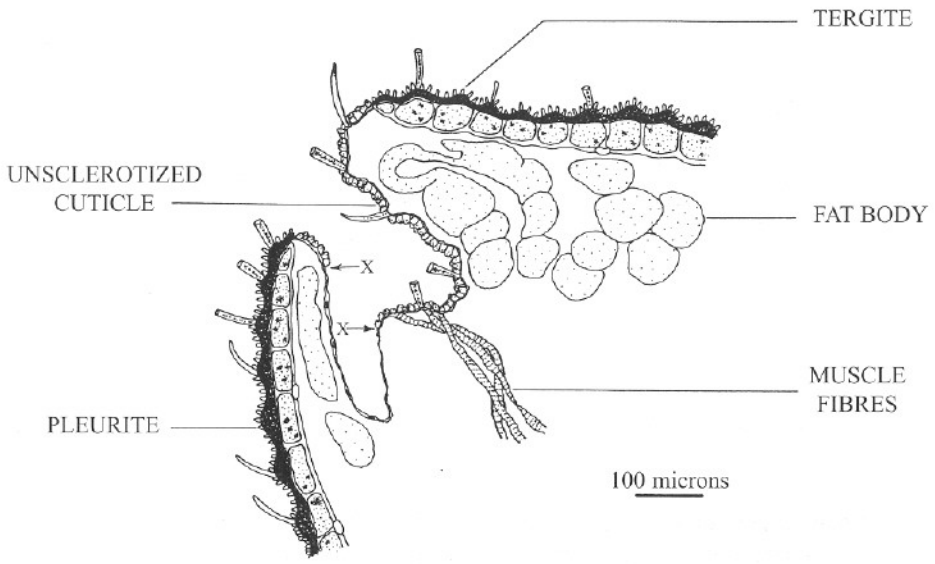

Fig. 1: Transverse section of the dorsolateral angle of an abdominal segment, showing location (X-X) of the defensive organ.

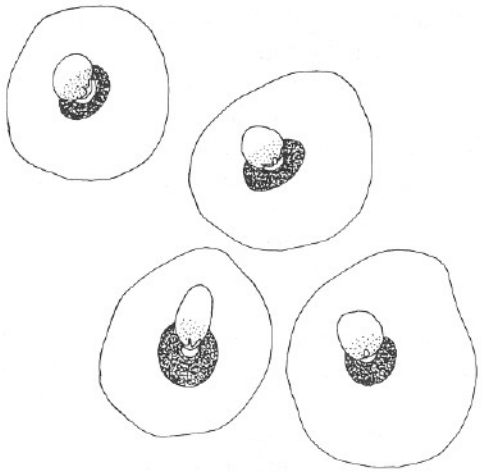

Fig. 2: Vesicles seen in oblique view, showing the rims of the pits.

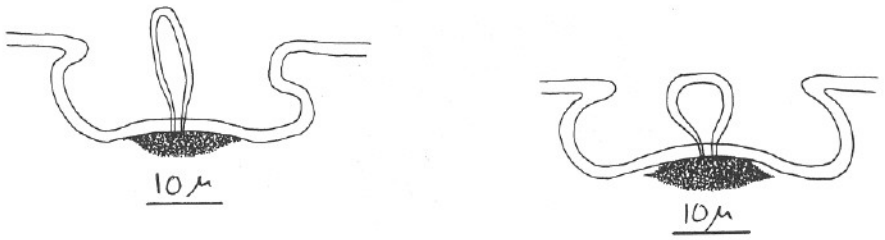

Fig. 3: Transverse section of two vesicles, illustrating the range of forms.

Discussion

The fact that these organs appear to be deployed only when the larva is under attack suggests that they serve a defensive function. As yet there is no evidence that they produce any sort of secretion, and hence should be classified as glands, but it may be relevant that Okada (1928) describes similar eversible organs, again dorsal to the abdominal spiracles (though also found on the mesothorax and metathorax), in the lampyrid *Luciola cruciata* (Motschulsky). These are thought to be defensive, emitting a scent which is said to resemble resin and peppermint, and although these organs are far more developed than those of *Lampyris noctiluca*, they may well be homologous.

One possibility is that the organs in *L. noctiluca* are indeed exocrine glands, manufacturing an as yet unidentified substance to repel would-be predators. Alternatively, toxins could be produced elsewhere in the body and circulate freely in the blood, in which case the function of the organs may be to secrete blood through their thin membranous surface, which in many places appears to be no more than a few micrometres thick, again to deter predators. A broadly comparable arrangement occurs in certain species of the North American lampyrids *Photinus* and *Photuris*, adults of which contain toxic steroids known as lucibufagins, stored largely in the blood. When disturbed these species can emit considerable quantities of blood, particularly from the pronotum and elytra, and this 'reflex bleeding' is thought to repel predators (Eisner *et al.*, 1978, 1997; Meinwald *et al.*, 1979).

The function of the vesicles is unclear, but their thin walls, little more than a micrometre thick, may provide a means of releasing small quantities of blood. Their

general structure suggests that they may be homologous to the setae, bristles and hairs found on other parts of the body.

It seems quite likely that the organs are deployed by a mechanism similar to that used in the tail organ, being everted by an increase in haemolymph pressure and retracted by muscular action, though as yet we have been unable to find any evidence of muscles attached directly to the organs themselves.

There appear to be at least three promising avenues for research here. Firstly, no effort has yet been made to search for lucibufagins or other toxins in *L. noctiluca*, though there are some hints that they may be present: Robins *Erithacus rubecula*, for instance, have been found to reject glow-worm larvae (Tyler, 2001a). If toxins are discovered in *L. noctiluca* larvae, then the organs described here may serve as an olfactory warning of their unpalatability to non-visual predators, just as the larva's glow and its black-and-yellow coloration seem to act as deterrents to nocturnal and diurnal visual predators respectively. Secondly, it would be interesting to know whether the same organs occur in adult glow-worms. We have repeated the wood ant experiment using an adult female *L. noctiluca*. Again, the ants left it unharmed and again the glow-worm appeared to evert tubercles in the same positions as those described for the larva. However, these were far less distinct than those of the larva, being the same grey as the surrounding cuticle. Finally, if the defensive organs of *Lampyris* and *Luciola* are indeed homologous then it seems quite likely that similar structures await discovery in other lampyrid species.

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The saproxylic Coleoptera of Thursley Common NNR, Surrey

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Site description

Thursley Common NNR is famous as one of the richest areas of lowland heathland in Britain. Its extensive bogs, and ponds support the richest Odonata fauna in the country. The reserve is large (325 ha) and although dominated by open wet and dry heath, it has extensive areas of mixed woodland. Birch *Betula* and naturalised Scots Pine *Pinus sylvestris* are frequent and invasive, but mature Pendunculate Oak *Quercus robur* are locally dominant especially around the margins of the reserve, and in a small woodland called Will Reed's (Gibbons, 1994). The whole site lies on the Lower Greensand, which yields a fine-grained, nutrient poor sandy soil. Elm *Ulmus* grows around the margins of the Common especially in Thursley village where it survives through suckering. Alder *Alnus* dominated carr occurs on the eastern margin of the site.

Most of the site falls in SU 94 but the western corner is partly in SU 84.

Methods and site visits

Since 1988 I have regularly visited the common and gathered information using standard field techniques (beating, sweeping etc.). In 1998 and 1999 malaise traps were erected by Dr Jim Brock, and the Coleoptera from these traps which were passed on to me included several new records of important species such as *Microrhagus pygmaeus* (Fabricius) (Eucnemidae).

Calculating the Saproxylic Quality Index (SQI)

The saproxylic species quality score (SQS) and SQI were calculated from species in the list of qualifying Coleoptera in Fowles *et al.* (1999). In all 124 qualifying species were recorded in the period 1990-2000. A further 7 species which feed on Scots Pine have been excluded from the SQI calculation. *Ips sexdentatus* (Boerner) (Scolytidae) is also found on pines, especially large fallen trees. *Pycnomerus fuliginosus* Erichson (Colydidae) can also be found under pine as well as hardwood bark (oak) on the reserve. The quality of the fauna present was also assessed using the Index of Ecological Continuity (IEC) (Harding & Alexander, 1994), using the species list in Harding & Rose (1986).

The list of saproxylic Coleoptera found on the NNR is shown in Table 1.

Other Coleoptera found in hollow trees

Some of the older oaks are home to the ant *Lasius fuliginosus* (Hym: Formicidae), and many of the associated beetle species are also present. The staphylinid *Zyras laticollis*

(Märkel) is frequent, and *Z. cognatus* (Märkel) (RDBK), *Z. funesta* (Gravenhorst), *Z. humeralis* (Gravenhorst), and *Z. lugens* (Gravenhorst) are also present.

Trox scaber (Linnaeus) (Trogidae) occurs in birds' nests and debris in hollow trees. The local longhorn *Saperda populnea* (Linnaeus) (Cerambycidae) breeds on the site in Aspen *Populus tremulae* and possibly sallows *Salix*.

Discussion

It is fair to say that most naturalists visit Thursley to enjoy the delights of the open heathland and bog, indeed some may perceive birch and oak as a threat to these open areas. It may therefore come as a surprise to learn that the peripheral woodlands also support a very important fauna. Fortunately the NNR is large and can accommodate all the key habitats, ensuring a future for the Nightjar *Caprimulgus europaeus* as well as the Stag Beetle *Lucanus cervus*!

The presence of several Notable species which breed in birch on the more open heathland are in part responsible for the high SQI, but the vast majority of the remaining scarcer species are associated with oak. The quality of the saproxylic fauna is remarkable given the absence of important host tree species notably beech *Fagus*.

The list outlined by Fowles *et al.* (1999) will continue to evolve as more information on the distribution of our fauna becomes available. It should be noted that *Scydmaenus rufus* Müller & Kunze can now not only be found under pine bark, but is extremely abundant in manure heaps in Thursley village. *Scaphidema metallicum* (Fabricius) (Tenebrionidae) was a controversial omission from the list, but occurs on dead wood including Elder *Sambucus nigra* on the edge of the Common.

Comparison of the list of selected sites in Fowles *et al.* suggests that 'common' species are under-recorded at some sites, which have inflated SQIs. Comparison with the list of selected sites in Fowles et al. (1999) places Thursley in 20th place on the basis of SQS and 25th for SQI. There are a number of sites which appear to have inflated SQIs as a result of the under-recording of 'common' species, so the SQS may be a better measure of the site's importance. Perhaps the threshold of species needed for a list to be comparable nationally should be raised for southern counties. On the other hand workers studying old woodlands in northern England may struggle to find more than 40 species.

The IEC of 40 is the seventh highest recorded in Surrey, a county with three of the top ten sites (based on IEC) in Britain.

Acknowledgements

Thanks to Simon Nobes (Reserve Manager) for permission to work on Thursley, Ray Fry for additional records, and Dr Roger Booth for allowing me to include his record of *Magdalis barbicornis*. Also to David Baldock for sorting beetles from malaise traps, and Glenda Orledge for naming some of the ciids.

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Table 1: Saproxylic beetles found on Thursley Common NNR, Surrey

SPECIES	Status	Harding & Rose (1986) Grade	SQI score
Leiodidae			
Anisotoma humeralis (Fabricius)			2
Scydmaenidae			
Scydmaenus rufus Müller & Kunze	RDB2	2	24
Scaphidiidae			
Scaphidium quadrimaculatum Olivier			2
Staphylinidae			
Dropephylla ioptera (Stephens)			1
Dropephylla vilis (Erichson)			1
Atrecus affinis (Paykull)			1
Gabrius splendidulus (Gravenhorst)			1
Gyrophaena latissima (Stephens)			2
Leptusa fumida Kraatz			1
Leptusa ruficollis (Erichson)			1
Dinaraea aequata (Erichson)			1
Atheta liturata (Stephens)			2
Lucanidae			
Lucanus cervus (Linnaeus)	Nb		8
Dorcus parallelipipedus (Linnaeus)			2
Sinodendron cylindricum (Linnaeus)		3	2
Buprestidae			
Agrilus angustulus (Illiger)	Nb		8
Agrilus laticornis (Illiger)	Nb		8
Agrilus pannonicus (Piller & Mitterpacher)	Nb	2	8
Agrilus sinuatus (Olivier)			4
Elateridae			
Ampedus balteatus (Linnaeus)			2
Ampedus elongantulus (Fabricius)	Na		8
Ampedus sanguinolentus (Schrank)	Na		16
Melanotus erythropus (Gmelin)			1
Denticollis linearis (Linnaeus)			1
Eucnemidae			
Microrhagus pygmaeus (Fabricius)	RDB3	3	8
Melasis buprestoides (Linnaeus)		3	4

Hylis olexai (Palm)	RDB3		24
Cantharidae			
Malthinus flaveolus (Herbst)			1
Malthinus seriepunctatus Kiesenwetter			2
Malthodes fuscus (Waltl)			2
Malthodes marginatus (Latreille)			1
Lycidae			
Platycis minutus (Linnaeus)	Nb	3	8
Anobiidae			
Ochina ptinoides (Marsham)			2
Xestobium rufovillosum (Degeer)		3	4
Hemicoelus fulvicornis (Sturm)			1
Anobium punctatum (Degeer)			1
Ptilinus pectinicornis (Linnaeus)			1
Cleridae			
Thanasimus formicarius (Linnaeus)		3	4
Melyridae			
Dasytes aeratus Stephens			2
Malachius bipustulatus (Linnaeus)			1
Anthocomus fasciatus (Linnaeus)			4
Lymexylidae			
Hylecoetus dermestoides (Linnaeus)		3	4
Nitidulidae			
Epuraea marseuli Reitter			1
Epuraea silacea (Herbst)			1
Soronia punctatissima (Illiger)			2
Rhizophagidae			
Rhizophagus bipustulatus (Fabricius)			1
Rhizophagus dispar (Paykull)			1
Rhizophagus ferrugineus (Paykull)			2
Sphindidiae			
Sphindus dubius (Gyllenhal)			8
Aspidiphorus orbiculatus (Gyllenhal)			2
Cucujidae			
Pediacus dermestoides (Fabricius)		3	4
Cryptolestes ferrugineus (Stephens)			2
Silvanidae			
Silvanus unidentatus (Olivier)		3	4
Biphyllidae			
Biphyllus lunatus (Fabricius)		3	4
Erotylidae			
Triplax aenea (Schaller)		3	2
Triplax russica (Linnaeus)			4
Dacne bipustulata (Thunberg)		3	2
Cerylonidae			
Cerylon ferrugineum Stephens			2
Cerylon histeroides (Fabricius)			4

Endomychidae			
Mycetaea subterranea (Linnaeus)			2
Endomychus coccineus (Linnaeus)			2
Ciidae			
Octotemnus glabriculus (Gyllenhal)			1
Cis boleti (Scopoli)			1
Cis festivuus (Panzer)	Nb		2
Cis pygmaeus (Marsham)			2
Cis nitidus (Fabricius)			2
Ennearthron cornutum (Gyllenhal)			2
Mycetophagidae			
Litargus connexus (Fourcroy)			2
Mycetophagus multipunctatus Fabricius			2
Mycetophagus quadripustulatus (Linnaeus)			2
Colydiidae			
Synchita humeralis (Fabricius)	Nb	3	8
Bitoma crenata (Fabricius)		3	4
Tenebrionidae			
Prionychus ater (Fabricius)		3	8
Eledona agricola (Herbst)	Nb	3	4
Tetratomidae			
Tetratoma fungorum Fabricius		3	2
Salpingidae			
Lissodema quadripustulata (Marsham)	Nb		8
Salpingus castaneus (Panzer)			
Salpingus reyi (Abeille)			2
Vincenzellus ruficollis (Panzer)			1
Rhinosimus planirostris (Fabricius)			1
Pyrochroidae			
Pyrochroa coccinea (Linnaeus)	Nb	3	4
Pyrochroa serraticornis (Scopoli)			1
Melandryidae			
Hallomenus binotatus (Quensel)	Nb	3	8
Orchesia minor Walker	Nb		8
Orchesia undulata Kraatz		3	4
Abdera biflexuosa (Curtis)	Nb	3	8
Abdera quadrifasciata (Curtis)	Na	1	16
Melandrya caraboides (Linnaeus)	Nb	3	4
Conopalpus testaceus (Olivier)	Nb	3	8
Scraptiidae			
Anaspis frontalis (Linnaeus)			1
Anaspis humeralis (Fabricius)			2
Anaspis lurida Stephens			2
Anaspis rufilabris (Gyllenhal)			1
Mordellidae			
Tomoxia bucephala Costa	Na	1	16
Mordellistena neuwaldeggiana (Panzer)	Na		16
Mordellistena variegata (Fabricius)	Nb		8

Oedemeridae			
Ischnomera cyanea (Fabricius)	Nb		4
Cerambycidae			
Prionus coriarius (Linnaeus)	Na	3	16
Arhophalus rusticus (Linnaeus)			
Rhagium bifasciatum Fabricius			1
Rhagium mordax (Degeer)			1
Grammoptera ruficornis (Fabricius)			1
Alosterna tabacicolor (Degeer)			2
Judolia cerambyciformis (Schrank)			2
Leptura maculata (Poda)			1
Leptura melanura (Linnaeus)			2
Leptura quadrifasciata (Linnaeus)		3	2
Phymatodes alni (Linnaeus)	Na		16
Clytus arietus (Linnaeus)			1
Anaglyptus mysticus (Linnaeus)	Nb		4
Leiopus nebulosus (Linnaeus)			2
Pogonocherus hispidus (Linnaeus)			2
Tetrops praeustus (Linnaeus)			2
Anthribidae			
Platystomos albinus (Linnaeus)	Nb	3	8
Curculionidae			
Hylobius abietis (Linnaeus)			
Pissodes castaneus (Degeer)			
Magdalis barbicornis (Latreille)	Nb		8
Magdalis carbonaria (Linnaeus)			4
Magdalis cerasi (Linnaeus)			4
Acalles misellus Boheman			2
Scolytidae			
Scolytus intricatus (Ratzeburg)			2
Scolytus multistriatus (Marsham)			1
Scolytus scolytus (Fabricius)			2
Pteleobius vittatus (Fabricius)			2
Hylurgops palliatus (Gyllenhal)			
Hylastes ater (Fabricius)			
Tomicus piniperda (Linnaeus)			
Dryocoetinus villosus (Fabricius)			2
Trypodendron domesticum (Linnaeus)		3	2
Trypodendron signatum (Fabricius)	Nb	3	8
Platypodidae			
Platypus cylindrus (Fabricius)	Nb	3	8
Species total			**124**
Species Quality Score (SQS)			**502**
Species Quality Index (SQI)			**404.8**
IEC		**40**	

An important wood decay fauna from the Mottisfont Abbey Estate, south Hampshire

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Many of the former medieval forests of Britain are detectable in today's landscape only as concentrations of enclosed woodlands in a matrix of intensive agricultural land. These were originally a patchwork of enclosed coppice-with-standards woodlands within open rough pastures with scattered pollarded trees — as still survives at Hatfield Forest in Essex —but all too often the open pastures have been converted over the years to intensive agricultural use. Some of the old open forest trees may have survived in hedgerows and a few within pasture fields and even within arable land.

Mottisfont is a large lowland estate in the Test Valley about 6 km north-west of Romsey in Hampshire (SU327270). It is of very high nature conservation value, particularly for its two main features:

* its section of the River Test floodplain, and
* the network of ancient woodlands in a farmland matrix which includes old hedgerows and field trees, with older generation trees an especially important feature.

This article concerns the latter only.

Older generation trees throughout the estate have been found to support a nationally important wood-decay invertebrate fauna characteristic of relict old forest, especially the open-grown trees in fields, hedgerows and at wood-edges.

The discovery of an important relict old forest wood-decay fauna should be no real surprise:

* the estate lies on the south-eastern fringes of the former Medieval forest of Buckholt (part of Clarendon Forest until the early 13th Century);
* the Forest of Bere lies immediately to the east;
* to the south is the New Forest; and
* large old trees - especially oaks *Quercus* — are widespread.

The trees of importance are predominantly oaks and the oldest specimens lie within the grounds of the Abbey and along the river to the north. Two very fine ancient oaks occur near Oakley Farm, one at SU331274 and one at SU331276.

The wood-decay beetle fauna is the main group which has been recorded to any great extent at Mottisfont. On present knowledge, the estate has an Index of Ecological Continuity (IEC) of 28 (Alexander, 1988; Harding & Alexander, 1994), making Mottisfont Estate of national significance for this fauna — within the top 50 sites nationally, the sixteenth richest site amongst the National Trust ownership nationally.

The 22 species known to be present at Mottisfont which are used to calculate the Index include three which are of particular high quality: the Red Data Book *Scraptia testacea* and the Nationally Scarce *Dorcatoma serra* and *Anitys rubens*. Mottisfont appears to be

the only site in Hampshire with a modern record for the *Scraptia*. This is essentially an old oak fauna, but the wood-decay species which have been found on the alluvial floodplain do include a few ash *Fraxinus* associates.

The most significant species are as follows:

Species	National Status	Habitat	Date & Recorder
Agrilus pannonicus (Pill. & Mitt.)	Na	hedgerow oak	1997 KNAA
Calambus bipustulatus (L.)	Nb	woodland	1995 PJ Hodge
Microrhagus pygmaeus (Fab.)	Na	in three woods	1997 KNAA
Malthinus balteatus Suffrian	Nb	alluvial flat woodland	1997 KNAA
Ctesias serra (Fab.)	Nb	sweet chestnuts in Abbey grounds; and various old open-grown oaks in hedgerows and wood boundaries	1997 KNAA
Dorcatoma flavicornis (Fab.)	Local	hedgerow oak	1997 KNAA
Dorcatoma serra Panzer	Na	off *Inonotus dryadeus* bracket fungus on old wood boundary oak	1997 KNAA
Anitys rubens (Hoffmann, J.J.)	Nb	hedgerow oak	1997 KNAA
Tillus elongatus (L.)	Nb	edge of alluvial flat wood	1998 KNAA
Thanasimus formicarius (L.)	Local	hedgerow oak	1997 KNAA
Rhizophagus nitidulus (Fab.)	Nb	woodland	1995 PJ Hodge
Cerylon fagi Brisout	Nb	woodland	1982 KNAA
Mycetophagus piceus (Fab.)	Nb	woodland	1995 PJ Hodge
Eledona agricola (Herbst)	Nb	woodland & field oaks	1997 KNAA
Pyrochroa coccinea (L.)	Nb	woodland	1995 PJ Hodge
Scraptia testacea Allen	RDB3	hedgerow oak	1997 KNAA
Mordellistena neuwaldeggiana (Panzer)	RDBK	hedgerow oak and in wood	1997 KNAA
Anaglyptus mysticus (L.)	Nb	woodland	1995 PJ Hodge
Platystomos albinus (L.)	Nb	meadow by wood	1995 PJ Hodge
Platypus cylindrus (Fab.)	Nb	hedgerow oak	1997 KNAA

Acknowledgement

Thanks to Peter Hodge for access to his records from a contract survey on the estate.

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The claims of *Caulophilus oryzae* (Gyllenhal) to be considered a British insect (Curculionidae, Cossoninae)

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Introduction

Most British coleopterists will know of *C. oryzae* only from a brief account in Hodge & Jones (1995), in which mention is made of the checklist of Pope (1977), the publication of Freeman (1980) and the species' occurrence 'in stored grain'.

Literature references and other records

C. oryzae is not well-known in continental Europe. It was not mentioned by Behne (1998), Tempère & Péricart (1989) or their predecessors, while Folwaczny (1973) referred only to its occurence in Madeira (as *C. sculpturatus* Wollaston). However, there are European references in the economic literature. Kr"steva (1977) recorded *C. oryzae* on imports into Bulgaria, Zacher (1922) in Germany and Saplina (1970) in the former USSR.

There is a series of *C. oryzae* (det. Dr M.L. Cox) in the collection of The Natural History Museum, London (BM(NH)). These specimens were donated by the International Institute of Entomology (IIE) and bear data labels 'SPAIN, Malaga, iv.1996' and 'coll. from inside of Avocado, IIE23453'. There are no other accessions of the species from European sources in BM(NH) and no enquiries about it in the Museum's records (M.V.L. Barclay, pers. comm.).

Sixteen species are known in the genus, which is mainly S. American (Kuschel, 1962).

C. oryzae is not included in the standard works on British Coleoptera of Fowler (1891) or Joy (1932). The earliest record we have been able to trace is that of Munro & Thomson (1929), who reported it as a 'major pest' of ginger, probably at Wapping in 1927. Hinton & Corbet (1943) included the 'Broad-nosed grain weevil', *Caulophilus latinasus* Say, though with no information on its status or distribution.

It may well have been this reference which induced Kloet & Hincks (1945) to include the species in their checklist. The sign appended to the entry (p. 211), +, denotes 'Introduced but established'. The same sign (+) was used by Pope (1977), but with a slightly different meaning: 'Occurring only under artificial conditions'.

Hinton & Corbet (1943) was the first edition of number 15 in the 'Economic series' of publications of the BM(NH), with the title *Common Insect Pests of Stored Food Products. A Guide to their Identification*. This publication was evidently successful, for it has been through several editions, the history of which is both interesting and confusing. The second edition (Hinton & Corbet, 1949) included the following under the

'Broad-nosed grain weevil, *Caulophilus latinasus* Say': 'This species is common in grain in southern United States. The absence of British records may be due to its close superficial resemblance to the species of *Calandra*'. The key words in this extract would appear to be 'absence' and 'superficial'. Hinton & Corbet's publication went through two further editions, with the wording of the entry on *C. latinasus* unchanged (Hinton & Corbet, 1955, 1963). In the fifth edition the nomenclature was updated, with '*C. oryzae*' appearing instead of *C. latinasus* and '*Sitophilus*' for *Calandra* (Hinton & Corbet, 1972, reprinted 1975). It is only with the sixth edition, quoted by Hodge & Jones (1995), that Freeman's name appears. It should be as editor rather than author; Paul Freeman, at that time Keeper of Entomology in the BM(NH), was an eminent dipterist but not known as a coleopterist. The same may be said of Lawrence Mound, Keeper when the seventh edition of the booklet appeared (Mound, 1989), though his main interest was Thysanoptera. No changes in the text relating to *C. oryzae* were made in these later editions of the work, so that the account in the fifth edition (Hinton & Corbet, 1972) differs from that in the second (Hinton & Corbet, 1949) only in its modernised nomenclature.

Identification

A small (2.35-2.95 mm), almost glabrous cossonine; *eyes large and prominent, distance between them little more than width of eye*; rostrum parallel-sided, without a dilation; antenna with a 7-segmented funiculus, apical segments transverse, pronotum rounded at sides, base broader than apex; elytra slightly convex on disc, not depressed. *C. oryzae* may be distinguished from other species of *Caulophilus* by the antennal funicular segments 2-7 being transverse and strongly widening distad and by characters of the male, including the tarsal claw segment being strongly tapering and the median lobe being dilated at apex.

The large eyes will distinguish *C. oryzae* from all other British Cossoninae. The genus has been included in various groups within the subfamily but is currently placed in tribe Dryotribini (Alonso-Zarazaga & Lyal, 1999).

The life-cycle and early stages of *C. oryzae* have been described by Cotton (1921, 1963).

Pest status

C. oryzae is well-known as a stored products pest, though there are few published references readily available in Britain. It occurs in the West Indies, central and northern South America, and the southern states of the USA. It feeds on all kinds of stored grain, but is unable to attack undamaged grains. It also breeds in a wide variety of other stored products, including flour and dry pasta, and is a serious pest of avocado seeds within its indigenous range in the Americas, where that crop is cultivated (Whitehead, 1982). Although known as the 'Broad-nosed grain weevil', experience at the Natural Resources Institute, which has a particular interest in tropical grain pests, is mainly of it as a pest of ginger (Dr R.J. Hodges, *in litt.*).

C. oryzae in Britain

C. oryzae was maintained in culture at the Pest Infestation Control Laboratory, Slough, from 1927 to 1975. The culture was set up with specimens from Wapping, London, obtained on 11th October 1927. MGM has two specimens from this source dated 5th October 1934 (*ex coll.* R.M. Greenslade).

Other records of *C. oryzae* in Britain are also from wharves or cargo ships and so represent introductions into the country through trade. The records may be summarised thus:

27 March 1950	On maize from Cuba, SS Brittany, London docks; in association with *Sitophilus oryzae* (Linnaeus).
7 November 1952	On bagged ginger *ex* Millwall wharf, London.
19 November 1952	On ginger *ex* Millwall wharf, London, *ex* SS Electra.
2 January 1958	On Jamaican ginger at Metropolitan wharf. One specimen was taken alive after some weeks but died within a few hours.
17 January 1966	On Jamaican ginger at West India docks, London.
April 1966	In Mexican maize *ex* SS Londoner, Glasgow.
11 July 1966	On bagged ginger at Royal Albert docks, London, *ex* SS Northstar.

In the course of work on invertebrate identification at the Central Science Laboratory since 1987 JCO-S has yet to receive any specimen of *C. oryzae*.

Discussion

The name 'broad-nosed grain weevil' is somewhat unfortunate, as it invites confusion with Entiminae, also known as broad-nosed weevils (Morris, 1997). The name may have been coined to distinguish *C. oryzae* from *Sitophilus* spp., with which it is sometimes associated and to which it bears a 'close superficial resemblance' (Hinton & Corbet, 1949). It is assumed that this was written with non-entomologists in mind, as the two taxa are not closely related and are currently placed in different families, Curculionidae and Dryophthoridae respectively.

It is clear that *C. oryzae* is not 'established' in Britain (cf. Kloet & Hincks, 1945). Pope (1977) appears to be more accurate in assessing the weevil as 'occurring only under artificial conditions'. It also appears that records are few, although there were several occurrences in cargo during the 1950s and 1960s. The apparent particular association of the weevil with ginger is noteworthy. It is likely that cleaner cargoes in seaborne trade in general (Aitken, 1975), together with discontinuation of routine cargo inspection, has resulted in fewer records of importation of the species into Britain, with its apparent absence during the last quarter-century. The more general use of containers rather than hold cargo may also have reduced the number of records.

Whether *C. oryzae* can be regarded as a member of the British fauna is debatable. On the criterion of establishment it clearly fails, unlike such introductions as *Euophryum confine* Broun. Some coleopterists regard a persistent introduction into this country as a qualification for inclusion on the British list. However, such species as *Pissodes piniphilus* (Herbst), occasionally imported into Britain with softwood timber (Fowler, 1891), have not been admitted as British.

Acknowledgements

We thank the staff of the Entomological Library, Natural History Museum, London, for help in unravelling the publication history of *Common Insect Pests of Stored Food Products. A Guide to their Identification* and for other assistance. We are grateful to Dr R.J. Hodges and Mr M.V.L. Barclay for information and other help. The authorities at the Central Science Laboratory are thanked for permission to quote from its unpublished records and its staff for much other assistance in compiling this paper.

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Another Herefordshire locality for *Ixapion variegatum* (Wencker) (Apionidae)

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'Rocklands', 19, Station Road, Cogenhoe, Northampton NN7 1LT

At the end of a day surveying for ernoporine scolytids on limes *Tilia* on the Dinmore Estate, I passed by the remnants of an old apple *Malus* orchard with mistletoe *Viscum album* growing in profusion from many of the trees. Having just read the article by Foster, Morris & Whitehead (2001) on the discovery of *Ixapion variegatum* (Wencker) as new to Britain, the site appeared to have potential. As it was late a return visit was made on the following day, 4th September 2001, and having gained permission from the farmer to go into the adjacent orchard, proceeded to beat 4 males and 1 female *I. variegatum* from mistletoe on rather moribund apple trees with open canopies. Most of the beetles were beaten from female mistletoe on two trees, male mistletoe on other trees was singularly unrewarding.

Bury Farm (SO 503525) in Hope-under-Dinmore is an old farm, worked by traditional methods, with the orchard grazed by sheep. The farm is noted locally as a county site of botanical and entomological interest. Many of the apple trees are old varieties and the mistletoe is occasionally harvested, though it has not been for the last year or two owing to the paucity of female plants. The discovery of the beetles at this site is not wholly surprising, as it is only 12 miles west of Bromyard, the location of the original discovery by Foster (*ibid.*). The isolated nature of the farm and the association with very old tree stock appears to add weight to the argument for *Ixapion* to be an indigenous species rather than an importation. While the farmer is favourably disposed towards wildlife, the site is small and could be easily spoiled through excessive pressure on the mistletoe stocks. As a consequence, collectors should endeavour to find the weevil at other sites in Herefordshire and surrounding counties, thereby adding to the distribution data. Beating mistletoe in a newer orchard at Woolhope, near Hereford, produced no beetles though the characteristic mistletoe-associated hemipterans were present, as at the Hope-under-Dinmore site.

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Stag Beetle *Lucanus cervus* (Linnaeus) (Lucanidae) discovered at two Northamptonshire sites

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Apart from a record in the list of beetles by Fowler in the Northamptonshire Victoria County History (I: 90-94 [1902]), where it is listed without data, *Lucanus cervus* (Linnaeus) has not been recorded from the county until this year.

The first sighting was brought to my attention as county Coleoptera recorder for the Northamptonshire Wildlife Trust. A member of the public telephoned to say they had found an undamaged male Stag Beetle crawling in a bicycle shed at the Post Office depot at Crow Lane, Billing (SP 813616), on the southern edge of Northampton, on 22nd June 2001. A visit to inspect the specimen was arranged and the identification confirmed with photographs subsequently taken. The weather during the week had been hot and sultry, ideal for encouraging Stag Beetle flight. On the positive side was the state of the weather and the fact that the surrounding environment, along the River Nene, contains many old willows *Salix* and poplar *Populus* trees. A seeming negative factor was that the record was for a site which has delivery lorries coming and going twenty-four hours a day and there was always the issue that the beetle was transported to Billing from some other part of the country. On referring the record to the People's Trust for Endangered Species it transpired to being one of the most northerly recent records for central England.

A second reported sighting came on 18th July 2001, when the Liaison Officer for Boughton Pocket Park (SP 754657), a village wildlife park on the northern edge of Northampton, telephoned me to report the finding of another live male Stag Beetle with well-developed mandibles. It was found on grass by the entrance to the park and was checked by matching with photographs on the Internet. Close questioning showed the identification to be secure. The area is one of quite heavily wooded village gardens and small patches of old woodland. This discovery gives credence to the first record being genuinely indigenous to the Northampton area. The local trust has given the captures high profile publicity in the local press in the hope of encouraging the public to come forward with additional sightings.

Both sites evidence suitable wooded habitat, with old trees and stumps for larval development. The exceptionally humid weather is particularly conducive to male flight, with the additional factor of garden lights at Boughton and security arc lights at Billing creating an attraction during the evenings.

The problematic V.C.H. record may be derived from the records of either Frank Bouskell or William Hull, who contributed most of the list of species, or it is an old record, which was included but not sourced. Unfortunately Frank Bouskell's collection and records were consumed in a house fire many years ago. Any information about this early Northamptonshire record would be gratefully received by the author, on behalf of the local trust, as a contribution to the developing inventory of county Coleoptera.

Correction

Erroneous disppearance of *Limnobaris* (Curculionidae) from the British fauna. In my review of Alonso-Zarazaga, M.A. and Lyal, C.H.C. (1999) *A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera) (excepting Scolytidae and Platypodidae)* in *Coleopterist* **10**(1): 29-31, I stated incorrectly that the British Baridinae include only one genus and five species. The correct figures are, of course, two and seven.

M. G. Morris

Gyrophaena poweri Crotch (Staphylinidae) new to Scotland from Rum National Nature Reserve

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In 2000 I was delighted to accept an invitation to join the Scottish Entomiologists' annual gathering on the island of Rum for a week from 26th August to 2nd September. I briefly visited the island during 1974 but last surveyed it for Coleoptera in 1969. During the five days spent collecting on the reserve I recorded a total of 203 species of which 30 were additions to a draft list supplied by Peter Wormell, the survey organiser. This was based on his published account (1982) updated to include species recorded during the previous Scottish Entomologists' field meeting in June 1990.

One of the species which I recorded as new to the island during this visit was *Gyrophaena poweri* Crotch. On 28.viii.2000 a single male and three associated females were sieved from a number of fungi (*Sulius* sp.) growing beside a path through the Kinloch Castle woodlands (NM 400995). I returned the following day to sieve the fungi and the underlying leaf litter but found only a single male *G. affinis* Sahlberg. Only two other species of this genus have previously been recorded from Rum. The late Bill Steel recorded *G. pulchella* Heer at Kinloch in 1961 (Steel & Woodroffe, 1969) and he, Peter Skidmore and myself found *G. joyi* Wendeler in the south of the island, at Papadil, in 1969 (Wormell, 1982).

I had only once previously encountered *G. poweri* when I found a single male in the fungus *Hypholoma fasciculare* at Bedford Purlieus, Northamptonshire, on 29.vi.1972 (Peterken & Welch, 1975). At that time this was the most northerly known English locality. However, on 19.viii.1989 Mike Denton recorded this species from *Pleurotus cornucopiae* at the Thorpe Estate, Rudston, South-east Yorkshire (TA 16) in company with *G. fasciata* (Marsham) and *G. bihamata* Thomson (Denton, 1990). Hyman (1994) quotes both these publications but I am unaware of any more recently published British records. Extensive enquiries have failed to reveal any other recent unpublished records and the Scottish Insect Records Index (SIRI) in the National Museum of Scotland contains no record for *G. poweri* from any Scottish locality up to its last 1996 update.

Hyman (1994) classifies this species as RDBK - Insufficiently Known, believing this and other poorly recorded members of this genus to "occur in infrequently studied habitats and hence may be overlooked or under recorded". All I can say is that over the past 40 years I have collected and dissected thousands of specimens of *Gyrophaena* across the length and breadth of the British Isles and, in the process, have discovered two species new to Britain, but have only ever found *G. poweri* twice on the occasions described above.

Acknowledgements

I am grateful to Andrew Whittington of the National Museum of Scotland for checking the SIRI for me, and to Frank Kenington for pointing out Mike Denton's Yorkshire record to me.

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Review

Totholzkäfer in Naturwaldzellen des nördlichen Rheinlandes. Vergleichende Studien zur Totholzkäferfauna Deutschlands und deutschen Naturwaldforschung. [Deadwood beetles in natural forest reserves of northern Rhineland. Comparative studies on the deadwood beetle fauna of Germany and German natural forest research] by F. Köhler. Naturwaldzellen in Nordrhein-Westfalen VII. Schriftenreihe der Landesantsalt für Ökologie, Bodenordnung und Forsten / Landesamt für Agrarordnung Nordrhein-Westfalen (Schrr. LBF/LAfAO NRW) (Recklinghausen). 2000. 351 pp., 67 tables, 123 illustrations, 89 colour photos and 3 colour plates. Purchase from Werkstatt Foerderturm, Hubertussstrasse 35b, D-45657 Recklinghausen, Germany.

Insects and Forests: the role and diversity of insects in the forest environment by R. Dajoz. 2000. 668 pp., numerous tables, illustrations and black-and-white photographs. Purchase from INTERCEPT Ltd, P.O. Box 716, Andover, Hampshire SP10 1YG. Tel.: 01264 334748, fax 01264 334058, e-mail intercept@andover.co.uk, web site www.intercept.co.uk.

Saproxylic (or dead-wood associated) insects continue to attract the attention of many conservation-minded entomologists in Britain. The enormous body of knowledge that now exists for British saproxylic insects and their management owes much to interest in this group elsewhere in Europe. With the exception of a suite of recent Scandinavian research papers, native English-speaking entomologists seldom have the opportunity to tap into this European literature, but if the two recent publications reviewed here are anything to go by, they would be well advised to do so.

Roger Dajoz was, to the best of my knowledge, the originator of the term *saproxylic*, which he used (in a rather more retricted sense than is the case in the English-speaking world today) in *Ecologie Forestière*, published in French in the 1960s. INTERCEPT have conveniently translated his latest offering (1999) as *Insects and Forests*. Chapter by chapter, the book covers a full range of insect-forest ecological relationships, particularly those that relate to human use of forests, although with very little on conservation. Most examples are either French or European, but there is a significant North American component too, and one chapter explores tropical forest insect diversity. The style of the book places it mid-way between an ecological monograph and a university text-book for forest entomologists, full of descriptive text but often lacking in analysis. Overall, it has a rather plodding, old-fashioned feel to it, although it may have lost something in the translation. Why, then, does it merit a review here? Its saving feature is its extensive coverage of dead wood and saproxylic insects. These form the core of five out of the 21 chapters on offer and reflect Dajoz's long-standing expertise in this area. Although the book offers little in the way of new information, it successfully brings together knowledge from a wide variety of sources, making these chapters in particular a very useful introduction to the topic with a refreshingly non-British slant.

Frank Köhler's book provides an excellent further example of what the mainland European literature can offer the British saproxylic entomologist. It presents the findings from one man's monumental decade-long study of the saproxylic beetle fauna of one small region of Germany, primarily aimed at assessing the conservation requirements of key forests and key species. But in fulfilling this aim, the book has a relevance that goes far beyond the borders of northern Rhineland. Many of the species of concern there are of equal concern in the UK, while others have vanished from the British fauna entirely. Colour photos illustrate some of these, making the book valuable for the photos alone. Whilst the bulk of the book comprises site-by-site descriptions of the forests studied, which are of little use to non-Rhinelanders, the chapters that precede and follow these

contain a wealth of information on sampling techniques for the German saproxylic beetle fauna, including valuable details on habitat preferences and threat statuses. Bar charts and tables are used throughout to illustrate key points: no high-powered statistics here to account for unequal sampling effort or incomplete species lists, but perhaps little need for them either given how well the region's fauna appears to be known. For those seeking further enlightenment on the German literature, there is an extensive list of references, very few of which are non-German. And this is the big down-side of this book: it is written entirely in German, with only a brief and far from comprehensive English summary hidden near the end. Despite this, anyone with just a smattering of German should be able to make enough sense of the captions to the tables and figures that are the key to this book's wider appeal. Native German speakers may (apparently) find the text rather dry and long-winded, but the content more than compensates for any inadequacies of style. Now, would anyone care to produce a comparable work for the British fauna?

Simon Grove

Subscribers' Notices

This section is for subscribers to advertise requests for information, specimens wanted for loan, or entomological items wanted or for sale. **Notices of specimens for sale or exchange will not be accepted.** Notices will be repeated with each issue while space is available (or until withdrawn), newer ones appearing first, and may be edited for brevity.

Montgomeryshire beetle records wanted: I am setting out as new recorder for this vice-county and would be grateful for any records, past and present. Any information on museum or private collections containing Montgomeryshire species would also be gratefully received. *Dr W. Schaefer*, Cwm-Weeg, Dolfor Newtown Powys SY164AT. E-mail: wolfgang@dial 1.co.uk.

***New British Beetles* (revised edition) by Peter Hodge & Richard Jones**: Work on a new and improved version of this book is progressing well, but it would enhance its usefulness still further if the sections entitled 'Errors in Joy' were more comprehensively covered. Therefore, if you know of any previously unrecorded errors in Joy, or can supply other useful information that would make his keys work more effectively, the authors would be pleased to receive details. Reply to *Peter J. Hodge* 8 Harvard Road, Ringmer, Lewes, East Sussex BN8 5HJ. Tel.: 01273 812047.

New *Stenus* recording scheme: Please send all records of *Stenus* (Staphylinidae) species to *Jonty Denton*, 2 Sandown Close, Alton, Hampshire GU34 2TG. E-mail: jontydenton@aol.com.

Stag Beetle *Lucanus cervus* records wanted: Further to a paper in this journal which intimately linked the Stag Beetle's Sussex range with temperature and its local distribution with rainfall, I am performing more research into the species for a proposed follow-up paper on the beetle's national status. I would be pleased to receive any records from any era from any British locality. All due acknowledgement will be given. *Colin Pratt* 5 View Road, Peacehaven, East Sussex BN10 8DE. E-mail: colin.pratt@talk21.com.

For Sale: *Entomologist's Gazette*, volumes 23 (1972) to 35 (1984) inclusive. Unbound in wrappers, with indexes. £5 each or £60 the set, postage extra. *D. B. Atty*, Beckhouse Mill, Embleton, Cockermouth, Cumbria CA13 9TN. Tel.: 01768 776586.

Wanted: "*The Biology of the Coleoptera*" by R.A. Crowson (1981). Can anyone help? If so, please contact *Michael O'Sullivan*, 20 St. James Gardens, Killorglin, Co. Kerry, Ireland.

***Chrysolina graminis* (tansy beetle) records wanted:** I would like to receive both old and recent records to assess this species' current status and the extent of range contraction. It would also be useful to know whether *C. menthastri* has been reported from the same area as the *C. graminis* records submitted, as these two species have been confused in the past. *Duncan Sivell*, Dept of Biology, University of York, PO Box 373, York YO1 5YW. E-mail: dms103@york.ac.uk.

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