

# Report on beetles (Coleoptera) collected from the Dartington Hall Estate, 2011 by Dr Martin Luff.

## 1. Methods

Beetles were collected on the Estate on nine dates between 11 January and 6 December 2011.

Techniques used included:

- Tree beating
- Collection and sieving of leaf litter and compost heaps
- Searching under bark of fallen trees and in rotting dead wood
- Searching under stones and other items laying on the ground
- use of an aerial interception trap for 2 weeks as part of the chestnut click beetle survey.

## 2. Results

A total of 78 beetle species from 26 families were recorded. Of these, 48 (61.5%) were not recorded in my earlier (2010) list. The two lists together now total 209 species. Some further 2011 specimens are still to be identified by experts in the families concerned. A list of all the additional species is appended to this Report.

## 3. Notable species

Four of the 2011 species are listed as Nationally Notable or rarer in the JNCC Review of Scarce and Threatened Coleoptera (Hyman & Parsons, 1992, 1994). Details of these, in taxonomic order, are given below. The figures show related and superficially similar, but less scarce, species from each genus.

Staphylinidae (rove beetles)

*Omalius rugatum* Mulsant & Rey. Notable

A small (3 mm) beetle found in mouldy litter and fungal fruiting bodies. A single example was found in profuse Oyster Fungus (*Pleurotus ostreatus*) growing on tree stumps near the top of the lower drive on 6 December. Although Nationally Notable, the species is widespread but scarce in Britain; I have also taken it on Longmarsh, Totnes this year. There are no records from south-west England in the National Biodiversity Network (<http://data.nbn.org.uk>) but there is a single record from Somerset (Duff, 1993) in 1988. It may be a new addition to the Devon County list. No conservation implications.



*Quedius aetolicus* Kraatz. Notable A. Saproxyllic Rarity Score, 16

A medium sized (8 mm) red and black rove beetle found in the nests/dreys of birds and squirrels. A single example was reared from larvae collected on 9 April from debris/litter in bird nest boxes in Dartington Hills Wood. It is likely that other larvae collected on the same occasion, but not successfully reared, were of the same species. *Q. aetolicus* is otherwise known only from south-east England, excepting a single capture in south Wales. The Dartington specimen is not only the first record from south-west England, but also the first confirmed occurrence of winter breeding and larval rearing. A note on the species has been



published and is appended (Luff, 2011). It is hoped that the continued provision of nest boxes will assist the survival of this species on the Estate.

The Notable rove beetles provisionally identified in my 2010 list were examined by Dr R C Welch, and two have now been re-identified as non-Notable species:

*Atheta autumnalis* (Erichson) should be *Microdota amicula* (Stephens).

*Atheta aquatilis* (Thomson) should be *Atheta aquatica* (Thomson).

#### Anobiidae (woodworm beetles)

*Anobium inexpectatum* Lohse. Notable B. Saproxylic Rarity Score, 8

A small (3 mm) sized species added to the British list in 1976. It is closely related to the common woodworm (*A. punctatum* (De Geer)) but distinguished by subtle differences in antennal structure, and by internal genitalia. A single example was beaten from ivy-covered branches near the moribund oak and ash trees below the lower drive on 6 July. The National Biodiversity Network has no records but there are three records from Somerset (Duff, 1993) and it is probably under-recorded. The Dartington specimen may be the first for Devon. Conservation implications: do not remove old, ivy-covered branches from old trees.



#### Endomychidae (false ladybirds)

*Symbiotes latus* Redtenbacher. Notable B. Saproxylic Rarity Score, 8

A very small (2 mm), rounded, brown beetle associated with rotting old trees, especially elms. A single example was found on the aerial trap on an old oak below the lower drive on 3 July. The JNCC Review (Hyman & Parsons, 1992) does not list the species as occurring in the south-west of England, but there is a single old (1942) record from Somerset (Duff, 1993). Again, this appears to be a new record for Devon. Conservation implications: continued presence of old, decaying standing broad-leaved trees.



### 4. General Remarks

This year's collecting confirms in particular the value of the saproxylic (dead wood) beetles of the Dartington Hall Estate. All of the Notable species found this year were associated with woodland (dead wood, fungi, birds' nests) and three are listed in the Saproxylic Quality Index (SQI, Fowles *et al.*, 1999) with Rarity Scores of 16 or 8. Further evidence of the value of the dead wood beetle fauna was provided by Dr Keith Alexander who visited the Estate with the Devon Ancient Tree Forum on 12 June. He recorded the jewel beetle (Buprestidae) *Agrilus angustulus* (Illiger) (Nationally Notable B) from a dead oak branch, also the soldier beetle (Cantharidae) *Malthodes minimus* (L.) and the longhorn beetle (Cerambycidae) *Stenurella melanura* (L.), as well as other species already recorded by the present author. On earlier visits he had recorded the darkling beetles (Tenebrionidae) *Eledona agricola* (Herbst) in bracket fungi on old oaks and *Prionychus ater* (F.) larvae in rotting ash (both Nationally Notable B) as well as the rhinoceros beetle (Lucanidae) *Sinodendron cylindricum* (L.). Keith commented "I suspect that (Dartington) will prove to be of at least county interest for saproxylics". Both *S. cylindricum* and the lesser stag beetle *Dorcus parallelipedus* (L.) (found by me in 2010) are included on the recent European Red List of saproxylic beetles (Nieto & Alexander, 2010) although neither are considered as threatened in any way. However the fungus beetle (Erotylidae) *Dacne rufifrons* (F.) which I have

found at Dartington on bracket fungi in both 2010 and 2011 is listed as ‘Data Deficient’ in the Red List; Britain appears to have ‘internationally important populations’ of such species (Alexander, 2011).

On 23 March 2011 John Walters, who is carrying out a survey of oil beetles (Meloidae), recorded 23 individuals of *Meloe violaceus* Marsham (Nationally Notable B) on grassland along the river bank, with groups of their triangulin larvae on celandines. As these depend on solitary bees for their development, the large numbers indicate also a healthy bee population. I paid less attention this year to such non-woody vegetation; one of my aims for 2012 is therefore to carry out more sweep netting of herbs and grasses than in 2010, over a wider part of the Estate. The records listed above from Keith Alexander and John Walters raise the total Dartington beetle list to 216 species: more than half the beetles that I found in 2011 had not been recorded in the previous year, so there is little doubt that further collecting of beetles will add still more species to the Estate’s rich fauna.

## 5. Acknowledgements

I am indebted to John Channon for permission to collect on the Estate. I also owe sincere thanks to the wardens Will Wallis and Mike Newby who have always helped in every way possible; in particular Mike, with two volunteer helpers, provided the contents of bird nest boxes, and both were invaluable in setting up the aerial interception trap. Thanks also to Keith Alexander and John Walters for providing details of their beetle captures on the Estate. The colour figures are from <http://www.colpolon.biol.uni.wroc.pl>, by permission of Lech Borowiec.

## 6. References Cited

- ALEXANDER, K.N.A., The European Red List of saproxylic beetles – the status of species occurring in Britain and Ireland. *The Coleopterist*, **20**: 55-61.
- DUFF, A., 1993, *Beetles of Somerset*. Somerset Archaeological & Natural History Society, Taunton.
- FOWLES, A.P., ALEXANDER, K.N.A. & KEY, R.S. 1999., The saproxylic quality index: evaluating wooded habitats for the conservation of dead-wood Coleoptera. *The Coleopterist* **8**: 121-141.
- HYMAN, P.S. (revised PARSONS, M.S.), 1992, 1994. A review of the scarce and threatened Coleoptera of Great Britain. Parts 1 & 2. UK Nature Conservation: 3 & 12, Peterborough: Joint Nature Conservation Committee.
- LUFF, M.L., 2010, *Report on beetles (Coleoptera) collected from the Dartington Estate, May-December 2010*, Unpublished report to Dartington Estate Environmental Conservation Group.
- LUFF, M.L., 2011, *Quedius aetolicus* Kraatz (Staphylinidae) breeding in south Devon. *The Coleopterist*, **20**: 53.
- NIETO, A. & ALEXANDER, K.N.A., 2010, *European Red List of Saproxylic Beetles*. Publications Office of the European Union, Luxembourg.

## 7. List of additional beetle species found in 2011

Family	Taxon	Vernacular	Status
Hydrophilidae	<i>Cercyon terminatus</i> (Marsham)		
Hisetridae	<i>Margarinotus ventralis</i> (Marseul)		
Ptiliidae	<i>Ptenidium formicetorum</i> Kraatz		
	<i>Ptiliolium fuscum</i> (Erichson)		
Leiodidae	<i>Anisotoma humeralis</i> (Fabricius)		
	<i>Sciodrepoides watsoni</i> (Spence)		

Family	Taxon	Vernacular	Status
Staphylinidae	<i>Catops fuliginosus</i> Erichson		
	<i>Omalius rivulare</i> (Paykull)		
	<i>Omalius rugatum</i> Mulsant & Rey		Notable
	<i>Phloeonomus punctipennis</i> Thomson, C.G		
	<i>Proteinus laevigatus</i> Hochhuth		
	<i>Proteinus ovalis</i> Stephens		
	<i>Sepedophilus lusitanicus</i> Hammond		
	<i>Tachyporus obtusus</i> (Linnaeus)		
	<i>Tachinus laticollis</i> Gravenhorst		
	<i>Tachinus marginellus</i> (Fabricius)		
	<i>Tachinus subterraneus</i> (Linnaeus)		
	<i>Bolitobius castaneus</i> (Stephens)		
	<i>Atheta vaga</i> (Heer)		
	<i>Aleochara funebris</i> Wollaston		
	<i>Autalia longicornis</i> Scheerpeltz		
	<i>Homalota plana</i> (Gyllenhal)		
	<i>Leptusa fumida</i> (Erichson)		
	<i>Anotylus rugosus</i> (Fabricius)		
	<i>Rugilus erichsoni</i> (Fauvel)		
	<i>Rugilus orbiculatus</i> (Paykull)		
<i>Rugilus rufipes</i> Germar			
<i>Tasgius morsitans</i> (Rossi)			
<i>Quedius aetolicus</i> Kraatz		Notable A	
<i>Leptacinus pusillus</i> (Stephens)			
<i>Gyrohypnus fracticornis</i> (Müller, O.F)			
Cantharidae	<i>Malthodes mysticus</i> Kiesenwetter		
Anobiidae	<i>Anobium inexpectatum</i> Lohse		Notable B
Nitidulidae	<i>Epuraea melanocephala</i> (Marsham)		
	<i>Carpophilus marginellus</i> Motschulsky		
Rhizophagidae	<i>Rhizophagus bipustulatus</i> (Fabricius)		
Cryptophagidae	<i>Cryptophagus scanicus</i> (Linnaeus)		
Endomychidae	<i>Symbiotes latus</i> Redtenbacher		Notable B
Orthoperidae	<i>Orthoperus aequalis</i> Sharp		
Colydiidae	<i>Pycnomerus fuliginosus</i> Erichson		
Pyrochroidae	<i>Pyrochroa serraticornis</i> (Scopoli)	Common Cardinal Beetle	
Chrysomelidae	<i>Lema cyanella</i> (Linnaeus)		
	<i>Longitarsus luridus</i> (Scopoli)		
	<i>Cryptocephalus pusillus</i> Fabricius		
Curculionidae	<i>Polydrusus pterygomalis</i> Boheman		
	<i>Archarius pyrrhoceras</i> (Marsham)		
	<i>Hylesinus crenatus</i> (Fabricius)	Large Ash Bark Beetle	
	<i>Hylesinus varius</i> (Fabricius)	Ash Bark Beetle	

## *Quedius aetolicus* Kraatz (Staphylinidae) breeding in south Devon

**Martin L. Luff**

7 Southcote Orchard, Totnes, Devon TQ9 5PA

On 9 April 2011 I accompanied staff of the Dartington Hall Estate, south Devon, while they cleaned out bird (blue tit and great tit) nesting boxes in mixed woodland on the Estate (SX7961, VC 3). The box contents were collected into polythene bags and subsequently searched for any beetles. Of the 27 boxes examined, only ten contained beetles. Among these were six staphylinine larvae, which were kept individually in small containers with a sub-sample of the box contents. These were maintained in a cool garage and kept moist until mid May, then transferred outdoors to a shaded location until early June, when the contents were examined.

Only two of the larvae had successfully reached adulthood; one was dead and fragmentary, the other was an intact male *Quedius*, sub-genus *Microsaurus* with red elytra. It was first assumed that this was *Q. cruentus* (Olivier), but the timely publication of Lott & Anderson (2011) enabled the identification to be confirmed as *Q. aetolicus* Kraatz. This has since been confirmed by Dr Colin Welch.

*Q. aetolicus* is graded Nationally Notable A in Hyman (1994) and has a saproxylic rarity score of 8 (Fowles *et al.*, 1999). According to Hyman (1994) it is recorded most frequently from squirrels' dreys, but is also found in birds' nests and other arboreal microhabitats (Lott & Anderson, 2011). Its distribution is centred on south-east England, but extends into the Midlands, and south Wales. There are no previous records of *Q. aetolicus* from south-west England. Lott & Anderson (2011) do not provide any biological data so this would seem to be not only a new species for the south-west, but also the first confirmed breeding record, suggesting that *Q. aetolicus* overwinters in the larval stage, adults emerging in early summer.

The only other larva reared from the nest boxes was a single *Catops fuliginosus* Erichson (Leiodidae). Adult Coleoptera found in the boxes were: Staphylinidae: *Atheta vaga* (Heer) (26 examples, from 5 boxes); *Amischa analis* (Gravenhorst) (1,1); *Leptusa fumida* (Erichson) (2,2); *Aleochara funebris* Wollaston (2,1). Tenebrionidae: *Nalassus laevioctostriatus* (Goeze) (2,1).

### Acknowledgements

I am grateful to John Channon, Land Use Manager of the Dartington Hall Trust, for permission to collect on the Estate, and to one of the Wardens Mike Newby and two volunteer helpers for collecting the nest box contents. Dr Colin Welch kindly confirmed the identity of *Q. aetolicus* and *Aleochara funebris*.

### References

- HYMAN, P.S. (revised PARSONS, M.S.) 1994. *A review of the scarce and threatened Coleoptera of Great Britain*. Part 2. UK Nature Conservation: 12. Peterborough: Joint Nature Conservation Committee.
- FOWLES, A.P., ALEXANDER, K.N.A. & KEY, R.S. 1999. The saproxylic quality index: evaluating wooded habitats for the conservation of dead-wood Coleoptera. *The Coleopterist* 8: 121-141.
- LOTT, D.A. & ANDERSON, R. 2011. The Staphylinidae (rove beetles) of Britain and Ireland. Parts 7 & 8: Oxyporinae, Steninae, Euaesthetinae, Pseudopsinae, Paederinae, Staphylininae. *Handbooks for the identification of British Insects* 12(7): 1-340.