

NOTES ON THE BEETLE FAUNA OF THE MID-CHURNET VALLEY, STAFFORDSHIRE

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INTRODUCTION

The mid-Churnet Valley contains a variety of habitats, and is approximately located between Cheddleton to the north-west and Froghall to the south-east, near Stoke-on-Trent. It is generally dominated by acidic oak–birch ancient woodland, but with areas of alder carr and lush meadow vegetation on the banks of the River Churnet itself. Most of these habitats are incorporated within the Churnet Valley Site of Special Scientific Interest (SSSI).

METHODS

Records included here were all generated via fieldwork during the summers of 1996 and 1997. Sites surveyed include Consall Woods (SJ994483), Booths Wood (SK005485), Crowgutter Wood (SK003492), Rough Knipe (SK000495) and additional river-marsh areas (SJ992502). Records were obtained mostly via active collecting. Smaller saproxylic species were mostly collected by hand and pooter, searching under loose bark, in decaying wood, and around fungal fruiting bodies. Larger woodland and grassland species were usually swept from prominent nectar flowers, such as hogweed in woodland rides, or from open grassy or herbaceous vegetation.

RESULTS AND DISCUSSION

In total, 31 beetle species included in Hyman & Parsons (1992, 1994) were found, comprising one Red Data Book (RDB) 2 and two RDB 3, five Nationally Notable A, 22 Nationally Notable B, and one Local species. Of these, two are new to Staffordshire, and six are new post-1970 county records. The species found can be divided into a number of ecological groupings: saproxylic species, which can be further divided into those associated with different kinds of dead wood; species of damp meadows and marshes; and species phytophagous on trees. All species are listed below according to these groupings. Brief notes indicate where/by which sampling method the beetles were found. Additional information is from Hyman & Parsons (1992, 1994) unless stated otherwise.

1. Saproxylic species

(a) Species found in deadwood decayed by fungi and/or in the fruiting bodies of these fungi include:

Histeridae	<i>Gnathoncus buyssoni</i> Auzat	Na	In owls nests
Scydmaenidae	<i>Microscydmus minimus</i> Chaudoir	RDB3	Under bark
	<i>M. nanus</i> Schaum	Nb	Under bark
Elateridae	<i>Ampedus pomorum</i> Herbst.	Nb	In rotting birch and oak
Cryptophagidae	<i>Atomaria umbrina</i> Gyllenhal	Nb	In rotting wood debris

Lathridiidae	<i>Lathridius consimilis</i> Mannerheim	Nb	In fungoid wood and fungus on trees
	<i>Enicmus fungicola</i> Thomson	Nb	In slime mould fruit-bodies
Mycetophagidae	<i>Mycetophagus piceus</i> Fabricius	Nb	Under fungoid bark
Melandryidae	<i>Hallomenus binotatus</i> Quensel	Nb	Under bark
	<i>Orchesia minor</i> Walker	Nb	Beating birch

The histerid *Gnathoncus buyssoni* is known from decaying trunks, birds nests and fungi on trees. This is a new county record. *Microscydmus minimus* is known elsewhere (post-1970) in Staffordshire from Bagot's Park. It is an old forest relic species (Hodge & Jones, 1995). *Microscydmus nanus*, which is known from woodland leaf litter and rotten wood, is new to Staffordshire. *Atomaria umbrina* is found in similar habitats. The click beetle *Ampedus pomorum* is associated with decaying birch, as is *Lathridius consimilis*, especially when under attack by the fungus *Piptoporus betulinus*. *Enicmus fungicola* is known to breed in slime-mould fruiting bodies, especially on oak, and this is the first post-1970 county record. *Mycetophagus piceus* requires oak being decayed by the fungus *Laetiporus sulphureus*, which is also a habitat for *Hallomenus binotatus*. The false darkling beetle *Orchesia minor* is a further fungus-feeder, possibly utilizing *Polyporus* spp. in particular, as well as well-rotten wood.

(b) Species associated with freshly dead (or hard) wood include:

Lymexylidae	<i>Hylecoetus dermestoides</i> L.	Nb	Burrowing into dead wood
Cerambycidae	<i>Saperda scalaris</i> L.	Na	On umbel inflorescences in woodland ride
Rhizophagidae	<i>Rhizophagus nitidulus</i> Fabricius	Nb	Under bark
	<i>R. picipes</i> Olivier	Na	Under bark
Scolytidae	<i>Xyloterus signatus</i> Fabricius	Nb	Under bark
	<i>Xyleborus dispar</i> Fabricius	Nb	Under bark

The lymexylid *Hylecoetus dermestoides*, the bark beetles *Xyloterus signatus* and *Xyleborus dispar*, and the longhorn beetle *Saperda scalaris*, are all associated with fresh and hard dead wood, mostly in ancient broad-leaved woodlands. *Rhizophagus* spp. hunt bark beetle larvae under bark and so need dead wood that has been colonized by scolytids, but which still has the bark intact.

(c) Species associated with twigs and small branches, <5 cm diameter, include:

Cerambycidae	<i>Gracilia minuta</i> Fabricius	RDB2	On hogweed flowers in woodland clearings
	<i>Stenostola dubia</i> Laicharting	Nb	On hogweed flowers in woodland clearings

The diminutive longhorn beetle, *Gracilia minuta* has, until now, not been recorded post-1970 in Staffordshire; in fact Hyman & Parsons state that it is only known from five other vice-counties: south Hampshire, east and west Kent, Monmouthshire and Glamorganshire. It was however also recorded in Worcestershire in 1999 (Goddard, pers. comm.). It is known to feed within twigs and small branches of various trees. *Stenosola dubia* is known to feed in branches of <5 cm diameter on lime trees *Tilia*

cordata Miller and *T. platyphyllos* Scop. Adult beetles of both these species also appear to require nectar sources, notably umbel flowers, in woodland clearings.

2. River meadow species

Elateridae	<i>Ctenicera cupreus</i> Fabricius	Local	Swept at edge of wood/marsh
	<i>C. pectinicornis</i> Fabricius	Na	Swept at edge of wood/marsh
Cantharidae	<i>Cantharis fusca</i> L.	RDB3	Swept in marshes and river meadow
Chrysomelidae	<i>Plateumaris affinis</i> Kunze	Nb	Swept in marshes and flushes
	<i>Mantura obtusata</i> Gyllenhal	Nb	Roots of tussocks in marshes

The habitat requirements of the click beetle *Ctenicera pectinicornis* are given in Hyman & Parsons as lush grassland in old hay meadows, where the larva feeds at the roots of plants. These are the first post-1970 records for Staffordshire. Presumably *C. cupreus* has similar, if less exacting requirements. The reed beetle *Plateumaris affinis* is phytophagous on sedges, and is usually found on emergent vegetation at aquatic margins. *Mantura obtusata* is associated with *Rumex* spp., particularly *R. acetosa* L. growing in wet meadows, with its larvae probably mining the host plant's leaves. For the soldier beetle *Cantharis fusca*, Hyman & Parsons state that post-1970 records only exist for four other vice-counties, all in southern England, although the species was formerly more widespread, ranging up to East Lothian in Scotland. An update provided by Alexander (2000), discusses records from a few southern coastal areas in Kent, Sussex, Hampshire and the Isle of Wight, from Somerset, where the species is apparently fairly widespread, and from Yorkshire, where three localities are known. It appears to be a species of rich fen and damp hay meadows, where both the adults and larvae are free-living and active, with adults particularly noticeable on umbellifer flowers. Habitats in the mid-Churnet Valley would appear to be small patches of river-meadow within a wider woodland setting.

3. Phytophagous species associated with trees

Silphidae	<i>Aclypea opaca</i> L.	Na	Found near old oaks
Elateridae	<i>Selatosomus impressus</i> Fabricius	Nb	Found by sweeping beneath birch trees
Chrysomelidae	<i>Cryptocephalus bipunctatus</i> L.	Nb	Beating birch
	<i>C. parvulus</i> Müller	Nb	Beating trees
	<i>C. punctiger</i> Paykull	Nb	Beating trees
Curculionidae	<i>Acalles ptinoides</i> Gyllenhal	Nb	Beating trees
	<i>A. roboris</i> Curtis	Nb	Beating trees
	<i>Coeliodes ruber</i> Marsham	Nb	Beating trees

These are the first post-1970 Staffordshire records for the burying beetle *Aclypea opaca*, which apparently feeds on plant roots. The natural history of the click beetle *Selatosomus impressus* is poorly known, but it probably has soil-dwelling larvae and adults are associated with trees. The *Cryptocephalus* leaf beetles are all associated with birch, the larvae are cased and ground living, where they feed on fallen leaves, *C. parvulus* preferring leaves browned by fungal infection. Staffordshire contains the only localities for *C. punctiger* outside southern England. The weevil *Acalles ptinoides* is found on old trees, especially hawthorn and hazel, and *A. roboris* is associated with

oak. *Acalles* larvae are believed to develop in fallen branches. *Coeliodes ruber* is known to feed on oak and hazel.

CONCLUSIONS

Overall, this is an impressive list of species from a rich and valuable beetle fauna, of an often overlooked area. The ecological requirements of the species found highlight the vital importance of dead-wood resources, including wood being decayed by fungi, freshly dead trees and dead branches on living trees. Further, the importance of what are marginal habitats in this area, small patches of lush river-meadow and marsh along the course of the River Churnet, is also highlighted. Clearly both the mid-Churnet Valley and these latter habitats warrant further entomological investigation.

ACKNOWLEDGEMENTS

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SHORT COMMUNICATIONS

New south-eastern county records for *Cacopsylla fulguralis* (Kuwayama) (Hemiptera: Psyllidae).—Following the announcement of the occurrence of this beautiful psyllid in UK (Malumphy, C.P. & Halstead, A.J., 2003. *Br. J. Ent.Nat.Hist.* 16: 89–93) I began searching its hostplant, *Elaeagnus* spp., to assess its current status in the south-east. Its distribution is obviously still patchy as one might expect for a newly-invading species and many searches proved negative. Reasonable numbers of adults were eventually found on some mature bushes of *E. × ebbingei* on an abandoned patch of ground on the eastern edge of Sunbury Golf Course (TQ1068), Middlesex on 2nd June 2003. The first record for Kent turned out to be at Allhallows Holiday Camp (TQ8377), a rather isolated community on the north Kent coast on 17th June 2003. The second locality was of a few individuals found on low, neatly clipped hedges of *E. × ebbingei* in the car-parking area of Hempstead Valley Shopping Centre, Rainham (TQ7963) on 4th July 2003. These were surreptitiously tapped out into my hands in view of the large number of shoppers nearby. None of the bushes showed any obvious signs of insect damage.—J. S. BADMIN, Coppice Place, Perry Wood, Selling, Kent ME13 9RP.



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