

# **Sydenham Hill and Dulwich Woods: reassessment of saproxylic invertebrate interest 2023**

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### **SUMMARY**

- An invertebrate survey was carried out in Sydenham Hill and Dulwich Woods. It concentrated on saproxylic dead-wood invertebrates, particularly beetles.
- A list of 177 invertebrate species was recorded, a relatively short list, but numerous saproxylic species never before recorded from the site turned up including:
  - Agrilus olivicolor*, a jewel beetle that breeds in hornbeam branches
  - Cerylon fagi*, a nationally scarce fungus beetle
  - Chrysophilus laetus*, a nationally rare snipe fly
  - Corticeus unicolor*, a nationally scarce bark beetle
  - Cryptolestes duplicatus*, a very local bark beetle
  - Dacne rufifrons*, a very local fungus beetle
  - Diaperis boleti*, a nationally rare fungus beetle
  - Eledona agaricola*, a very local fungus beetle
  - Endomychus coccineus*, a very local fungus beetle
  - Eulagius filicornis*, a very local fungus beetle
  - Mordellistena humeralis*, a nationally scarce skipping flower beetle
  - Panspaeus guttatus*, a very uncommon click beetle
  - Pediacus depressus*, a nationally scarce bark beetle
  - Phloiotrya vaudoueri*, a nationally scarce fungus beetle
  - Prionychus ater*, a nationally scarce fungus beetle
  - Pycnomerus fuliginosus*, a very uncommon bark beetle
  - Pyrochroa coccinea*, a very local cardinal beetle
  - Rhizophagus parallelocollis*, a very uncommon bark beetle
  - Triphyllus bicolor*, a nationally scarce fungus beetle
- These and many of the other saproxylic species found during the survey confirm the truly ancient history of the woods.
- Calculation of a saproxylic quality index allows the site to be ranked 69th against 239 other known ancient woodlands in lowland Britain.
- An assessment is made on the potential invertebrate interest of the site. This potential is ranked as 'high', on a national scale.
- Suggestions are made regarding future management of the site to maintain its high saproxylic importance.

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### **INTRODUCTION**

Sydenham Hill and Dulwich Woods are reckoned to be remnants of the Great North Wood, a vast old wooded forest that extended across hillsides from Woolwich to Selhurst, but which has become fragmented and mostly destroyed in the last 3-4 centuries. This invertebrate survey was commissioned by London Wildlife Trust as part of a wider reassessment of the former extent of the Great North Wood. It was to particularly concentrate on insects associated with saproxylic habitats — rotten wood, fungi, fungoid decay. The current site now comprises woodland, with a few small open spaces, a small pond, and some former gardens of houses now demolished. It is approximately centred on Ordnance Survey grid reference TQ344726, and is in Watsonian vice-county 17 (Surrey).

### **METHODS**

#### **Site visits**

The site was visited several times during 2023: 21.vi.2023, 22.vi.2023, 29.vi.2023, 18.vii.2023, 22.vii.2023, 22.viii.2023, 4.ix.2023 and 11.x.2023. A walk-over assessment of the site was complemented by the collection of specimens.

#### **Site compartments**

The site is relatively small, but has been subdivided into four compartments, as used in previous surveys of the woods.

These compartments are:

***Cox's Walk*** — A wooded path leading from Lordship Lane to the north end of Sydenham Hill Wood, centred on grid reference TQ344731.

***Sydenham Hill Wood*** — Crescent-shaped area of woodland centred on grid reference TQ344725.

***Bluebell Wood*** — Small enclave of woodland not open to the general public centred on grid reference TQ345727. Although this compartment is mentioned it is combined with Sydenham Hill Wood in the results.

***Dulwich Wood*** — Large area of woodland centred on grid reference TQ342725.

**Low Cross Wood** — Small enclave of woodland not open to the general public, centred on grid reference TQ337720.

### **Location and collection of specimens**

A walk-over survey was carried out. Invertebrates were located and collected by general methods using sweep net, beating tray and a stout trowel. Flowers, leaf surfaces, rocks, bare ground, logs and tree trunks were examined by visual searching. Others were found by finger-tip grubbing in loose soil, rubble, and plant roots, logs, stumps and animal dung. Squares of roofing felt left out for reptile monitoring were also examined. Voucher specimens of all but the most common and characteristic species were collected for examination under the microscope.

### **Taxonomic coverage**

The survey concentrated on the following major groups: Coleoptera (beetles), Diptera (flies), Hemiptera (bugs, froghoppers etc), Hymenoptera (bees, wasps and ants) and Lepidoptera (butterflies and moths). Some examples of other groups were noted if seen.

These are hugely numerous and diverse orders of insects, and identification to species is not always possible, especially in many of the microscopically small specimens. Consequently there is much subjective selection of which families or genera are worth taking as sample specimens, for later study. This is often influenced by a knowledge of the groups for which useable identification keys are available, and for which the individual entomologist has a particular penchant. Nevertheless, a wide coverage of insect orders allows some assessment of just how important any given site may be for its invertebrate biodiversity.

## **SURVEY RESULTS**

### **General**

A list of 177 invertebrate species was recorded. They represent:

Coleoptera (beetles)	76 species
Diptera (flies)	29
Hemiptera (bugs)	18
Hymenoptera (bees, wasps etc)	14
Lepidoptera (butterflies & moths)	12
Neuroptera (lacewings)	2
Odonata (dragonflies)	0
Orthoptera (grasshoppers)	3
Aranaea (spiders)	9
Opiolones (harvestmen)	3
Isopoda (woodlice and hoglice)	4
Amphipoda (sand hoppers)	1
Diplopoda (millipedes)	1
Chilopoda (centipedes)	3
Mollusca (slugs and snails)	2

Total 177

One hundred and seventy-seven species is a relatively short list, but probably commensurate with the effort and limited scope for the field visits to a relatively compact site. Nevertheless, a number of interesting and unusual species are included in this list.

### **Noteworthy species**

Most of the insects seen or collected were common ones, which might be expected to turn up in any open area in southern England. However, a number are uncommon or otherwise unusual and worthy of comment. Common or garden species occur commonly in gardens, or indeed almost anywhere; they are often mobile, adaptable, fast-reproducing with quick generation times, feeding on common and widespread plants or occurring in a wide variety of diverse habitat types. They tell us very little about a site since they often occur in almost every bit of open space available. Scarce species, however, are scarce because they have very particular habitat requirements — they feed on scarce plants which only occur in limited habitat pockets, they have very narrow toleration of climate, including daily or yearly temperature or rainfall minima or maxima, or they only occur in niches where they can avoid serious competition, predation or parasitism from abundant and widespread species. The occurrence of these scarcer species gives a much clearer picture of the environmental health or conservation biodiversity status of a particular site.

In particular previous surveys of the woods have identified many species (beetles mainly) that are associated with ancient woodlands. These are often species that breed in fungoid dead wood and their numbers and diversity depend on a diversity of different stages of fungoid decay from dead timber still attached to standing trees, to freshly fallen timber to mouldering logs being subsumed into the leaf litter and barely visible above ground. These microhabitats are easily disturbed or destroyed and if a woodland is unsympathetically managed it may take centuries for the dead wood fauna to re-establish to the same complexity as previously. This survey was particularly focussed on the dead wood insect fauna.

The following species are picked out as being especially noteworthy. Most are uncommon nationally. Criteria for allocation of accepted ‘nationally rare’ (previously red data book) and ‘nationally scarce’ (previously notable) statuses are varied and complex (originally published in Shirt, 1987; Hyman & Parsons, 1992 and recently updated in a series of ongoing reviews). Statuses continue to be assessed and reassessed over time, and a JNCC database is available giving a summary overview. Statuses change over time. Every time a rare insect is found there are more records and on a scoring system based on grid squares in which an insect is found, it becomes less rare. These statuses are useful to gauge relative rarity, but despite the apparent objectivity of counting numerical records, there is still a subjective element to what is sometimes a very vague notion of exactly how rare an organism may be. Those that are relevant to this report are listed in brief here.

- ***Endangered*** (RDB-1). The rarest taxa. Taxa in danger of extinction in Great Britain; species with very few recorded localities or living in especially vulnerable habitats.
- ***Vulnerable*** (RDB-2). Very rare species. Taxa likely to move into the RDB1 category; species declining in their range.

- **Rare** (RDB-3). Rare species. Taxa with small populations and which are at risk; species estimated to occur in 15 or fewer of the 10-km squares in the national Ordnance Survey grid since 1970, or nominated later date if applicable.
- **Insufficiently known** (RDB-K). Species thought to be very rare in Britain, recorded from less than 15 of the 10-km squares of the national Ordnance Survey grid since 1970 or later date, and which warrant RDB classification of some sort, but for which there is a recognized lack of accurate information.
- **Nationally scarce** (notable A). Very local species, thought to occur in 16 to 30 of the 10-km squares of the national Ordnance Survey grid since 1970, or later date.
- **Nationally scarce** (notable B). Very local species, thought to occur in 31 to 100 of the 10-km squares of the national Ordnance Survey grid since 1970 or later date.
- **Nationally scarce** status is sometimes not subdivided into categories A and B, (notable, occurring in 16 to 100 10-km squares).
- **Very local** status is a much more subjective, but nevertheless useful, measure of scarcity and is based on personal experience, published and unpublished records. It is applied to species that are very limited in distribution or confined to very limited specialist habitats. This group includes species previously considered nationally rare or scarce, but which have had statuses reviewed following more recent study.

The following is a list of some of the more interesting and noteworthy species taken in the area. Where possible a nominal 10-figure grid reference is given to indicate the exact locations where they were found.

*Agrilus biguttatus* (Fabricius), formerly *A. pannonicus* (Piller & Mitterpacher), a medium-sized blue jewel beetle, family Buprestidae. Status: very local. This scarce beetle was once regarded as one of Britain's rarest insects. It was accorded red data book status 2 (vulnerable) by Shirt (1987), but appears to have enjoyed a renaissance, spreading widely in range, and becoming increasingly abundant, especially after the destructive storms of the late 1980s left many large oak stumps and logs. The characteristic D-shaped exit holes are now frequently found, although the adults remain very elusive (Alexander, 2003). It was considered a species particularly associated with ancient woodlands (Harding & Rose, 1986), but with records being increasingly noted it now seems simply to breed in large old trees, often in hedges, parks or gardens. In the latest species review by Alexander (2015) it is downgraded, and not given any nationally scarce status, although it was noted to have occurred in only 108 hectads since 1980, only just missing the nominal 100 which usually serve to define national scarcity. A single specimen was found by one of the London Wildlife volunteers, Cox's Walk, 21.vi.2023, TQ 34447 73034.

*Agrilus cuprescens* (Menetries), a small metallic green jewel beetle, family Buprestidae. Status: very local. Only discovered in Britain in the London area in 2010 (Hodge, 2010), this seems to be a recent colonist here. There are a few other reports of it in England, but it remains very localized in the London area. Several specimens were found sitting on bramble leaves around the site, 18.vii.2023.

*Agrilus olivicolor* Kiesenwetter, a small green jewel beetle, family Buprestidae. Status: very local. This beetle breeds in the dead and dying branches of hornbeam,

*Carpinus betulus*. It is a recent arrival in the British Isles, first being recorded in East London in 2016. It has since spread through some areas of southern England, but remains uncommon. Hornbeam is famously a tree species intricately associated with ancient woodlands, and there are a very large number of these trees in the woods, but this beetle also breeds in hornbeams planted in local parks and green spaces. Several specimens were beaten from hornbeam trees, Dulwich Wood, 18.vii.2023, 22.vii.2023, TQ 34264 72468.

*Arcitalitrus dorrieni* (Hunt), the land-hopper, Family Gammaridae. Status: naturalized Australian species. This curious creature is a relative of the sandhoppers (*Gammarus* and *Orchestia* species) found on the seashore under strandline seaweed and in rock pools. It is the only terrestrial species known in Britain and although described new to science from the Isles of Scilly in 1925, it is in fact native to Australia. It was presumably introduced into this country in soil with plant specimens shipped from the southern hemisphere and was also introduced into the Inner Hebrides and Eire at about this time. It has spread to inhabit leaf litter and is now distributed within about 15 miles of the coast through Cornwall, Devon, the Channel Islands, the coasts of Wales, Western Scotland and much of Ireland. The only outlying localities, until recently, were Colonsay, Galway and Kew Gardens (Harding & Sutton, 1988), but it has now started to spread across England and it has appeared in several London localities. It seems reasonable to conclude that it has somehow been introduced into these urban localities in soil, leaf litter or other horticultural material, rather than by its own means. Many specimens were found under a small log in the Bluebell Wood, 22.vi.2023, TQ 34553 72799.

*Cerylon fagi* Brisout, a small black fungus beetle, family Cerylonidae. Status: nationally scarce (notable B, Hyman & Parsons, 1992). This small fungus beetle breeds under the fungoid bark of various broad-leaved trees, mostly in southern England. Two specimens were found under the bark of a large oak stump, Dulwich Wood, 22.vi.2023, TQ 33799 72254.

*Chorisops nagatomii* Rozk., a small yellow and metallic green soldier fly, family Stratiomyidae. Status: very local. Although formerly accorded nationally scarce (notable) status by Falk (1991b) this was not confirmed by Drake (2017). Although widespread in southern England, this species is decidedly scarce and usually associated with broadleaved woodland, parkland, rivers and fens. Its life history is unknown, but it is likely to feed in moist leaf litter or soil (Drake, 1991). Several specimens were found by general sweeping, Sydenham Hill Wood, 22.viii.2023, 4.ix.2023.

*Chrysophilus laetus* Zetterstedt, a small pale snipe fly, family Rhagionidae. Status: nationally rare (red data book category 2). This fly was originally accorded 'endangered' status (red data book category 1), by Falk (1991b) because, at that time, it was only known from Windsor Forest. Subsequently it has appeared at several other sites in central England, including the London area. It has mainly been thought to be associated with mature trees and ancient broadleaved woodland. The larvae are thought to be predatory in the soil, leaf litter or wood mould in rotten timber. A single specimen was found sitting on the cut logs from a large oak tree, Dulwich Wood, 29.vi.2023, TQ 33895 72375. I have come across this species

several times in the last few years and although these have mainly been from wooded locations, the fly seems well established across the area.

*Corticus unicolor* Piller & Mitterpacher, a small brown fungus beetle, family Tenebrionidae. Status: nationally scarce (Alexander et al., 2014). This is a scarce species with only a few widely scattered localities in England. It is thought to be an obligate predator of bark beetles, in this case possibly *Platypus* which also occurred at the site. One specimen was found under the rotten bark of a large oak stump, Dulwich Wood, 22.vi.2023, TQ 33799 72254.

*Cryptolestes duplicatus* (Waltl), a tiny brown fungus beetle, family Laemophloeidae. Status: very local. This is a very rare insect, although it has never been given any notable status by either Hyman (1985) or Hyman & Parsons (1992); this may be because it was once regarded as merely 'local' and occurred frequently in the London area where resident entomologists were wont to collect it. However there are only 31 records currently displayed on the National Biodiversity Network website suggesting that although this is a small secretive insect and may be under-recorded, it is genuinely very uncommon. A single specimen was found under the rotten bark of a large oak stump, Dulwich Wood, 29.vi.2023, TQ 33799 72254.

*Dacne rufifrons* Fabricius, a small blue/black and red fungus beetle, family Erotylidae. Status: very local. This local beetle breeds in dry fungus and dead fungoid timber of broad-leaved trees, in England and Wales. Several specimens were found in a large encrustation of bracket fungus on a dead standing oak trunk, Dulwich Wood, 22.viii.2023, TQ 34042 72441.

*Diaperis boleti* (Linnaeus), a medium-sized black and red fungus beetle, family Tenebrionidae. Status: vulnerable (red data book category 2, Shirt, 1987; Hyman & Parsons, 1992), but revised to nationally scarce by Alexander et al. (2014). This very rare beetle breeds in large decaying bracket fungi attached to dead and decaying broad-leaved trees, and under the nearby loose bark. Until recently, this very rare insect was only known from a handful of localities. Between 1970 and the review of British Coleoptera (Hyman & Parsons, 1992) it was found only in East Sussex, East Kent and Huntingdonshire. However, it appears to have become slightly more widespread (or perhaps looked for by entomologists) during the last decade and there have been several recent records from Norfolk, Suffolk and Essex. It remains, however, a very rare species and its precise habitat requirements are still not fully understood. It is apparently relatively easy to breed in captivity, but is so very seldom found in the wild, even though large bracket fungi are common and widespread. Two specimens were found under the loose bark of a large standing oak trunk, Low Cross Wood, 21.v.2023, TQ 33785 72071.

*Eledona agricola* (Herbst), a small black fungus beetle, family: Tenebrionidae. Status: very local. Although originally listed as nationally scarce (notable B) by Hyman & Parsons (1992) this was not confirmed by Alexander et al. (2014). Known from ancient woodlands in central and southern England and south Wales, this scarce beetle breeds in very dry powdery bracket fungus growing on broad-leaved trees. One specimen was found in a large rotting bracket fungus attached to a dead tree Cox's Walk, 22.vi.2023, TQ 34407 73249.

*Endomychus coccineus* (Linnaeus), a small red and black fungus beetle family Endomychidae. Status: very local. This pretty and distinctive beetle occurs under



fungoid bark and rotten logs of broad-leaved trees. Although a widespread species, found across most of England and Wales, it is never common and usually scarce. Several specimens were found under the fungoid bark of fallen branches, Cox's Walk, 22.vi.2023, TQ 34433 73129.

*Eulagius filicornis* Reitter, a small brownish fungus beetle, family Mycetophagidae. Status: very local. This rare fungus beetle was only discovered in Britain, at Reading, in 1993 (Harrison, 1996), and was previously considered a species native to southern Europe, and North Africa. It has subsequently turned up in several widely scattered localities across southern England. Many specimens were found associated with a large fungoid oak stump, Dulwich Wood, 21.vi.2034, 18.vii.2023, TQ 34042 72441.

*Euplagia quadripunctaria* (Poda), the Jersey tiger moth, family Arctiidae. Status: very local. This species was given nationally scarce (notable B) status by Waring (1993) but its recent spread means this status has to be revised. At the time of that review, this large distinctive moth was known only from a few localities along the coastal areas of the West Country, Hampshire and parts of Sussex, although it is common in the Channel Islands, hence its English name. However, in about 2005 it became established in south-east London, where it is now abundant, and it has also begun to spread from its former seaside localities. Its caterpillars feed on a wide variety of garden plants, and at times the moth, which is day-flying, can be very common. A specimen was seen flying about, Sydenham Hill Wood, 22.viii.2023, TQ 34411 72610.

*Lasius brunneus* (Latreille), a small brown ant, family Formicidae. Status: nationally scarce (notable A, Falk, 1991a). This is a very localized species restricted mainly to central and southern England from Essex to Shropshire. It seems to be centred on the Thames and Severn Valleys (Edwards, 1998), but may be spreading. It nests exclusively in dead wood (logs and standing timber) where it excavates its galleries, and it is particularly associated with ancient woodlands. It was first noted as British from nearby Windsor, and that area west of London is still its heartland. It and its small nests were found many times during the survey, across all areas.

*Mordellistena humeralis* (Linnaeus), a small skipping flower beetle, family Mordellidae. Status: nationally rare but insufficiently known (red data book category K, Hyman & Parsons, 1992, Alexander et al., 2014). A very local, but probably under-recorded species associated with ancient broad-leaved woodland in southern and central England. Several specimens were found by sweeping, Dulwich Wood, Cox's Walk, Sydenham Hill Wood, 21.vi.2023, 22.viii.2023, 4.ix.2023.

*Panspaeus guttatus* Sharp, a minute brown and yellow click beetle, family Elateridae. Status: very rare, ('naturalized species of rare occurrence, Hyman, 1985). Since it was first discovered in England in 1985, this scarce beetle, thought to be a native of New Zealand, has remained confined to a small area of North Hampshire, Surrey and Berkshire (Mendel & Clarke, 1996; Hodge and Jones, 1995). Like others in the family it probably feeds in decaying timber, and plant roots. Several specimens were found by sweeping and beating Low Cross Wood, 22.vi.2023, 18.vii.2023, TQ 33821 72171.

*Pediacus depressus* (Herbst), a small fungus beetle, family Cucujidae. Status: Nationally scarce (notable A, Hyman & Parsons, 1992). This rare beetle lives under the

fungoid bark of old broadleaved trees, stumps, and logs. Although localities are widely scattered throughout England and Wales, this is a very uncommon insect mostly associated with ancient woodlands, deer parks and pasture woodlands. Several specimens were found under the bark of a fallen oak tree, Cox's Walk, 29.vi.2023, TQ 34431 73166.

*Phloiotrya vaudoueri* Mulsant, a large brown fungus beetle, family Melandryidae. Status: nationally scarce (notable B, Hyman & Parsons, 1992, Alexander et al., 2014). Although records are widespread across England, this is a very rare beetle that breeds in rotten timber in old broad-leaved woodlands. A single specimen was raked from the inside the decaying wood of a mouldering log, Dulwich Wood, 29.vi.2023, TQ 33895 72375.

*Platyderus depressus* (Audinet-Serville), formerly *ruficollis* (Marsham), a small reddish brown ground beetle, family Carabidae. Status: very local. Although given nationally scarce (notable B) status by Hyman & Parsons (1992), this was not confirmed by Telfer (2016). This southern and eastern species occurs in dry sandy or chalky places in open situations (Luff, 1998). Specimens were found underneath logs, Sydenham Hill Wood, 22.vi.2023, 18.vii.2023.

*Platypus cylindrus* (Fabricius), a small dark brown bark beetle, family Platypodidae. Status: nationally scarce (notable B, Hyman & Parsons, 1992), revised from nationally rare (red data book 3, Shirt, 1987). This is a widespread, but rather local species that attacks dead oak trunks, logs and stumps. It is listed as an ancient woodland indicator species (Harding & Rose, 1986), but also occurs in large oaks in hedgerows. Many specimens were found boring into oak stumps and dead tree trunks, Cox's Walk, Sydenham Hill Wood, Dulwich Wood, Low Cross Wood, 22.vi.2023, 18.vii.2023, 11.x.2023.

*Prionychus ater* (Fabricius), a large black fungus beetle, family Tenebrionidae. Status: very scarce. Although listed as nationally scarce (notable B) by Hyman & Parsons (1992) this was not confirmed by Alexander et al. (2014). This beetle breeds under the loose bark of dead and decaying broad-leaved trees and is particularly associated with ancient woods and parks, in southern England and Wales. The dead and broken remains of a specimen were found in wood mould scooped out from a hollow tree, Dulwich Wood, 22.viii.2023, TQ 33895 72375.

*Pycnomerus fuliginosus* Erichson, a small black fungus beetle, family Colydiidae. Status: very local ('naturalized species of rare occurrence', Hyman, 1985). This scarce beetle, a native of Australia, was first found in the UK in 1964. Unlike some newcomers to Britain, it has not spread very widely, and remains an elusive and unusual find. There are several records for the West Sussex/ Hampshire/ Berkshire area, where it seems to be if not well then widely established (Hodge & Jones, 1995) and other clusters in the West Country and South Wales. Two specimens were found under bark of fallen and cut oak logs, Dulwich Wood, 29.vi.2023, 18.vii.2023, TQ 33799 72254.

*Pyrochroa coccinea* (Linnaeus), a large red and black 'cardinal' beetle, family Pyrochroidae. Status: very local. Although given nationally scarce (notable B) status by Hyman & Parsons (1992), this was not confirmed by Alexander (2014) following an apparent increase in records during the last 25 years. Associated with dead and decaying broad-leaved trees in ancient woods in England and Wales,

adults are usually found flying, whilst the characteristic flattened larvae are found under the bark of dead trees and logs. A specimen was found crawling over fallen and cut logs, Low Cross Wood, 22.vi.2023, TQ 33785 72071.

*Rhizophagus parallellocollis* Gyllenhal, a small brown bark beetle, family Rhizophagidae.

Status: very local. Although recorded from a wide range across England and Wales, this is a scarce, or at least secretive species. It is associated with subterranean rotten timber, and is sometimes called the graveyard beetle because it is often associated with buried coffin wood in cemeteries and graveyards. A specimen was found under a cut log, Dulwich Wood, 22.vi.2023, TQ 33799 72254.

*Saprosites natalensis* Peringuey, a minute brown 'dung' beetle, family Scarabaeidae.

Status: very local. This small beetle feeds on dead wood and is only known from the London area. It is thought to be a native of Australasia, but arrived in Britain via South Africa, some time in the 1980s (Lane & Mann, 2016). Several specimens were found under cut logs from a fallen oak tree, 18.vii.2023, TQ 33799 72254.

*Silvanus bidentatus* (Fabricius), a minute brown fungus beetle, family Silvanidae. Status:

nationally scarce (notable B, Hyman & Parsons, 1992). This scarce beetle occurs under the rotten bark of broad-leaved trees, usually in ancient woodlands. It is listed in ancient woodland saproxylic fauna group 2 by Harding & Rose (1986). Although widespread in England and southern Scotland it is very scarce. It was originally given nationally rare status (red data book category 3) by Shirt (1987), but this was later reviewed. A single specimen was found under the bark of a fallen oak log, Cox's Walk, 22.viii.2023, TQ 34431 73166.

*Stenus geniculatus* Gravenhorst, a small grey rove beetle (family Staphylinidae). Status:

very local. Little is known about this beetle. It seems to prefer dry sandy soils. Like others in the genus it inhabits the root thatch. Two specimens were found by sweeping, Sydenham Hill Wood, 22.viii.2023, 4.ix.2023, TQ 34411 72610.

*Synchita separanda* Reitter, a minute brown fungus beetle, family: Colydiidae. Status:

nationally rare (red data book category 3, Shirt, 1987; Hyman & Parsons, 1992). This is a very local species found under the rotten bark of beech, chestnut and sycamore trees. This beetle has been regarded as being an indicator of ancient woodland (Harding & Rose, 1986), it was originally known, in Britain, only from Windsor Forest and Knole Park, until it was found in Peckham in May 1986 (Jones, 1987). Subsequently, this beetle has been found in several more south-east London localities. It is usually associated with the sooty bark disease, a fungus, *Cryptostroma corticale*, of sycamore bark, but also sometimes occurs under beech bark. A single specimen was found under the bark of a large dead beech tree, Low Cross Wood, 18.vii.2023, TQ 33785 72071.

*Temnothorax (Leptothorax) nylanderi* (Foerster), a very small brown and orange ant,

family Formicidae. Status: very local. This uncommon species of south-east England, Severn Valley, Thames Valley and southern East Anglia forms small colonies under the loose bark of trees and in dead tree stumps (Edwards & Broad, 2006). It is especially a species of parks and old woodlands, and is more tolerant of shade than many ants. Several specimens were found by sweeping, Cox's Walk, 18.vii.2023, TQ 34431 73166.

*Triphyllus bicolor* Fabricius, a small brown fungus beetle, family Mycetophagidae. Status:

nationally scarce (notable, Alexander et al., 2014). This is an uncommon beetle

found breeding in fungus-encrusted logs and stumps. Although not given any status by Hyman & Parsons (1992), lack of recent records suggested to Alexander et al. (2014) that this species was declining. It is recorded from widely scattered localities in England. Several specimens were found in a fungus-encrusted oak stump, Dulwich Wood, 29.vi.2023, TQ 34042 72441.

*Uleiota planata* (Linnaeus), a small flat bark beetle, family Cucujidae. Status: nationally scarce (notable A, Hyman & Parsons, 1992). This rare beetle occurs under the fungoid bark of broad-leaved trees, usually beech, elm, oak or birch, in ancient woodlands. It is listed in ancient woodland saproxylic fauna group 1 by Harding & Rose, 1986). Although recorded from Wales and Lancashire, most records are from central southern England: Hampshire, Surrey, Sussex and Berkshire. Several specimens were found under the bark of logs cut from a large fallen oak tree, Dulwich Wood, 21.vi.2023, 18.vii.2023, 11.x.2023, TQ 33799 72254.

## **DISCUSSION**

There have been several surveys of Sydenham Hill and Dulwich Woods, and these have shown that the woods have an important fauna of insects, particularly beetles, associated with dead and decaying wood, as is known from ancient woodlands.

The first serious survey of woodland beetles from 1997 to 2000 resulted in an article by Jones (2002) in *The London Naturalist*, emphasizing the importance of the saproxylic (dead wood) beetle fauna and indicating that the woods represent a nationally important community of insects.

Old maps give some indication of the age of the woods, and the existing woodland is certainly concomitant with what was once a large expanse of woods, copses and wooded commons known as ‘The Great North Wood’ (Archer et al., 1989). The problem with woods, is that they can be clear-felled, then allowed to regenerate into secondary woodland at some later date. There comes a point at which genuine ancient woodlands (usually those wooded since 1600) and secondary woods become difficult to distinguish from their look — they are both deep dark woodlands with large old trees. However, the communities of woodland plants and animals can distinguish them.

The ancient nature of the Woods was first noted in the botanical surveys carried out during the 1950s (Lousely, 1959, 1960). A number of dead-wood beetles found in 1997-1998 (Jones, 1998) precipitated a follow-up survey in 2000 (Jones, 2000) to look specifically at these. Beetles are good indicators of the ancientness of woodlands. Many are feeders in the dead, dying and fungoid timber, some in fallen logs and stumps, other in dead standing branches.

Much attention has been paid to some of the scarcer saproxylic (fungoid wood feeding) beetles in England. The rationale goes something like this. The rarest dead-wood feeders can only survive in woodlands where there has been a constant supply of dead and decaying timber for many centuries. This timber is in a wide variety of stages of fungal decay, with different sizes of timber, different tree species, different levels of moisture, and with different fungi breaking it down. This broad variety of dead-wood habitats allows a broad variety of dead-wood feeders. If a wood is felled and cleared, the subsequent gap in the available rotting wood habitat means the beetles become locally extinct. If the felling is just a small part of a much larger woodland (as happened with traditional coppice rotational cutting, pollarding etc), recolonization can occur relatively quickly from

surrounding woods. If the cut woodland is isolated from other old woods, colonization occurs, but is much slower, with only a few species reappearing each year. A similar slow colonization can occur if secondary woodland grows up where no woodland existed previously. Therefore, the number of dead-wood feeding beetles will be higher in genuinely ancient woods (generally reckoned to be those present in 1600), compared to relatively modern woods, even though some trees may be hundreds of years old. This is particularly pronounced in places like parks and gardens where lone trees may reach many hundreds of years old, but the constant clearance of fallen timber and cut branches removes the dead-wood habitat.

Studies of ancient woodlands in the 1980s and 1990s led to the publication of lists of ‘indicator’ species, species very much associated with ancient woodlands, not with the subsequent regrowth (Harding & Rose, 1986). Some attempt was made to grade these beetle species to give higher indicator status to some species over others. They were divided into groups, depending on the degree of associatedness with known old woods:

- **Group 1.** Species which are known to have occurred in recent times only in areas believed to be ancient woodland, mainly pasture-woodland.
- **Group 2.** Species which occur mainly in areas believed to be ancient woodland with abundant dead-wood habitats, but which also appear to have been recorded from areas that may not be ancient or for which the locality data are imprecise.
- **Group 3.** Species which occur widely in wooded land, but which are collectively characteristic of ancient woodland with dead-wood habitats.

It was that ‘collective characteristic’ of the dead-wood beetle community, which has proved most useful when recording the beetle faunas of potentially old woodlands.

Later, a scoring system based on these groups was proposed (Alexander, 1988, 2004; Harding & Alexander, 1994); and then rarity scores, depending on their national distribution in the UK, their red data book and nationally scarce statuses, were suggested (Fowles, 1997). This scoring system resulted in the calculations of an index of ecological continuity IEC for each site, based on the these groups.

More recently a more detailed index of ancient woodedness was created. The initial list of species suggested by Harding & Rose (1986) was later extended into a list of 599 British saproxylic beetles specifically associated with old broad-leaved woods. This was formalized by Fowles et al. (1999). Each of these beetle species was then allocated a score depending upon its then national rarity status:

<u>Score</u>	<u>Status</u>
1	common
2	local
4	very local/uncertain
8	nationally scarce (notable B)
16	nationally scarce (notable A)/ RDB-K (insufficiently known)
24	RDB-I (indeterminate)/ RDB-3 (rare)
32	RDB-2 (vulnerable)/ RDB-1 (endangered)/ RDB appendix (extinct)

Fowles et al. (1999) applied these scores to saproxylic beetle lists from 126 known ancient woods across Britain, and suggested that this method of scoring had some worth in

comparing and contrasting different localities. They suggested a minimum species count of 40 qualifying species would exclude short and therefore unrepresentative lists.

The saproxylic quality index (SQI) of a site, is calculated by scoring each of the 599 species found there according to their scarcity, as listed above, summing these scores, then dividing by the number of species found.

Britain's top sites had huge scores. Windsor Forest, for example, produced a list of 364 qualifying species, a total score of 3084 and an SQI of 847.3. The New Forest had slightly fewer species (326) and total score (2792), but a higher SQI at 856.4. Britain's most important sites are large, well-known and well-studied nature reserves. Fowles et al. (1999) suggest an SQI approaching 600 should denote a site of international importance (they give 7 sites), and an index over 500 a site of national importance (a further 8 sites are listed). They also give a list of 42 sites with scores ranging from 236.6 to 488.7.

In a previous dead-wood beetle survey, Sydenham Hill and Dulwich Woods (Jones, 2002) produced a total of 53 qualifying species, a total score of 229 and an SQI of 430.1. This was a very respectable value, and compared very well against a list of woods published on the internet (<https://www.khepri.uk/rankings/>), where Sydenham Hill and Dulwich Woods appeared at number 49 in the 'top' 100 British woodlands (updated to September 2009).

Some additions were made during the 2010/2011 survey and the index was recalculated. There were now 61 qualifying species, the total score was 282 and the SQI was 462.3. This would have nominally put Sydenham Hill and Dulwich Woods at 41st position in the chart of the top 100 British Woods. It also draws the wood closer to that 500 score indicating a site of national importance.

The present survey continues to add more species to this qualifying list and a resubmission of the species list to an automatic calculation program now available at the SQI website has just been made (24 October 2023). This submission was adjudicated by those entomologists monitoring the work, and the calculations are already available. There are 92 qualifying species, the total score is 437, the IEC value is now 40 and the SQI is 475. Since 2002 many more sites across England have been surveyed by entomologists and ancient woods continue to be a keen source of interest. Consequently many important ancient woodlands have now also been added to the SQI ranking site meaning that by 2023 Sydenham Hill and Dulwich Wood had slipped from its 49th position in the top 100 woods back in 2002 to 96th in a list of 239. The recently submitted list is confirmed and Sydenham Hill and Dulwich Woods appears at 69th in the list of 239. This continues to support the fact that the woods are an extremely important ancient woodland site.

As was observed in an earlier report on the woods, many of the species lists for top UK sites have been drawn up over many years and cumulatively long lists are produced, with some records dating back to the 19<sup>th</sup> century. It is interesting that old entomological books, especially those on beetles, often list 'Forest Hill' as a locality. This may have been because Forest Hill was the railway station to which the naturalists travelled, or because it was the nearest significant village in the Surrey/Kent countryside at the time. It seems likely that any insect collecting done 150 years ago, would have been in or near the present woods, or in pockets of similar woodland surviving from the Great North Wood nearby, but which no longer remain. There is still an argument for scouring the literature to find Forest Hill records and including them in future SQI/IEC calculations. At the very least the

non-inclusion of these historical records shows that the site's ranking in the list of important ancient woodlands in England is a minimum.

### SITE COMPARTMENTS

The species records have been allocated to the compartments as requested by London Wildlife Trust who commissioned the survey, though it is not really worth considering each as a separate survey site because in total the areas are still small, especially in comparison with other woodland sites around the country. However, there are a few comments to make.

**Cox's Walk.** Despite being quite a narrow strip of land there are some moderately large trees, plenty of which have fallen limbs and there are mouldering logs in the undergrowth. A couple of fallen logs here provided several new species to the running total list, including *Eledona agricola*, *Endomychus coccineus*, *Mordellistena humeralis*, and *Pediacus depressus*.

**Bluebell Wood.** This small enclave is really just a segment of Sydenham Hill Woods, but separated from the main area by the continuance of the narrow Cox's Walk footpath. It had little to add to this survey, despite having a few large trees, but did turn up *Architalitrus dorrieni*, the land-hopper. This strange creature, originally a native of Australia, has been spread to the northern hemisphere, probably in horticultural material and continues to be spread around gardens in the London area. Its occurrence in the woods here is probably connected to this section's close association with the local gardens onto which it abuts.

**Sydenham Hill Wood.** Despite this being a significantly large area of the woods there were few saproxylic beetle finds new here. This perhaps reflects the history of the woods here which were until the 1960s was lined by a series of large houses with large and presumably well managed gardens. With the houses demolished and the gardens left to revert to nature a wooded appearance has taken over, but this is still many centuries away from having the truly ancient nature of the rest of the survey area. Nevertheless there are some spectacular trees here. Although no saproxylic beetles or flies were recorded from it a large oak tree at about TQ 34558 72610 with many dead staghorn branches was attracting large numbers of butterflies on several occasions. They were settling on the high branches and may have been attracted to fermenting sap oozing from fissures in the bark. Whether there are exciting beetles living under the bark will have to wait for several years until either branches fall or the whole tree comes down and is cut up.

**Dulwich Woods.** Several new saproxylic species turned up here this year, including: *Agrilus olivicolor*, \**Pycnomerus fuliginosus*, \**Cerylon fagi*, \**Corticeus unicolor*, *Triphyllus bicolor*, \**Rhizophagus parallelocolis*, *Phloiotrya vaudoueri*, *Prionychus ater*, \**Cryptolestes duplicatus*, *Dacne rufifrons* and *Eulagius filicornis*, and also the snipe fly \**Chrysophilus laetus*. The serendipitous nature of insect surveying is demonstrated by the fact that all of those above species with an asterisk were found in the stump and a few cut logs from a single large oak tree on the boundary of Dulwich Wood. It just so happened that this year that particular tiny spot had the right combination of fungal rot and wood decay to be attractive to these insects, and for it to be easily available to the entomologist who found them. The Dulwich Woods portion of the survey site area continues to provide

the majority of saproxylic finds, perhaps confirming that this is the heartland of this small ancient remnant of the Great North Wood. The small jewel beetle *Agrilus olivicolor* was found in the woods. It breeds in the twigs of hornbeam trees; there are plenty in the woods and this tree species is often associated with ancient woodland remnants. This is a recent arrival in England and is now widespread in the London area; it occurs in ornamental parks and gardens, but is not specifically attached to ancient woodlands.

**Low Cross Wood.** This small portion of Dulwich Woods has no easy public access. Several saproxylic species were recorded here including *Diaperis boleti* and *Pyrochroa coccinea*. The tiny click beetle *Panspaeus guttatus* was also found here. This is another new arrival to England, but has not spread very widely since its first discovery in 1985, though it is not particularly associated with ancient woodlands.

### MANAGEMENT SUGGESTIONS

The following section is a reiteration from the earlier report on the woods. Sydenham Hill and Dulwich Woods, would probably have been used by the owners and local residents in times gone by, and regular cutting for poles, firewood and building timber would have carried out. This would have had the effect of keeping some areas open to sunlight, and generating piles of cut logs and faggots. In the last 75 years, woodland management has undergone some drastic changes. Woods are no longer cut by local residents for firewood and domestic articles like brooms, fences and furniture. Consequently, the woods have become rather overgrown.

Even the photographs in the flora papers by Lousely (1959, 1960) show a much more open woodland than exists today. The understorey was dominated by creeping soft-grass, *Holcus mollis*, although bracken and bramble were also thick in some places. This contrasts very strongly with the dense holly growth that now shades much of the woods, or the compressed bare soil where visitors to the woods have trampled.

Some attempts have been made to cut or coppice areas of the woods, and to put up fences to exclude heavy foot traffic. These appear to have worked well. Several areas cut in Sydenham Hill and Dulwich Woods, then fenced with chestnut pales, have become rich woodland clearings, flowery and sunny. Cutting down trees in the name of nature conservation may be a difficult message to get across to a general public assaulted on all sides by the notion that trees are good, and need to be planted, protected and preserved by court order. Nevertheless, woodlands like Sydenham Hill and Dulwich Woods will continue to need heavy woodland management to maintain the high biodiversity they hold.

Surely the most important habitat in Sydenham Hill and Dulwich Woods must be the dead-wood habitat of fallen and felled trees, broken branches and mouldering tree stumps. To some extent, this is the easiest habitat to look after, because very often nothing needs doing to it, except to leave it where it stands, or falls. Dead standing timber on old trees very often has a different fauna to logs. This is because it is dry, well ventilated, and often warm in full sunlight. Cutting of dead branches should only be carried out if limbs are considered a significant danger to the public. Otherwise they should just be left in situ.

Fallen trees should be left where they fall, and apart from trimming twigs and branches away from paths, very little need be done to them. Bark should always be left on cut or fallen timber, as the fungal growth in the bark/heartwood boundary is a key habitat for many saproxylic invertebrates.



There are more management opportunities where deliberate felling and cutting is carried out. Large trunks can be left lying on the ground, or even partially buried in the soil. Some can be left in full sunshine, others left in shade. Each will develop its own fungal rot stages. Smaller logs can be stacked into woodpiles. Again, this creates a variety of microhabitats, from damp decay in those resting directly on the soil, to drier warmer habitats on top of the heap. To prevent disturbance from human visitors, the heaps should be made large, and packed tight; perhaps even wiring some logs together to prevent their movement. The smallest cut branches can be made into faggot piles. These should be placed out of direct view of paths, to discourage visitors from disturbing or destroying them, and prevent them being collected and used in the play camps popular with children. Using medium-sized logs to demarcate paths is another useful habitat creation scheme, but the logs may have to be pinned into position, to prevent them being deliberately or accidentally kicked aside.

Exactly which trees might be cut or trimmed must depend on precise surveys on the ground, taking into account surrounding habitats, tree sizes, proximity to paths and the like. But some general suggestions can be made. Holly threatens to overshadow many areas in the woods, and large areas of these relatively small trees might be cleared to open up the understorey. Sycamore and ash, both fast-growing and invasive trees could also be cut in large numbers. Cherry laurel has already been targeted as an invasive threat in the woods and the areas cleared of this shrub should be maintained and monitored.

Stag beetle loggeries have been created using cut branches of various trees, including ash and sycamore. Short lengths of timber, 1.0-1.5 m long are half buried, vertically, in the soil, in clumps to reproduce the subterranean decaying timber habitat favoured by these beetles.

The borders of the woods might also benefit from some management. Gardens bordering Dulwich Wood show signs of the owners dumping garden waste over the fences. The residents may not realize the damage they are doing, thinking that the organic matter will decay, and it just helps fertilize the trees. In reality it introduces invasive weeds, encourages rank growth of nettles and bramble, and is unsightly.

The fence alongside the golf course shows severe grass-cutting right up to the edge of the wood. Ordinarily, a natural woodland edge is never so abrupt, and a scrub understorey or hedge might be expected. Woodland edges are often richly diverse habitats because of the variety of hedge-type trees and bushes, the long flowery herbage alongside and the 'edge effect' where animals tend to congregate against a change in habitat type. If the golf course owners are unable or unwilling to alter their mowing regime, perhaps trees can be cleared along the inside of the fence, allowing an intermediate layer of scrub and herbage to develop. Similarly, the fence bordering the road called Sydenham Hill has trees growing densely right up to it. Thinning or clearance of a strip along the inside of the fence would allow a gentle woodland edge to develop. There may be security issues connected with this work, though.

## **CONCLUSION**

The invertebrates of Sydenham Hill and Dulwich Woods (and Cox's Walk) continue to show the site is a very valuable wildlife reserve. New scarce and unusual species continue to be found. The beetle fauna associated with dead and decaying timber is shown to be an important assemblage, and its collective character definitely supports the suggestion that

the woods are of metropolitan importance for nature conservation. They may also be of national importance. The species list has been uploaded to a specific saproxylic beetle website which calculates an index of saproxylic quality and ranks sites nationally. Sydenham Hill and Dulwich Woods ranks a highly respectable 69th in a list of 239 ancient woodlands confirming it as a site of high importance within a national context.

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