Nettlecombe Park Saproxylic Invertebrate Survey 2019 - Final Report

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NETTLECOMBE PARK SAPROXYLIC INVERTEBRATE SURVEY 2019 - FINAL REPORT

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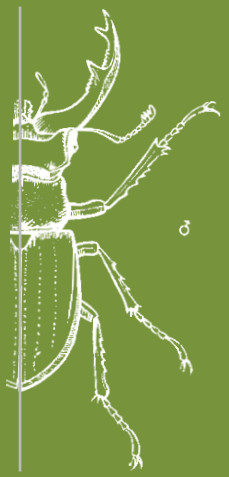
March 2020



1. INTRODUCTION

This report details the findings of a dead wood (saproxylic) invertebrate survey carried out under contract to Natural England (NE). A saproxylic invertebrate assemblage survey was required to underpin NE's biodiversity evidence base for Nettlecombe Park Site of Special Scientific Interest (SSSI). The site is located in the Brendon Hills, in the eastern part of the Exmoor National Park. Nettlecombe Park lies in west Somerset (Watsonian vice county 5, South Somerset), the location of which is shown on Figure 1.1. The survey area is privately owned and comprises an area of parkland and woodland.

Nettlecombe Park has been notified as a SSSI for its important lichen flora and invertebrate fauna. It lies in a valley which runs north-south on the northern fringes of the Brendon Hills. A central grid reference for the site approximates to ST055373. Records suggest it has been wood-pasture or parkland for at least 400 years. There are some very old oak pollards which may be of this age or older. The oldest standard trees are certainly over 200 years of age. The long continuity of open woodland and parkland with veteran trees has encouraged the development of very biodiverse assemblages of epiphytic lichens and saproxylic invertebrates (mainly beetles), the majority of which are associated with the mature and over-mature trees. Many of these species are now nationally rare or scarce, because this type of habitat has been eliminated over large areas of Great Britain. The high ecological interest outlined above resulted in the notification of Nattlecombe Park as a SSSI in 1990.

Oak is much the most frequent veteran tree and there are also significant numbers of over-mature/veteran beech, sycamore, sweet chestnut and ash. As elsewhere, the latter species shows clear evidence of attack by ash dieback disease and it is likely that the majority of ash trees will die over the next decade.

The current work builds on earlier saproxylic invertebrate surveys of Nettlecombe Park by Alexander, 1990a (see also Alexander, 1988, 1990b & 1992) and Boyce (2010). Peter Hammond also visited the Park in May 1990 and recorded some interesting dead wood beetles. The results of these studies have also been drawn on in the preparation of this report.

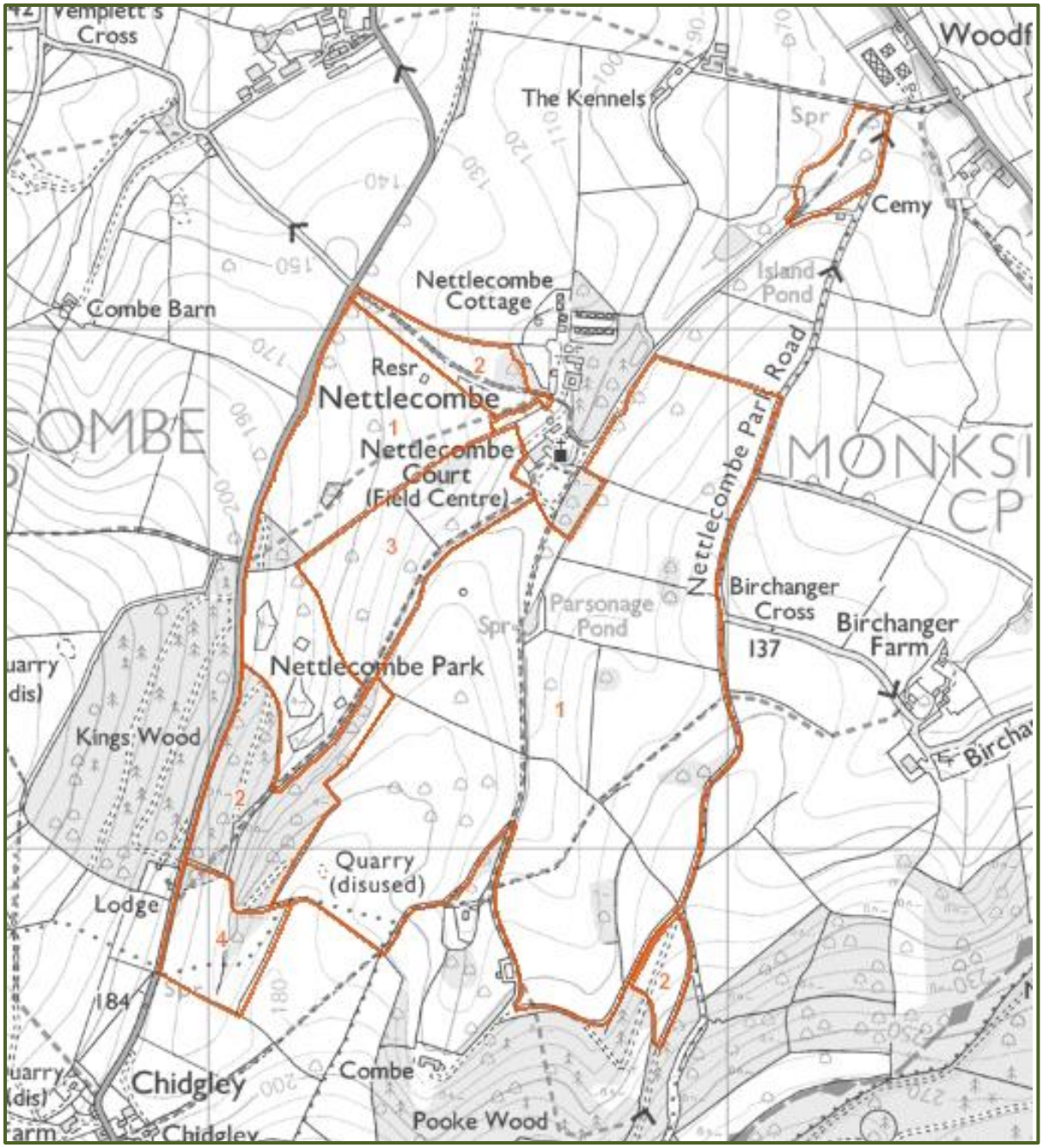


Figure 1.1. Location of Nettlecombe Park SSSI

2. METHODS

The contractor was required to undertake a saproxylic invertebrate survey of the wood-pasture and parkland habitats. The survey was of the wood decay habitat associated with veteran trees and the three specific assemblage types: heartwood decay (A211) bark and sapwood decay (A212) and fungal fruiting bodies (A213).

The survey units referred to in Table 2.1 and elsewhere in this report are based on those into which the site has been divided by NE for the purposes of management and reporting on site condition. These are the red numbers on Figure 1.1. Because some of these are large (especially unit 1) or are divided into discrete areas (unit 2), they have been further sub-divided in this report with the addition of a lower case letter (eg. 1a, 1b etc.) to give the survey units that have been the basis for carrying out this contract. These survey units are shown on Figure 2.1. In the following text, survey unit is abbreviated 'SU'.

The survey methodology used followed that laid out in Webb & Hackman (2018). This outlines the use of passive vane traps placed in suitable habitat by April and maintained until October and active searching methods were also employed while moving round the site servicing the vane traps. Vane trap placement was decided by the surveyor after assessing suitable trees during the first visit. It was not possible to set up the vane traps in April, but ten were put up as soon as the contract had been finalised, in early-May. They were then emptied regularly, through until the final visit on the 23rd of October. Severe storms during the last sample period, from the 25th of September until the final visit on the 23rd of October resulted in the loss or flooding out of all the traps, so there are no data from this visit. A photo was taken of each tree where a vane trap was installed and a ten-figure grid reference of it was recorded along with the species of the tree and the tree tag label number, where this was still attached to the tree. Information on the ten trees selected for installation of vane traps is presented in Table 2.1 and their position is also illustrated on Figure 2.2.

Table 2.1. Summary information on vane trap location at Nettlecombe Park, 2019

Vane trap number	Grid ref	Notes on siting of vane trap, including tree tag and survey unit
VAT1	ST05573776	Veteran turkey oak pollard (VT15) with trunk cavity, SU3a
VAT2	ST05463787	Well-rotted, fallen veteran oak (no tag) trunk with red-rot, SU1a
VAT3	ST05463792	Well-rotted veteran beech snag (VT105), SU2a
VAT4	ST05283735	Veteran oak snag (VT240) in bracken and elder scrub, SU3b
VAT5	ST05533736	Hollowed-out veteran oak (VT177) in open parkland, SU1d
VAT6	ST05403700	Massive veteran oak pollard (VT202) in open parkland, SU1c
VAT7	ST05523711	Over-mature oak (VT194) in open parkland, SU1c
VAT8	ST05793685	Veteran ash (no tag) with extensive heart rot, SU1e
VAT9	ST05433773	Veteran beech pollard (no tag), SU3a
VAT10	ST05463771	Huge, split,oak pollard (no tag) with red-rot, SU3a

During active searching, saproxylic invertebrates were collected using a range of manual recording techniques. The most important of these were: searching under bark of dead trunks and branches, sieving heart rot, shaking wood-decay fungi over a tray, beating living and dead tree foliage (including flowering hawthorn in late-spring) and visual inspection of flowering umbels (mostly hogweed), dead trunks and branches. Most small invertebrates

(eg. false scorpions, Aleocharine rove beetles) collected during fieldwork were put into tubes containing a 70% solution of Isopropyl Alcohol, while larger forms were usually collected in jars containing ethyl acetate.

The focus of the survey was saproxylic beetles but records of other invertebrates such as flies (Diptera), ants, bees and wasps, (Aculeate Hymenoptera), bugs (Hetroptera) and moths (Lepidoptera) have also been made in those groups with which the surveyor is familiar. Casual records of some non-saproxylic invertebrates that could be identified easily in the field, such as the butterflies and day-flying moths (Lepidoptera) and grasshoppers and crickets (Orthoptera) have also been kept. All the invertebrate records from this survey can be found at Appendix 1.

Subsequently, all samples were identified down to species level. A range of invertebrate groups have been covered, with a full checklist of all species identified given in Table 3.1. The choice of invertebrate taxa collected for identification to species level is based on those groups most likely to yield valuable information on the saproxylic invertebrate assemblage. Primarily, this involved determination of a range of beetle (Coleoptera) families, though some other saproxylic species (eg. Diptera, Aculeate Hymenoptera and pseudoscorpions) were also collected and have been identified to species level.

Following the survey work the contractor was required to analyse the data using the Pantheon database (http://www.brc.ac.uk/pantheon/). This permits an assessment of the condition of the three dead wood SATs. The report also provides short accounts of all key species recorded during 2019. The data have also been analysed using results generated by the Revised Index of Ecological Continuity (RIEC) (Harding & Rose, 1986) and the Saproxylic Quality Index (SQI) (Fowles *et al*, 1999).

Fieldwork was carried out on the 9th of May, 21st of May, 10th of June, 1st of July, 25th of July, 25th of September and 23rd of October 2019.

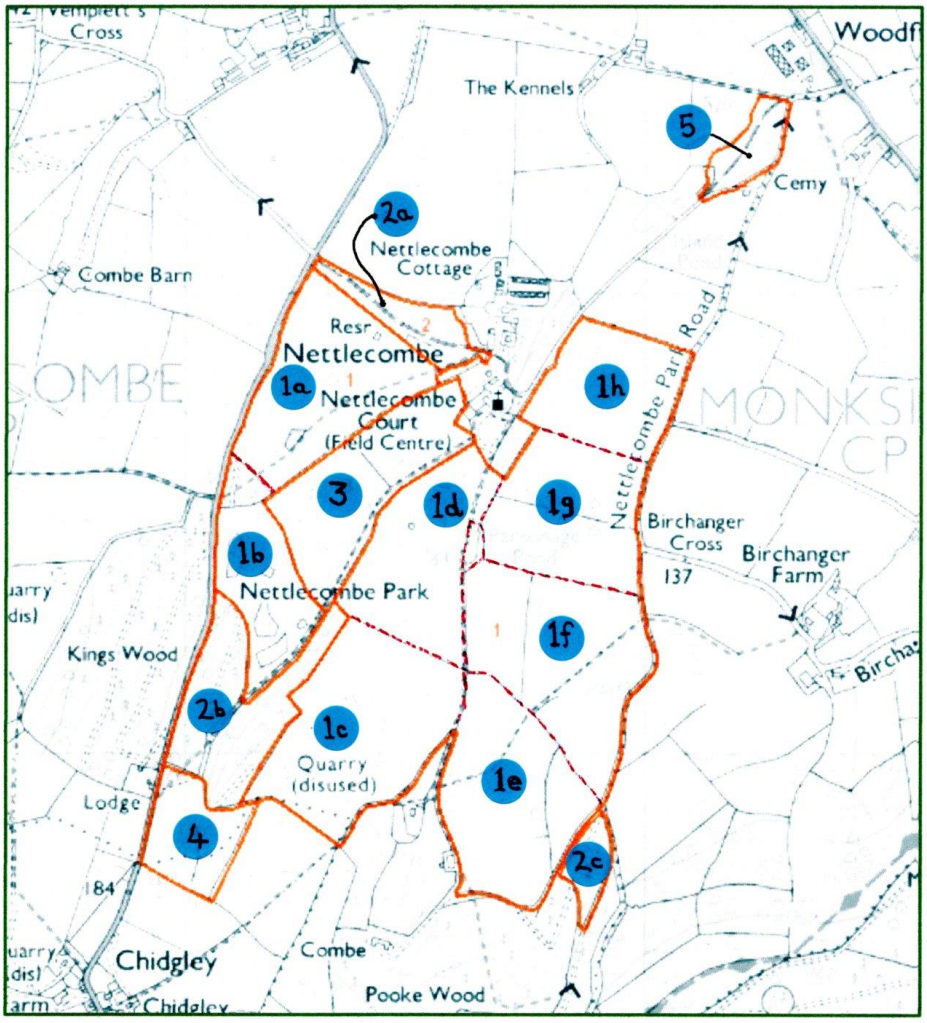


Figure 2.1. Location of survey units (SU) at Nettlecombe Park SSSI

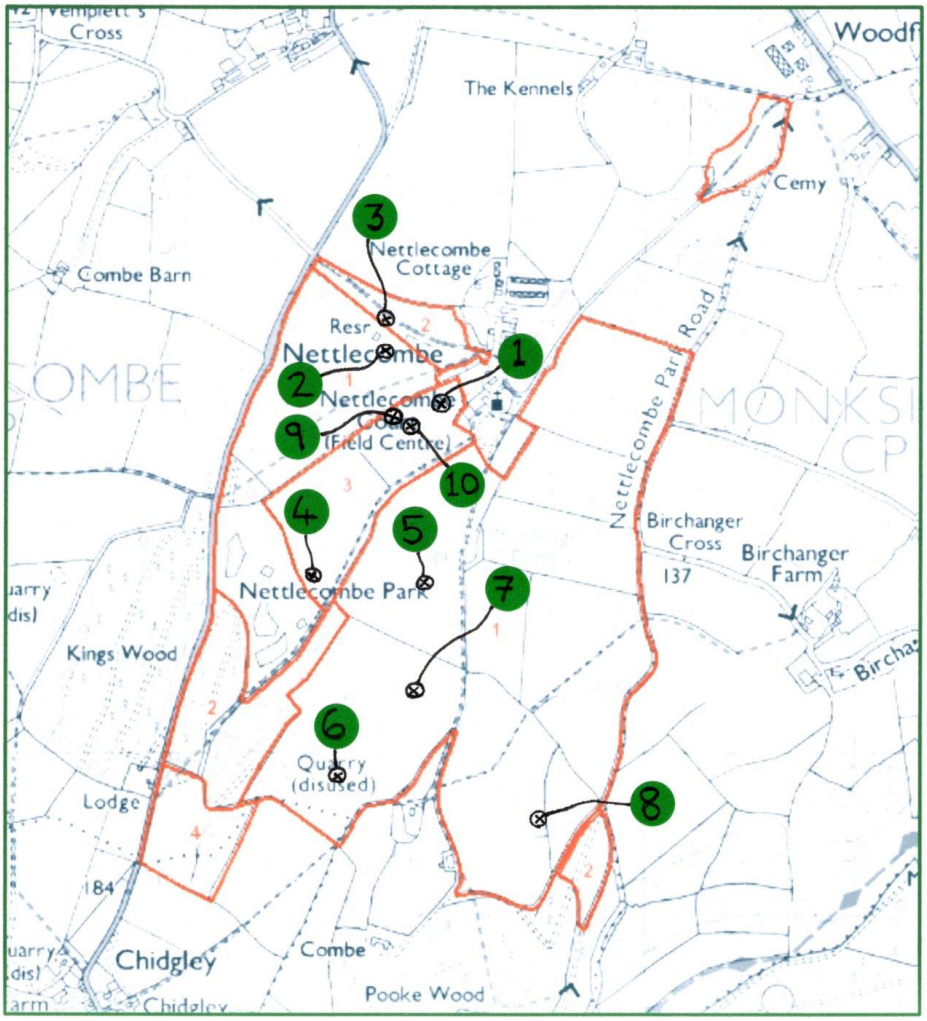


Figure 2.2. Location of vane traps (VAT) at Nettlecombe Park SSSI

3. RESULTS

Table 3.1 below provides a checklist of all the invertebrates recorded during the fieldwork in 2019. Following this, sub-section 3.1 lists all of those with a formal conservation status that are regarded as key species when assessing the importance of the site for invertebrates. In sub-section 3.2, this list of key species is used to help inform a discussion of the importance and quality of dead wood habitats for saproxylic invertebrates.

The codes in the final column of Table 3.1 refer to the woodland survey units in which species were recorded in 2019. The location of these is shown on Figure 2.1.

The emboldened status categories given in the third column of Table 3.1 and also after the scientific name in sub-section 3.1 refer to those species having a formal rarity/threat status ascribed to them by the UK government conservation agencies. These are defined as follows:

NT – IUCN Red List, Near Threatened. A taxon is Near Threatened when it has been evaluated against the IUCN criteria and does not currently qualify for Critically Endangered, Endangered or Vulnerable status, but is close to qualifying, or is likely to do so soon.
NS – Nationally Scarce. In more recent second status reviews, the Na and Nb sub-divisions have been subsumed into a single category covering species occurring in 16 to 100 10km squares of the National Grid. Unlike the previous 'N' category, which covered the same range, the amalgamation does not necessarily result from inadequate information on the British distribution.
pNS – Provisional Nationally Scarce. The rove beetle *Phloeostiba plana* will almost certainly be accorded Nationally Scarce status in the forthcoming Review of this group, but it has no formal conservation status currently.
RDBK – Red Data Book Category K – Insufficiently Known. Taxa that are suspected but not definitely known to belong to one of the RDB categories, because of lack of information.
Na – Nationally Scarce Category A. Taxa thought to occur in between 30 to 16 10 km squares of the National Grid.
Nb – Nationally Scarce Category B. Taxa thought to occur in between 30 and 100 10 km squares of the National Grid.
N – Nationally Scarce. Taxa which are estimated to occur within the range of 16 to 100 10km squares, but where division into Na or Nb status has not been attempted due to limited availability of information on British distribution. Second status review not yet completed and status therefore taken from first review.
SFG1 – Saproxylic Fauna Group 1 – Saproxylic beetles that are known to have occurred in recent times only in areas believed to be wood-pastures or ancient woodland with abundant dead wood habitats (Harding & Rose, 1986, as modified by Alexander, 2004).
SFG2 – Saproxylic Fauna Group 2 - Saproxylic beetles that 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 (Harding and Rose, 1986, as modified by Alexander, 2004).
SFG3 – Saproxylic Fauna Group 3 - Saproxylic beetles that occur widely in wooded land, but which are collectively characteristic of ancient woodland with dead wood habitats (Harding and Rose, 1986 as modified by Alexander, 2004).

TABLE 3.1. CHECKLIST OF INVERTEBRATES RECORDED AT NETTLECOMBE PARK SSSI, 2019		
Species scientific name	**Species English name**	**Status**
Lehmannia marginata	Tree slug	
Meconema thalassina	Oak bush-cricket	
Leptophyes punctatissima	Speckled bush-cricket	
Forficula auricularia	Common earwig	
Acanthosoma haemorrhoidale	Hawthorn shieldbug	
Palomena prasina	Common green shieldbug	
Pentatoma rufipes	Forest shieldbug	
Aradus depressus	A flat bug	
Heterogaster urticae	Nettle ground bug	
Loricula elegantula	A Microphysid bug	
Pithanus maerkeli	A Mirid bug	
Physatocheila dumetorum	A lacebug	
Tingis cardui	Spear thistle lacebug	
Bembidion lampros	A ground beetle	
Ocys harpaloides agg.	A ground beetle	
Pterostichus madidus	A ground beetle	
Curtonotus aulicus	A ground beetle	
Paranchus albipes	A ground beetle	
Calodromius spilotus	A ground beetle	
Dromius agilis	A ground beetle	
Dromius quadrimaculatus	A ground beetle	
Helophorus brevipalpis	A water beetle	
Megasternum concinnum	A Hydrophilid beetle	
Plegaderus dissectus	A clown beetle	**SFG2**
Ptenidium turgidum	A featherwing beetle	**RDBK/SFG2**
Acrotrichis montandonii	A featherwing beetle	
Anisotoma humeralis	A Leiodid beetle	
Ptomaphagus sericatus	A Leiodid beetle	
Dropephylla gracilicornis	A rove beetle	**NS**
Dropephylla vilis ss	A rove beetle	
Hapalaraea pygmaea	A rove beetle	
Omalium caesum	A rove beetle	
Phloeonomus punctipennis	A rove beetle	
Xylostiba bosnica	A rove beetle	**pNS**
Philorinum sordidum	A rove beetle	
Coryphium angusticolle	A rove beetle	**pNS**
Megarthrus depressus	A rove beetle	
Proteinus brachypterus	A rove beetle	
Euplectus bonvouloiri	A rove beetle	**N**
Euplectus karstenii	A rove beetle	
Euplectus kirbii	A rove beetle	**N**

Euplectus piceus	A rove beetle	
Sepedophilus testaceus	A rove beetle	
Tachyporus nitidulus	A rove beetle	
Tachyporus hypnorum	A rove beetle	
Lordithon trinotatus	A rove beetle	
Aleochara curtula	A rove beetle	
Aleochara sparsa	A rove beetle	
Haploglossa gentilis	A rove beetle	
Haploglossa villosula	A rove beetle	
Cypha longicornis	A rove beetle	
Oligota apicata	A rove beetle	**N**
Autalia impressa	A rove beetle	
Autalia longicornis	A rove beetle	
Leptusa fumida	A rove beetle	
Bolitochara obliqua	A rove beetle	
Bolitochara tecta	A rove beetle	
Gyrophaena affinis	A rove beetle	
Amischa analis	A rove beetle	
Amischa bifoveolata	A rove beetle	
Atheta aeneicollis	A rove beetle	
Atheta aquatica	A rove beetle	
Atheta crassicornis	A rove beetle	
Atheta ravilla	A rove beetle	
Atheta vaga	A rove beetle	
Atheta monticola	A rove beetle	
Atheta celata	A rove beetle	
Atheta atramentaria	A rove beetle	
Atheta laticollis	A rove beetle	
Atheta amicula	A rove beetle	
Atheta glabricula	A rove beetle	**N**
Atheta indubia	A rove beetle	
Atheta fungi agg.	A rove beetle	
Atheta liturata	A rove beetle	
Thamiaraea cinnamomea	A rove beetle	
Anotylus rugosus	A rove beetle	
Anotylus tetracarinatus	A rove beetle	
Dianous coerulescens	A rove beetle	
Paederus littoralis	A rove beetle	
Xantholinus longiventris	A rove beetle	
Quedius cruentus	A rove beetle	
Bisnius fimetarius	A rove beetle	
Melinopterus prodromus	A dung beetle	
Phyllopertha horticola	Garden chafer	

Prionocyphon serricornis	A marsh beetle	**SFG3**
Agrilus angustulus	A jewel beetle	**NS**
Trixagus carinifrons	A Throscid beetle	
Agriotes acuminatus	A click beetle	
Athous haemorrhoidalis	A click beetle	
Athous bicolor	A click beetle	
Limonius poneli	A click beetle	
Cantharis decipiens	A soldier beetle	
Cantharis rustica	A soldier beetle	
Rhagonycha fulva	A soldier beetle	
Malthodes marginatus	A soldier beetle	
Anthrenus fuscus	A Dermestid beetle	
Ctesias serra	A cobweb beetle	
Grynobius planus	A woodworm beetle	
Hemicoelus fulvicornis	A woodworm beetle	
Anobium punctatum	A woodworm beetle	
Ptilinus pectinicornis	A woodworm beetle	
Dorcatoma chrysomelina	A woodworm beetle	**SFG3**
Dorcatoma substriata	A woodworm beetle	**NS/SFG2**
Dorcatoma flavicornis	A woodworm beetle	**NS/SFG3**
Thanasimus formicarius	A Clerid beetle	**SFG3**
Dasytes aeratus	A Melyrid beetle	
Malachius bipustulatus	Common malachite beetle	
Sphindus dubius	A Sphindid beetle	**Nb**
Aspidiphorus orbiculatus	A Sphiindid beetle	
Biphyllus lunatus	A Biphyllid beetle	**SFG3**
Dacne bipustulata	An Erotylid beetle	
Dacne rufifrons	An Erotylid beetle	
Rhizophagus ferrugineus	A Monotomid beetle	
Cryptophagus dentatus	A Cryptophagid beetle	
Crypyophagus fuscicornis	A Cryptophagid beetle	
Cryptophagus scanicus	A Cryptophagid beetle	
Micrambe ulicis	A Cryptophagid beetle	
Epuraea aestiva	A Nitidulid beetle	
Meligethes aeneus	A pollen beetle	
Meligethes nigrescens	A pollen beetle	
Cerylon ferrugineum	A Cerylonid beetle	
Cerylon histeroides	A Cerylonid beetle	
Mycetaea subterranea	An Endomychid beetle	
Exochomus quadripustulatus	Pine ladybird	
Tytthaspis sedecimpunctata	16-spot ladybird	
Adalia decempunctata	10-spot ladybird	
Coccinella septempunctata	7-spot ladybird	

Harmonia axyridis	Harlequin ladybird	
Calvia quattuordecimguttata	Cream-spot ladybird	
Sericoderus brevicornis	A Corylophid beetle	
Sericoderus lateralis	A Corylophid beetle	
Cartodere bifasciata	A mould beetle	
Cartodere nodifer	A mould beetle	
Enicmus testaceus	A mould beetle	
Corticarina minuta	A mould beetle	
Cortinicara gibbosa	A mould beetle	
Pseudotriphyllus suturalis	A fungus beetle	**NS/SFG3**
Triphyllus bicolor	A fungus beetle	**NS/SFG2**
Mycetophagus quadripustulatus	A fungus beetle	
Mycetophagus piceus	A fungus beetle	**SFG2**
Octotemnus glabriculus	A Ciid beetle	
Orthocis alni	A Ciid beetle	
Cis bilamellatus	A Ciid beetle	
Cis boleti	A Ciid beetle	
Cis castaneus	A Ciid beetle	
Cis fagi	A Ciid beetle	
Cis pseudomicans	A Ciid beetle	
Cis vestitus	A Ciid beetle	
Abdera biflexuosa	A false darkling beetle	**NS/SFG3**
Conopalpus testaceus	A false darkling beetle	**SFG3**
Bitoma crenata	A Zopherid beetle	**SFG3**
Lagria hirta	A darkling beetle	
Nalassus laevioctostriatus	A darkling beetle	
Pseudocistela ceramboides	A darkling beetle	**NS/SFG2**
Oedemera nobilis	An Oedemerid beetle	
Salpingus planirostris	A Salpingid beetle	
Euglenes oculatus	An Aderid beetle	**NS/SFG3**
Scraptia testacea	A Sraptiid beetle	**NS/SFG1**
Anaspis fasciata	A Scraptiid beetle	
Anaspis garneysi	A Scraptiid beetle	
Anaspis maculata	A Scraptiid beetle	
Anaspis regimbarti	A Scraptiid beetle	
Rhagium bifasciatum	A longhorn beetle	
Grammoptera ruficornis	A longhorn beetle	
Rutpela maculata	A longhorn beetle	
Pogonocherus hispidulus	A longhorn beetle	
Pogonocherus hispidus	A longhorn beetle	
Leiopus nebulosus	A longhorn beetle	
Tetrops praeustus	A longhorn beetle	
Bruchus rufimanus	A seed beetle	

Psylliodes cuprea	A flea beetle	
Longitarsus parvulus	A flea beetle	
Phyllotreta nemorum	A flea beetle	
Tatianaerhynchites aequatus	A Rhynchitid weevil	
Exapion ulicis	A weevil	
Protapion apricans	A weevil	
Anthonomus pedicularius	A weevil	
Anthonomus rubi	A weevil	
Archarius pyrrhoceras	A weevil	
Curculio glandium	A weevil	
Curculio venosus	A weevil	
Orchestes pilosus	A weevil	
Ceutorhynchus obstrictus	A weevil	
Euophryum confine	A weevil	
Phyllobius pyri	A weevil	
Sitona lineatus	A weevil	
Magdalis cerasi	A weevil	**Nb**
Leiosoma deflexum	A weevil	
Dryocoetes villosus	A bark beetle	
Scolytus intricatus	A bark beetle	
Synanthedon vespiformis	Yellow-legged clearwing	**Nb**
Anthocharis cardamines	Orange tip butterfly	
Pararge aegeria	Speckled wood butterfly	
Aphantopus hyperantus	Ringlet butterfly	
Maniola jurtina	Meadow brown butterfly	
Melanargia galathea	Marbled white butterfly	
Vanessa atalanta	Red admiral butterfly	
Vanessa cardui	Painted lady butterfly	
Aglais io	Peacock butterfly	
Dictenidia bimaculata	A cranefly	
Rhagio tringarius	Marsh snipe fly	
Scenopinus niger	Forest windowfly	**NT/NS**
Dioctria baumhaueri	Stripe-legged robberfly	
Euthyneura myrtilli	A Hybotid dance fly	
Oedalea tibialis	A Hybotid dance fly	
Drapetis ephippiata	A Hybotid dance fly	
Platypalpus longicornis	A Hybotid dance fly	
Platypalpus pallidiventris	A Hybotid dance fly	
Platypalpus verralli	A Hybotid dance fly	
Tachypeza nubila	A Hybotid dance fly	
Empis albinervis	A dance fly	
Empis aestiva	A dance fly	
Empis tessellata	A dance fly	

Empis punctata	A dance fly	
Medetera truncorum	A long-headed fly	
Neurigona pallida	A long-headed fly	
Sciapus platypterus	A long-headed fly	
Brachyopa insensilis	A hoverfly	
Ectemnius cavifrons	A hunting wasp	
Bombus hypnorum	Tree bumblebee	
Hylaeus cornutus	Spined yellow-face bee	
Hylaeus communis	Common yellow-face bee	
Trichrysis cyanea	A jewel wasp	
Lasius brunneus	Brown tree ant	**Na**
Lasius niger	Black garden ant	
Leptothorax acervorum	A Myrmicine ant	
Myrmica rubra	A red ant	
Myrmica ruginodis	A red ant	
Myrmica scabrinodis	A red ant	
Dipogon subintermedius	A spider wasp	
Dipogon variegatus	A spider wasp	
Vespa crabro	Hornet	
Vespula vulgaris	Common wasp	
Oniscus asellus	Common shiny woodlouse	
Porcellio scaber	Common rough woodlouse	
Harpactea hombergi	A Dysderid spider	
Gongylidium rufipes	A money spider	
Meioneta rurestris	A money spider	
Metellina merianae	A Tetragnathid spider	
Nuctenea umbratica	An orb-weaving spider	
Amaurobius similis	An Amaurobiid spider	
Clubiona corticalis	A Clubionid spider	
Drassodes lapidosus	A Gnaphosid spider	
Salticus cingulatus	A jumping spider	

3.1. Key invertebrates at Nettlecombe Park SSSI, 2019

Key species are defined as belonging to one of the following status categories:

- IUCN threatened or near threatened;
- Section 41 Species of Principal Importance in England;
- Red Data Book (RDB), Nationally Rare (NR) or Nationally Scarce (Na, Nb, N, NS).

244 invertebrate species have been recorded at Nettlecombe Park in 2019. Of these, 22 are key species as defined above. The rove beetles *Xylostiba bosnica* and *Coryphium angusticolle* have been listed here as a key species though they have no formal conservation status currently. This is because they are very likely to be accorded Nationally Scarce status in the forthcoming Species Status Review of this group (Boyce, *in prep.*).

3.1.1. A featherwing beetle *Ptenidium turgidum* Thomson, C. G., 1855. **RDBK/SFG2.**

P. turgidum is a very small, shiny, pitchy reddish beetle. It is most easily distinguished from other Ptiliids by the form of the female spermatheca. It is a rare British insect, known from a very thin scattering of sites across southern England and Wales, north as far as Yorkshire. It is usually found in areas of parkland and wood-pasture with an abundance of veteran trees and is thought to breed in rotten hartwood of a range of native broadleaves, with beech being especially favoured. Adults were collected from vane traps set up in SU3a, in a hollow in a veteran Turkey oak (VT15/VAT1) and on an ancient beech pollard (VAT9). It is one of a group of saproxylic beetles that occur mainly in areas believed to be ancient woodland with abundant dead wood habitats (Harding and Rose, 1986; Alexander, 2004).

3.1.2. A rove beetle *Dropephylla gracilicornis* (Fairmaire & Laboulbène, 1856). **NS.**

D. gracilicornis is a small, reddish-brown rove beetle that is closely similar to its congeners, being most easily recognised by examination of the male genitalia. It has a very thinly scattered distribution across England and Wales. Most records are from dead branchwood of broadleaved trees, but it has also been found in reed litter. A single male was beaten from hawthorn blossom in SU2a in 2019. It was also collected at Nettlecombe Park by Peter Hammond in 2000.

3.1.3. A rove beetle *Xylostiba bosnica* (Bernhauer, 1902). **pNS.**

The presence of a second British species of *Xylostiba* in Britain was only recognised for the first time in 2005 (Allen & Booth, 2005). The other member of the genus, *X. monilicornis* is a somewhat larger, darker insect, which is confined to upland regions of northern and western Britain. Since its discovery at Windsor Great Park in Berkshire, *X. bosnica* has spread north and west across lowland English counties as far as the Midlands but remains very localised. It has been afforded Nationally Scarce status in the forthcoming Review of this group (Boyce, *in prep.*). It is a saproxylic specialist, which is most often found in association with fungi growing on dead wood. A single male was collected at Nettlecombe Park, on dryad's saddle *Polyporus squamosus* brackets growing on an old sycamore (VT89) in survey unit 1F. This is the first record for Somerset.

3.1.4. A rove beetle *Coryphium angusticolle* (Bernhauer, 1902). **pNS.**

There is only one British species of *Coryphium*, which can be easily identified by a combination of its very small terminal palpal segment and the head and thorax being of a similar width. It has a wide but scattered distribution north as far as southern Scotland, with most British records coming from eastern England. It is very scarce in Wales and south-west England. It is a dead wood specialist, which is usually found under bark of trunks and branches of various broadleaved trees. At Nettlecombe Park, a single individual was collected in a vane trap hung from a veteran ash tree (VT8) with much heart rot in SU1E.

3.1.5. A rove beetle *Euplectus bonvouloiri* Reitter, 1881. **N.**

The genus *Euplectus* currently includes 15 British species, all of which are very small Pselaphine rove beetles of a rather elongate body form. British populations of *E. bonvouloiri* are referable to the sub-species *rosae*. It is a tiny reddish insect, which is most easily distinguished from its congeners by reference to the male genitalia. It is very locally distributed across southern England and Wales, north as far as the Manchester area. It is a dead wood specialist that has most often been found underground or at ground level in association with veteran trees or dead trunks and branches of various broadleaved trees. It is thought to predaceous on small invertebrates such as mites. A single male was colleted in the vane trap set up on a veteran beech pollard in SU3a (VAT9), with this being a first Somerset record.

3.1.6. A rove beetle *Euplectus kirbii* Denny, 1825. **N.**

E. kirbii is a very small, reddish-brown Pselaphine rove beetle in which the head has a well-marked depression at the back and a deep U-shaped frontal furrow. It is most easily distinguished from other members of this difficult genus by microscopic examination of the male genitalia. It has a very scattered British distribution in England and Wales as far north as Lancashire. It has been found under bark and in rotten wood of a range of native broadleaves. At Nettlecombe Park this year, single individuals were collected in vane traps set up on a heart-rotted old ash (VAT8) in SU1e, in a rotted-out cavity on an ancient Turkey oak in SU3a (VT15/VAT1) and on a dead veteran oak snag (VAT4) in SU3b. It was also noted here by Peter Hammond in 2000.

3.1.7. A rove beetle *Oligota apicata* (Erichson, 1837). **N.**

Despite its very small size, *O. apicata* can be easily distinguished from all related Aleocharine rove beetles by a combination of its broad, rounded shape, strongly tapering abdomen and five-segmented antennal club, the terminal segment of which is usually darker than the rest. The form of the male genitalia is also diagnostic. It is quite widely, but very locally distributed across England and Wales and has also been found in southern Scotland. It is most often found in association with bracket fungi, where it is thought to be a predator of small invertebrates. An association with the larvae of Ciid beetles has been suggested. At Nettlecombe Park, adults were tapped from old giant polypore *Meripilus giganteus* brackets on a veteran beech pollard SU3a and they were also collected in vane traps set up on this tree (SU3a/VAT9), on a huge veteran oak pollard in SU1c (VT202/VAT6) and in a hollow on an ancient Turkey oak in SU3a (VT15/VAT1).

3.1.8. A rove beetle *Atheta glabricula* Thomson, C. G., 1867. **N.**

Atheta is the largest British beetle genus, with 125 British species listed in the most recent checklist. The sub-genus *Microdota*, in which *A. glabricula* is placed, includes 13 British species, which are characterised by their very small size and strongly transverse antennae. This species is relatively shiny and pitchy black with the legs somewhat lighter and the pronotal hairs directed backwards along the mid-line. Both male aedeagus and female spermatheca are distinctive. Though it is certainly under-recorded, it appears to be a genuinely scarce British insect, with just a handful of widely scattered localities from the Scotttish Highlands southwards. Knowledge of its ecology is very poor, though most sites are woodland or parkland, often where there are veteran trees. Adults have been collected in grass cuttings, flood refuse and carrion. A single male was collected in a vane trap in SU2a sited on a well-rotted veteran beech snag (VT105/VAT3).

3.1.9. A jewel beetle *Agrilus angustulus* (Illiger, 1803). **NS.**

This is one of a number of small, metallic green jewel beetles in the genus. It can be distinguished from the closely similar *A. laticornis* by examination of the shape of the prosternal process, which is parallel-sided in *angustulus* and strongly waisted in *laticornis*. It has a scattered distribution north as far as Yorkshire, with most records being from eastern England. It is very scarce in Wales and south-west England. It is associated with ancient woods and parks in southern England and south Wales, with areas of former oak coppice being especially favoured. Larvae are thought to develop in dead and dying twigs and branches of oak and hazel. Numbers of individuals were beaten from veteran parkland oaks at Nettlecombe in 2019.

3.1.10. A woodworm beetle *Dorcatoma substriata* Hummel, 1829. **NS/SFG2.**

The genus *Dorcatoma* includes five British species, all of which are small, black to pitchy-brown beetles with prominent pubescence. The apical three antennal segments are strongly enlarged and wedge-shaped and of a contrasting pitchy red to orange colour. *D. substriata* is distinguished from all other members of the genus by its uniform puncturation, double pubescence, ten-segmented antennae and the form of the male genitalia. It is very locally distributed across southern Britain, north as far as Lancashire. Most recent sites are in southern and eastern England, though there are a few localities in eastern Wales. This is only the second Somerset record (first for vc5, South Somerset). Larvae of *D. substriata* feed in the fruiting bodies of bracket fungi, with *Inonotus* species (*I. dryadeus* on oak and *I. hispidus* on ash) being most frequently used. Many adults were collected in the vane trap sited in a rot cavity in a veteran turkey oak (VT15/VAT1) and two females were also collected in the vane trap located on a heart-rotted veteran beech (VAT9), both of these traps being in SU3a. It is one of a group of saproxylic beetles that occur mainly in areas believed to be ancient woodland with abundant dead wood habitats (Harding & Rose, 1986; Alexander, 2004).

3.1.11. A woodworm beetle *Dorcatoma flavicornis* (Fabricius, 1792). **NS/SFG3.**

This is another of the smaller British *Dorcatoma* species with uniform elytral puncturation. However, it can be quite easily distinguished from its congeners by its nine-segmented antennae, the partial fusing of the abdominal sternites and the form of the male genitalia. It is very locally distributed across southern England and Wales, north as far as Yorkshire. Larvae are usually found in red-rotted heartwood of old oaks, where they feed on the mycelia of the sulphur polypore bracket fungus *Laetiporus sulphureus*. In 2019, numerous adults were collected in VAT2 (in company with *D. chrysomelina*), which was sited on a red-rotted oak hulk in SU1a. A breeding population was found in this same fallen trunk during the 2009 survey and Keith Alexander also recorded *D. flavicornis* here in 1990 by beating foliage of a veteran oak. It is one of a suite of species that are collectively thought to be characteristic of ancient woodland and parkland with good dead wood habitats (Harding & Rose, 1986; Alexander, 2004).

3.1.12. A Sphindid beetle *Sphindus dubius* (Illiger, 1803). **NS.**

The Sphindidae has only two British representatives, both of which were found at Nettlecombe Park in 2019. *S. dubius* is a small, matt-black beetle with red antennae and legs. It occurs very locally in England and Wales north as far as Yorkshire. It is a specialist inhabitant of powdery slime moulds on dead trunks and branches of broadleaved trees. Adults were found in SU2a, on a 'chocolate tube' slime mould (probably a *Stemonitis* species) growing on a well-rotted fallen beech trunk at Nettlecombe Park. A single individual was also collected in a vane trap sited on the standing section of this dead beech (VT105/VAT3).

3.1.13. A fungus beetle *Pseudotriphyllus suturalis* (Fabricius, 1803). **NS/SFG3.**

The only British member of this genus is a small, brown beetle with rather obscure paler reddish shoulder markings on the elytra. It is widely, but very locally distributed across England and eastern Wales, but is increasingly scarce towards the north and west of its British range. It is a species of fungal fruiting bodies on dead wood, which is usually found on chicken-of-the-woods *Laetiporus sulphureus* and dryad's saddle *Polyporus squamosus*, though it can also be found less frequently on other brackets. At Nettlecombe Park, good numbers were found on dryad's saddle. It is one of a suite of species that are collectively thought to be characteristic of ancient woodland and parkland with good dead wood habitats (Harding & Rose, 1986; Alexander, 2004).

3.1.14. A fungus beetle *Triphyllus bicolor* (Fabricius, 1777). **NS/SFG2.**

The only British member of this genus is a very distinctive, mid-sized beetle, with a shiny, heavily punctured body, orange-red head, thorax, legs and antennae and dark elytra with prominent orange patches at the base and apex. It has a scattered distribution across Wales and England, north as far as Yorkshire. Like all Mycetophagids, it is a fungus feeder, which is primarily found on beefsteak fungus *Fistulina hepatica*, though it can also be found less frequently on other soft brackets such as chicken-of-the-woods *Laetiporus sulphureus*. In 2019, numerous larvae and a few adults were found in a beefsteak bracket on a fallen oak limb in open parkland (SU1C). It is one of a group of saproxylic beetles that occur mainly in areas believed to be ancient woodland, with abundant dead wood habitats (Harding & Rose, 1986; Alexander, 2004).

3.1.15. A Melandryid beetle *Abdera biflexuosa* (Curtis). **NS/SFG3.**

This is a small, dark, elongate beetle with sinuous yellow markings on the wing cases. *A. biflexuosa* is known from a very thin scattering of sites across much of England, and it is also recorded in mid-Wales. The beetle is thought to be associated primarily with oak, though there are records from other native broadleaves. The larvae are thought to develop in dead twigs, where they probably feed on fungi. At Nettlecombe Park, numerous adults were beaten from the branches of over-mature and veteran oaks within the open parkland. It is one of a suite of species that are collectively thought to be characteristic of ancient woodland and parkland with good dead wood habitats (Harding & Rose, 1986; Alexander, 2004).

3.1.16. An Aderid beetle *Euglenes oculatus* (Paykull). **NS/SFG3**.

The family Aderidae contains only three British species. *E. oculatus* is a small, reddish beetle in which the male has very large eyes and long antennae. It is very locally distributed across England and Wales, north as far as Yorkshire. There are also a very few records from Wales and the south-west peninsula. It is a dead wood species, larvae of which are found within red heart-rot of old oaks. Adults are most often found by beating branches of old oak trees in summer. A few individuals were collected in this manner at Nettlecombe in 2019, in SU1f and it was also found in vane traps placed in a hollow in a veteran turkey oak (VAT1/SU3a), on a red-rotted oak hulk (VAT2/SU1a) and a veteran oak snag (VAT4/SU3b). It is one of a suite of species that are collectively thought to be characteristic of ancient woodland and parkland with good dead wood habitats (Harding & Rose, 1986; Alexander, 2004).

3.1.17. A darkling beetle *Pseudocistela ceramboides* (Linnaeus, 1758). **NS/SFG2**.

This is a large and very distinctive beetle in which the yellow-brown wing cases contrast strongly with the black colouration of the rest of the body. The antennae are strongly serrate. It is found in southern England, south of a line from the Humber to the Wash and there are also a handful of records from eastern Wales. Larvae develop in heart-rot in old oak, beech and other broadleaves, often under bird nests. The adults are thought to be primarily nocturnal, though they can occasionally be found in the day on flowering umbels or hawthorn. At Nettlecombe, a number of individuals were collected in the vane trap set up on a well-rotted beech snag in SU2a (VT105/VAT3) and singletons were also recorded in SU3a, in the vane traps in a hollow in an ancient Turkey oak (VT15/VAT1) and on a veteran bech pollard (VAT9). It is one of a group of saproxylic beetles that occur mainly in areas believed to be ancient woodland, with abundant dead wood habitats (Harding and Rose, 1986; Alexander, 2004).

3.1.18. A Scraptiid beetle *Scraptia testacea* Allen, 1940. **NS/SFG1**.

S. testacea is a rather nondesript pitchy-yellowish beetle with large eyes that reach the hind margin of the head. It is distinguished from the very similar *S. fuscula* by its less transverse pronotum and relatively fine, dense surface sculpture. Though it appears to have extended its British range in recent years, it remains a very scarce insect, known from a thin scatter of high-quality parks and wood-pastures in southern England and Wales. It is found north as far as Sherwood Forest, Nottinghamshire. This is the second Somerset record and the first for vc5 (South Somerset). Larvae are thought to develop in rotten heartwood within the standing trunks of living veteran trees. Oak is the usual host, but it has also been found in association with beech, poplar and alder. The adults are most frequently found by beating the branches of heart-rotted veteran oaks. Often, breeding populations of *S. testacea* are associated with tree-nesting colonies of the brown tree ant *Lasius brunneus* or jet ant *L. fuliginosus*. Its recent British range expansion may therefore coincide with that of the former ant (see sub-section 3.1.21 below). It is known to have occurred in recent times only in areas believed to be wood-pastures or ancient woodland with abundant dead wood habitats (Harding and Rose, 1986; Alexander, 2004).

3.1.19. A weevil *Magdalis cerasi* (Linnaeus, 1758). **Nb.**

M. cerasi is a small, dull black weevil, with prominent teeth on the tarsal claws. It has a wide, but very local distribution across southern England as far north as Yorkshire, but is very scarce in Wales and on the south-west peninsula, with this site being near the south-western edge of its British range. In Britain, it is found on the foliage and dead branches of oaks where these are growing in warm, sunny positions, with the larvae developing inside twigs and branches. On the continent, it is also found in association with a range of Rosaceous trees and shrubs. A single adult was beaten from an over-mature oak tree in open parkland at SU3a in 2019.

3.1.20. Yellow-legged clearwing *Synanthedon vespiformis* (Linnaeus, 1758). **Nb.**

As its scientific name suggests, this moth bears a strong superificial resemblance to a wasp. The yellow-banded abdomen and red marks on the wings make it easily distinguished from other clearwings. It is very locally distributed across England and Wales, north as far as Yorkshire. The larvae develop beneath the bark around wounds and sappy exudations on living broadleaved trees or on very recently cut stumps. Oak is much the most important host, though it has occasionally been found on other trees. A single adult male was seen in 2019, resting in a bramble patch in open parkland with veteran oaks at SU2A.

3.1.21. Forest windowfly *Scenopinus niger* (De Geer, 1776). **NT/NS.**

There are only two native British Scenopinids, both of which are in the genus *Scenopinus*. *S. niger* is distinguished from the much more frequent *S. fenestralis* by its legs being predominantly black, like the rest of the body. It is primarily a species of southern England and Wales, though there are single records from Cumbria and the Scottish Highlands. Its ecology is poorly known, but is shows a strong association with ancient trees, with adults having been found in association with heart-rot and bracket fungi on oak and beech. A single adult male was collected at Nettlecombe in the vane trap (VAT3) set up on a well-rotted beech snag (VT105).

3.1.22. Brown tree ant *Lasius brunneus* (Latreille, 1798). **Na.**

The contrasting red-brown head and thorax and dark brown abdomen of the brown tree ant make it quite easily distinguished from its congeners. It is found in association with mature to over-mature trees where these are growing in relatively open situations, such as parkland, wood-pasture and hedgerows. Nests are constructed in dead heartwood and the ants feed primarily by 'milking' aphids found on tree bark and foliage. *L. brunneus* is a warmth-loving species, which formerly had a very limited distribution across southern England, centred on the Thames and Severn basins. However, it has recently shown a marked increase in its British range, spreading out into other areas of southern England and Wales. It is very likely that it is a recent arrival at Nettlecombe Park, as it has not been noted here previously despite considerable survey effort. In many places, it shows a strong association with ancient parks and wood-pastures that also support a rich saproxylic beetle fauna. At Nettlecombe Park, workers were found in a few places on veteran parkland oaks.

3.2. Saproxylic invertebrates at Nettlecombe Park

The sampling programme carried out at Nettlecombe Park in 2019 shows that it continues to support an extremely rich saproxylic invertebrate fauna that includes many species with high conservation status. The 2019 sampling recorded one Nationally Rare and one Near Threatened saproxylic species: respectively the featherwing beetle *Ptenidium turgidum* and the forest windowfly *Scenopinus niger*.

A further 15 of the saproxylic specialist beetles recorded in 2019 and listed below in Table 3.2.2 have Nationally Scarce or provisional Nationally Scarce status. 41 of the beetles listed by Harding & Rose (1986), and subsequently modified by Alexander (2004), were noted at Nettlecombe Park this year, these being species indicative of ancient parklands and wood-pastures with well-developed dead wood habitats. A full list of all saproxylic beetles, as defined by either Alexander (*ibid.*) or Fowles *et. al.* (1999), recorded at Nettlecombe Park since the first detailed saproxylic invertebrate survey was carried out by Keith Alexander in 1988 can be found in Table 3.2.2 below.

Table 3.2.1 provides a summary of the results generated by analysis of the 2019 species list using the Pantheon database. It shows that for all three of the dead wood Specific Assemblage Types (SATs) that were the focus of the 2019 survey, the site is assessed as being in Favourable Condition.

Table 3.2.1. Summary of results generated by Pantheon for Nettlecombe Park SSSI

SAT	No. species	% representation	SQI	Code	Reported condition
bark & sapwood decay	38	8	155	A212	Favourable
heartwood decay	17	10	276	A211	Favourable
fungal fruiting bodies	13	14	192	A213	Favourable

Harding & Rose (1986) listed 196 beetle species as indicators of ancient parklands and wood pastures with well-developed dead wood habitats. They assigned these to one of three saproxylic fauna groups (SFG). SFG1 species were those having the highest fidelity to ancient wood-pasture and parkland sites with abundant dead wood habitats and SFG3 species had the lowest, being found across a range of landscapes with old trees, though still showing a significant association with ancient parks and wood-pastures. Using this list as a basis, Alexander (1988) devised a simple index of ecological continuity (IEC) for scoring sites where SFG1 beetles score three points, SFG2 species, 2 points and SFG3 species, 1 point. Alexander (2004) subsequently created a revised index of ecological continuity (RIEC). This reduced the list down to 180 qualifying species to take into account the considerable body of additional data on saproxylic beetles generated since Harding & Rose (*ibid*.) published. The index is calculated simply by adding up the points for the various qualifying species.

TABLE 3.2.2. DEAD WOOD BEETLE ASSEMBLAGE AT NETTLECOMBE PARK SSSI		
Species	**Status**	**Habitat notes & year(s) recorded**
Plegaderus dissectus	**SFG2**	Under beech bark and in rotten beech. 2009-10; 2019
Abraeus perpusillus		Under beech bark. 1988/90; 2009-10
Aeletes atomarius	**NS/SFG1**	Under beech bark. 2009-10
Paromalus flavicornis		Under oak and beech bark. 1988/90; 2009-10
Ptenidium turgidum	**RDBK/SFG2**	In vane traps. 2019
Anisotoma humeralis		In vane traps. 2019
Anisotoma orbicularis		2000
Acrulia inflata		1988/90
Dropephylla vilis ss		In vane traps. 2019
Hapalaraea pygmaea		*Hypholoma fasciculare* fungus on veteran ash. 2019
Phloeonomus punctipennis		In vane traps. 2019
Xylostiba bosnica	**pNS**	*Polyporus squamosus* brackets on dead sycamore. 2019
Coryphium angusticolle	**pNS**	In vane traps. 2019
Euplectus bonvouloiri	**N**	In vane traps. 2019
Euplectus karstenii		In vane traps. 2019
Euplectus kirbii	**N**	In vane traps. 2000; 2019
Euplectus piceus		In vane traps. 2019
Sepedophilus testaceus		*Hypholoma fasciculare* fungus on dead oak branch. 2019
Phloeopora testacea		Under oak bark. 2009-10
Haploglossa gentilis		In vane traps, 2019
Bolitochara tecta		In *Rigidoporous ulmarius* bracket at base of old ash. 2019
Leptusa fumida		Under sycamore bark and on *Polyporus squamosus* brackets. 2009-10; 2019
Leptusa ruficollis		On *Auricularia auricula-judae* fungus on elder. 2009-10
Anomognathus cuspidatus		Under oak bark. 2009-10
Placusa pumilio		Under oak bark. 2009-10
Dinaraea aequata		Under oak bark. 2009-10
Atheta liturata		On *Meripilus giganteus* brackets on beech. 2009-10; 2019
Thamiaraea cinnamomea		In vane traps, 2019
Atrecus affinis		Under bark and in rotten wood. 1988/90; 2009-10
Gabrius splendidulus		Under bark. 2009-10
Quedius maurus	**SFG3**	Under oak bark, 2009-10
Quedius scitus	**SFG2**	Red-rot in veteran oak, 2009-10
Quedius xanthopus	**Nb/SFG3**	Under oak bark. 1988/90; 2009-10
Scaphidium quadrimaculatum		Under oak bark. 1988/90; 2009-10
Siagonium quadricorne		Under sycamore bark. 2009-10
Stenichnus bicolor	**SFG3**	1988/90
Dorcus parallelipipedus		In rotten beech. 1988/90; 2009-10
Sinodendron cylindricum		In rotten ash (elytron). 1988/90; 2009-10
Prionocyphon serricornis	**SFG3**	In root pool at base of beech (larvae). 1997; 2009-10; 2019
Agrilus angustulus	**NS**	Beating oak branches and in vane traps. 2019
Melanotus villosus ss.		In vane traps. [1988/90 (record of *villosus sensu lato* larvae]. 2019
Stenagostus rhombeus	**SFG3**	Under oak and cherry bark (larvae). 2009-10
Malthinus seriepunctatus		1988/90
Malthodes marginatus		In vane traps. 2019
Ctesias serra		In deeply fissured oak bark (larvae) and in vane traps (adults). 1988/90; 2009-10; 2019
Ptinus subpilosus	**NS/SFG2**	Loose, webby oak bark. 1988/90
Grynobius planus		In vane traps. 1988/90; 2019

Xestobium rufovillosum	**SFG3**	1988/90
Hemicoelus fulvicornis		Beating oak branches. 2019
Anobium punctatum		In vane traps. 2019
Ptilinus pectinicornis		Beating flowering elder and in vane traps. 1988/90; 2019
Dorcatoma chrysomelina	**SFG3**	In vane traps. 2019
Dorcatoma substriata	**NS/SFG2**	In vane traps. 2019
Dorcatoma flavicornis	**NS/SFG3**	In oak red-rot and in vane traps. 1988/90; 2009-10; 2019
Anitys rubens	**NS/SFG1**	In oak red-rot (dead adults). 2009-10
Thymalus limbatus	**Nb/SFG2**	1988/90
Thanasimus formicarius	**SFG3**	In vane traps. 2000; 2019
Dasytes aeratus		Beating flowering hawthorn and rowan and in vane traps. 2019
Malachius bipustulatus		Beating flowering hawthorn. 2019
Sphindus dubius	**Nb**	Powdery slime mould on dead beech and in vane traps. 2019
Aspidiphorus orbiculatus		Powdery slime mould on dead beech and in vane traps. 2019
Biphyllus lunatus	**SFG3**	On *Daldinia concentrica* fungus on ash and in vane traps. 1988/90; 2009-10; 2019
Diplocoelus fagi	**Nb/SFG3**	Under sycamore bark. 2009-10
Dacne bipustulata		In vane traps. 2019
Dacne rufifrons		On *Polyporus squamosus* brackets on beech and *Daldinia concentrica* fungus on ash. 2009-10; 2019
Triplax aenea		2000
Rhizophagus bipustulatus		Under oak and sycamore bark. 1988/90; 2009-10
Rhizophagus dispar		Under oak and sycamore bark. 1988/90; 2009-10
Rhizophagus ferrugineus		In vane traps. 2019
Rhizophagus perforatus		1988/90
Cryptophagus dentatus		Beating flowering hawthorn and in vane traps. 2019
Pediacus dermestoides	**SFG3**	Under oak and sycamore bark. 1988/90; 2009-10
Soronia punctatissima		Dead under oak bark. 1988/90
Cerylon ferrugineum		Under bark and in vane traps. 1988/90; 2009-10; 2019
Cerylon histeroides		Under oak and cherry bark. 1988/90; 2009-10; 2019
Mycetaea subterranea		In vane traps. 2019
Endomychus coccineus		1988/90
Enicmus rugosus	**Nb/SFG2**	On *Polyporus squamosus* brackets on beech. 2009-10
Enicmus testaceus		In vane traps. 2019
Pseudotriphyllus suturalis	**NS/SFG3**	*Meripilus giganteus* brackets on beech and *Laetiporus sulphureus* brackets on oak. 1988/90; 2009-10; 2019
Triphyllus bicolor	**NS/SFG2**	*Fistulina hepatica* brackets on oak and sweet chestnut and in vane traps. 1988/90; 2019
Litargus connexus		On *Daldinia concentrica* fungus on ash. 2009-10
Mycetophagus quadripustulatus		Under sycamore bark, on *Daldinia concentrica* fungus on ash and in vane traps. 2009-10; 2019
Mycetophagus atomarius	**SFG3**	On *Daldinia concentrica* fungus on ash. 1988/90; 2009-10
Mycetophagus piceus	**SFG2**	In oak red-rot and in vane traps. 2009-10; 2019
Octotemnus glabriculus		In *Trametes versicolor* brackets on dead beech. 1988/90; 2000; 2019
Orthocis alni		In *Auricularia auricula-judae* fungus on old elder. 2000; 2019
Cis bidentatus		1988/90
Cis boleti		Beating dead oak branches, in *Trametes versicolor* brackets on dead beech and in vane traps. 1988/90; 2000; 2019

Cis castaneus		On *Ganoderma australe* and *Polyporus squamosus* brackets on beech. 1988/90; 2009-10; 2019
Cis fagi		In vane traps. 1988/90; 2019
Cis micans		In bracket fungi. 1988/90
Cis pseudomicans		In *Trametes versicolor* brackets on dead beech. 2019
Cis pygmaeus		1988/90
Cis vestitus		Beating dead oak branches. 2019
Tetratoma fungorum		On *Laetiporus sulphureus* brackets on oak. 2009-10
Abdera biflexuosa	**NS/SFG3**	Beating dead oak branches. 2019
Phloiotrya vaudoueri	**NS/SFG2**	Dead in old beech trunk. 1988/90
Melandrya caraboides	**SFG3**	Under cherry bark (elytron). 2009-10
Orchesia undulata	**SFG3**	Under oak and cherry bark. 1988/90; 2009-10
Conopalpus testaceus	**SFG3**	Beating flowering elder, 2019
Bitoma crenata	**SFG3**	Under beech bark and on dead ash trunk. 1988/90; 2009-10; 2019
Eledona agricola	**SFG3**	*Laetiporus sulphureus* brakets on oak and sweet chestnut. 1988/90
Pseudocistela ceramboides	**NS/SFG2**	Pupa in rotten oak heartwood and in vane traps. 1988/90; 2019
Oedemera femoralis	**NS**	2000
Vincenzellus ruficollis		Under sycamore bark. 2009-10
Salpingus planirostris		Beating dead oak branches and under sycamore bark. 2009-10; 2019
Euglenes oculatus	**NS/SFG3**	Beating veteran oak branches and in vane traps. 2019
Anaspis fasciata		Beating flowering hawthorn and in vane traps. 1988/90; 2019
Anaspis frontalis		1988/90; 2000
Anaspis lurida		1988/90
Rhagium bifasciatum		Beating flowering hawthorn. 1988/90; 2019
Rhagium mordax		Under oak bark. 2009-10
Grammoptera ruficornis		Beating flowering hawthorn and rowan and in vane traps. 1988/90; 2019
Leptura aurulenta	**NS/SFG3**	2000
Rutpela maculata		On bramble and umbels. 1988/90; 2019
Phymatodes testaceus	**SFG3**	Under oak bark (dead adult). 1988/90; 2009-10
Pogonocherus hispidulus		Beating dead oak branches. 2019
Pogonocherus hispidus		Beating dead oak branches. 2019
Leiopus nebulosus		Beating dead oak branches. 1988/90; 2019
Tetrops praeustus		Beating flowering hawthorn, 2019
Platyrhinus resinosus	**Nb/SFG3**	On *Daldinia concentrica* fungus on ash. 2009-10
Magdalis cerasi	**Nb.**	Beating oak branches. 2019
Platypus cylindrus	**Nb/SFG3**	On veteran oak trunk. 1988/90
Dryocoetes villosus		Under oak bark and in vane traps. 1988/90; 2009-10; 2019
Scolytus intricatus		Under bark, dead oak branches. 1988/90; 2009-10; 2019
Xyleborinus saxesenii	**SFG3**	2000
Trypodendron domesticum	**SFG3**	2000

Notes on Table 3.2.2.

The abbreviated status categories given in column 3 are explained at the beginning of section 3.1. Two saproxylic beetles recorded at Nettlecombe Park, the Ciid *Cis bilamellatus* and the weevil *Euophryum confine*, are excluded from this list, as they are both exotic species of Australasian origin.

Using all of the relevant species in Table 3.2.2, Nettlecombe Park has three SFG1, 11 SFG2 and 27 SFG3 species and therefore has an overall RIEC score of 58. This score makes it much the most important site for saproxylic beetles in Somerset. The score is strongly suggestive of a site that is of importance within both a county and regional context for its dead wood invertebrate fauna.

The second widely-used index to assess sites is the Saproxylic Quality Index (SQI) developed by Fowles *et. al*. (1999). This has the advantage of employing a much longer list of saproxylic Coleoptera, including many that are common and widely distributed across Britain. It can therefore be used to assess sites without the veteran trees required by many of the species included in the RIEC. The full list of those species recorded at Coppice Mawr that are used in calculating the SQI can be found in Table 3.2.1. The scoring system is based on the rarity of the species, as defined in the original Coleoptera status reviews (Hyman & Parsons, 1992 & 1994), with scores ranging from one for a common species up to 32 for those that are considered Endangered or Vulnerable. The Saproxylic Quality Index (SQI) is calculated by totalling the scores for all qualifying species to give an overall Saproxylic Quality Score (SQS), then dividing this figure by the total number of qualifying species and multiplying the result by 100. A great advantage of the SQI is that it should be less influenced by the amount of recording effort than is the strictly cumulative RIEC index, which will continue to increase with further survey work. At Nettlecombe Park, a total of 129 qualifying dead wood beetles have been recorded (see Table 2.1.1), giving a SQS of 486 and a SQI score of 376.7. Again, this is suggestive of a site of at least regional importance for dead wood invertebrates. The SQI and RIEC scores for Nettlecombe Park and other Somerset sites can be found in Table 3.2.3 below.

Table 3.2.3. IEC and SQI scores for selected sites in Somerset

Site	No. spp.	SQS	RIEC	SQI
Nettlecombe Park SSSI	**129**	**486**	**58**	**376.7**
Dunster Deer Park	43	144	16	334.9
Ashton Court	80	255	16	318.8
Horner Woods	88	277	29	314.8
Crowcombe Park	51	145	13	284.3
Dulverton Woods, Barle Valley SSSI	52	142	13	273.1

Notes on Table 2.1.2.

The SQI scores for other Somerset sites included here are taken from the regularly updated list maintained online[1].

[1] Further information on SQI can be found at http://khepri.uk/main/

4. CONCLUSIONS

Nettlecombe Park is probably the most important site in Somerset for saproxylic invertebrates. All three dead wood SATs are currently in Favourable Condition in respect to their invertebrate assemblages.

5. ACKNOWLEDGMENTS

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