

THE URBAN RESEARCH STATION AT THE NATURAL HISTORY MUSEUM: A NEW ERA OF BIOLOGICAL AND ENVIRONMENTAL RECORDING

ED BAKER, MAXWELL V.L. BARCLAY, MAX HARBORD, DAVID LEES, SUZANNE PATMAN,
DUNCAN SIVELL, LIL STEVENS, BEN TOWN, JOHN TWEDDLE AND JO WILBRAHAM

Natural History Museum, Cromwell Road, London SW7 5BD
edward.baker@nhm.ac.uk

Introduction

This paper adds to the long-running series of updates covering changes to the flora and fauna of the Natural History Museum’s garden at South Kensington. Whilst previous updates have focused on the 1-acre Wildlife Garden, this paper spans the entirety of the Museum’s 5-acres of outdoor space. It summarises recent changes to the landscape design, spatial extent and composition of habitats, and discusses how the gardens are now being monitored and studied as an Urban Research Station living laboratory. It includes updates on species recorded over the period June 2022 to December 2025.

Gardens Update

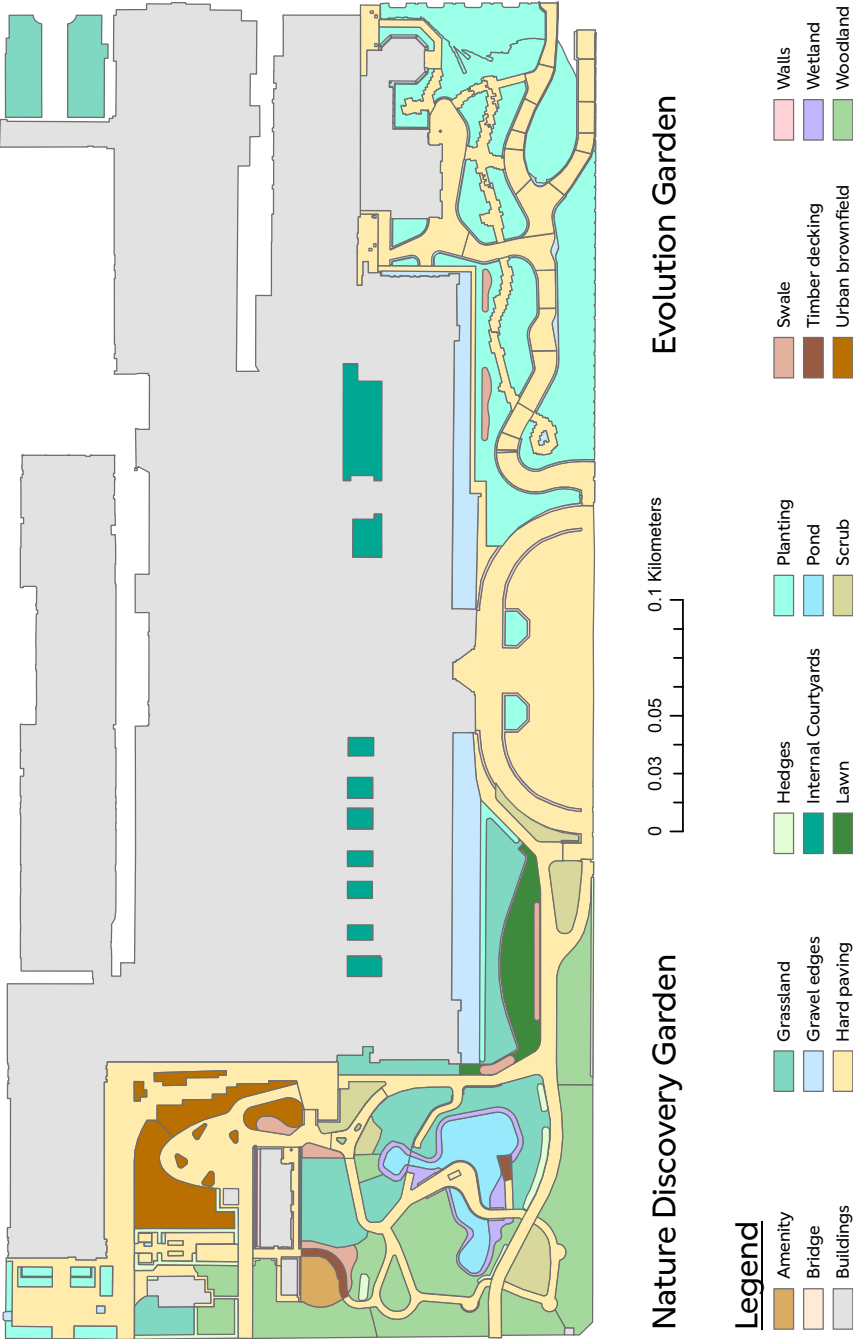
In a previous paper, McCarter *et al.* (2022) summarised the steps that were being taken to prepare the Natural History Museum gardens for a period of significant landscape change through the Museum’s Urban Nature Project. A detailed discussion of the philosophy behind these changes and the ambitions for the gardens as a hub for nature-focused connection, research and education is provided in Baker *et al.* (2025).

This work is now complete. The newly reconfigured gardens opened in July 2024 and welcomed over five million visitors during their first 12-months. In terms of both botanical composition and narrative journey, the gardens are now divided into two main zones (Figure 1).

The Evolution Garden tells the story of the evolution of life on land over hundreds of millions of years (Baker *et al.* 2025). Planting is ornamental in nature and contains a series of beds dominated by non-native plants that are evocative of different time-periods: from tree ferns, gymnosperm shrubs and small trees to herbaceous ferns and prairie grassland.

The Nature Discovery Garden focuses on London’s urban nature, now and in the future. At its core is an extension of the Wildlife Garden, with an additional 3,217 m² of native terrestrial and freshwater habitat having been created - a 74% spatial increase. (Table 1). Goals here are to create larger areas of better-connected habitat, while simultaneously removing the physical and psychological barriers that prevented many visitors from accessing the previous Wildlife Garden.

Figure 1: GIS map showing the new gardens layout.
© Trustees of the Natural History Museum



With the exception of the lowland heath that was translocated to London Wildlife Trust’s Bramley Bank Nature Reserve in Croydon (McCarter *et al.* 2022), previous Wildlife Garden habitats remain, noting that the footprint of some has been remodelled (Figure 1). New habitats include an extended pond network replacing the previous Wildlife Garden ponds. Contents of the old ponds were retained on-site and translocated into this new network, with research into the conservation effectiveness of this methodology currently underway. Two new grassland areas have been created in front of the West Waterhouse Building: a species-rich short urban grassland that is accessible to visitors and an area of fenced urban grassland, which will be managed as a neutral lowland hay meadow. New deciduous scrub and tree planting extends the existing woodland eastwards along Cromwell Road.

An outdoor teaching and training hub - the Nature Activity Centre - separates the northern edge of the former Wildlife Garden from the now largely de-paved Darwin Centre Courtyard. This area of the Nature Discovery Garden is modelled on London in 2050 and has a distinctly Mediterranean feel. It includes a mix of largely non-native trees, shrubs and flowering herbs that are predicted to thrive in London’s Urban Heat Island, as the impacts of climate change continue to increase. Where appropriate, species were chosen from the same genus as UK natives (e.g. *Pinus nigra*, *Prunus dulcis*, *Quercus ilex*). Museum scientists are tracking tree growth rates and how native invertebrates and birds utilise this new planting.

Habitat management

Building works limited access to established habitats within the Wildlife Garden footprint from 2022 to mid-2024. Conservation grazing of grassland habitats has now been reinstated, with two Grey-faced Dartmoor sheep in residence for three weeks during February and returning this autumn. To increase light penetration to the woodland

Table 1: Comparison of habitat type and extent in the former (2021) and reconfigured (2025) Natural History Museum gardens.

Habitat	Total area 2021 (m²)	Total area 2025 (m²)	Change (m²)
Freshwater pond	341	441	+100
Aquatic marginal vegetation and fen	228	199	-29
Neutral grassland (incl. lowland hay meadow)	644	1281	+637
Calcareous grassland	345	303	-42
Species-rich short urban grassland	0	1,236	+1,236
Green swales	0	358	+358
Broadleaved and mixed deciduous woodland	1978	2,170	+192
Scrub and young broadleaved trees	0	832	+832
Native hedgerow	231	264	+33
Dwarf shrub heath	100	0	-100
Mixed native/non-native ornamental planting	2219	4,406	+2,188
Green roof	10	243	+233
Amenity lawn	3304	0	-3,304

floor, selected areas of ground Ivy have been removed and mature Hazel coppiced. Encroaching scrub has also been removed from the chalk grassland. All new native and ornamental planting is regularly monitored and where appropriate supplemented with additional seeding and plug-planting, supporting the establishment of these new beds. Pond marginal vegetation will be thinned on an annual basis to maintain the desired mix of edge habitats and prevent domination by more vigorous taxa.

Monitoring and recording

The build phase of the new Museum gardens inevitably impacted the ability to monitor the gardens wildlife, with site use heavily restricted from August 2022-June 2024. Areas of the gardens were intermittently accessible to Wildlife Garden and Angela Marmont Centre for UK Nature staff, allowing periodic eDNA sampling and limited biodiversity and environmental monitoring. For example, to check amphibian refuges and monitor conditions within the artificial pond holding tanks that were built to support pondlife while it awaited translocation into the new pond network.

Since July 2024, teaching and research activity within the gardens has expanded and there has been a marked upsurge in the frequency and diversity of biodiversity and environmental monitoring across the site. The gardens now operate as a collaborative Urban Research Station: a living laboratory where researchers can study urban nature and environment, develop and test new scientific methods and train researchers and nature enthusiasts. Next generation, digitally-enabled, biodiversity and environmental monitoring methods now extend and complement the site’s long-established biological recording activities. All biodiversity and environmental data are stored within a new Amazon Web Services supported Data Ecosystem digital infrastructure for analysis and onward sharing.

Traditional methods

Survey methodologies previously outlined in McCarter *et al.* (2021) have now been reinstated by Museum staff, volunteers and external collaborators. These include bird transects, moth light trapping and biennial flowering plant surveys. These formalised surveys are supported by *ad hoc* recording by Museum staff, volunteers and visitors, including through public events such as bioblitzes. Recent additions include pond invertebrate and plant surveys as components of postgraduate training courses. Data submitted via iNaturalist and the ‘NHM Grounds Recording’ iRecord project are collated and stored locally within the Data Ecosystem for co-analysis with other data sources. As per previous updates, all iRecord data are freely available to view on the iRecord website (58,809 records of approximately 3,450 species as of 08/05/2026).

DNA and eDNA

DNA barcoding, whether direct from specimens or via extraction of DNA from environmental samples (eDNA), is an increasingly prevalent method for studying biodiversity across the whole tree of life. As a complement to traditional visual methods, it opens up the possibility to monitor entire communities, including taxa that are microscopic or cryptic (Beng and Corlett 2020).

Since May 2021 a malaise trap has been located within the mixed deciduous woodland

(close to the pond) as part of the Tree of Life UK BIOSCAN project. Individual arthropod specimens are DNA barcoded (COI region of the mitochondrial genome) by the Sanger Institute. This research contributes to a UK-wide study of arthropod diversity and summary data for the Natural History Museum garden are now available online (BIOSCAN 2026).

Since spring 2021, environmental and malaise trap samples have also been collected from across the Museum gardens for DNA extraction and sequencing using a method called metabarcoding. This approach enables multiple taxa to be identified from within a single environmental sample (Ruppert *et al.* 2019). Pondwater and malaise trap samples have been collected on a quarterly basis. Soil samples have been taken annually from each of the core Nature Discovery Garden habitats and representative new planting beds within the Evolution Garden. Data analysis is underway and encompasses the period before, during and after the garden reconfiguration. The malaise trap study focuses on urban insect diversity, particularly Diptera. Soil and pond studies utilise the 16S, 18S, ITS2 and CO1 gene regions to encompass a broad range of prokaryotic and eukaryotic life.

Sensor network

The use of technology to monitor both biodiversity (Bennet *et al.* 2015) and the environment (Baker 2014) in the Museum gardens has been trialled for over a decade. The redevelopment of the gardens has allowed us to create a permanent infrastructure to support this work, enabling us to connect sensors to power and data networks almost anywhere in the gardens without running cables across paths. These sensors, based on the Raspberry Pi single-board computer allow us to monitor acoustic biodiversity and abiotic conditions, such as temperature and humidity at a micro-habitat level across our site.

Digital mapping

The gardens at the Museum have a long history of mapping for various purposes, whether this be to coordinate planting, monitoring or other management. Previously this required a number of different resources spread across several teams.

After the redevelopment of the gardens, construction plans were made available to staff and form the skeleton of the digital mapping that was developed. These initial planning files were converted and referenced into a shapefile format compatible with ESRI platforms. Using these tools the initial shapefile data was georeferenced, ground-truthed and developed into our current gardens map (Figure 1). The base map acts as the backbone for our own habitat codes, UKHab criteria and planting information which were added and now stored as map attributes. This will allow us to spatially analyse data from the gardens including habitats and sensor network data. The digital map acts as a platform for our monitoring strategy allowing us to plot out transects and record directly into the ESRI ecosystem using Survey123, making analysis and output production easier. The digital map of the gardens has helped to streamline the creation and direction of planning and monitoring within the gardens and works to amalgamate multiple levels of data in an easily navigable package.

Tree tagging

Trees are important in urban areas for the biodiversity they support, and the other services they provide, such as reducing the urban heat island effect through shade provision. The identification of individual trees is important for keeping an inventory for use in both structural management (i.e. preventing tree limbs falling in public areas) and for detailed studies of tree stock.

All trees above 5cm in diameter have been physically tagged with numbered metal discs and key parameters recorded (e.g. species, diameter at breast height). This dataset provides a 2025 baseline for future studies looking at tree growth and health. In support of this research, trees have also been assessed for their future climate suitability following Hirons and Martin (2025).

Aquatic plants (Sam Thomas - Botanical Society of Britain & Ireland)

A new, extended pond system was established in 2023 using material translocated from the previous Wildlife Garden ponds, including water, gravel and sediment (including seedbank), invertebrates and plants. This planting was supplemented with additional marginal and emergent species. Aquatic species present since 2023 include the stoneworts *Chara globularis* sensu stricto and *Chara vulgaris* (both det. Sam Thomas), the duckweeds *Lemna gibba*, *L. minuta* and *L. trisulca* and White Water-lily *Nymphaea alba* and Yellow Water-lily *Nuphar lutea*. Curled Pondweed *Potamogeton crispus* and Frogbit *Hydrocharis morsus-ranae* have been particularly abundant thus far. Emergent and marginal taxa include *Alisma plantago-aquatica*, *Iris pseudacorus*, *Lythrum salicaria*, *Menyanthes trifoliata*, *Ranunculus sceleratus*, *R. flammula*, *Caltha palustris*, *Glyceria maxima*, *G. fluitans*, *Phragmites australis* and *Phalaris arundinacea*.

Bryophytes (Jo Wilbraham, Lil Stevens and Max Harbord)

In the well-established areas of the Western gardens, *Bryoerythrophyllum recurvirostrum* was recorded new to the gardens at the base of a large London Plane *Platanus x hispanica* tree. In the chalk habitat bank, one chalk pebble was found to be colonised by *Seligeria calycina* which is also a new record. This is such a tiny and inconspicuous moss it is possible it has been hiding here since the chalk garden was established.

The most exciting new find has been in the newly formed Evolution Garden. Closer examination of the mosses growing in one of the tree fern trunks revealed an unusual looking moss with three-ranked leaves - a feature not seen in any British mosses. Microscopic examination of a shoot revealed this plant to be a *Racopilum* species, probably *R. cuspidigerum*, which occurs in Australia and presumably has hitched a ride to the other side of the world on a tree fern trunk. This is a tropical to sub-tropical species so it will be interesting to see how the plants fare in their new London home, however, it is notable that they have now survived two winters in the NHM garden.

Birds (Ben Town)

Weekly bird transects have been conducted before garden opening hours, collecting visual observations to complement the audio data recorded by the sensor network. Since the bird transects were reinstated in March 2024 we have recorded 24 species, including four not recorded during previous structured surveys: Black-headed Gull

Chroicocephalus ridibundus, Herring Gull *Larus argentatus*, Lesser Black-backed Gull *Larus fuscus* and Peregrine *Falco peregrinus*. The most commonly recorded species was the Robin *Erithacus rubecula*. The majority of the records during the surveys occurred within the Nature Discovery Garden, with records in the Evolution Garden mainly consisting of Feral Pigeon *Columba livia domestica*, Carrion Crow *Corvus corone* and a regular pair of Wrens *Troglodytes troglodytes*.

A notable absence is the Moorhen *Gallinula chloropus* pair who had previously bred on the pond. Since the redevelopment this seems to have been replaced by a Mallard *Anas platyrhynchos* pair, but as yet there is no evidence that they are breeding.

Species that have been observed breeding in the gardens are Robin (at least one pair), Woodpigeon *Columba palumbus* (one pair), Wren (two pairs, fledglings have been noted in the DC courtyard for two successive years), Blue Tit *Cyanistes caeruleus* (one pair using a nest box on London Plane, Carrion Crow (one pair) and Magpie *Pica pica* (one pair), both of which have bred in successive years.

Jay *Garrulus glandarius* and Grey Wagtail *Motacilla cinerea* are notable spring and summer visitors, with both species commonly found near the pond taking advantage of the invertebrate life that thrives there. Jay in particular has been noted taking Odonata species on the wing. Notable winter visitors include the Redwing *Turdus iliacus* (seen for successive years feeding on Rowan *Sorbus aucuparia*) and overwintering Chiffchaff *Phylloscopus collybita* something that is becoming increasingly common as our winters become milder.

Hymenoptera (John Tweddle)

The most notable recent find has been the Asian Mud-dauber Wasp *Sceliphron curvatum*. Believed to be a new introduction to the UK during 2024 and at the time of writing records of this species were centred on the London area. Individuals were found within

Below left: **Figure 2.** Woodpigeon outside the Director's Lodge. © Ed Baker



Below right: **Figure 3.** Jay by pond. © Ed Baker



Figure 4. *Saturnia pavonia* male lured on 02 April 2025. © David Lees



the Museum garden and Waterhouse building in 2024 and regularly observed collecting wet soil from the pond margins during summer 2025.

Lepidoptera (David Lees)

A male Emperor Moth *Saturnia pavonia* was lured to the PAV lure in the garden between 14:30 and 17:00 on 2 April 2025.

This is thought to be the first verified record of this species in the garden; a previous record in August 2017 seems unlikely. The tortricid *Pammene giganteana* was also lured to the MOL lure on the same day. More pheromones and traps have been purchased in preparation for the 2026 season.

Other notable species in 2025 include a newly recognised genus and species for the UK in Buckingham Palace Gardens (Freed 2025). Two males of *Coccidiphila gerasimovi* (Cosmopterigidae) (whose larva is a coccidivore) were found in the MV trap, one on 14 August 2025 with the next on 16 September. A malaise trapped specimen from the garden was subsequently identified (Sample ID NHMG_090_A7, Process ID BNHMG8302-24) from 04 October 2023 (bioscan.tol.sanger.ac.uk/report-card/436933). From single specimens, the coleophorid *Coleophora salicorniae* on 12 August 2025 (presumed to be a vagrant from the east), the gelechiids *Dichomeris alacella* and

Below left: **Figure 5.** *Coccidiphila gerasimovi* on 14 August 2025.

© David Lees

Below right: **Figure 6.** *Coleophora salicorniae* 12 August 2025.

© David Lees





Figure 7. *Dichomeris alacella* 12 August 2025.
© David Lees

Chrysoesthia drurella, were trapped, all new to the garden (*D. alacella* is only once before recorded for Middlesex, in Wembley on 29 June 2008), together with the increasingly regular migrant *Scrobipalpa ocellatella*, the autostichid *Oegoconia novimundi* (apparently around its main stronghold for the London area; <https://hertsmidxmths.uk>), and the tortricid *Clavigesta purdeyi*, previously known from the area. On 13 August 2025 single specimens of the gracillariids *Parectopa ononidis* and *Calybites phasianipennella*, both are local or scarce in the area, as well as the migrant crambid *Palpita vitrealis* were trapped. The migratory *Eublemma parva* (Noctuidae) and *Blastobasis vittata* were trapped on 25 June 2025, while two specimens of *Blastobasis rebeli* (new to garden) were trapped on 30 June 2025 together with *O. novimundi*. On 11 September 2025, a specimen of *Hypena obsitalis* was trapped, new to the garden and spreading in London (the first was found by Mark Humphries in Dinoway in 2024) and there are a few records for Battersea and Fulham. *Hecatera dysodea* may be established locally; Mark Humphries found one at Queensgate on 10 August 2024 and Max Barclay noted one in Fulham on 8 July 2025, showing that it is present in the general area. The finding of stem mines of *Phyllocnistis ramulicola* on *Salix caprea* next to the pond was a great surprise; a specimen emerged on 13 November 2025, new to Middlesex. Concerning other leafminer records, regarding nepticulids, a mine of *Stigmella cathartica* was found in the garden on 28 July 2025; mines of *Ectoedemia occultella* that were found on new planted birches on 30/10/2024 were not reobserved in 2025 so may not have established. *Choreutis nemorana* (Choreutidae) first found on the *Ficus carica* on 8 August 2024 was well established by 2025, as was the Ivy-feeding tortricid *Clepsis dumicolana*. A single specimen provisionally identified as *Zelotheres unitana* (Tortricidae), a northern moorland species possibly imported with plants, was photographed by Max Harbord on 14 June 2025, but not retained.

Concerning butterflies, *Argynnis paphia* was photographed in the garden on 4 July 2025 (Jade Hailes, <https://www.inaturalist.org/observations/295350081>).

Coleoptera and Hemiptera (Maxwell V.L. Barclay)

Coleoptera and Hemiptera are an unlikely pairing, considering that they are not in any sense closely related, but they are generally collected in similar ways, by beating and sweeping vegetation, and the physical proximity of the NHM's Hemiptera and Coleoptera collections makes it easy for them to be studied and identified together. Both groups are rich in species, so changes in their fauna or species composition are quite easily observed. Imported species of both groups, mostly from southern Europe but sometimes from further afield, give sampling in the Museum's gardens (or, for that matter, anywhere in London) a distinctly exotic flavour. The Mediterranean planting of

the Darwin Centre Courtyard, intended to project what London might look like in 2050, has been particularly interesting from this point of view - as the Mediterranean shrubs and trees seem to attract their compatriot insects. The sheer number of species that are first reported for the UK from the NHM grounds might make it look like 'ground zero' for invasives, but this is almost certainly not the case - more likely a factor of the large number of entomologists nearby to notice species that are in fact, arriving with ornamental plantings all over the UK.

For the True Bugs (Hemiptera) the highlight of the recent years was the discovery of the first known British specimen of the Cotton Seed Bug *Oxycarenus hyalinipennis* (Lygaeidae) on the 10 October 2025 by sweeping short vegetation on the 'chalk hillside'. This generally subtropical species is associated with a wide range of plants of the family Malvaceae, including but not restricted to cotton; it was probably swept from some small native *Malva*. Tristan Bantock has also found it at the nearby Chelsea Physic Garden. The newly-planted Black Pines *Pinus nigra* outside the Darwin Centre were beaten in autumn 2024 and produced large numbers of *Leptoglossus occidentalis*, the Western Conifer Seed Bug (Coreidae). This dramatic looking North American Leaf-footed Bug, around an inch long, is the largest terrestrial true bug found in Britain and has been spreading steadily around the Northern Hemisphere. Other large true bugs, not native to the UK, include the Brown Marmorated Stink Bug *Halyomorpha halys*, the Mottled Shield Bug *Rhaphigaster nebulosa* and the Southern Green Shield Bug *Nezara viridula* (all Pentatomidae). These have all been known in the gardens for several years and also take refuge inside the Waterhouse Building in winter as they all overwinter as adults. The Trivial Plant Bug *Closterotomus trivialis* (Miridae) is now one of the commonest species in the gardens, having been first reported in Britain in 2009. On the recently planted Fig trees *Ficus carica* is one of the first known UK populations of the tiny yellow fig leafhopper *Ficocya ficacis* (Cicadellidae), rubbing shoulders with the larvae of the introduced moth *Choreutis nemorana* (see above under Lepidoptera). On the *Platanus* trees is the small green leafhopper *Edwardsiana platanicola* (Cicadellidae), another new record for Britain. The same trees host enormous populations of the lygaeid bug *Arocatus longiceps*, present in the UK for about 20 years. There is still some taxonomic uncertainty about the Plane-feeding *A. longiceps* and the very similar Alder-feeding *A. roeselii* - whether both are present and if they really do represent distinct species and not just 'host plant races' of the same thing. In July 2025, while walking from the Museum to Hyde Park, Talay Namintraporn from the Insects Division encountered large numbers of the Plane Tree Lace Bug *Corythucha ciliata* (Tingidae). This delicate filigree-patterned insect also originates from North America and the first local record was found on a bus near Kensington Gore by Giuliana Sinclair from the Centre for UK Nature in July 2024. Subsequent searching in the gardens found it to be abundant on the Planes. It is spreading rapidly and is now very common in urban settings in much of western Europe; it was quite late to arrive in England, but now it is here it is likely to expand wherever Plane trees have been planted. Adults are perhaps most easily found overwintering under the bark flakes of plane trees. A final and very interesting bug is the Holm Oak Leafhopper *Stegelytra* sp. (Cicadellidae), found on the *Quercus ilex* outside the Darwin Centre in September 2024. Two species of this genus have been observed in Britain in the past five years, one of which is *Stegelytra putoni*, and the second is still awaiting

identification. Like the Holm Oak itself, they originate from southern Europe, but the group is taxonomically difficult and poorly known.

The beetles (Coleoptera) is an even larger group, with over 4,000 species known in Britain and around 400 reported from the NHM's gardens over the years, going back to a list kept by the late NHM Coleoptera expert Peter Hammond. During the period discussed, a number of interesting species have been reported in the grounds and some of these are discussed here.

The Alder Leaf Beetle *Agelastica alni* (Chrysomelidae) has proliferated and can now reliably be found on the Alders near the Nature Activity Centre. This metallic blue species, with black, leaf-feeding larvae, disappeared from the UK during the early 20th century, before recolonising and then becoming extremely widespread very rapidly. Other imported species have established themselves: inspection of the Hornbeams *Carpinus* sp. by the Queen's Gate entrance on 28 June 2023 revealed a large population of the Hornbeam Jewel Beetle *Agilus olivicolor* (Buprestidae), representing a new family as well as a new species for the NHM grounds. This European species was first noted in England near Windsor Forest by former NHM entomologist Howard Mendel. On the same day, Joana Cristóvão from Insects Division found, near the Queen's Gate entrance, a single specimen of the metallic chafer beetle *Mimela junii* (Scarabaeidae: Rutelinae) which was at the time not known to be present in the UK. The British fauna of Rutelinae includes only two species. *M. junii* is a southern and central European species with a soil-feeding larva, and a flying, leaf-feeding adult - a likely means of importation is via potted trees and other large plants with soil or root balls. The name 'junii' refers to the general month of emergence, making it a literal 'June Bug'. Another scarab beetle found in the grounds, is the tiny wood-feeding *Saprosites natalensis* (Scarabaeidae: Aphodiinae), a species which despite its 'South African' name is believed to have originated in Australia, and can be found, especially in winter, by searching the wood heap near the tool shed in the West Garden.

While many species of interest are exotics or invasives, imported from all over the globe, two species of note have been found recently that are thought to be rare or uncommon native species, usually associated with good quality woodland. One is *Pediacus dermestoides* (Cucujidae), a pale flattened beetle usually noted under bark and reported on 18 May 2025 by Dominic Phillips, who was then working on the Darwin Tree of Life genomics project. It is considered to be 'local' or 'very local' and has occasionally been reported in nearby green sites, such as Brompton Cemetery, but is never common. The second, even more remarkable record is of the Ship Timber Beetle *Lymexylon navale* (Lymexylidae), collected by David Lees (Lepidoptera) in the light trap run on the night of 1 July 2025. These long cylindrical beetles (which are so long and thin that they are often mistaken for some other order of insects) usually breed in standing dry timber (hence the name of 'ship timber beetles' because from the beetle's perspective the mast of an old sailing vessel is little different from a standing dead tree!). *Lymexylon* is generally extremely rare and is classified as 'Red Data Book 2: Vulnerable' so its presence in a London garden is, to say the least, surprising!

Recording the ever-changing insect fauna of the grounds of the Natural History Museum is full of surprises. We frequently sample together with groups of students, or on open days for the public, and it is quite a regular occurrence that something

novel or interesting shows up! Specimens are placed in the collection or passed on to several large-scale genetics and genomics projects, such as Darwin Tree of Life, Biodiversity Genomics Europe or UK Barcode of Life, the results from which also help us to unravel difficult identifications or taxonomic difficulties.

Isopoda (Duncan Sivell)

The woodlouse *Armadillidium nasutum* now occurs in the garden. A square projection on the forehead of this species makes it easily recognisable and distinguishes it from the Common Pill Woodlouse *Armadillidium vulgare* which is also present.

Myriapoda (Duncan Sivell)

The Glasshouse Millipede *Oxidus gracilis* is present in the compost bins, notably in compost that is giving off some heat. As its common name suggests, this millipede is normally found in glasshouses, typically in botanic gardens or in garden centres. The warmer compost bins also support colonies of *Tetramorium* ants and Lesser Earwigs *Labia minor* are also numerous. The woodlouse *Porcellionides prunosus*, previously recorded in the garden compost heaps, has not been re-found but it may be present in low densities.



Above: **Figure 8.** *Armadillidium nasutum*. © Duncan Sivell

Below: **Figure 9.** Glasshouse Millipede *Oxidus gracilis*. © Duncan Sivell



LIST OF SPECIES NEW TO THE GARDEN: 2023-2025

PSOCODEA

Psocidae

Amphigerontia contaminata

Trogiidae

Cerobasis guestfalica

ODONATA

Coenagrionidae

Erythromma viridulum

HEMIPTERA

Cicadellidae

Edwardsiana platanicola

Ficocyba ficacis

Oxycarenus hyalinipennis

Stegelytra ?putoni

Coreidae

Gonocerus acuteangulatus

Leptoglossus occidentalis

Delphacidae

Asiraca clavicornis

Lygaeidae*Heterogaster urticae**Rhyparochromus vulgaris***Miridae***Psallus (Mesopsallus) ambiguus**Rhabdomiris striatellus***Saldidae***Saldula saltatoria***Tingidae***Corythucha ciliata***Trioziidae***?Trioza centranthi* (det. Sam Newton)**COLEOPTERA****Anthribidae***Anthribus fasciatus***Buprestidae***Agrilus olivicolor***Carabidae***Asaphidion stierlini**Elaphrus riparius***Chrysomelidae***Bruchus rufipes**Longitarsus rubiginosus**Phyllotreta vittula***Coccinellidae***Scymnus suturalis***Cucujidae***Pediacus dermestoides***Cucujidae***Pediacus dermestoides***Curculionidae***Polydrusus cervinus***Kateretidae***Brachypterus urticae***Lymexylidae***Lymexylon navale***Scarabaeidae***Mimela junii**Saprosites natalensis***Staphylinidae***Quedius lucidulus***DIPTERA****Agromyzidae***Amauromyza flavifrons**Chromatomyia aprilina***Cecidomyiidae***Kiefferia pericarpiicola***Dolichopodidae***Chrysotus suavis***Ephydriidae***Discocerina obscurella**Ditrichophora calceata**Scatella lacustris**Scatella stagnalis***Psychodidae***Paramormia ustulata***Sarcophagidae***Sarcophaga haemorrhoea***Sciomyzidae***Sepedon sphegea***Stratiomyidae***Stratiomys longicornis***Syrphidae***Meliscaeva auricollis**Parasyrphus punctulatus**Platycheirus scutatus* sens. lat.**Tipulidae***Tipula confusa***HYMENOPTERA****Braconidae***Orionis coxator***Cynipidae***Aphelonyx cerricola* f. agamic**Ichneumonidae***Gelis areator**Sussaba flavipes***Sphecidae***Sceliphron curvatum***Tenthredinidae***Monostegia abdominalis***LEPIDOPTERA****Choreutidae***Choreutis nemorana* [from 2024]**Erebidae***Hypena obsitalis***Gelechiidae***Chrysoesthia drurella**Chrysoesthia sexguttella**Dichomeris alacella***Blastobasidae***Blastobasis vittata**Blastobasis rebeli***Coleophoridae***Coleophora salicorniae***Gracillariidae***Parornix anglicella**Phyllocnistis ramulicola***Nepticulidae***Ectoedemia occultella* [2024]*Stigmella catharticella**Stigmella plagiolella***Noctuidae***Calophasia lunula**Hecatera dysodea**Eublemma parva***Nymphalidae***Melanargia galathea***Saturniidae***Saturnia pavonia* [earlier record considered unlikely]**Tortricidae***Pammene giganteana***ARANEAE****Gnaphosidae***Scotophaeus blackwalli***Lycosidae***Pirata piraticus***JULIDA****Julidae***Cylindroiulus londinensis***POLYDESMIDA****Paradoxosomatidae***Oxidus gracilis***ISOPODA****Armadillidiidae***Armadillidium nasatum***ANSERIFORMES****Anatidae***Aix galericulata**Alopochen aegyptiaca***CHARALES****Characeae***Chara vulgaris***ASPARGALES****Orchidaceae***Anacamptis pyramidalis***ASTERALES****Asteraceae***Matricaria chamomilla**Mycelis muralis**Senecio viscosus***CARYOPHYLLALES****Amaranthaceae***Chenopodium pratericola***FABALES****Fabaceae***Trifolium incarnatum* subsp. *incarnatum***LAMIALES****Verbenaceae***Verbena bonariensis***POALES****Poaceae***Echinochloa crus-galli**Setaria pumila***RANUNCULALES****Papaveraceae***Fumaria muralis*

SAPINDALES**Simaroubaceae***Ailanthus altissima***SOLANALES****Solanaceae***Solanum laciniatum***References**

- BAKER, E. 2014. *Open source data logger for low-cost environmental monitoring*. Biodiversity data journal.
- BAKER, E., KENRICK, P., KNAPP, S., McCARTER, T. and TWEDDLE, J. 2025. Catalysts for change: museum gardens in a planetary emergency. *Plants, People, Planet*. <https://doi.org/10.1002/ppp3.70100>
- BENG, K.C. and CORLETT, R.T. 2020. Applications of environmental DNA (eDNA) in ecology and conservation: opportunities, challenges and prospects. *Biodivers. Conserv.* **29**: 2,089-2,121. <https://doi.org/10.1007/s10531-020-01980-0>
- BENNET, W., CHESMORE, D. and BAKER, E. 2015. Speckled bush cricket data logger. *Project Report Figshare* <https://doi.org/10.6084> M
- BIOSCAN. 2026. Tree of Life UK. <https://bioscan.tol.sanger.ac.uk/> (accessed 20/03/2026).
- FREED, T.H. 2025. *Coccidiphila gerasimovi* Danilevsky, 1950 (Lep.: Cosmopterigidae) in London: a genus and species new to Britain. *Entomologist's Rec. Var.* **137**: 241-250.
- HIRONS, A.D. and MARTIN, K.W.E. 2025. *Future climate suitability of London's public realm trees*. Urban Plant Lab.
- McCARTER, T., MYERS, S., WARE, C., ELLIS, L., BARCLAY, M.V.L., THOMAS, S., SIVELL, D. and BROAD, G. 2021. The Wildlife Garden at the Natural History Museum: developments of the flora and fauna update 2020-2021 - twenty-six years of species recording. *Lond. Nat.* **100**: 124-131.
- McCARTER, T., LEES, D., WARE, C., ELLIS, L., THOMAS, S., BARCLAY, M.V.L., GEISER, M.F. and MATSUMOTO, K. 2022. The Wildlife Garden at the Natural History Museum: Developments of the flora and fauna update 2021-2022 - twenty-seven years of species recording. *Lond. Nat.* **101**: 83-92.
- RUPPERT, K.M., KLINE, R.J. and RAHMAN, S. 2019. Past, present, and future perspectives of environmental DNA (eDNA) metabarcoding: A systematic review in methods, monitoring, and applications of global eDNA. *Global Ecology and Conservation* **17**: e00547. <https://doi.org/10.1016/j.gecco.2019.e00547>.