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A review of the scarce and threatened spiders (Araneae) of Great Britain: Species Status No.22

P. Harvey, M. Davidson, I. Dawson, A. Fowles, G.
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Smith.

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1. Crynodeb Gweithredol

Mae corynnod yn gydran bwysig o ecosystemau tir Prydain, felly mae'n hanfodol cael ymwybyddiaeth o'r materion cadwraeth y maen nhw'n eu hwynebu. Mae'r adolygiad hwn yn asesu'r perygl o ddifodiant, ar sail Categoriâu Rhestr Goch yr Undeb Rhyngwladol dros Gadwraeth Natur (IUCN), ar gyfer rhywogaethau a gofnodwyd ym Mhrydain ac a ystyrir yn gymwys i'w hystyried o dan feini prawf yr IUCN. Y bwriad yw y bydd y rhestr hon yn gallu cael ei defnyddio fel un o'r offerynnau ar gyfer blaenoriaethu camau gweithredu cadwraeth, gan gynnwys gwaith ymchwil pan na fydd digon o ddata neu pan fydd y data'n amhendant.

Yn ogystal â hyn, mae'r adolygiad hwn, am y tro cyntaf, yn cyflwyno 'rhestr oren' ar gyfer rhywogaethau o gorynnod sydd wedi dirywio'n sylweddol ond sy'n parhau i fod yn gymharol gyffredin. Ni chredir bod ansawdd y data sydd ar gael ar gyfer corynnod yn ddigonol i gyfiawnhau statws bygythiad yr IUCN i'r rhywogaethau hyn, ond mae'r rhestr yn ddefnyddiol o ran amlygu'r rhywogaethau mewn perygl o fod yn gymwys i gael statws bygythiad os bydd y tueddiadau presennol yn parhau, a'r angen am waith ymchwil ac arolygon wedi'u targedu. Mae'r adolygiad hefyd yn dyrannu corynnod i'r categorïau penodol yn y DU, Prinder Cenedlaethol ac Anfynych yn Genedlaethol, sy'n seiliedig ar ddsbarthiad cyfyngedig yn hytrach nag ar asesiad o risg. Mae'r asesiadau yn defnyddio data o'r Cynllun Cofnodi Corynnod Cenedlaethol ar gyfer Cymru, Lloegr a'r Alban sy'n cynnwys y cyfnod hyd at ddiwedd 2013. Maent yn seiliedig ar ddsbarthiadau, newidiadau dosbarth, bygythiadau yn y gorffennol, ac asesiad ar a yw'r bygythiadau hyn, neu rai newydd, yn debygol o gyflwyno risg yn y dyfodol.

Er nad yw'r rhan fwyaf o gorynnod angen deiet arbenigol, gallai fod angen cynefin penodol iawn arnynt, a gallent hyd yn oed fod yn gyfyngedig i ficrogynefin penodol iawn o fewn cynefinoedd ehangach cydnabyddedig. Awgryma ein gwybodaeth gynyddol am ecoleg corynnod fod ceisio darogan tueddiadau'r dyfodol gan ddefnyddio'r cynefinoedd sydd ar gael yn cyflwyno lliaws o broblemau.

Dylai'r statws IUCN a ddynodir gael ei ystyried yn arwydd o'r risg y bydd rhywogaeth yn difodi yn y dyfodol, ar sail y wybodaeth orau sydd ar gael ar y pryd. Mae'n anochel na fydd digon o ddata yn bodoli ar nifer o rywogaethau prin, yn enwedig y rheini mewn cynefinoedd na chânt eu harolygu rhyw lawer neu gynefinoedd na ellir eu cyrraedd a/neu'r rheini â dosbarthiad cyfyngedig iawn. Mae gwaith diweddar wedi'i dargedu gan Gymdeithas Arachnolegol Prydain a chyrrff anllywodraethol eraill wedi darparu data o ansawdd uchel ar nifer o rywogaethau, ond mae angen gwneud rhagor o waith i egluro statws cadwraeth eraill.

Yn yr adolygiad hwn:

- Pennir bod tair rhywogaeth wedi Diflannu'n Rhanbarthol
- Mae pum rhywogaeth arall wedi'u nodi fel rhai Mewn Perygl Difrifol, ac mae'n bosibl fod y rhain hefyd wedi Diflannu'n Rhanbarthol
- Pennir bod 13 o rywogaethau Mewn Perygl Difrifol
- Pennir bod 30 o rywogaethau Mewn Perygl
- Mae 54 o rywogaethau wedi cael statws Agored i Niwed
- Mae 29 o rywogaethau eraill wedi cael statws Mewn Perygl Agos

Mae'r gyfran o gorynnod Prydain brodorol sydd mewn bodolaeth a neilltuwyd i un o'r tri chategori bygythiad mwyaf – Mewn Perygl Difrifol (gan gynnwys rhywogaethau a allai fod wedi Diflannu o Bosibl), Mewn Perygl, ac yn Agored i Niwed – bron yn 16%. Pan gynhwysir Mewn Perygl Agos, mae hyn yn cynyddu i 20%, neu un rhan o bump o'r rhywogaethau. Cafodd cadwraeth corynnod ei hesgeuluso am lawer o flynyddoedd, yn yr un modd â chadwraeth llawer o dacsonau infertebrata, ond gellir dangos eu bod yr un mor agored i niwed i ddiraddiant a cholled cynefin ag unrhyw dacson arall. Mae'r adolygiad hwn yn amlygu'r angen daer i roi mwy o sylw i gadwraeth corynnod, ac i'r gwaith ymchwil ac arolygu sydd ei angen i wneud hyn.

2. Executive Summary

Spiders form an important component of British terrestrial ecosystems and as such an awareness of the conservation issues they face is vital. This review assesses the threat of extinction, based on IUCN Red List Categories, for the species recorded in Britain and considered eligible for consideration under those IUCN criteria. The intention is that this list can be used as one of the tools for prioritising conservation action, including research where data are lacking or inconclusive.

In addition, this review introduces, for the first time, an ‘Amber list’ for spider species that have undergone substantial decline but that still remain relatively common. The quality of data available for spiders is not thought adequate to justify the allocation of IUCN threat status to these species but the list serves to highlight both the species at risk of qualifying for threat status if current trends continue, and the need for targeted research and surveys. The review also allocates spiders to the GB-specific categories Nationally Rare and Nationally Scarce, which are based on restricted distribution rather than on an assessment of risk. The assessments use data from the National Spider Recording Scheme for England, Scotland and Wales that covers the period up until the end of 2013. They are based on distributions, changes in distribution, past threats, and an assessment of whether these, or newly emerging threats, are likely to pose future risk.

Spiders, whilst for the most-part non-specialist with regard to their diet, may be very habitat-specific, and indeed may be restricted to a very specific microhabitat within recognised broader habitats. Our increasing knowledge of spider ecology suggests that trying to predict future trends using habitat availability is fraught with problems.

The IUCN statuses assigned should be considered an indication of the risk of a species becoming extinct in the future, based on the best information currently available. Inevitably there are a number of rare species for which data are lacking, particularly those of poorly surveyed/inaccessible habitats and/or those with a very restricted distribution. Recent targeted work by the British Arachnological Society and other NGOs has provided high quality data for a number of species, but further work is needed to clarify the conservation status of others.

In this review:

- Three species are determined to be Regionally Extinct
- A further five species are identified as Critically Endangered with a possibility that they are also Regionally Extinct
- Thirteen species are determined to be Critically Endangered
- Thirty species are determined to be Endangered
- Fifty-four species are assigned Vulnerable status
- A further 29 species are assigned Near Threatened status

The proportion of the extant native British spider fauna assigned to one of the three main threat categories (Critically Endangered (including Possibly Extinct species), Endangered, and Vulnerable) is almost 16%. Including Near Threatened, this rises to 20%, or one fifth, of species. The conservation of spiders, like that of many invertebrate taxa, was neglected for many years, but it can be demonstrated that

they are just as vulnerable to habitat degradation and loss as any other taxon. This review highlights the pressing need for greater attention to be paid to spider conservation, and to the research and survey work needed to underpin it.

3. Introduction to the Species Status Reviews

3.1. The Species Status project

The Species Status project is a recent initiative, providing up-to-date assessments of the threat status of taxa using the internationally accepted Red List guidelines developed by the International Union for Conservation of Nature (IUCN); (IUCN, 2012a; 2012b; IUCN Standards and Petitions Subcommittee, 2013, 2014). It is the successor to the Joint Nature Conservation Committee (JNCC) Species Status Assessment project (<http://jncc.defra.gov.uk/page-3352>) which ended in 2008. This publication is one in a series of reviews to be produced under the auspices of the new project.

Under the Species Status project, the UK's statutory nature conservation agencies, specialist societies and NGOs will initiate, resource and publish Red Lists and other status reviews of selected taxonomic groups for Great Britain which will then be submitted to JNCC for accreditation (<http://jncc.defra.gov.uk/page-1773>). This means that the UK's statutory nature conservation agencies and JNCC will be able to publish Red Lists. All publications will explain the rationale for the assessments made. The approved threat statuses will be entered into the JNCC spreadsheet of species conservation designations (<http://jncc.defra.gov.uk/page-3408>).

3.2. The status assessments

This review adopts the procedures recommended for the regional application of the IUCN threat assessment guidelines which can be viewed at [IUCN \(2012b\)](#). Section 4 and Appendix 1 provide further details. This is a two-step process, the first identifying the taxa threatened in the region of interest using information on the status of the taxa of interest in that region (IUCN, 2014), the second amending the assessments where necessary to take into account interaction with populations of the taxon in neighbouring regions ([IUCN Standards and Petitions Subcommittee, 2014](#)). In addition, but as a separate exercise, the standard GB system of assessing rarity, based solely on distribution, is used alongside the IUCN system.

3.3. Status assessments other than Red Lists for species in Britain

Sound decisions about the priority to attach to conservation action for any species should primarily be based upon objective assessments of the degree of threat to the survival of a species. This is conventionally done by assigning the species to one of the IUCN threat categories although the IUCN (2014) point out that a category of threat is often not sufficient to determine priorities for conservation action. However, the assessment of threats to survival should be separate and distinct from the subsequent process of deciding which species require action and what activities and resources should be allocated.

3.4. Species status and conservation action

Making good decisions to conserve species should primarily be based upon an objective process of determining the degree of threat to the survival of a species, in the present exercise by assigning the species to one of the IUCN threat categories. This assessment of threats to survival should be separate and distinct from the subsequent process of deciding which species require action and what activities and resources should be allocated.

When making decisions as to which species should be treated as priorities for conservation action, factors to be considered other than IUCN threat category include: the likely chances of recovery being achieved; the cost of achieving recovery (and whether sources of funding are available or likely to be available); the benefits to other threatened species of a recovery programme; the fit of a recovery programme with other conservation activities (including conservation actions to be taken for habitats); the likely gains for the profile of conservation; and the relationship and fit between national and international obligations. Under the UK Biodiversity Action Plan a list of priority species has been identified as a focus for conservation effort which has subsequently been used as the basis for country-level lists in England, Scotland and Wales. In addition, certain species are legally protected in Great Britain under legislation such as the Wildlife and Countryside Act 1981, and British wildlife legislation is overlaid by international directives such as the Habitats Directive (Directive 92/42/EEC). Threat assessments and rarity assessments also underlie the criteria used for protected site selection and qualifying species can then be considered as protected interest features on the site.

4. Introduction to the Spider Review

Spiders are ubiquitous terrestrial predators, having colonised all terrestrial niches from the littoral zone to mountaintops and from Arctic islands to deserts. While accurately expressing the role they play in ecosystems is nigh-on impossible, this has not stopped the more ambitious arachnologists from trying; from Turnbull's (1973) calculation of 47,500Kg of prey consumed by one hectare of spiders in one year to Bristowe's (1958) assertion that the weight of insects consumed annually by spiders in Britain exceeds that of the human inhabitants. While neither of these estimates can be considered reliable (not least because of the increase in the human population and decrease in semi-natural habitats that has been observed since Bristowe's time – see also Nyffler, 2000), there is no doubt amongst ecologists that spiders are an extremely important element in terrestrial ecosystems, perhaps only eclipsed by ants in certain tropical biotopes. The more direct economic importance of spiders has not been ignored, with some species recognised as important pest control agents. Many, more recent, studies have investigated their ability to 'balloon' into agroecosystems that traditional pest control agents have difficulty colonising (e.g. Blandenier & Fürst, 1998; Pearce *et al.*, 2005).

Whilst many spider species are very common, a substantial proportion of Britain's species are under threat and even more warrant conservation concern. Major and well documented changes in land use, and particularly the loss of semi-natural habitats and intensification of agriculture, that characterised the second half of the 20th Century (Robinson & Sutherland 2002; UK NEA 2011), are likely to have had major impacts on many spider species and particularly on less mobile species and habitat specialists.

While the pace of these changes has slowed in the 21st Century and their impacts have been to some extent mitigated by improvements in environmental protection (e.g. Natural England, 2009), new threats are emerging that are less amenable to mitigation. Climate change is undoubtedly the foremost of these. Warming temperatures pose an immediate and obvious threat to high montane species, such

as *Palliduphantes antroniensis*, which risk running out of suitable habitat. Rising sea levels and an increasing frequency of storms threaten species of coastal habitats as salt marshes, cliffs and dunes are lost, and major areas of freshwater habitat in coastal areas are threatened by salinisation. More subtle effects that are difficult to detect may include competitive exclusion of some species by others as ranges shift and new colonists are able to establish.

Nutrient inputs are predicted to be one of the three major drivers of biodiversity loss this century (Sala *et al.*, 2000). Anthropogenic activity has doubled global phosphorus liberation and plant-available nitrogen during the past 50 years (Tilman *et al.*, 2001; Vitousek *et al.*, 1997), and in the UK there is evidence that chronic nitrogen deposition has resulted in significant and substantial reductions in plant species richness (Stevens *et al.*, 2004) and diversity (Britton *et al.*, 2009). These changes in the composition and resulting physical structure of plant communities are likely to have significant impacts on many spider species.

The increasing frequency of arrival in the UK of both pathogens and herbivorous insects that have the potential to devastate trees and herbaceous species (NNS, 2008) poses a further threat to spider species that live on them or in the habitats they provide. Diseases of Juniper and Scots Pine, for example, could have devastating effects on already threatened species such as *Dismodicus elevatus* and *Robertus scoticus*.

This review uses data from the National Spider Recording Scheme to assess the threat of extinction, based on IUCN Red List Categories, for all long-term native species in this large and important taxon in England, Scotland and Wales. These species are also evaluated against other measures of conservation concern and of rarity.

4.1. Previous reviews

Conservation and threat statuses were first applied to British invertebrates in the early 1980s as an essential component of the Nature Conservancy Council's Invertebrate Site Register project. The first account of threatened British spiders was included in the *British Red Data Book* (Bratton, 1991). This listed 86 spiders, all with data sheets: 22 as Endangered, 31 as Vulnerable, 26 as Rare and seven as Insufficiently Known. The publication of *A review of the Nationally Notable spiders of Great Britain* (Merrett, 1990) also presented species accounts of spiders assigned to Nationally Notable (now termed Nationally Scarce) categories for all 625 species then on the British list.

Spiders have only started to receive the attention deserved by such a large and ecologically important taxon during the past 60 years. The publication of *British Spiders* (Locket & Millidge 1951, 1953; Locket *et al.*, 1974), and the formation in 1958 of the Flatford Mill Spider Group, which became The British Spider Study Group and subsequently developed into the British Arachnological Society, provided a firm impetus for the study of arachnology in the last half of the 20th Century. The publication of a photographic field guide by Dick Jones (Jones 1983, 1989) and then the massively important modern identification work by Michael Roberts (Roberts 1985, 1987) provided arachnologists with additional tools to identify reliably most species of spider found in Britain.

Following the county lists provided by Bristowe (1939, 1941) in the *Comity of Spiders*, Dr Peter Merrett initiated the mapping of the distribution of British spiders on an administrative county basis in Locket *et al.*, (1974) and has periodically published New County Record updates in the *Bulletin of the British Arachnological Society*. However, it was the formation of the Spider Recording Scheme in 1987 and the remarkable enthusiasm and energy of the late Clifford Smith that has been instrumental in encouraging the active support of arachnologists and increasing the numbers of recorders. In the first fourteen years of recording (1987-2000), over 1500 volunteers contributed more than 517,000 records. Overall coverage of Britain is good although, not surprisingly, it is patchy with a number of counties intensively recorded whilst other areas remain more poorly covered. At the end of the first phase of the scheme, provisional maps with species accounts and phenology charts were published in the *Provisional Atlas of British Spiders* (Harvey *et al.*, 2002). The Spider Recording Scheme (SRS) website (<http://srs.britishspiders.org.uk/>) was launched in 2010 and provides maps and ecological and phenological data for all British spider species.

4.2. The new review

This review covers 645 British species in the Araneae check list published in 2000 by Merrett & Murphy, plus a further 19 species recorded in Britain since then (Merrett *et al.*, 2014). Twenty-five species considered introduced or recent colonists are included in the spreadsheet but excluded from assessment (see section 5.1.1 and 7.6).

Merrett *et al.* (2014) considered the native British Araneae to comprise 34 families (Agelenidae, Amaurobiidae, Anyphaenidae, Araneidae, Atypidae, Clubionidae, Corrinidae, Cybaeidae, Dictynidae, Dysderidae, Eresidae, Gnaphosidae, Hahniidae, Linyphiidae, Liocranidae, Lycosidae, Mimetidae, Nesticidae, Oonopidae, Oxyopidae, Philodromidae, Pholcidae, Pisauridae, Salticidae, Scytodidae, Segestriidae, Sparassidae, Tetragnathidae, Theridiidae, Theridiosomatidae, Thomisidae, Uloboridae, Zodariidae, Zoridae).

The data used in this status review combine the Provisional Atlas data and new data, in excess of 950,000 records. The review covers Great Britain (i.e. England, Scotland and Wales), together with the Isle of Man, but excludes the Channel Islands and Ireland (The Republic of Ireland and Northern Ireland). Records up to the end of 2013 are included; more recent records are shown on the SRS website (above).

Where we were aware of records after this period they were considered when it had a bearing on the status assigned – for example, the rediscovery of *Hypsosinga heri* in 2014, after a gap of 102 years. These records were not incorporated into the hectad figures shown in the spreadsheet and appendix however. The review does not include records from sources other than the SRS owing to the difficulty of verification.

4.3. Nomenclature

Nomenclature is intended to be as up-to-date as possible, and uses the most recent Araneae check list for Britain (Merrett *et al.*, 2014); users should refer to that document for nomenclatural changes since Bratton (1991) and Merrett (1990).

5. The IUCN threat categories and selection criteria as adapted for Invertebrates in Great Britain

5.1. Summary of the 2001 Threat Categories

It is necessary to have a good understanding of the rationale behind red listing and the definitions used in the red listing process. This is because these definitions may differ from standard ecological definitions e.g. 'populations' or have very specific meanings e.g. 'inferred'. Details regarding methods and terminology are contained in the Guidelines for Using the IUCN Red List Categories and Criteria IUCN 2014; <http://www.iucnredlist.org/documents/RedListGuidelines.pdf>). This is summarised without any detail in IUCN Red List Categories and Criteria: Version 3.1 ([IUCN 2012a](#)). The procedure for assessing taxa at a regional level differs from that at a global level and is summarised in the Guidelines for Application of IUCN Red List Criteria at Regional and National Levels IUCN ([2012b](#)).

A brief outline of the revised IUCN criteria and their application is given below. The definitions of the categories are given in Table 1 and the hierarchical relationship of the categories in Figure 1.

Table 1. Definitions of IUCN threat categories (from IUCN, 2012b with a more specific definition for regional extinction).

REGIONALLY EXTINCT (RE)

A taxon is Extinct when there is no reasonable doubt that the last individual has died. In this Review the last date for a record is set at fifty years before publication.

CRITICALLY ENDANGERED (CR)

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Appendix 2).

ENDANGERED (EN)

A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Appendix 2).

VULNERABLE (VU)

A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Appendix 2).

NEAR THREATENED (NT)

A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for, or is likely to qualify for, a threatened category in the near future.

LEAST CONCERN (LC)

A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.

DATA DEFICIENT (DD)

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its

biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that a threatened classification is appropriate.

NOT EVALUATED (NE)

A taxon is Not Evaluated when it has not yet been evaluated against the criteria.

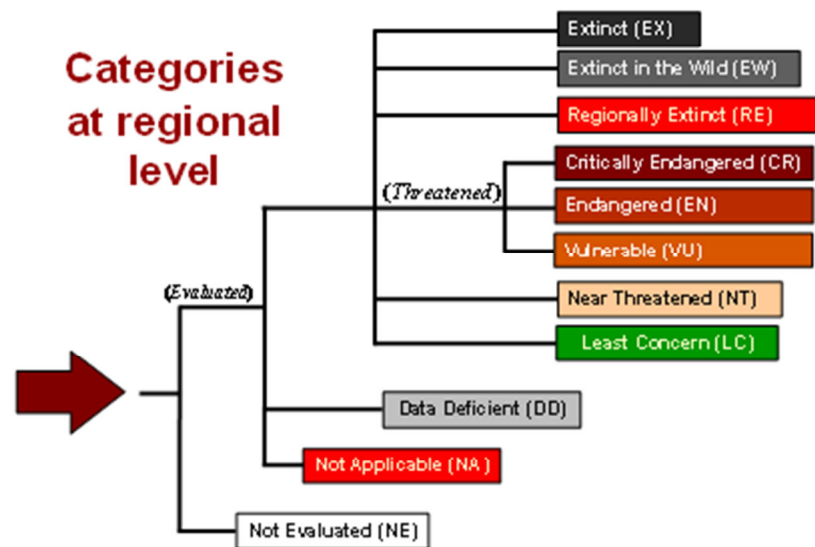


Figure 1. Hierarchical relationships of the categories (adapted from IUCN, 2012b)

Taxa listed as Critically Endangered, Endangered or Vulnerable are defined as Threatened taxa. For each of these threat categories there is a set of five main criteria A-E, that reflect varying degrees of threat of extinction, with a number of sub-criteria within A, B and C (and an additional sub-criterion in D for the Vulnerable category), any one of which qualifies a taxon for listing at that level of threat. A taxon therefore need not meet all of the criteria A-E, but must be tested against all five criteria. The taxon should then be listed against the highest threat category for one or more of the five criteria. The qualifying thresholds within the criteria A-E are detailed in Appendix 2: IUCN Criteria and Categories.

Status evaluation procedure relies on an objective assessment of the available evidence. Understanding data uncertainty and data quality is essential when applying the criteria. However, it is not always possible to have detailed and relevant data for every taxon. For this reason, the Red List Criteria are designed to incorporate the use of inference and projection, to allow taxa to be assessed in the absence of complete data. Although the criteria are quantitative in nature, the absence of high-quality data should not deter attempts at applying the criteria. In addition to the www.naturalresourceswales.gov.uk

quality and completeness of the data (or lack of), there may be uncertainty in the data itself, which needs to be considered in a Red List assessment (data uncertainty is discussed in section 7.2; IUCN, 2014). The IUCN criteria use the terms Observed, Estimated, Projected, Inferred, and Suspected to refer to the quality of the information for specific criteria and the specific IUCN red list definitions of these terms was used (see section 7.2; IUCN, 2014).

The guidelines stipulate/advise that a precautionary approach should be adopted when assigning a taxon to a threat category and this should be the arbiter in borderline cases. The threat assessment should be made on the basis of reasonable judgement, and it should be particularly noted that it is not the worst-case scenario that will determine the threat category to which the taxon will be assigned.

5.1.1. The use of the Not Applicable category

A taxon may be Not Applicable (NA) when it occurs in a region but is not included in the regional assessment. A taxon may be NA because it is not a wild population or not within its natural range in the region, or because it is a vagrant to the region. This category is used for species where the evidence suggests that the species concerned are not long-term natives, either as a result of accidental importation through trade and travel, or of recent colonisation (or attempted colonisation) in response to the changing conditions available in Britain as a result of human activity and/or climate change.

5.1.2. The use of the Near Threatened category

The IUCN guidelines recognise a Near Threatened category to identify taxa that need to be kept under review to ensure that they do not further decline to become Threatened. This category would be best considered for those taxa that come close to qualifying as CR, EN or VU but not quite; i.e. meets many but not all of the criteria and sub-criteria and there is ongoing threat. For those criteria that are not quite met, there should be sufficient evidence to show that the taxon is close to the relevant threatened thresholds.

5.1.3. The two-stage process in relation to developing a Red List

The IUCN regional guidelines (IUCN, 2012b) indicate taxa should be assessed using a two-stage approach. Populations in the region under review should firstly be assessed using the global guidelines. That status should then be reassigned a higher or a lower category if their status within the region is likely to be affected by emigration or immigration (IUCN, 2012b).

5.2. Application of the Guidelines to Spiders

5.2.1. Use of criteria in this review

The IUCN process requires that each species is evaluated against all five criteria.

Criterion A:

British invertebrate data have usually been collected since the 19th century in a presence-absence form. Often there is only enough information to identify the median point in the numbers of records gathered and compare these two periods (pre- and post median). Sometimes the data are more comprehensive and can be grouped into several 10 year periods e.g. 1985 – 1996 and so forth). Few species

have sufficient data required for the use of Criterion A, Population Size Reduction, based on population estimates but this Criterion is usually applied with respect to invertebrates in Britain on the basis of inferred, estimated, or suspected declines in range or habitat extent. Criterion A has not been used in this review.

Criterion B:

The Invertebrate Inter Agency Working Group has defined the following for the use of B2bii which is commonly used in reviews. Continuing decline has to be demonstrated and proven that it is not an artefact of under-recording. If decline is demonstrated then the reviewer needs to consider whether or not B2a (and B2c if the data are present) is met:

- If 10 or less current localities then Critically Endangered, Endangered, or Vulnerable is applicable;
- If 11 or 12 current localities then Near Threatened applies;
- If 13-15 and the taxon can be shown to be vulnerable to a specific and realistic threat, then Near Threatened applies;
- If more than 15 locations then Least Concern applies.

Criterion C:

Very few spiders have been sufficiently well-studied in Britain to be confident about their population dynamics. It is certainly feasible that some of the rare species are represented by fewer mature adults than the upper threshold of 10,000 individuals, but where this information exists (*Eresus sandaliatus*, for instance) the taxa do not qualify under the rate of decline. Criterion C has only been used once.

Criterion D:

As with Criterion C, the lack of population data for most British spiders precludes the use of Criterion D. This has been applied to a single taxon, *Orchestina* sp. which may now be Extinct, as very few individuals were known from the very limited extent of habitat it was known to occupy. However, 32 species have been evaluated under Criterion D2 as they occur in five or less locations that face plausible threats to their populations.

Criterion E:

It was not possible to use Criterion E, Quantitative Analysis, as the current data do not allow for determining the probability of extinction using population modelling.

5.2.2 Scale for calculating decline and area

The IUCN have recommended a scale of 4km² (a tetrad) as the reference scale (IUCN, 2014). This needs to be applied with caution and there will be instances where a different scaling may be more applicable, or where attempting to apply any scale is extremely difficult. It should be noted that, historically, invertebrate datasets, used hectads (10km²) as the default scale. Old records (e.g. pre-1950) have only been recorded at this scale. This means that, for some taxa, including spiders (see Section 7.3), comparative declines can only be made at this scale. Hectads are also used to determine the Great Britain Rarity Status, and are therefore still usefully recorded. For rarer, more restricted, taxa the tetrad is more applicable, in particular those taxa which may occur on a few fragmented sites within the UK and/or which are often restricted to certain, well-defined habitat types that are easily identified.

Future reviews should make efforts to record all taxa at both the hectad and tetrad scale.

Rate of Decline is used in Criteria A, B & C to assess Threat Status. For Criterion A and C1 a decline threshold is related to a specific number of years. For Criterion A it is precisely ten years, and for Criterion C1 precisely 3, or 5 or 10 years (exceptionally up to 100 years for long-lived species such as the Freshwater pearl mussel *Margaritifera margaritifera*).

5.2.3 Taxa applicable to this review

Taxa with wild populations within their natural range in Britain were considered for review. All other taxa deemed to be ineligible for assessment at a regional level, e.g. non-natives, were placed in the category of 'Not Applicable (NA)' and included recent colonists (or attempted colonists) responding to the changing conditions available in Britain as a result of human activity and/or climate change.

5.2.4 Knowledge about immigration and emigration effects for this group

Spiders can disperse by several mechanisms although propensity to disperse varies considerably between species and between age-groups. The first, and most frequent mechanism, involves 'ballooning' in wind currents on the end of silk threads. Ballooning behaviour is encountered in most groups of spiders although it is commoner in some than in others. It is most frequent amongst small spiderlings but also encountered in small adults of some species, as well as in some larger spiders. Ballooning spiders may travel considerable distances but only a tiny minority cover distances measured in kilometres while most travel only a few hundred metres (Suter 1999; Thomas *et al.*, 2003).

A second potential dispersal mechanism is by inadvertent transport by humans. The scale of transport of goods and people between the UK and continental Europe makes this an increasing possibility. The most likely candidates for this are synanthropic species which are normally found in or close to buildings and the probability of such species establishing successfully following importation is likely to increase as a result of climate change. Finally, spiders can occasionally disperse by 'rafting' across sea barriers from one land mass to another. However, the distribution of sea currents around our coasts makes this a highly improbable method for the introduction of species to Britain.

Our nearest potential source population in Europe is France. Le Peru's (2007) catalogue shows that the wolf spider *Aulonia albimana*, for example, is widespread and relatively frequent throughout France, yet despite being of reasonable size and conspicuously different to all other British lycosids only two populations of this species have ever been found in Britain. One of these is now extinct and the second has not been recorded since 1985. This example suggests that the likelihood of threatened spider species recolonising from the near-continent is low. It should also be noted that the much of the near-continent is under intensive arable agriculture, a habitat which is unfavourable to all but a tiny minority of spiders listed as threatened in this review.

6. GB Rarity Status categories and criteria

At the national level, countries are permitted under the IUCN guidelines to refine the definitions for the non-threatened categories and to define additional ones of their own. The Nationally Rare and Nationally Scarce categories are unique to Britain. Broadly speaking, the Nationally Rare category is equivalent to the Red Data Book categories used by Bratton (1991), namely: Endangered (RDB1), Vulnerable (RDB2), Rare (RDB3), Insufficiently Known (RDBK) and Extinct. These are not used in this review. The Nationally Scarce category is directly equivalent to the combined Nationally Notable A (Na) and Nationally Notable B (Nb) categories used in the assessment of various taxonomic groups (e.g. by Hyman and Parsons (1992) in assessing the status of beetles). For the purposes of this review, the following definitions of Nationally Rare and Nationally Scarce have been applied:

Table 2: Great Britain Rarity Status

<p>Nationally Rare</p>	<p>A native species recorded from between 1- 15 hectads of the Ordnance Survey national grid in Great Britain since 1993 and:</p> <ul style="list-style-type: none"> • There is reasonable confidence that exhaustive recording would not find them in more than 15 hectads. • Where it is believed to occur as a breeding species within each of these hectads (e.g. discounting those that are known to contain only casual immigrants). • This category includes species that are possibly extinct, such as those in the CR(PE) category, but not those where there is confidence that they are regionally extinct (RE).
<p>Nationally Scarce</p>	<p>A native species recorded from between 16 - 100 hectads of the Ordnance Survey national grid in Great Britain since 1993 and:</p> <ul style="list-style-type: none"> • There is reasonable confidence that exhaustive recording would not find them in more than 100 hectads. • Where it is believed to occur as a breeding species within each of these hectads (e.g. discounting those that are known to contain only casual immigrants).

The choice of the date class as the start of the modern recording period for spiders is discussed in Section 7.2. This national set of definitions is referred to as the GB Rarity Status within this document. Importantly, Nationally Rare and Nationally Scarce are not categories of threat.

6.1. The development of an Amber List for Spiders

A number of variables and probabilities are involved in assessing species' risk of extinction. This risk is a continuum, rather than a discreet categorisation, and indeed www.naturalresourceswales.gov.uk

some variation between species of the same status is inevitable. It is therefore unsurprising that there is the potential for extra status categories to enable further discrimination. While proliferation of statuses is undesirable for practical reasons, a non-IUCN status sitting somewhere between Least Concern and Near Threatened was thought useful. To this end, an *Amber List* has been created, consisting of 43 species that are apparently declining but which are still relatively widely distributed. Species on this list do not come close enough to qualifying for an IUCN category to be considered Near Threatened, but have the potential to qualify for Near Threatened in the future if their decline is not understood and/or ameliorated. They are comparable to the list of 'Research Only' Lepidoptera highlighted on the 2007 Review of UK Biodiversity Action Plan Priority Species (JNCC, 2007). The Amber List as presented here can therefore be considered a more pro-active approach to species conservation – prevention rather than cure – than the current IUCN categories. These species deserve attention both through specific monitoring to improve understanding of their status, and the development of more robust analytical methods for the existing data.

7. Methods and sources of information

7.1. The Data

The data used for this review include all those submitted to the Spider Recording Scheme (<http://srs.britishspiders.org.uk/>) up to the end of 2013. They have been gathered since 1987 and include older records and data gained from literature sources, principally through the work of the late Clifford Smith. Some important modern data for certain species that have not yet been submitted to the recording scheme have been used to help assess status where their extent and relevance is known.

7.2. Assessing Threat Assessment of decline

Half of the records submitted to the Spider Recording Scheme (SRS) dataset by 2013 were collected before 1993. We use this 50 percentile year as a point of measurement between old and recent data to assess decline in area of occupancy. The numbers of hectads occupied were compared for records up to 1993 with those from 1993 onwards. This comparison was made using only those hectads surveyed both prior to and after 1993 (see Figure 2) to improve comparability of the data in the pre- and post-1993 periods. The IUCN criteria recommend assessment of declines based on data from the last ten years (IUCN, 2013), but this is clearly not feasible for most invertebrate groups and species. The lack of adequately developed statistical methods for assessing decline in data of this sort means that we have had to judge whether reductions in area of occupancy are likely to represent real declines or reflect deficiencies in the data. The most common cause of data-deficiency is likely to be the under-recording of a species. This is most often seen in species that are found in comparatively under-surveyed habitats (uplands, for example) or species that are hard to sample by virtue of their microhabitat preferences, or a combination of these factors. In some cases this decline may be a result of historical surveys of habitats that had not been repeated in the recent period. This is explored in more detail in section 7.4. For a number of species that fall into this category, the status assigned has been based on expert opinion, taking into account the autecology of the species

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and known survey effort. This latter consideration proved to be the most problematical, as spider recording is largely undertaken by amateur arachnologists acting independently, and negative survey results are not captured in the SRS dataset. Allocation of criteria based on decline is therefore accompanied in the rationale by explanation of our confidence in the extent of decline, where uncertainty may exist. Where sample sizes were small, as is the case for most of our rarest species, decline data were either not used, or were used in combination with other available information on distributional and habitat changes.

7.3. Assessment of geographic range

In this Review, **Extent of Occurrence** (EOO) has not been used to assess threat categories because there is no agreed methodology for its measurement using the data currently available for spiders. The IUCN recommend calculating EOO by the minimum convex polygon method but its appropriateness is in doubt where distributions and recording effort are patchy, as is the case for spiders and many other invertebrates.

Most of our threat category assessments are based on area of **Area of Occupancy** (AOO), defined as 'the area within the extent of occurrence' which is occupied by the taxon, excluding cases of vagrancy' (IUCN 2001, 2012a). The IUCN recommends the use of a 2 x 2 km grid (tetrad) to estimate AOO. However, for invertebrates recording schemes are usually based on a 10 x 10 km grid (hectad) resolution and the proportion of records at greater resolution varies greatly between recording schemes. Fieldwork for the *Provisional Atlas of British Spiders* (Harvey *et al.*, 2002) ensured data collection in a high proportion of Ordnance Survey national grid hectads (Figure 2).

Many records on the SRS database are held at six-figure grid reference resolution and around 98% records are available at tetrad resolution or better. However, systematic field work has not been targeted at tetrad level and national coverage at this level is inevitably poor compared with that at hectad level. Systematic tetrad level data collection is currently only feasible for easily identified taxa with high detectability. For many invertebrate taxa, fieldwork designed in this way would still be unlikely to give reliable presence/absence data, particularly for less common species, because of the many difficulties of detectability.

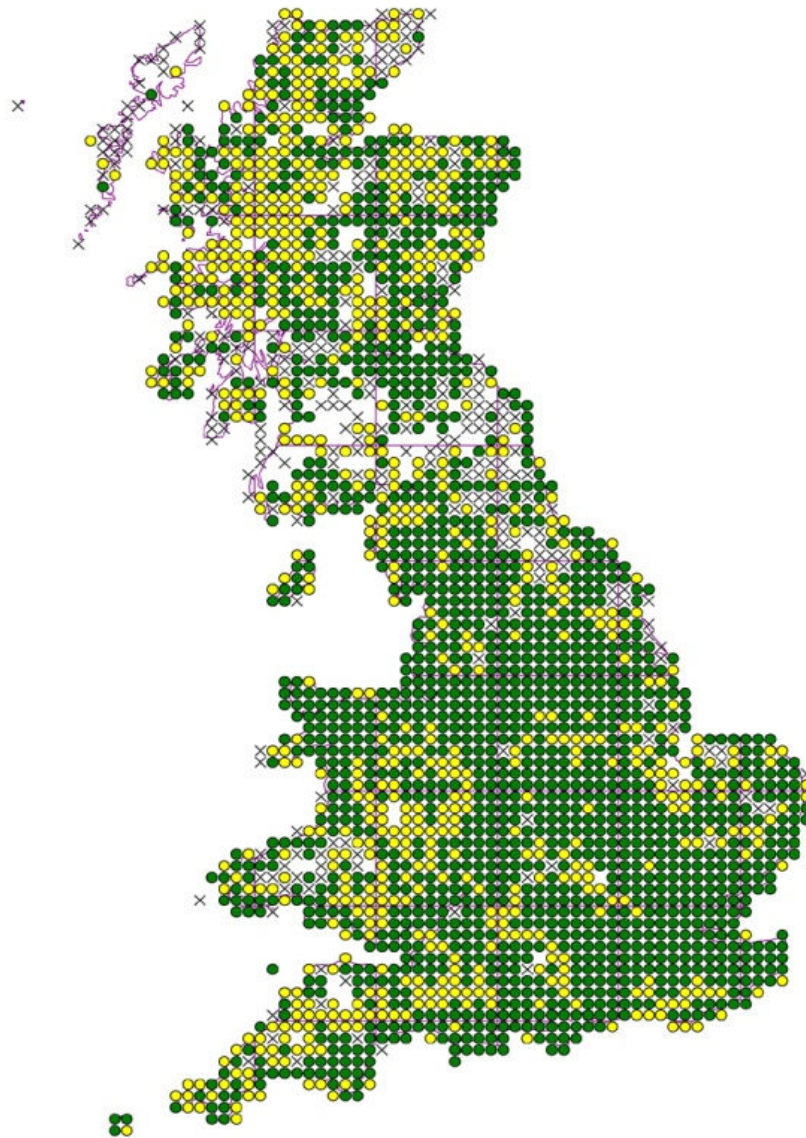


Figure 2. Hectads (10x10km squares) with spider records

x = hectads with records only pre-1993; yellow circles, records only 1993-onwards; green circles, records from both periods

7.4. Allocation of threat status

Each species included in the review has been evaluated against all appropriate IUCN criteria and usually allocated to the highest category supported by the data. Threat categories have not been allocated on the basis of population size reduction or actual numbers of individuals (IUCN criteria A and D1 respectively) because of the obvious difficulty of assessing these for almost all invertebrates. There are no appropriate data for any British spider that allow the use of Criterion E - the quantitative analysis of extinction probability.

For some species, categories have been allocated that are not directly supported by the data alone. Where the data are thought likely to give a misleading picture of a species status, expert opinion has been used to allocate the category and the

reasons for this explained. Moderating judgements of this kind may be based on a range of considerations including:

- temporal variation in survey effort targeted at species or in their habitats. This is particularly a problem when change in status is assessed between two recording periods in which recording effort is known to differ significantly. For example, in the 1960s, a large scale survey of spiders of southern English heathlands was carried out, covering 124 sites from Cornwall to East Sussex. Although targeted surveys have been carried out on southern heathlands post-1993, and particularly between 2010 and 2014, none has been on this scale or intensity.
- species appearance - extremely small species (i.e. < 2.0 mm total length) and pale coloured species, such as *Maro minutus* or *Saloca diceros*, are potentially under-recorded wherever specialised sampling techniques, such as pitfall trapping, have not been employed.
- knowledge of a species' phenology – because spiders can only be identified as adults, species that are adult in the winter months, when recording effort tends to be low, are likely to be under-recorded.
- habitat preferences – species of less accessible habitats, such as bogs and caves, are likely to be under-recorded. This also applies to species with specific micro-habitat preferences, such as rock crevice and ant-hill specialists.
- geographical range – species restricted to remote areas are likely to be under-recorded.
- taxonomic confusion – this may, in a very small number of cases, have resulted in under-recording, for example in closely related species pairs, particularly in cases where there has been a recent taxonomic split, such as *Walckenaeria antica* and *W. alticeps* and *Neon reticulatus* and *N. robustus*.
- application of the precautionary principle, as recommended by the IUCN guidelines (IUCN, 2013).

7.5. Species not allocated to Threat categories

Some of those species close to qualifying for threat categories, but which otherwise might be seen as being of **Least Concern** (LC), have been assigned *Near Threatened* status (Section 2.3: IUCN, 2001, 2012a).

GB Rarity Status – *Nationally Rare and Nationally Scarce* - has been allocated to appropriate species of Least Concern, as well as to species in the Threat categories, on the basis of number of hectads occupied. Exceptions to this have been made where there is good reason to believe that the hectad count is likely to give a misleading impression of rarity because of problems with biases in recording effort and/or detectability.

While strict criteria for inclusion in an *Amber List* have not been standardised between taxa or agreed otherwise, this status has been allocated to species that have undergone substantial declines between the pre- and post-1993 periods but which remain widespread (see also Section 6.1). Species have been included in this

list where biases in recording effort are thought unlikely to be the only cause of the perceived decline, or where the cause of the decline may be unknown. It can also be considered a 'watch list' for species where further survey work is required to confirm under-recording bias or otherwise.

7.6. Species excluded from the review

The IUCN categorization process should only be applied to wild populations inside their natural range (IUCN, 2001, 2012). Taxa deemed to be ineligible for assessment at a regional level are placed in the category of **Not Applicable** (NA) (IUCN, 2012b).

8. The assessments

The key outcome of this Review is a table which lists all spider species recorded in Britain, with naturalised, introduced and vagrant species designated NA. The full table has been produced as a spreadsheet which accompanies this text. Appendix 1 provides an extract of the key data. The columns completed in the full accompanying Excel table are as follows:

- A. Species name
- B. NBN taxon number
- C. Presence in England
- D. Presence in Scotland
- E. Presence in Wales
- F. BAP/S41/S42 status
- G. Total number of hectads occupied <1993
- H. Total number of hectads occupied 1993-2013
- I. Hectads in both periods (dual hectads)
- J. Tetrads 1993-2013
- K. Numbers of hectads surveyed before and after 1993 in which the species was recorded pre-1993
- L. Numbers of hectads surveyed before and after 1993 in which the species was recorded 1993-2013
- M. % Change*
- N. % Decline*
- O. Total hectads all time
- P. Proposed GB IUCN Status
- Q. Qualifying Criteria
- R. Rationale for proposed Status
- S. GB Rarity Status
- T. Global IUCN status (2010)
- U. Amber List
- V. Status in Bratton 1991
- W. Status in Merrett 1990
- X. Concise ecological account
- Y. Threats

*Based on K and L

8.1. Species listed by IUCN status category

Regionally Extinct

Theridiidae	<i>Dipoena coracina</i> (C.L.Koch, 1837)
Araneidae	<i>Gibbaranea bituberculata</i> (Walckenaer, 1802)
Dictynidae	<i>Mastigusa arietina</i> (Thorell, 1871)

Critically Endangered (Possibly Extinct)

Oonopidae	<i>Orchestina</i> sp.
Linyphiidae	<i>Centromerus albidus</i> Simon, 1929
	<i>Palliduphantes antroniensis</i> (Schenkel, 1933)
Dictynidae	<i>Altella lucida</i> (Simon, 1874)
Philodromidae	<i>Thanatus formicinus</i> (Clerk, 1757)

Critically Endangered

Theridiidae	<i>Enoplognatha oelandica</i> (Thorell, 1875)
	<i>Robertus scoticus</i> Jackson, 1914
Linyphiidae	<i>Walckenaeria corniculans</i> (Cambridge, 1875)
	<i>Diplocephalus connatus</i> Bertkau, 1889
	<i>Typhochrestus simoni</i> de Lessert, 1907
Lycosidae	<i>Alopecosa fabrilis</i> (Clerck, 1757)
	<i>Aulonia albimana</i> (Walckenaer, 1805)
Dictynidae	<i>Dictyna major</i> Menge, 1869
Zoridae	<i>Zora armillata</i> Simon, 1878
	<i>Zora silvestris</i> Kulczynski, 1897
Thomisidae	<i>Pistius truncatus</i> (Pallas, 1772)
Salticidae	<i>Neon valentulus</i> Falconer, 1912
	<i>Sitticus distinguendus</i> (Simon, 1868)

Endangered

Theridiidae	<i>Dipoena prona</i> (Menge, 1868)
	<i>Dipoena melanogaster</i> (C.L.Koch, 1837)
Linyphiidae	<i>Praestigia duffeyi</i> (Millidge, 1954)
	<i>Gonatium paradoxum</i> (L.Koch, 1869)
	<i>Pelecopsis radiciala</i> (L.Koch, 1872)
	<i>Tapinocyba mitis</i> (O.P.-Cambridge, 1882)
	<i>Erigone welchi</i> Jackson, 1911
	<i>Trichopterna cito</i> (O.P.-Cambridge, 1872)
	<i>Semljicola caliginosus</i> (Falconer, 1910)
	<i>Wiehlea calcarifera</i> (Simon, 1884)
	<i>Maro sublestus</i> Falconer, 1915
	<i>Maro lepidus</i> Casemir, 1961
	<i>Centromerus levitarsis</i> (Simon, 1884)
	<i>Centromerus semiater</i> (L.Koch, 1879)
	<i>Centromerus brevivulvatus</i> Dahl, 1912
	<i>Centromerus serratus</i> (O.P.-Cambridge, 1875)
	<i>Nothopantes horridus</i> Merrett and Stevens, 1995
	<i>Midia midas</i> (Simon, 1884)
Araneidae	<i>Araniella alpica</i> (L.Koch, 1869)
Lycosidae	<i>Pardosa paludicola</i> (Clerck, 1757)
	<i>Hygrolycosa rubrofasciata</i> (Ohlert, 1865)
Dictynidae	<i>Tuberta maerens</i> (O.P.-Cambridge, 1863)
Liocranidae	<i>Agroeca lusatica</i> (L.Koch, 1875)
	<i>Scotina palliardii</i> (L.Koch, 1881)
Clubionidae	<i>Cheiracanthium pennyi</i> O.P.-Cambridge, 1873
Gnaphosidae	<i>Haplodrassus soerenseni</i> (Strand, 1900)
Thomisidae	<i>Xysticus luctator</i> L.Koch, 1870
	<i>Xysticus luctuosus</i> (Blackwall, 1836)
	<i>Xysticus robustus</i> (Hahn, 1832)
	<i>Ozyptila blackwalli</i> Simon, 1875

Vulnerable

Dysderidae	<i>Harpactea rubicunda</i> (C.L.Koch, 1838)
Eresidae	<i>Eresus sandaliatus</i> (Martini and Goeze, 1778)
Theridiidae	<i>Dipoena erythropus</i> (Simon, 1881)
	<i>Enoplognatha tecta</i> (Keyserling, 1884)
Linyphiidae	<i>Walckenaeria mitrata</i> (Menge, 1868)
	<i>Walckenaeria stylifrons</i> (O.P.-Cambridge, 1875)
	<i>Dismodicus elevatus</i> (C.L.Koch, 1838)
	<i>Baryphyma gowerense</i> (Locket, 1965)
	<i>Silometopus incurvatus</i> (O.P.-Cambridge, 1873)
	<i>Trichoncus saxicola</i> (O.P.-Cambridge, 1861)
	<i>Trichoncus hackmani</i> Millidge, 1955
	<i>Gongylidiellum murcidum</i> Simon, 1884
	<i>Glyphesis cottonae</i> (La Touche, 1945)
	<i>Diplocephalus protuberans</i> (O.P.-Cambridge, 1875)
	<i>Wabasso replicatus</i> (Holm, 1950)
	<i>Mecynargus paetulus</i> (O.P.-Cambridge, 1875)
	<i>Hilaira nubigena</i> Hull, 1911
	<i>Carorita limnaea</i> (Crosby and Bishop, 1927)
	<i>Karita paludosa</i> Duffey, 1971
	<i>Meioneta fuscipalpa</i> (C.L.Koch, 1836)
Araneidae	<i>Hypsosinga heri</i> (Hahn, 1831)
Lycosidae	<i>Pardosa trailli</i> (O.P.-Cambridge, 1873)
	<i>Trochosa robusta</i> (Simon, 1876)
	<i>Arctosa alpigena</i> (Doleschall, 1852)
Pisauridae	<i>Dolomedes plantarius</i> (Clerck, 1757)
Oxyopidae	<i>Oxyopes heterophthalmus</i> Latreille, 1804
Agelenidae	<i>Tegenaria picta</i> Simon, 1870
Hahniidae	<i>Hahnia candida</i> Simon, 1875
Dictynidae	<i>Mastigusa macrophthalma</i> (Kulczynski, 1897)
	<i>Lathys nielseni</i> (Schenkel, 1932)
	<i>Lathys stigmatisata</i> (Menge, 1869)
Liocranidae	<i>Apostenus fuscus</i> Westring, 1851
Clubionidae	<i>Clubiona rosserae</i> Locket, 1953
	<i>Clubiona caerulescens</i> L.Koch, 1867
	<i>Clubiona pseudoneglecta</i> Wunderlich, 1994
Zodariidae	<i>Zodarion vicinum</i> Denis, 1935
	<i>Zodarion fuscum</i> (Simon, 1870)
Gnaphosidae	<i>Phaeoedus braccatus</i> (L.Koch, 1866)
	<i>Zelotes longipes</i> (Simon, 1878)
	<i>Gnaphosa lugubris</i> (C.L.Koch, 1839)
	<i>Gnaphosa nigerrima</i> L.Koch, 1877
	<i>Callilepis nocturna</i> (Linnaeus, 1758)
	<i>Micaria albiovittata</i> (L.Koch, 1866)
	<i>Micaria alpina</i> L.Koch, 1872
Zoridae	<i>Zora nemoralis</i> (Blackwall, 1861)
Philodromidae	<i>Philodromus fallax</i> Sundevall, 1833
	<i>Philodromus emarginatus</i> (Schrank, 1803)
Thomisidae	<i>Ozyptila pullata</i> (Thorell, 1875)
Salticidae	<i>Heliophanus auratus</i> C.L.Koch, 1835
	<i>Heliophanus dampfi</i> Schenkel, 1923
	<i>Marpissa radiata</i> (Grube, 1859)
	<i>Euophrys herbigrada</i> (Simon, 1871)
	<i>Talavera thorelli</i> (Kulczynski, 1891)
	<i>Pellenes tripunctatus</i> (Walckenaer, 1802)

Near Threatened

Uloboridae	<i>Uloborus walckenaerius</i> Latreille, 1806
Theridiidae	<i>Dipoena torva</i> (Thorell, 1875)
Linyphiidae	<i>Baryphyma maritimum</i> (Crocker and Parker, 1970)

	<i>Pelecopsis elongata</i> (Wider, 1834)
	<i>Acartauchenius scurrilis</i> (O.P.-Cambridge, 1872)
	<i>Glyphesis servulus</i> (Simon, 1881)
	<i>Erigone psychrophila</i> Thorell, 1871
	<i>Caviphantes saxetorum</i> (Hull, 1916)
	<i>Centromerus capucinus</i> (Simon, 1884)
	<i>Centromerus cavernarum</i> (L.Koch, 1872)
	<i>Improphantes complicatus</i> (Emerton, 1882)
	<i>Neriene radiata</i> (Walckenaer, 1841)
	<i>Porrhomma rosenhaueri</i> (L.Koch, 1872)
	<i>Meioneta mollis</i> (O. P.-Cambridge, 1871)
Araneidae	<i>Araniella displicata</i> (Hentz, 1847)
	<i>Stroemiellus stroemi</i> (Thorell, 1870)
Lycosidae	<i>Arctosa fulvolineata</i> (Lucas, 1846)
Liocranidae	<i>Agroeca cuprea</i> Menge, 1873
Clubionidae	<i>Clubiona subsultans</i> Thorell, 1875
	<i>Clubiona frisia</i> Wunderlich and Schott, 1995
	<i>Clubiona juvenis</i> Simon, 1878
	<i>Clubiona genevensis</i> L.Koch, 1866
Gnaphosidae	<i>Gnaphosa occidentalis</i> Simon, 1878
	<i>Micaria silesiaca</i> L.Koch, 1875
Philodromidae	<i>Philodromus margaritatus</i> (Clerck, 1757)
Salticidae	<i>Sitticus floricola</i> (C.L.Koch, 1837)
	<i>Talavera petrensis</i> (C.L.Koch, 1837)
	<i>Phlegra fasciata</i> (Hahn, 1826)
	<i>Neon pictus</i> Kulczynski, 1891

8.2. Criteria used for assigning species to threatened categories (see Appendix 2 for criteria and categories)

Table 3. Threatened species and qualifying criteria, in taxonomic order.

Scientific Name	Status	Criteria Used
Dysderidae		
<i>Harpactea rubicunda</i>	Vulnerable	D2
Oonopidae		
<i>Orchestina</i> sp.	Critically Endangered (Possibly Extinct)	D
Eresidae		
<i>Eresus sandaliatus</i>	Vulnerable	D2
Theridiidae		
<i>Dipoena erythropus</i>	Vulnerable	D2
<i>Dipoena prona</i>	Endangered	B2ab ii
<i>Dipoena melanogaster</i>	Endangered	B2ab ii & iv
<i>Enoplognatha tecta</i>	Vulnerable	B2ab ii & iii & iv
<i>Enoplognatha oelandica</i>	Critically Endangered	B2ab ii
<i>Robertus scoticus</i>	Critically Endangered	B2ab ii & iv
Linyphiidae		
<i>Walckenaeria mitrata</i>	Vulnerable	D2
<i>Walckenaeria stylifrons</i>	Vulnerable	D2
<i>Walckenaeria corniculans</i>	Critically Endangered	B2ab ii & iv
<i>Dismodicus elevatus</i>	Vulnerable	D2

<i>Praestigia duffeyi</i>	Endangered	B2ab ii & iii
<i>Baryphyma gowerense</i>	Vulnerable	B2ab iv
<i>Gonatium paradoxum</i>	Endangered	B2ab ii & iii & iv
<i>Trichopterna cito</i>	Endangered	B2ab ii & iv
<i>Pelecopsis radicolica</i>	Endangered	B2ab ii & iv
<i>Silometopus incurvatus</i>	Vulnerable	B2ab ii & iv
<i>Trichoncus saxicola</i>	Vulnerable	B2ab ii & iv
<i>Trichoncus hackmani</i>	Vulnerable	D2
<i>Tapinocyba mitis</i>	Endangered	B2ab ii & iv
<i>Gongyliellum murcidum</i>	Vulnerable	B2ab ii & iv
<i>Glyphesis cottonae</i>	Vulnerable	B2ab ii & iv
<i>Diplocephalus connatus</i>	Critically Endangered	B2ab ii & iv
<i>Diplocephalus protuberans</i>	Vulnerable	B2ab ii
<i>Typhochrestus simoni</i>	Critically Endangered	B2ab ii & iv
<i>Wabasso replicatus</i>	Vulnerable	D2
<i>Erigone welchi</i>	Endangered	B2ab ii & iv
<i>Mecynargus paetulus</i>	Vulnerable	D2
<i>Semljicola caliginosus</i>	Endangered	B2ab ii & iv
<i>Hilaira nubigena</i>	Vulnerable	B2ab ii & iv
<i>Carorita limnaea</i>	Vulnerable	D2
<i>Karita paludosa</i>	Vulnerable	D2
<i>Wiehlea calcarifera</i>	Endangered	B2ab ii & iv
<i>Meioneta fuscipalpa</i>	Vulnerable	D2
<i>Maro sublestus</i>	Endangered	B2ab ii & iv
<i>Maro lepidus</i>	Endangered	B2ab ii & iv
<i>Centromerus levitarsis</i>	Endangered	B2ab ii & iv
<i>Centromerus semiater</i>	Endangered	B2ab ii
<i>Centromerus brevivulvatus</i>	Endangered	B2ab iv
<i>Centromerus serratus</i>	Endangered	B2ab ii
<i>Centromerus albidus</i>	Critically Endangered (Possibly Extinct)	B2ab iv
<i>Nothopantes horridus</i>	Endangered	B2ab ii, ii & iv
<i>Pallidupantes antroniensis</i>	Critically Endangered (Possibly Extinct)	B2ab iv
<i>Midia midas</i>	Endangered	B2ab ii & iv
Araneidae		
<i>Araniella alpaca</i>	Endangered	B2ab ii
<i>Hypsosinga heri</i>	Vulnerable	D2
Lycosidae		
<i>Pardosa trailli</i>	Vulnerable	B2ab ii & iv
<i>Pardosa paludicola</i>	Endangered	B2ab ii & iv
<i>Hygrolycosa rubrofasciata</i>	Endangered	B2ab ii & iv
<i>Alopecosa fabrilis</i>	Critically Endangered	B2ab iv
<i>Trochosa robusta</i>	Vulnerable	B2ab ii
<i>Arctosa alpigena</i>	Vulnerable	B2ab ii
<i>Aulonia albimana</i>	Critically Endangered	B2ab ii & iii & iv

Pisauridae		
<i>Dolomedes plantarius</i>	Vulnerable	D2
Oxyopidae		
<i>Oxyopes heterophthalmus</i>	Vulnerable	D2
Agelenidae		
<i>Tegenaria picta</i>	Vulnerable	D2
Hahniidae		
<i>Hahnia candida</i>	Vulnerable	B2ab ii & iv
Dictynidae		
<i>Dictyna major</i>	Critically Endangered	B2ab ii & iv
<i>Tuberta maerens</i>	Endangered	B2ab ii & iv
<i>Mastigusa macrophthalma</i>	Vulnerable	D2
<i>Lathys nielsenii</i>	Vulnerable	D2
<i>Lathys stigmatisata</i>	Vulnerable	B2ab ii
<i>Altella lucida</i>	Critically Endangered (Possibly Extinct)	B1ab iv +2ab iv
Liocranidae		
<i>Agroeca lusatica</i>	Endangered	B2ab ii & iii
<i>Apostenus fuscus</i>	Vulnerable	D2
<i>Scotina palliardii</i>	Endangered	B2ab ii & iv
Clubionidae		
<i>Clubiona rosserae</i>	Vulnerable	D2
<i>Clubiona caerulescens</i>	Vulnerable	B2ab ii & iv
<i>Clubiona pseudoneglecta</i>	Vulnerable	D2
<i>Cheiracanthium pennyi</i>	Endangered	B2ab ii & iv
Zodariidae		
<i>Zodarion vicinum</i>	Vulnerable	D2
<i>Zodarion fuscum</i>	Vulnerable	D2
Gnaphosidae		
<i>Haplodrassus soerenseni</i>	Endangered	B2ab ii & iv
<i>Phaeoedus braccatus</i>	Vulnerable	B2ab ii & iv
<i>Zelotes longipes</i>	Vulnerable	B2ab ii
<i>Gnaphosa lugubris</i>	Vulnerable	B2ab ii
<i>Gnaphosa nigerrima</i>	Vulnerable	D2
<i>Callilepis nocturna</i>	Vulnerable	D2
<i>Micaria albovittata</i>	Vulnerable	B2ab ii & iv
<i>Micaria alpina</i>	Vulnerable	D2
Zoridae		
<i>Zora armillata</i>	Critically Endangered	B2ab ii & iv
<i>Zora nemoralis</i>	Vulnerable	B2ab ii & iv
<i>Zora silvestris</i>	Critically Endangered	B2ab ii & iv
Philodromidae		
<i>Philodromus fallax</i>	Vulnerable	B2ab ii & iv
<i>Philodromus emarginatus</i>	Vulnerable	B2ab ii & iv
<i>Thanatus formicinus</i>	Critically Endangered (Possibly Extinct)	B2ab iv

Thomisidae		
<i>Pistius truncatus</i>	Critically Endangered	B2ab ii & iv
<i>Xysticus luctator</i>	Endangered	B2ab ii & iv
<i>Xysticus luctuosus</i>	Endangered	B2ab ii & iv
<i>Xysticus robustus</i>	Endangered	B2ab ii & iv
<i>Ozyptila blackwalli</i>	Endangered	B2ab ii & iv
<i>Ozyptila pullata</i>	Vulnerable	D2
Salticidae		
<i>Heliophanus auratus</i>	Vulnerable	D2
<i>Heliophanus dampfi</i>	Vulnerable	D2
<i>Marpissa radiata</i>	Vulnerable	B2ab ii & iv
<i>Neon valentulus</i>	Critically Endangered	B2ab ii & iv
<i>Euophrys herbigrada</i>	Vulnerable	D2
<i>Talavera thorelli</i>	Vulnerable	D2
<i>Sitticus distinguendus</i>	Critically Endangered	C2a ii
<i>Pellenes tripunctatus</i>	Vulnerable	D2

8.3. Species listed by GB Rarity Status category. 152 species are given the status of Nationally Rare, 171 species are Nationally Scarce.

Nationally Rare

Segestriidae	<i>Segestria bavarica</i>
Dysderidae	<i>Harpactea rubicunda</i>
Oonopidae	<i>Orchestina</i> sp.
Eresidae	<i>Eresus sandaliatus</i>
Uloboridae	<i>Uloborus walckenaerius</i>
Theridiidae	<i>Dipoena erythropus</i>
	<i>Dipoena prona</i>
	<i>Dipoena melanogaster</i>
	<i>Dipoena torva</i>
	<i>Steatoda albomaculata</i>
	<i>Rugathodes bellicosus</i>
	<i>Enoplognatha tecta</i>
	<i>Enoplognatha oelandica</i>
	<i>Robertus scoticus</i>
	<i>Robertus insignis</i>
Linyphiidae	<i>Walckenaeria mitrata</i>
	<i>Walckenaeria stylifrons</i>
	<i>Walckenaeria corniculans</i>
	<i>Dismodicus elevatus</i>
	<i>Baryphyma gowerense</i>
	<i>Baryphyma maritimum</i>
	<i>Praestigia duffeyi</i>

Gonatium paradoxum
Minicia marginella
Trichopterna cito
Pelecopsis elongata
Pelecopsis radicolata
Silometopus incurvatus
Acartauchenius scurrilis
Trichoncus saxicola
Trichoncus hackmani
Trichoncus affinis
Ceratinopsis romana
Tapinocyba mitis
Tapinocyboides pygmaeus
Glyphesis cottonae
Glyphesis servulus
Diplocephalus connatus
Diplocephalus protuberans
Typhochrestus simoni
Wabasso replicatus
Erigone capra
Erigone welchi
Erigone psychrophila
Mecynargus paetulus
Semljicola caliginosus
Hilaira nubigena
Carorita limnaea
Karita paludosa
Wiehlea calcarifera
Mioxena blanda
Caviphantes saxetorum
Pseudomaro aenigmaticus
Porrhomma rosenhaueri
Porrhomma cambridgei
Meioneta mollis
Meioneta fuscipalpa
Maro sublestus
Maro lepidus
Centromerus levitarsis
Centromerus capucinus
Centromerus semiater
Centromerus brevivulvatus
Centromerus serratus
Centromerus albidus
Centromerus cavernarum

	<i>Centromerus persimilis</i>
	<i>Centromerus minutissimus</i>
	<i>Nothophantes horridus</i>
	<i>Palliduphantes antroniensis</i>
	<i>Piniphantes pinicola</i>
	<i>Improphantes complicatus</i>
	<i>Midia midas</i>
	<i>Neriene radiata</i>
Araneidae	<i>Araniella alpica</i>
	<i>Araniella displicata</i>
	<i>Stroemiellus stroemi</i>
	<i>Hypsosinga heri</i>
Lycosidae	<i>Pardosa trailli</i>
	<i>Pardosa paludicola</i>
	<i>Hygrolycosa rubrofasciata</i>
	<i>Alopecosa fabrilis</i>
	<i>Trochosa robusta</i>
	<i>Arctosa fulvilineata</i>
	<i>Arctosa alpigena</i>
	<i>Aulonia albimana</i>
Pisauridae	<i>Dolomedes plantarius</i>
Oxyopidae	<i>Oxyopes heterophthalmus</i>
Agelenidae	<i>Tegenaria picta</i>
Hahniidae	<i>Hahnia candida</i>
	<i>Hahnia microphthalma</i>
Dictynidae	<i>Dictyna major</i>
	<i>Tuberta maerens</i>
	<i>Mastigusa macrophthalma</i>
	<i>Lathys nielsenii</i>
	<i>Lathys stigmatisata</i>
	<i>Altella lucida</i>
Liocranidae	<i>Agroeca lusatica</i>
	<i>Agroeca cuprea</i>
	<i>Agroeca dentigera</i>
	<i>Apostenus fuscus</i>
	<i>Scotina palliardii</i>
Clubionidae	<i>Clubiona subsultans</i>
	<i>Clubiona rosserae</i>
	<i>Clubiona caerulescens</i>
	<i>Clubiona pseudoneglecta</i>
	<i>Clubiona frisia</i>
	<i>Clubiona juvenis</i>
	<i>Clubiona genevensis</i>
	<i>Cheiracanthium pennyi</i>

Zodariidae	<i>Zodarion vicinum</i> <i>Zodarion rubidum</i> <i>Zodarion fuscum</i>
Gnaphosidae	<i>Haplodrassus umbratilis</i> <i>Haplodrassus soerenseni</i> <i>Phaeoedus braccatus</i> <i>Zelotes longipes</i> <i>Zelotes petrensis</i> <i>Gnaphosa lugubris</i> <i>Gnaphosa occidentalis</i> <i>Gnaphosa nigerrima</i> <i>Callilepis nocturna</i> <i>Micaria albovittata</i> <i>Micaria alpina</i> <i>Micaria silesiaca</i>
Zoridae	<i>Zora armillata</i> <i>Zora nemoralis</i> <i>Zora silvestris</i>
Philodromidae	<i>Philodromus fallax</i> <i>Philodromus emarginatus</i> <i>Philodromus margaritatus</i> <i>Thanatus formicinus</i>
Thomisidae	<i>Pistius truncatus</i> <i>Xysticus luctator</i> <i>Xysticus luctuosus</i> <i>Xysticus acerbus</i> <i>Xysticus robustus</i> <i>Ozyptila blackwalli</i> <i>Ozyptila pullata</i>
Salticidae	<i>Heliophanus auratus</i> <i>Heliophanus dampfi</i> <i>Marpissa radiata</i> <i>Neon valentulus</i> <i>Neon pictus</i> <i>Euophrys herbigrada</i> <i>Talavera petrensis</i> <i>Talavera thorelli</i> <i>Sitticus caricis</i> <i>Sitticus floricola</i> <i>Sitticus distinguendus</i> <i>Phlegra fasciata</i> <i>Pellenes tripunctatus</i>

Nationally Scarce

Atypidae	<i>Atypus affinis</i>
Mimetidae	<i>Ero aphana</i>
	<i>Ero tuberculata</i>
Uloboridae	<i>Hyptiotes paradoxus</i>
Theridiidae	<i>Episinus truncatus</i>
	<i>Episinus maculipes</i>
	<i>Euryopsis flavomaculata</i>
	<i>Dipoena inornata</i>
	<i>Dipoena tristis</i>
	<i>Crustulina sticta</i>
	<i>Kochiura aulica</i>
	<i>Achaearanea riparia</i>
	<i>Theridion hemerobium</i>
	<i>Theridion pinastri</i>
	<i>Theridion familiare</i>
	<i>Theridion blackwalli</i>
	<i>Rugathodes instabilis</i>
	<i>Enoplognatha mordax</i>
	<i>Robertus neglectus</i>
Theridiosomatidae	<i>Theridiosoma gemmosum</i>
Linyphiidae	<i>Walckenaeria alticeps</i>
	<i>Walckenaeria nodosa</i>
	<i>Walckenaeria capito</i>
	<i>Walckenaeria incisa</i>
	<i>Walckenaeria dysderoides</i>
	<i>Walckenaeria obtusa</i>
	<i>Walckenaeria monoceros</i>
	<i>Walckenaeria furcillata</i>
	<i>Walckenaeria kochi</i>
	<i>Walckenaeria clavicornis</i>
	<i>Entelecara congenera</i>
	<i>Entelecara flavipes</i>
	<i>Entelecara omissa</i>
	<i>Entelecara errata</i>
	<i>Moebelia penicillata</i>
	<i>Trematocephalus cristatus</i>
	<i>Tmeticus affinis</i>
	<i>Hypomma fulvum</i>
	<i>Hybocoptus decollatus</i>
	<i>Maso gallicus</i>
	<i>Hypselistes jacksoni</i>
	<i>Pelecopsis nemoralioides</i>
	<i>Silometopus ambiguus</i>

Mecopisthes peusi
Ceratinopsis stativa
Evansia merens
Tiso aestivus
Tapinocyba insecta
Microctenonyx subitaneus
Satilatlas britteni
Thyreosthenius biovatus
Monocephalus castaneipes
Saloca diceros
Gongylidiellum latebricola
Gongylidiellum murcidum
Micrargus laudatus
Notioscopus sarcinatus
Erigonella ignobilis
Araeoncus crassiceps
Panamomops sulcifrons
Lessertia denticheles
Scotinotylus evansi
Typhochrestus digitatus
Diplocentria bidentata
Erigone tirolensis
Mecynargus morulus
Latithorax faustus
Donacochara speciosa
Leptothrix hardyi
Hilaira pervicax
Halorates reprobus
Halorates distinctus
Halorates holmgreni
Asthenargus paganus
Jacksonella falconeri
Porrhomma convexum
Porrhomma campbelli
Porrhomma errans
Porrhomma egeria
Porrhomma oblitum
Porrhomma montanum
Agyneta cauta
Agyneta olivacea
Meioneta mossica
Meioneta simplicitarsis
Meioneta gulosa
Meioneta nigripes

	<i>Maro minutus</i>
	<i>Syedra gracilis</i>
	<i>Centromerus incilium</i>
	<i>Sintula corniger</i>
	<i>Oreonetides vaginatus</i>
	<i>Saaristoa firma</i>
	<i>Macrargus carpenteri</i>
	<i>Bathyphantes setiger</i>
	<i>Taranucnus setosus</i>
	<i>Mughiphantes whymperi</i>
	<i>Palliduphantes insignis</i>
	<i>Oryphantes angulatus</i>
	<i>Agnyphantes expunctus</i>
	<i>Pityohyphantes phrygianus</i>
	<i>Neriene furtiva</i>
	<i>Allomengea vidua</i>
Tetragnathidae	<i>Meta bourneti</i>
Araneidae	<i>Araneus angulatus</i>
	<i>Araneus alsine</i>
	<i>Larinioides patagiatus</i>
	<i>Araniella inconspicua</i>
	<i>Hypsosinga albovittata</i>
	<i>Hypsosinga sanguinea</i>
	<i>Singa hamata</i>
	<i>Cercidia prominens</i>
Lycosidae	<i>Pardosa agrestis</i>
	<i>Pardosa lugubris</i>
	<i>Pardosa proxima</i>
	<i>Xerolycosa nemoralis</i>
	<i>Xerolycosa miniata</i>
	<i>Alopecosa cuneata</i>
	<i>Trochosa spinipalpis</i>
	<i>Arctosa cinerea</i>
	<i>Pirata tenuitarsis</i>
	<i>Pirata piscatorius</i>
Pisauridae	<i>Dolomedes fimbriatus</i>
Hahniidae	<i>Hahnia pusilla</i>
Dictynidae	<i>Dictyna pusilla</i>
	<i>Nigma puella</i>
	<i>Cicurina cicur</i>
	<i>Argenna subnigra</i>
	<i>Argenna patula</i>
Amaurobiidae	<i>Coelotes terrestris</i>
Liocranidae	<i>Agraecina striata</i>

	<i>Scotina celans</i>
	<i>Scotina gracilipes</i>
	<i>Liocranum rupicola</i>
Corinnidae	<i>Phrurolithus minimus</i>
Clubionidae	<i>Clubiona norvegica</i>
	<i>Cheiracanthium virescens</i>
Zodariidae	<i>Zodarion italicum</i>
Gnaphosidae	<i>Drassodes pubescens</i>
	<i>Haplodrassus dalmatensis</i>
	<i>Haplodrassus silvestris</i>
	<i>Haplodrassus minor</i>
	<i>Zelotes electus</i>
	<i>Zelotes subterraneus</i>
	<i>Drassyllus lutetianus</i>
	<i>Drassyllus praeficus</i>
	<i>Gnaphosa leporina</i>
	<i>Micaria subopaca</i>
Sparassidae	<i>Micrommata virescens</i>
Philodromidae	<i>Philodromus longipalpis</i>
	<i>Philodromus histrio</i>
	<i>Thanatus striatus</i>
Thomisidae	<i>Thomisus onustus</i>
	<i>Xysticus bifasciatus</i>
	<i>Xysticus sabulosus</i>
	<i>Ozyptila scabricula</i>
	<i>Ozyptila nigrita</i>
Salticidae	<i>Salticus zebraneus</i>
	<i>Marpissa muscosa</i>
	<i>Marpissa nivoyi</i>
	<i>Sibianor aurocinctus</i>
	<i>Ballus chalybeius</i>
	<i>Neon robustus</i>
	<i>Pseudeuophrys erratica</i>
	<i>Pseudeuophrys obsoleta</i>
	<i>Sitticus inexpectus</i>
	<i>Sitticus saltator</i>
	<i>Evarcha arcuata</i>
	<i>Aelurillus v-insignitus</i>
	<i>Synageles venator</i>
	<i>Myrmarachne formicaria</i>

8.4. Taxonomic list of GB Rarity Status species, with previous statuses and IUCN status

Table 4. Taxonomic list of Red Data Book and Nationally Scarce species

Species name	Merrett 1990	Bratton 1991	This Review (GB National Rarity Status)	This Review (IUCN Status)
Atypidae				
<i>Atypus affinis</i>			NS	
Segestriidae				
<i>Segestria bavarica</i>	Na		NR	
Dysderidae				
<i>Harpactea rubicunda</i>			NR	Vulnerable
Oonopidae				
<i>Orchestina sp.</i>			NR	Critically Endangered (Possibly Extinct)
Mimetidae				
<i>Ero aphana</i>		RDB2	NS	
<i>Ero tuberculata</i>	Nb		NS	
Eresidae				
<i>Eresus sandaliatus</i>		RDB1	NR	Vulnerable
Uloboridae				
<i>Uloborus walckenaerius</i>		RDB3	NR	Near Threatened
<i>Hyptiotes paradoxus</i>		RDB3	NS	
Theridiidae				
<i>Episinus truncatus</i>	Nb		NS	
<i>Episinus maculipes</i>		RDB3	NS	
<i>Euryopsis flavomaculata</i>			NS	
<i>Dipoena erythropus</i>		RDB2	NR	Vulnerable
<i>Dipoena prona</i>	Nb		NR	Endangered
<i>Dipoena inornata</i>	Nb		NS	
<i>Dipoena tristis</i>	Na		NS	
<i>Dipoena coracina</i>		RDB1		Regionally Extinct
<i>Dipoena melanogaster</i>		RDB2	NR	Endangered
<i>Dipoena torva</i>		RDB2	NR	Near Threatened
<i>Crustulina sticta</i>	Nb		NS	
<i>Steatoda albomaculata</i>	Nb		NR	
<i>Kochiura aulica</i>	Nb		NS	
<i>Achaeearanea riparia</i>	Nb		NS	
<i>Achaeearanea simulans</i>	Nb			
<i>Theridion hemerobium</i>			NS	
<i>Theridion pinastri</i>		RDBK	NS	
<i>Theridion familiare</i>	Nb		NS	
<i>Theridion blackwalli</i>			NS	
<i>Rugathodes instabilis</i>			NS	
<i>Rugathodes bellicosus</i>	Nb		NR	
<i>Enoplognatha mordax</i>	Na		NS	
<i>Enoplognatha tecta</i>		RDB1	NR	Vulnerable
<i>Enoplognatha oelandica</i>		RDB3	NR	Critically Endangered

<i>Robertus neglectus</i>			NS	
<i>Robertus scoticus</i>		RDB1	NR	Critically Endangered
<i>Robertus insignis</i>		RDB1	NR	Data Deficient
Theridiosomatidae				
<i>Theridiosoma gemmosum</i>	Nb		NS	
Linyphiidae				
<i>Walckenaeria mitrata</i>		RDB1	NR	Vulnerable
<i>Walckenaeria alticeps</i>			NS	
<i>Walckenaeria nodosa</i>			NS	
<i>Walckenaeria capito</i>			NS	
<i>Walckenaeria incisa</i>	Nb		NS	
<i>Walckenaeria dysderoides</i>			NS	
<i>Walckenaeria stylifrons</i>		RDB1	NR	Vulnerable
<i>Walckenaeria obtusa</i>			NS	
<i>Walckenaeria monoceros</i>			NS	
<i>Walckenaeria corniculans</i>	Na		NR	Critically Endangered
<i>Walckenaeria furcillata</i>			NS	
<i>Walckenaeria kochi</i>			NS	
<i>Walckenaeria clavicornis</i>			NS	
<i>Entelecara congenera</i>	Nb		NS	
<i>Entelecara flavipes</i>			NS	
<i>Entelecara omissa</i>	Na		NS	
<i>Entelecara errata</i>	Nb		NS	
<i>Moebelia penicillata</i>			NS	
<i>Trematocephalus cristatus</i>	Na		NS	
<i>Tmeticus affinis</i>			NS	
<i>Dismodicus elevatus</i>	Na		NR	Vulnerable
<i>Hypomma fulvum</i>	Na		NS	
<i>Hybocoptus decollatus</i>	Nb		NS	
<i>Baryphyma gowerense</i>		RDBK	NR	Vulnerable
<i>Baryphyma maritimum</i>	Nb		NR	Near Threatened
<i>Praestigia duffeyi</i>		RDB3	NR	Endangered
<i>Gonatium paradoxum</i>		RDB2	NR	Endangered
<i>Maso gallicus</i>	Na		NS	
<i>Minicia marginella</i>			NR	Data Deficient
<i>Hypselistes jacksoni</i>			NS	
<i>Trichopterna cito</i>		RDB2	NR	Endangered
<i>Pelecopsis nemoralioides</i>			NS	
<i>Pelecopsis elongata</i>		RDB2	NR	Near Threatened
<i>Pelecopsis radicolica</i>		RDB3	NR	Endangered
<i>Silometopus ambiguus</i>			NS	
<i>Silometopus incurvatus</i>	Na		NR	Vulnerable
<i>Mecopisthes peusi</i>	Nb		NS	
<i>Acartauchenius scurrilis</i>			NR	Near Threatened
<i>Trichoncus saxicola</i>	Nb		NR	Vulnerable
<i>Trichoncus hackmani</i>		RDB2	NR	Vulnerable
<i>Trichoncus affinis</i>		RDB2	NR	

<i>Ceratinopsis romana</i>	Nb		NR	
<i>Ceratinopsis stativa</i>			NS	
<i>Evansia merens</i>			NS	
<i>Tiso aestivus</i>	Nb		NS	
<i>Tapinocyba insecta</i>			NS	
<i>Tapinocyba mitis</i>	Nb		NR	Endangered
<i>Tapinocyboides pygmaeus</i>		RDB3	NR	Data Deficient
<i>Microctenonyx subitaneus</i>			NS	
<i>Satlatlas britteni</i>	Nb		NS	
<i>Thyreosthenius biovatus</i>			NS	
<i>Monocephalus castaneipes</i>			NS	
<i>Saloca diceros</i>	Nb		NS	
<i>Gongylidiellum latebricola</i>			NS	
<i>Gongylidiellum murcidum</i>	Nb		NS	Vulnerable
<i>Micrargus laudatus</i>	Nb		NS	
<i>Notioscopus sarcinatus</i>	Nb		NS	
<i>Glyphesis cottonae</i>	Na		NR	Vulnerable
<i>Glyphesis servulus</i>		RDBK	NR	Near Threatened
<i>Erigonella ignobilis</i>			NS	
<i>Diplocephalus connatus</i>		RDB2	NR	Critically Endangered
<i>Diplocephalus protuberans</i>	Nb		NR	Vulnerable
<i>Araeoncus crassiceps</i>			NS	
<i>Panamomops sulcifrons</i>			NS	
<i>Lessertia denticchelis</i>			NS	
<i>Scotinotylus evansi</i>			NS	
<i>Typhochrestus digitatus</i>			NS	
<i>Typhochrestus simoni</i>		RDB2	NR	Critically Endangered
<i>Diplocentria bidentata</i>			NS	
<i>Wabasso replicatus</i>			NR	Vulnerable
<i>Erigone tirolensis</i>	Nb		NS	
<i>Erigone capra</i>	Nb		NR	
<i>Erigone welchi</i>	Na		NR	Endangered
<i>Erigone psychrophila</i>	Na		NR	Near Threatened
<i>Mecynargus morulus</i>			NS	
<i>Mecynargus paetulus</i>		RDB2	NR	Vulnerable
<i>Latithorax faustus</i>			NS	
<i>Semljicola caliginosus</i>	Nb		NR	Endangered
<i>Donacochara speciosa</i>	Na		NS	
<i>Leptothrix hardyi</i>			NS	
<i>Hilaira nubigena</i>	Na		NR	Vulnerable
<i>Hilaira povicax</i>	Nb		NS	
<i>Halorates reprobus</i>			NS	
<i>Halorates distinctus</i>			NS	
<i>Halorates holmgreni</i>	Nb		NS	
<i>Carorita limnaea</i>		RDB1	NR	Vulnerable
<i>Karita paludosa</i>		RDB2	NR	Vulnerable
<i>Wiehlea calcarifera</i>	Na		NR	Endangered

<i>Mioxena blanda</i>	Nb		NR	Data Deficient
<i>Caviphantes saxetorum</i>	Na		NR	Near Threatened
<i>Asthenargus paganus</i>			NS	
<i>Jacksonella falconeri</i>			NS	
<i>Pseudomaro aenigmaticus</i>		RDBK	NR	Data Deficient
<i>Porrhomma convexum</i>			NS	
<i>Porrhomma rosenhaueri</i>		RDB2	NR	Near Threatened
<i>Porrhomma campbelli</i>			NS	
<i>Porrhomma errans</i>	Nb		NS	
<i>Porrhomma egeria</i>			NS	
<i>Porrhomma oblitum</i>	Nb		NS	
<i>Porrhomma cambridgei</i>			NR	Data Deficient
<i>Porrhomma montanum</i>			NS	
<i>Agyneta cauta</i>			NS	
<i>Agyneta olivacea</i>			NS	
<i>Meioneta mollis</i>			NR	Near Threatened
<i>Meioneta mossica</i>			NS	
<i>Meioneta simplicitarsis</i>	Na		NS	
<i>Meioneta fuscipalpa</i>			NR	Vulnerable
<i>Meioneta gulosa</i>			NS	
<i>Meioneta nigripes</i>	Nb		NS	
<i>Maro minutus</i>			NS	
<i>Maro sublestus</i>	Na		NR	Endangered
<i>Maro lepidus</i>		RDB3	NR	Endangered
<i>Syedra gracilis</i>	Nb		NS	
<i>Centromerus levitarsis</i>		RDB2	NR	Endangered
<i>Centromerus capucinus</i>			NR	Near Threatened
<i>Centromerus incilium</i>	Nb		NS	
<i>Centromerus semiater</i>		RDB2	NR	Endangered
<i>Centromerus brevivulvatus</i>		RDB3	NR	Endangered
<i>Centromerus serratus</i>	Nb		NR	Endangered
<i>Centromerus albidus</i>		RDB2	NR	Critically Endangered (Possibly Extinct)
<i>Centromerus cavernarum</i>		RDB3	NR	Near Threatened
<i>Centromerus persimilis</i>		RDBK	NR	Data Deficient
<i>Centromerus minutissimus</i>			NR	Data Deficient
<i>Sintula corniger</i>			NS	
<i>Oreonetides vaginatus</i>			NS	
<i>Saaristoa firma</i>			NS	
<i>Macrargus carpenteri</i>	Na		NS	
<i>Bathyphantes setiger</i>			NS	
<i>Taranucnus setosus</i>			NS	
<i>Nothophantes horridus</i>			NR	Endangered
<i>Mughiphantes whymeri</i>	Nb		NS	
<i>Palliduphantes insignis</i>	Nb		NS	
<i>Palliduphantes antroniensis</i>		RDB1	NR	Critically Endangered (Possibly Extinct)
<i>Piniphantes pinicola</i>	Nb		NR	

<i>Oryphantes angulatus</i>			NS	
<i>Improphantes complicatus</i>	Nb		NR	Near Threatened
<i>Agniphantes expunctus</i>			NS	
<i>Midia midas</i>		RDB2	NR	Endangered
<i>Pityohyphantes phrygianus</i>	Na		NS	
<i>Nerienne furtiva</i>	Nb		NS	
<i>Nerienne radiata</i>	Nb		NR	Near Threatened
<i>Allomengea vidua</i>			NS	
Tetragnathidae				
<i>Tetragnatha pinicola</i>	Nb			
<i>Tetragnatha striata</i>	Nb			
<i>Meta bournetii</i>	Nb		NS	
Araneidae				
<i>Gibbaranea bituberculata</i>		RDB1		Regionally Extinct
<i>Araneus angulatus</i>	Nb		NS	
<i>Araneus alsine</i>	Nb		NS	
<i>Larinioides patagiatus</i>			NS	
<i>Araniella inconspicua</i>	Nb		NS	
<i>Araniella alpica</i>		RDB3	NR	Endangered
<i>Araniella displicata</i>	Na		NR	Near Threatened
<i>Zilla diodia</i>	Nb			
<i>Hypsosinga albobittata</i>			NS	
<i>Hypsosinga sanguinea</i>	Nb		NS	
<i>Hypsosinga heri</i>		RDB1	NR	Vulnerable
<i>Singa hamata</i>	Nb		NS	
<i>Cercidia prominens</i>			NS	
<i>Stroemiellus stroemi</i>	Nb		NR	Near Threatened
<i>Argiope bruennichi</i>	Na			
Lycosidae				
<i>Pardosa agrestis</i>	Nb		NS	
<i>Pardosa lugubris</i>			NS	
<i>Pardosa proxima</i>			NS	
<i>Pardosa trailli</i>	Nb		NR	Vulnerable
<i>Pardosa paludicola</i>		RDB3	NR	Endangered
<i>Hygrolycosa rubrofasciata</i>	Na		NR	Endangered
<i>Xerolycosa nemoralis</i>	Nb		NS	
<i>Xerolycosa miniata</i>			NS	
<i>Alopecosa cuneata</i>			NS	
<i>Alopecosa fabrilis</i>		RDB1	NR	Critically Endangered
<i>Trochosa robusta</i>	Nb		NR	Vulnerable
<i>Trochosa spinipalpis</i>			NS	
<i>Arctosa fulvolineata</i>		RDB3	NR	Near Threatened
<i>Arctosa cinerea</i>	Nb		NS	
<i>Arctosa alpigena</i>		RDB3	NR	Vulnerable
<i>Pirata tenuitarsis</i>			NS	
<i>Pirata piscatorius</i>			NS	
<i>Aulonia albimana</i>		RDB1	NR	Critically Endangered

Pisauridae				
<i>Dolomedes fimbriatus</i>			NS	
<i>Dolomedes plantarius</i>		RDB1	NR	Vulnerable
Oxyopidae				
<i>Oxyopes heterophthalmus</i>		RDB2	NR	Vulnerable
Agelenidae				
<i>Tegenaria picta</i>		RDBK	NR	Vulnerable
Hahniidae				
<i>Hahnia candida</i>		RDB2	NR	Vulnerable
<i>Hahnia microphthalma</i>		RDBK	NR	Data Deficient
<i>Hahnia pusilla</i>			NS	
Dictynidae				
<i>Dictyna pusilla</i>			NS	
<i>Dictyna major</i>		RDB2	NR	Critically Endangered
<i>Nigma puella</i>	Nb		NS	
<i>Nigma walckenaeri</i>	Na			
<i>Cicurina cicur</i>			NS	
<i>Tuberta maerens</i>		RDB3	NR	Endangered
<i>Mastigusa arietina</i>		RDB2		Regionally Extinct
<i>Mastigusa macrophthalma</i>		RDB3	NR	Vulnerable
<i>Lathys nielsenii</i>	Na		NR	Vulnerable
<i>Lathys stigmatisata</i>		RDB3	NR	Vulnerable
<i>Argenna subnigra</i>			NS	
<i>Argenna patula</i>	Nb		NS	
<i>Altella lucida</i>		RDB1	NR	Critically Endangered (Possibly Extinct)
Amaurobiidae				
<i>Coelotes terrestris</i>	Nb		NS	
Liocranidae				
<i>Agroeca lusatica</i>		RDB1	NR	Endangered
<i>Agroeca cuprea</i>	Na		NR	Near Threatened
<i>Agroeca dentigera</i>			NR	Data Deficient
<i>Agraecina striata</i>	Nb		NS	
<i>Apostenus fuscus</i>		RDB1	NR	Vulnerable
<i>Scotina celans</i>			NS	
<i>Scotina gracilipes</i>			NS	
<i>Scotina palliardii</i>	Na		NR	Endangered
<i>Liocranum rupicola</i>	Nb		NS	
Corinnidae				
<i>Phrurolithus minimus</i>	Na		NS	
Clubionidae				
<i>Clubiona subsultans</i>		RDB2	NR	Near Threatened
<i>Clubiona rosserae</i>		RDB1	NR	Vulnerable
<i>Clubiona norvegica</i>	Nb		NS	
<i>Clubiona caerulescens</i>	Nb		NR	Vulnerable
<i>Clubiona pseudoneglecta</i>			NR	Vulnerable
<i>Clubiona frisia</i>		RDB3	NR	Near Threatened

<i>Clubiona juvenis</i>		RDB2	NR	Near Threatened
<i>Clubiona genevensis</i>		RDB3	NR	Near Threatened
<i>Cheiracanthium pennyi</i>		RDB2	NR	Endangered
<i>Cheiracanthium virescens</i>			NS	
Zodariidae				
<i>Zodarion italicum</i>			NS	
<i>Zodarion vicinum</i>			NR	Vulnerable
<i>Zodarion rubidum</i>			NR	
<i>Zodarion fuscum</i>			NR	Vulnerable
Gnaphosidae				
<i>Drassodes pubescens</i>			NS	
<i>Haplodrassus dalmatensis</i>	Nb		NS	
<i>Haplodrassus umbratilis</i>		RDB3	NR	Data Deficient
<i>Haplodrassus soerenseni</i>		RDB2	NR	Endangered
<i>Haplodrassus silvestris</i>	Nb		NS	
<i>Haplodrassus minor</i>		RDB3	NS	
<i>Phaeoecelus braccatus</i>	Nb		NR	Vulnerable
<i>Zelotes electus</i>			NS	
<i>Zelotes subterraneus</i>			NS	
<i>Zelotes longipes</i>	Na		NR	Vulnerable
<i>Zelotes petrensis</i>	Na		NR	
<i>Trachyzelotes pedestris</i>	Nb			
<i>Drassyllus lutetianus</i>	Na		NS	
<i>Drassyllus praeficus</i>	Nb		NS	
<i>Gnaphosa lugubris</i>	Na		NR	Vulnerable
<i>Gnaphosa occidentalis</i>		RDB1	NR	Near Threatened
<i>Gnaphosa nigerrima</i>			NR	Vulnerable
<i>Gnaphosa leporina</i>			NS	
<i>Callilepis nocturna</i>		RDB1	NR	Vulnerable
<i>Micaria albovittata</i>	Nb		NR	Vulnerable
<i>Micaria alpina</i>		RDB3	NR	Vulnerable
<i>Micaria subopaca</i>	Nb		NS	
<i>Micaria silesiaca</i>	Nb		NR	Near Threatened
Zoridae				
<i>Zora armillata</i>		RDB3	NR	Critically Endangered
<i>Zora nemoralis</i>	Nb		NR	Vulnerable
<i>Zora silvestris</i>		RDB2	NR	Critically Endangered
Sparassidae				
<i>Micrommata virescens</i>			NS	
Philodromidae				
<i>Philodromus praedatus</i>	Nb			
<i>Philodromus longipalpis</i>			NS	
<i>Philodromus collinus</i>	Nb			
<i>Philodromus fallax</i>	Nb		NR	Vulnerable
<i>Philodromus histrio</i>			NS	
<i>Philodromus emarginatus</i>	Nb		NR	Vulnerable
<i>Philodromus margaritatus</i>	Nb		NR	Near Threatened

<i>Thanatus striatus</i>			NS	
<i>Thanatus formicinus</i>		RDB2	NR	Critically Endangered (Possibly Extinct)
Thomisidae				
<i>Thomisus onustus</i>	Nb		NS	
<i>Pistius truncatus</i>		RDB1	NR	Critically Endangered
<i>Xysticus bifasciatus</i>			NS	
<i>Xysticus luctator</i>		RDB2	NR	Endangered
<i>Xysticus sabulosus</i>			NS	
<i>Xysticus luctuosus</i>	Nb		NR	Endangered
<i>Xysticus acerbus</i>	Na		NR	
<i>Xysticus robustus</i>	Na		NR	Endangered
<i>Ozyptila blackwalli</i>	Nb		NR	Endangered
<i>Ozyptila scabricula</i>	Nb		NS	
<i>Ozyptila nigrita</i>	Nb		NS	
<i>Ozyptila pullata</i>			NR	Vulnerable
Salticidae				
<i>Salticus zebraneus</i>	Na		NS	
<i>Heliophanus auratus</i>		RDB2	NR	Vulnerable
<i>Heliophanus dampfi</i>		RDBK	NR	Vulnerable
<i>Marpissa muscosa</i>	Nb		NS	
<i>Marpissa radiata</i>	Na		NR	Vulnerable
<i>Marpissa nivoyi</i>	Nb		NS	
<i>Sibianor aurocinctus</i>	Na		NS	
<i>Ballus chalybeius</i>			NS	
<i>Neon robustus</i>			NS	
<i>Neon valentulus</i>		RDB2	NR	Critically Endangered
<i>Neon pictus</i>			NR	Near Threatened
<i>Euophrys herbigrada</i>	Na		NR	Vulnerable
<i>Pseudeuophrys erratica</i>			NS	
<i>Pseudeuophrys obsoleta</i>		RDB3	NS	
<i>Talavera petrensis</i>	Nb		NR	Near Threatened
<i>Talavera thorelli</i>			NR	Vulnerable
<i>Sitticus caricis</i>	Nb		NR	
<i>Sitticus floricola</i>		RDB3	NR	Near Threatened
<i>Sitticus inexpectus</i>	Na		NS	
<i>Sitticus saltator</i>	Nb		NS	
<i>Sitticus distinguendus</i>			NR	Critically Endangered
<i>Evarcha arcuata</i>	Nb		NS	
<i>Aelurillus v-insignitus</i>	Nb		NS	
<i>Phlegra fasciata</i>		RDB3	NR	Near Threatened
<i>Synageles venator</i>	Na		NS	
<i>Myrmarachne formicaria</i>	Nb		NS	
<i>Pellenes tripunctatus</i>		RDB1	NR	Vulnerable

8.5. Amber List

See sections 6.1. and 7.5 for information.

Atypidae	<i>Atypus affinis</i>
Theridiidae	<i>Euryopsis flavomaculata</i>
	<i>Robertus neglectus</i>
Linyphiidae	<i>Walckenaeria nodosa</i>
	<i>Walckenaeria incisa</i>
	<i>Walckenaeria dysderoides</i>
	<i>Walckenaeria furcillata</i>
	<i>Walckenaeria kochi</i>
	<i>Walckenaeria clavicornis</i>
	<i>Walckenaeria monoceros</i>
	<i>Moebelia penicillata</i>
	<i>Hypselistes jacksoni</i>
	<i>Trichopternoides thorelli</i>
	<i>Pelecopsis nemoralioides</i>
	<i>Tapinocyba insecta</i>
	<i>Gongylidiellum latebricola</i>
	<i>Araeoncus humilis</i>
	<i>Typhochrestus digitatus</i>
	<i>Diplocentria bidentata</i>
	<i>Mecynargus morulus</i>
	<i>Latithorax faustus</i>
	<i>Drepanotylus uncatulus</i>
	<i>Leptothrinx hardyi</i>
	<i>Jacksonella falconeri</i>
	<i>Porrhomma convexum</i>
	<i>Agyneta subtilis</i>
	<i>Agyneta cauta</i>
	<i>Sintula corniger</i>
	<i>Bathyphantes setiger</i>
	<i>Taranucnus setosus</i>
	<i>Allomengea scopigera</i>
Araneidae	<i>Larinioides patagiatus</i>
Lycosidae	<i>Alopecosa barbipes</i>
	<i>Trochosa spinipalpis</i>
	<i>Pirata piscatorius</i>
Dictynidae	<i>Cicurina cicur</i>
Clubionidae	<i>Clubiona norvegica</i>
Gnaphosidae	<i>Haplodrassus dalmatensis</i>
Philodromidae	<i>Thanatus striatus</i>
Thomisidae	<i>Xysticus bifasciatus</i>
	<i>Xysticus sabulosus</i>
Salticidae	<i>Marpissa nivoyi</i>
	<i>Sitticus saltator</i>

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The format and content of this review is based on the recent reviews of beetles (Foster, 2010; Alexander, 2014), with changes as appropriate.

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11. Appendices

11.1. Appendix 1. Listing of all species reviewed with summary of key information (full information given in accompanying spreadsheet).

Species name	Proposed GB IUCN Category	Qualifying Criteria	Rationale for proposed category	GB National Rarity Status	Presence in England	Presence in Scotland	Presence in Wales	AOO(hectads) <1993	AOO(hectads) 1993-2013 (figures in brackets indicate the potential number of hectads accounting for under-recording)	Numbers of hectads surveyed before and after 1993 in which the species was recorded pre-1993	Numbers of hectads surveyed before and after 1993 in which the species was recorded 1993-2013	Trend
<i>Acartauchenius scurrilis</i>	NT	B2a	Known from only a handful of locations, but any decline exhibited is uncertain. It remains vulnerable to loss of habitat through inappropriate, or lack of, management of its heaths and coastal grassland habitats.	NR	E			6	5	6	5	-17%

<i>Achaeearanea lunata</i>	LC		E	W	144	239	144	228		
<i>Achaeearanea riparia</i>	LC	NS	E	W	26	18	25	16	-36%	
<i>Achaeearanea simulans</i>	LC		E		53	164	53	157		
<i>Achaeearanea tepidariorum</i>	LC		E	S	W	33	83	31	81	
<i>Aelurillus v-insignitus</i>	LC	NS	E	S	W	29	26	29	26	-10%
<i>Agalenatea redii</i>	LC		E	S	W	172	311	169	293	
<i>Agelena labyrinthica</i>	LC		E	W	282	407	280	383		

<i>Agyphantes expunctus</i>	LC			NS	E	S		69	65	59	55	-7%
<i>Agraecina striata</i>	LC			NS	E	S	W	31	27	31	26	-16%
<i>Agroeca brunnea</i>	LC				E	S	W	139	117	135	114	-16%
<i>Agroeca cuprea</i>	NT	B2a	Recent data suggests no or little decline, and so there is no evidence of significant threat of extinction at the present time.	NR	E	S		10	8	10	8	-20%

<i>Agroeca dentigera</i>	DD	Known from a single site in Wales where it appears to occur in very low numbers. Just five individuals were found in 75 man-hours of searching in 2002, and only in an area close to the original location where a single individual had been found in 1989. The small area from which it has been recorded suggests it has very specific habitat requirements, which are likely to be vulnerable to change. Sea level rise may be a future threat to its coastal sand dune habitat.	NR	W	1	1	1	1	
<i>Agroeca inopina</i>	LC		E	W	101	75	101	75	-26%

<i>Agroeca lusatica</i>	EN	B2ab(ii,iii)	Recorded from two locations, where it appears to be well established although it remains at risk from leisure use of its dune habitat, the construction of coastal defences and other infrastructure development. The Sandwich dune system now has three golf courses, and their associated buildings, roads, drains and fairways have caused loss of natural dune habitat. The dunes form the sea defence for their strip of coast, and some low points have been artificially built up to reduce the risk of flooding, causing further disturbance to the habitat. Sea level rise may pose a threat in the future.	NR	E	2	1	2	1	-50%	
<i>Agroeca proxima</i>	LC			E	S	W	413	247	383	229	-40%

<i>Agyneta cauta</i>	LC	Large apparent decline may be explained by many older records from the north and west referring to <i>A. olivacea</i> , and by relatively poor recent recording in Welsh wetlands, the Pennines and southern heathland, three key areas for <i>A. cauta</i> .	NS	E	S	W	166	55	146	45	-69%
<i>Agyneta conigera</i>	LC			E	S	W	308	172	291	155	-47%
<i>Agyneta decora</i>	LC			E	S	W	239	145	214	125	-42%
<i>Agyneta olivacea</i>	LC		NS	E	S	W	34	77	28	63	
<i>Agyneta ramosa</i>	LC	Woodland habitat not threatened.		E	S	W	99	61	95	56	-41%
<i>Agyneta subtilis</i>	LC	Recording effort believed sufficient but decline not understood because a widespread species which is not a habitat specialist.		E	S	W	216	97	198	91	-54%

<i>Allomengea scopigera</i>	LC		Validity of decline in northern England uncertain.		E	S	W	226	107	187	92	-51%
<i>Allomengea vidua</i>	LC			NS	E	S	W	144	55	133	50	-62%
<i>Alopecosa barbipes</i>	LC				E	S	W	182	127	174	119	-32%
<i>Alopecosa cuneata</i>	LC			NS	E		W	71	73	70	71	
<i>Alopecosa fabrilis</i>	CR	B2ab(iv)	Known historically from three sites but not recorded since 1990. In Dorset it has not been recorded at Bloxworth Heath since 1900 and Morden Heath since 1965 despite recent surveys. While it has not been found at its most recent site, Hankley Common, Surrey, survey effort since 1990 is not considered sufficient to rule out its continued presence there.	NR	E			3	0 (1)	3	0	

<i>Alopecosa pulverulenta</i>	LC			E	S	W	794	749	742	694	-6%
<i>Altella lucida</i>	CR(PE)	B1ab(iv)+2ab(iv)	Has not been found since 1972, despite recent searches, and may therefore be regionally extinct.	NR	E		2	0	2	0	
<i>Amaurobius fenestralis</i>	LC			E	S	W	690	699	649	639	-2%
<i>Amaurobius ferox</i>	LC			E	S	W	242	258	236	249	
<i>Amaurobius similis</i>	LC			E	S	W	492	562	470	524	
<i>Anelosimus vittatus</i>	LC			E	S	W	314	527	305	503	
<i>Antistea elegans</i>	LC			E	S	W	466	407	427	377	-12%

<i>Anyphaena accentuata</i>	LC		E	S	W	341	454	325	416	
<i>Anyphaena sabina</i>	NA	The first British record, was collected at Mile End Park, Middlesex, in 2011. A southern European species, probably imported, and thought likely to increase.				0	0	0	0	
<i>Aphileta misera</i>	LC		E	S	W	175	122	161	108	-33%

<i>Apostenus fuscus</i>	VU	D2	<p>Known from a single extended site (Dungeness, Kent) since 1981, where it is still found but potentially threatened by a range of human activities. Dungeness has been extensively damaged by gravel extraction, causing significant alteration to the hydrology, and thereby ecology, of the area. There are currently plans for a new nuclear power station and a large airport expansion while away from the conservation areas the extension of holiday centres and other recreational activities may lead to damage, notably by motor cycles and other vehicles crossing the shingle, vegetation and ridges. However, there is evidence that the shingle communities are capable of regenerating after superficial disturbance, hence low levels of surface disturbance may be biologically sustainable.</p>	NR	E	1	1	1	1
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<i>Araeoncus crassiceps</i>	LC	Lack of recording since 1993 in the Welsh peatlands, where it was formerly extensively recorded, is thought to be giving a false indication of decline.	NS	E	S	W	161	52	139	38	-73%
<i>Araeoncus humilis</i>	LC			E	S	W	184	95	173	92	-47%
<i>Araneus alsine</i>	LC		NS	E	S	W	15	23	15	19	
<i>Araneus angulatus</i>	LC		NS	E			17	32	17	31	
<i>Araneus diadematus</i>	LC			E	S	W	1014	1228	947	1104	
<i>Araneus marmoreus</i>	LC			E	S		93	79	93	73	-22%
<i>Araneus quadratus</i>	LC			E	S	W	433	577	413	533	

<i>Araneus sturmi</i>	LC				E	S	W	94	137	93	125
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<i>Araneus triguttatus</i>	LC				E	S	W	76	98	75	93
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<i>Araniella alpica</i>	EN	B2ab(ii)	Recorded from only a few sites in southern England. B2ab(ii) is justified because of a major decline in AOO. This is unlikely to be attributable to underrecording because, although identification of <i>Araniella</i> spp. requires critical microscopical examination, males at least have sufficiently distinctive coloration that they are likely to be recognised in the field by arachnologists.	NR	E			7	2	7	2	-71%
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<i>Araniella cucurbitina sens. str.</i>	LC				E	S	W	526	603	506	558
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<i>Araniella displicata</i>	NT	B2a	Despite this species' apparent substantial decline in AOO, its association with pine makes it unlikely that it is currently under threat of extinction.	NR		13	7	13	7	-46%
<i>Araniella inconspicua</i>	LC			NS	E	23	32	23	31	
<i>Araniella opisthographa</i>	LC				E S W	223	391	220	368	
<i>Arctosa alpigena</i>	VU	B2ab(ii)	Although its habitat is increasingly threatened by climate change, the apparent extent of decline is not accepted because this species is hard to find and a degree of under-recording is likely; the species probably persists at a number of locations. VU proposed rather than EN.	NR	S	10	3 (6-9)	10	3	-70%
<i>Arctosa cinerea</i>	LC			NS	E S W	35	25	27	21	-22%

<i>Arctosa fulvolineata</i>	NT	B2b(ii,iv)	No decline apparent in recent data, but threats from habitat specialisation, confinement to small areas and vulnerability to sea level rise, could lead to qualification as VU B2ab(ii,iii,iv).	NR	E		11	12	11	12		
<i>Arctosa leopardus</i>	LC				E	S	W	142	117	133	107	-20%
<i>Arctosa perita</i>	LC				E	S	W	241	226	219	219	
<i>Argenna patula</i>	LC			NS	E	S	W	21	20	21	20	-5%
<i>Argenna subnigra</i>	LC			NS	E		W	53	62	51	61	
<i>Argiope bruennichi</i>	LC				E		W	29	231	29	219	
<i>Argyroneta aquatica</i>	LC				E	S	W	152	146	149	139	-7%

<i>Asthenargus paganus</i>	LC		NS	E	S	W	39	35	37	29	-22%
<i>Atypus affinis</i>	LC		NS	E	S	W	81	67	80	64	-20%
<i>Aulonia albimana</i>	CR	B2ab(ii,iii,iv)		NR	E		2	0 (1)	2	0	
							Last recorded 1985. Although probably now extinct in one of its two former sites, the other is on military land with restricted access where it may persist.				
<i>Ballus chalybeius</i>	LC		NS	E		W	48	77	48	76	
<i>Baryphyma gowerense</i>	VU	B2ab(iv)		NR	E	W	11	2 (6-9)	11	2	-82%
							Although recorded from 11 hectads, found at only two locations since 1992. The apparent 82% decline is almost certainly an over-estimate; the Welsh saltmarshes need re-survey to establish current status at previously recorded sites and check for the continued presence in the type locality. Because of this, considered VU rather than EN.				

<i>Baryphyma maritimum</i>	NT	B2a	No clear decline, but sea level rise is a plausible threat to the preferred habitat and hence NT is justified.	NR	E		9	8	9	8	-11%	
<i>Baryphyma pratense</i>	LC				E	S	W	107	87	100	81	-19%
<i>Baryphyma trifrons</i>	LC				E	S	W	190	214	173	192	
<i>Bathyphantes approximatus</i>	LC				E	S	W	465	395	434	364	-16%
<i>Bathyphantes gracilis</i>	LC				E	S	W	969	1106	904	991	
<i>Bathyphantes nigrinus</i>	LC				E	S	W	556	365	517	329	-36%
<i>Bathyphantes parvulus</i>	LC				E	S	W	503	352	462	322	-30%

<i>Bathyphantes setiger</i>	LC		An apparent major decline is thought to be a result of recent under-recording in key habitats.	NS	E	S	W	66	39	62	37	-40%
<i>Bolyphantes alticeps</i>	LC				E	S	W	185	95	164	80	-51%
<i>Bolyphantes luteolus</i>	LC				E	S	W	361	184	322	155	-52%
<i>Callilepis nocturna</i>	VU	D2	Recorded from only three locations in Britain. Although there is no evidence of decline, the exposed sandy banks and rocks required by the spider at these sites are threatened by shading from scrub encroachment.	NR	E		W	1	3	1	3	
<i>Carorita limnaea</i>	VU	D2	Known from just two sites since 1992 and at one of these from a single specimen. Within this restricted AOO the extent and quality of its <i>Sphagnum</i> bog habitat has suffered decline, but is now apparently improving under conservation management.	NR	E			1	2	1	2	

<i>Caviphantes saxetorum</i>	NT	B2a	True level of decline uncertain, with little recent survey of its river bank sand and shingle habitats stones at former sites in Wales; requires further survey.	NR	E	S	W	14	6	12	4	-67%
<i>Centromerita bicolor</i>	LC				E	S	W	487	424	455	391	-14%
<i>Centromerita concinna</i>	LC				E	S	W	509	320	474	288	-39%
<i>Centromerus albidus</i>	CR(PE)	B2ab(iv)	Formerly recorded from ancient beech woods at three locations in Surrey and Hampshire, but has not been found at any of these since 1969.	NR	E			3	0	3	0	
<i>Centromerus arcanus</i>	LC				E	S	W	117	118	108	99	-8%

<i>Centromerus brevivulvatus</i>	EN	B2ab(iv)	Not found since 1993 despite almost all of its historical sites having been subject to some degree of re-survey; decline is therefore accepted. However, the true level of decline is uncertain since the wide range of habitats and few records suggest that the true microhabitat of this species has yet to be discovered, and hence it may be under-recorded and still present at some of these sites. EN is therefore proposed.	NR	E	S	7	0 (2-5)	7	0		
<i>Centromerus capucinus</i>	NT	B2a	True level of decline uncertain, and possibility of under-recording suggests a status of NT.	NR	E		11	4	11	4	-64%	
<i>Centromerus cavernarum</i>	NT	B2a	True level of decline uncertain, and the possibility of under-recording suggests a status of NT.	NR	E		8	6	8	6	-25%	
<i>Centromerus dilutus</i>	LC				E	S	W	458	310	432	286	-34%
<i>Centromerus incilium</i>	LC			NS	E	S		23	16	23	16	-30%

<i>Centromerus levitarsis</i>	EN	B2ab(ii,iv)	Found at only three locations since 1993 and showing a decline of 75% in AOO. The main loss has been from England where there was previously site-specific evidence of physical damage to the habitat and eutrophication. Climate warming may be affecting its range.	NR	E	S	8	3	8	2	-75%	
<i>Centromerus minutissimus</i>	DD		The spider may live in fissures below- ground.	NR	E		1	0	1	0		
<i>Centromerus persimilis</i>	DD		Likely to be a subterranean species and consequently underrecorded: it was last recorded in 1961.	NR	E		2	0	1	0		
<i>Centromerus prudens</i>	LC				E	S	W	231	108	215	98	-54%

<i>Centromerus semiater</i>	EN	B2ab(ii)	Restricted AOO, with records from only two hectads since 1993. Although all known sites for this species lie within SSSIs, the principal threats in the Norfolk Broads are lowering of water tables and abandonment of traditional, rotational summer cutting of sedge beds, leading to encroachment of scrub and carr woodland.	NR	E		5	2	5	2	-60%
<i>Centromerus serratus</i>	EN	B2ab(ii)	B2ab(ii) is justified because this species shows a major decline and is known from only five post-1993 locations. Under-recording is not considered a major factor because although adults are most frequently found in winter, they are also found in spring and early summer and their favoured habitats are also generally well surveyed. The species is threatened by the loss of old beech woods, deep litter and moss in semi-natural woodland and old grasslands.	NR	E	W	17	5	17	5	-71%

<i>Centromerus sylvaticus</i>	LC		E	S	W	386	259	363	240	-34%	
<i>Ceratinella brevipes</i>	LC		E	S	W	593	435	538	382	-29%	
<i>Ceratinella brevis</i>	LC		E	S	W	335	196	313	184	-41%	
<i>Ceratinella scabrosa</i>	LC		E	S	W	79	99	76	95		
<i>Ceratinopsis romana</i>	LC	Under-recording in its sand-dune habitats, particularly in Wales, is likely to be a factor in this species' apparent decline.	NR	E	W	28	13	26	13	-50%	
<i>Ceratinopsis stativa</i>	LC		NS	E	W	71	69	70	64	-9%	
<i>Cercidia prominens</i>	LC		NS	E	S	W	93	69	93	68	-27%

<i>Cheiracanthium erraticum</i>	LC			E	S	W	233	284	228	278		
<i>Cheiracanthium pennyi</i>	EN	B2ab(ii,iv)	One former site, at Horton Common, Dorset, was largely converted to agriculture in 1980 but there has been little relevant survey of its other sites in recent years; while the decline may not be as great as the records suggest it still qualifies for EN.	NR	E		6	2	6	2	-67%	
<i>Cheiracanthium virescens</i>	LC			NS	E	S	W	68	61	67	59	-12%
<i>Cicurina cicur</i>	LC		May be under-recorded.	NS	E	S	W	97	59	94	57	-39%
<i>Clubiona brevipes</i>	LC				E	S	W	240	308	235	297	

<i>Clubiona caerulescens</i>	VU	B2ab(ii,iv)	This rare but widespread species, often associated with the field layer under scrub and woodland, has been found at only five locations since 1993 and shown a substantial decline in AOO. However, the fact that these are all sites where it had not previously been recorded, together with a late maturation time and often relatively inaccessible habitat, give a possibility of under-recording, hence downgraded to VU from EN. The main threat appears to be from changes in management practices or increase in browsing, leading to the loss of field layer vegetation.	NR	E	S	W	13	5 (6-9)	13	5	-62%
<i>Clubiona comta</i>	LC				E	S	W	485	556	468	523	
<i>Clubiona corticalis</i>	LC				E		W	200	229	198	219	

<i>Clubiona diversa</i>	LC			E	S	W	444	298	415	266	-36%	
<i>Clubiona frisia</i>	NT	B2a	Level of decline uncertain, though sea level rise is a potential threat to this coastal sand dune species.	NR	E		8	5	7	5	-29%	
<i>Clubiona genevensis</i>	NT	B2a	Although there appears to be a decline in AOO the recent discovery of this species in north Wales suggests the potential for further locations along the west coast. Twenty-seven females or cells with egg-sacs were found on Ramsey Island in 1999 (having been first recorded on the island in 1933), and 24 again in April 2006, so it is clearly well-established there.	NR	E	W	8	4	8	4	-50%	
<i>Clubiona juvenis</i>	NT	B2a	Known from only 10 locations but no evidence of decline.	NR	E		10	10	10	10		
<i>Clubiona lutescens</i>	LC				E	S	W	468	474	445	437	-2%

<i>Clubiona neglecta sens. str.</i>	LC		E	S	W	64	138	62	133		
<i>Clubiona norvegica</i>	LC	May be under-recorded in its wet, high moorland habitat.	NS	E	S	W	33	19	29	16	-45%
<i>Clubiona pallidula</i>	LC			E	S	W	196	234	194	221	
<i>Clubiona phragmitis</i>	LC			E	S	W	360	409	348	381	

<i>Clubiona pseudoneglecta</i>	VU	D2	<p>Although only relatively recently recognised as a species distinct from <i>C. neglecta</i> (Wunderlich 1994), <i>C. pseudoneglecta</i> seems to be restricted to dunes in the south and so is likely to remain rare. The precise habitat in Scilly is unknown, but likely to have been either coastal grassland or dunes. Sandwich, Kent, is its only known mainland location, where it is at risk from leisure use of its sand dune habitat, the construction of coastal defences and other infrastructure development.</p>	NR	E	2	2	2	2	
<i>Clubiona reclusa</i>	LC			E	S	W	746	805	698	720

<i>Clubiona rosserae</i>	VU	D2	Known from just two sites. At Chippenham Fen, the type locality, it has been recorded on a number of occasions, most recently, in one small area, in 2010 after a 14 year interval. At its other site just one specimen has been found, in 2000. Potential threats include eutrophication of ditch habitat, and changes to management. Its highly restricted occurrence, and our lack of understanding of the reasons for this, mean that the species is capable of rapidly becoming Critically Endangered.	NR	E	1	2	1	2		
<i>Clubiona stagnatilis</i>	LC			E	S	W	310	216	287	206	-28%

<i>Clubiona subsultans</i>	NT	B2a	A rare pinewood species found in only eight hectads since 1993. However there has been some increase in AOO and evidence from bark trapping and unpublished surveys of semi-natural plantations show that this species is more widespread, and less dependent than formerly thought, on the core Caledonian pine areas. However, it remains at risk from the effects of climate change and catastrophic damage to its habitat, for example by fire and recently introduced tree diseases.	NR	S	4	8	4	6	
<i>Clubiona subtilis</i>	LC				E S W	141	110	140	108	-23%
<i>Clubiona terrestris</i>	LC				E S W	476	453	465	422	-9%
<i>Clubiona trivialis</i>	LC				E S W	293	200	266	166	-38%

<i>Cnephalocotes obscurus</i>	LC		E	S	W	378	276	355	259	-27%
<i>Coelotes atropos</i>	LC		E	S	W	359	306	342	281	-18%
<i>Coelotes terrestris</i>	LC		NS	E	W	62	59	62	59	-5%
<i>Coleosoma floridanum</i>	NA	Introduced/ synanthropic in glasshouses.	E			2	3	2	3	
<i>Crustulina guttata</i>	LC		E	S	W	118	98	116	96	-17%
<i>Crustulina sticta</i>	LC		NS	E		34	21	34	21	-38%
<i>Cryphoeca silvicola</i>	LC		E	S	W	323	295	286	247	-14%

<i>Cryptachaea blattea</i>	NA	A cosmopolitan species new to Britain.	E		0	0	0	0	
<i>Cryptachaea veruculata</i>	NA	Introduced at the start of the 20th Century from New Zealand, where it is common. It is now naturalised on Tresco	E		1	1	1	1	
<i>Cyclosa conica</i>	LC		E	S	W	264	372	260	350
<i>Diaea dorsata</i>	LC		E		W	114	241	112	229
<i>Dictyna arundinacea</i>	LC		E	S	W	567	673	538	616
<i>Dictyna latens</i>	LC		E	S	W	140	209	137	201

<i>Dictyna major</i>	CR	B2ab(ii,iv)	Confined to Scotland where it was last recorded in 1998 at a new but very small sand-dune site subject to significant public pressure. Despite searches at most of its historic (and other likely) sites it has not been rediscovered. It has probably been lost from its loch sites because of disturbance to the shoreline and loss of macrophytes by eutrophication (eg Loch Morlich).	NR	S	7	1	7	0	
<i>Dictyna pusilla</i>	LC		Apparent major decline in England but not in Scotland.	NS	E S W	28	19	26	18	-31%
<i>Dictyna uncinata</i>	LC				E S W	298	424	295	395	
<i>Dicymbium brevisetosum</i>	LC				E S W	111	73	104	62	-40%
<i>Dicymbium nigrum</i>	LC				E S W	446	383	407	350	-14%

<i>Dicymbium tibiale</i>	LC			E	S	W	250	226	230	200	-13%	
<i>Diplocentria bidentata</i>	LC		The reasons behind the apparent decline are unclear and, with no obvious threat to the wide range of habitats it occupies, LC is considered suitable.	NS	E	S	W	82	28	70	26	-63%
<i>Diplocephalus connatus</i>	CR	B2ab(ii,iv)	Recorded only from two areas of riverine shingle banks in northern England. Although numerous at both sites, the last known record was in 1969. The habitat is vulnerable to river engineering work but only one of the hectads with previous records has been surveyed in recent times; it may still persist in the other locations.	NR	E			4	0(1)	1	0	
<i>Diplocephalus cristatus</i>	LC				E	S	W	376	230	352	217	-38%
<i>Diplocephalus graecus</i>	NA		Recent colonist.		E			0	2	0	2	

<i>Diplocephalus latifrons</i>	LC			E	S	W	495	377	457	353	-23%	
<i>Diplocephalus permixtus</i>	LC			E	S	W	478	393	440	356	-19%	
<i>Diplocephalus picinus</i>	LC			E	S	W	435	399	409	372	-9%	
<i>Diplocephalus protuberans</i>	VU	B2ab(ii)	Found at only seven locations since 1993 and it has exhibited a substantial reduction in AOO. Despite its previous stronghold being in northern England, five of the recently found locations were in Wales and southern England. The main threats to this wetland and wooded valley species are likely to be land drainage and river engineering. Maintaining tree cover may be important at some locations.	NR	E	S	W	21	7	17	7	-59%
<i>Diplostyla concolor</i>	LC			E	S	W	648	575	613	532	-13%	

<i>Dipoea coracina</i>	RE		Last recorded in 1913.	E			2	0	2	0		
<i>Dipoea erythropus</i>	VU	D2	The heathland habitat of this species is vulnerable to accidental fires and hence there is a risk to the small population currently known.	NR	E	W	3	5	3	4		
<i>Dipoea inornata</i>	LC			NS	E	S	W	35	20	35	20	-43%
<i>Dipoea melanogaster</i>	EN	B2ab(ii,iv)	Recorded from just six locations in 150 years and only two since 1993.	NR	E			5	2	5	2	-60%
<i>Dipoea prona</i>	EN	B2ab(ii)	Although most records are from heathland in Dorset and Surrey, where intensive recording has not taken place in recent years, the decline is considered sufficient to justify the status proposed.	NR	E	W		18	2	18	2	-89%
<i>Dipoea torva</i>	NT	B2a	No decline. Conservation efforts for Scottish Biodiversity List wood ants and narrow-headed ant should benefit this species.	NR		S		5	8	5	6	

<i>Dipoenia tristis</i>	LC			NS	E		9	16	9	16		
<i>Dismodicus bifrons</i>	LC				E	S	W	707	620	666	553	-17%
<i>Dismodicus elevatus</i>	VU	D2		NR	E	S		8	4(6-7)	8	4	-50%
			<p>This species is associated with Caledonian pine forest and conifer plantations, and is normally found by beating, especially pine and juniper. Since 1993 it has been restricted to four hectads (three locations) in the western Cairngorms, with the most recent records from Abernethy Forest in 2013, where it was found to be common. It is possible that it is under-recorded at some of its former sites, hence downgraded from EN to VU, but it is of concern that its range appears to have contracted to this single area.</p>									
<i>Dolomedes fimbriatus</i>	LC			NS	E	S	W	36	47	35	47	

<i>Dolomedes plantarius</i>	VU	D2	D2 justified by three UK populations with strong likelihood that few, if any, others have been overlooked. Rarity results from loss/degradation of wetland habitat; the remaining populations are all fragmented, genetically isolated and vulnerable to stochastic events including salinisation by tidal incursion. Conservation translocations have established three new populations since 2010 but their sustainability cannot yet be assessed.	NR	E	W	3	4	3	4	
<i>Donacochara speciosa</i>	LC			NS	E	W	24	15	22	15	-32%
<i>Drapetisca socialis</i>	LC				E	S	W	374	388	351	352
<i>Drassodes cupreus</i>	LC				E	S	W	427	480	401	447

<i>Drassodes lapidosus</i>	LC		E	S	W	326	209	314	200	-36%	
<i>Drassodes pubescens</i>	LC		NS	E	S	W	81	60	79	59	-25%
<i>Drassyllus lutetianus</i>	LC		NS	E		W	17	19	17	19	
<i>Drassyllus praeficus</i>	LC		NS	E		W	21	23	21	22	
<i>Drassyllus pusillus</i>	LC			E	S	W	131	189	129	185	
<i>Drepanotylus uncatus</i>	LC	Despite the substantial reduction in recorded hectads, this species is still widespread in Britain and is not considered threatened at present.		E	S	W	198	96	176	80	-55%
<i>Dysdera crocata</i>	LC			E	S	W	241	333	238	322	

<i>Dysdera erythrina</i>	LC				E	S	W	132	120	132	116	-12%	
<i>Enoplognatha latimana</i>	LC				E		W	76	182	76	178		
<i>Enoplognatha mordax</i>	LC				NS	E	S	W	23	21	22	21	-5%
<i>Enoplognatha oelandica</i>	CR	B2ab(ii)	Historically recorded from a few localities in the mid-south and south-east of England but a number of these are known, or suspected to be, misidentifications. Recorded from a single site since 1993.		NR	E		6	1	6	1	-83%	
<i>Enoplognatha ovata sens. str.</i>	LC					E	S	W	1030	1128	971	1013	

<i>Enoplognatha tecta</i>	VU	D2	Very rare in Britain, where only three specimens have been recorded. In 1888 and 1974 it was found in Dorset in marshland, and in 2009 in Suffolk, in vegetation alongside a grazing marsh ditch. The Dorset site has changed and is considered no-longer suitable. The extreme rarity and exact ecological requirements of this species are not understood, either in this country or in Europe. Drainage and agricultural run-off are obvious threats which would result in a decline in habitat area and quality, and as a single population, it is vulnerable to stochastic events.	NR	E		1	1	1	1	
<i>Enoplognatha thoracica</i>	LC				E	S	W	229	272	228	258
<i>Entelecara acuminata</i>	LC				E	S	W	148	155	144	147

<i>Entelecara congenera</i>	LC	NS	E		22	27	22	27		
<i>Entelecara errata</i>	LC	NS	E	S	W	28	38	24	32	
<i>Entelecara erythropus</i>	LC		E	S	W	196	113	192	111	-42%
<i>Entelecara flavipes</i>	LC	NS	E	S	W	41	47	40	43	
<i>Entelecara omissa</i>	LC	NS	E			35	17	34	17	-50%
<i>Episinus angulatus</i>	LC		E	S	W	216	272	213	259	
<i>Episinus maculipes</i>	LC	NS	E			5	16	5	16	

<i>Episinus truncatus</i>	LC			NS	E	W	44	38	44	37	-16%	
<i>Eresus sandaliatus</i>	VU	D2	Recent and ongoing translocation work has resulted in an increase in the number of sites where this species is found (for the purposes of this assessment, four locations are accepted as established up to 2013). However, these new populations are small, and in close enough proximity that AOO remains largely unchanged, and it remains vulnerable.	NR	E		1	1	1	1		
<i>Erigone aletris</i>	LC		First recorded in 1976, this species seems to be a very successful immigrant and can be expected to continue to spread out from its now rather wide base.		E	S	7	32	7	31		
<i>Erigone arctica</i>	LC				E	S	W	184	102	158	91	-42%
<i>Erigone atra</i>	LC				E	S	W	1000	1058	904	972	

<i>Erigone capra</i>	LC			NR	E	S	W	17	9	16	5	-69%
<i>Erigone dentipalpis</i>	LC				E	S	W	803	844	745	778	
<i>Erigone longipalpis</i>	LC				E	S	W	155	114	148	108	-27%
<i>Erigone promiscua</i>	LC				E	S	W	232	161	204	145	-29%
<i>Erigone psychrophila</i>	NT	B2a	Apparent substantial decline probably a result of under-recording of its specialised habitat on the margins of montane pools; it may be more widespread than records indicate.	NR	E	S		12	1 ()	12	1	-92%
<i>Erigone tirolensis</i>	LC			NS		S		27	28	26	27	

<i>Erigone welchi</i>	EN	B2ab(ii,iv)	Recorded at only two locations since 1993, most recently in 2008, and its AOO has apparently declined substantially. The spider's specialised habitat, with webs spun just above water level in <i>Sphagnum</i> bogs, suggests under-recording may be an issue. However the spider's habitat is vulnerable to changes in the surrounding land management, including drainage, which is known to have negatively affected some of the known locations. Thus, while more surveys are required ihabitat degradation is thought likely to be the major factor in this species' decline.	NR	E	S	W	9	2 (3-5)	8	2	-75%
<i>Erigonella hiemalis</i>	LC				E	S	W	361	316	328	279	-15%
<i>Erigonella ignobilis</i>	LC		Observed decline at least in part attributable to lack of recent surveys of Welsh peatland sites.	NS	E	S	W	57	30	53	27	-49%

<i>Ero aphana</i>	LC		NS	E		3	38	3	36		
<i>Ero cambridgei</i>	LC			E	S	W	434	412	409	376	-8%
<i>Ero furcata</i>	LC			E	S	W	363	250	351	235	-33%
<i>Ero tuberculata</i>	LC	A mature heathland species that would qualify as VU on the basis of the scale of decline but under-recording of the southern heathlands in recent years is believed to have inflated the rate of decline.	NS	E			35	17	35	17	-51%
<i>Euophrys frontalis</i>	LC			E	S	W	453	558	443	531	

<i>Euophrys herbigrada</i>	VU	D2	Recorded from a scattering of sites along the south coasts of Cornwall, Devon and Dorset. It shows an apparent substantial decline AOO since 1993, with records from only four locations. However, since it may be under-recorded in the south west of England, it is considered VU rather than EN.	NR	E			10	4 (6-8)	9	4	-56%
<i>Euryopis flavomaculata</i>	LC		Decline assumed to result at least in part from known under-recording of its heathland and moorland habitats in recent years.	NS	E	S	W	91	53	90	49	-46%
<i>Evansia merens</i>	LC			NS	E	S	W	63	30	56	29	-48%
<i>Evarcha arcuata</i>	LC			NS	E		W	39	42	39	42	
<i>Evarcha falcata</i>	LC				E	S	W	203	191	198	182	-8%

<i>Floronia bucculenta</i>	LC		E	S	W	224	140	219	133	-39%
<i>Frontinellina frutetorum</i>	NA	A single record from a garden in 2003 but probably imported with shrubs from Italy. It could potentially become established in Britain.	E			0	1	0	1	
<i>Gibbaranea bituberculata</i>	RE	No records of this distinctive spider since 1950 and its habitat was destroyed in 1954.	E			1	0	1	0	
<i>Gibbaranea gibbosa</i>	LC		E	S	W	159	219	155	212	

<i>Glyphesis cottonae</i>	VU	B2ab(ii,iv)	Detection of this very small species requires the specialised technique of taking and searching <i>Sphagnum</i> samples. This means it is likely to be under-recorded and is therefore downgraded from EN. However B2ab(ii,iv) is justified because, in common with other wet heathland and bog species, it is threatened by habitat loss, and changes to the water table as a result of agricultural activities, afforestation and development.	NR	E		11	4 (6-9)	11	4	-64%
<i>Glyphesis servulus</i>	NT	B2a	Uncertain decline because of lack of recent intensive surveys in its Welsh stronghold, so downgraded from VU to NT.	NR	E	W	12	8	12	8	-33%
<i>Gnaphosa leporina</i>	LC		Apparent decline on southern heathland likely to result, at least in part, from under-recording.	NS	E	S W	55	20	54	19	-65%
<i>Gnaphosa lugubris</i>	VU	D2	Level of decline uncertain because of relative lack of recording on southern heathland in recent years, hence downgraded from EN to VU.	NR	E		8	3	8	3	-63%

<i>Gnaphosa nigerrima</i>	VU	D2	Known from a single but well-managed wet peatland location. Any changes to management, including those which would result in scrub encroachment, are a threat to this species.	NR	E	0	1	0	1	
<i>Gnaphosa occidentalis</i>	NT	B2a	This species was not found between 1935 and its discovery at two locations in 2004. Found under stones in its cliff-top, maritime grassland habitat, difficulty of detection may, to some extent, limit our knowledge of its distribution.	NR	E	2	1	2	1	-50%
<i>Gnathonarium dentatum</i>	LC				E S W	453	547	434	508	

<i>Gonatium paradoxum</i>	EN	B2ab(ii,iii,iv)	The species appears to be restricted to a small area of south-east England. It has been recorded from just one location since 1993 and the AOO has apparently declined very substantially. The spider occurs mainly on mature dry heathland and amongst moss and grass in chalk grassland. It is unlikely that enough suitable habitat remains to maintain viable populations where it occurred at Limpsfield and Crookhamhill Commons in Surrey, but it is thought likely to still be present at Box Hill, Surrey, and in the Ashdown Forest, East Sussex.	NR	E		5	1 (2)	5	1	-80%	
<i>Gonatium rubellum</i>	LC				E	S	W	309	204	287	184	-36%
<i>Gonatium rubens</i>	LC				E	S	W	799	570	745	511	-31%

<i>Gongylidiellum latebricola</i>	LC		NS	E	S	W	72	40	66	36	-45%
<i>Gongylidiellum murcidum</i>	VU	B2ab(ii,iv)	NS	E	S	W	25	10	25	9	-64%
<p>This wetland species has been recorded at 10 locations since 1993, most recently, in 2011. It has exhibited a substantial decline in AOO. There appears to have been a contraction in range, with no records from Scotland since 1988. It is normally found in wet moss and litter in fens and wetwoodland where the main threats are drainage of fens and loss of wet, deciduous woodland through drainage or removal of trees.</p>											
<i>Gongylidiellum vivum</i>	LC			E	S	W	463	393	427	346	-19%
<i>Gongylidium rufipes</i>	LC			E	S	W	599	553	563	514	-9%

<i>Hahnia candida</i>	VU	D2	This coastal cliff and shingle, potentially subterranean, species may be under-recorded because of sampling difficulties, hence VU rather than EN.	NR	E		6	3	6	3	-50%	
<i>Hahnia helveola</i>	LC				E	S	W	167	80	158	78	-51%
<i>Hahnia microphthalma</i>	DD		Two specimens recorded 1975/76, but may be largely subterranean and hence overlooked.	NR	E		2	0	2	0		
<i>Hahnia montana</i>	LC				E	S	W	369	257	349	242	-31%
<i>Hahnia nava</i>	LC				E	S	W	207	225	201	221	
<i>Hahnia pusilla</i>	LC		Although qualifying as VU on its rate of decline, this species occurs in a wide range of habitats with no obvious threat; LC is regarded as appropriate at present.	NS	E	S	W	58	25	57	24	-58%
<i>Halorates distinctus</i>	LC			NS	E	S	W	42	21	38	20	-47%

<i>Halorates holmgreni</i>	LC		NS	S		14	12	14	11	-21%	
<i>Halorates reprobus</i>	LC		NS	E	S	W	88	69	82	63	-23%
<i>Haplodrassus dalmatensis</i>	LC	The apparent rate of decline is almost certainly enhanced by under-recording of southern heathlands in recent years. It is considered likely to persist on sufficient sites not to be regarded as threatened. Discovered at Morden Bog, Dorset, in 2015.	NS	E		W	30	14	30	14	-53%
<i>Haplodrassus minor</i>	LC		NS	E		W	11	12	11	12	
<i>Haplodrassus signifer</i>	LC			E	S	W	356	274	323	254	-21%
<i>Haplodrassus silvestris</i>	LC	Decline accepted, with loss of open areas in woodland through neglect and the cessation of coppicing a likely cause.	NS	E	S	W	27	17	26	17	-35%

<i>Haplodrassus soerenseni</i>	EN	B2ab(ii,iv)	<p>Confined to the Caledonian pinewood areas of Abernethy and the Black Wood of Rannoch. It was most recently recorded at Abernethy in 2011 but it has not been seen at the Black Wood since the 1960s. Current and future threats to this species include climate change and catastrophic damage to its habitat by such agencies as fire and recently introduced tree diseases. Dense regeneration of pine would also affect suitable habitat. Although the species is probably still present at both locations, it is of concern that there are no other known populations at seemingly suitable and well-surveyed native pinewood sites.</p>	NR	S	3	2	3	2	-33%
<i>Haplodrassus umbratilis</i>	DD		<p>Not seen since 1990 but probably under-recorded in recent years and hence likely to survive in several of its previously known heathland sites.</p>	NR	E	6	0 (5)	6	0	

<i>Harpactea hombergi</i>	LC			E	S	W	446	531	426	499
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<i>Harpactea rubicunda</i>	VU	D2	A species with a very restricted AOO. It was found in numbers in the Tilbury area of Essex, but there were no further records until it was rediscovered at the same location in 2005. The site is under threat from natural succession and prone to damage from human activities.	NR	E		1	1	1	1
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<i>Heliophanus auratus</i>	VU	D2	Confined to small and vulnerable areas of sparse shingle vegetation, just below the spring tide line, that are under realistic threat from sea level rise.	NR	E		4	5	4	5
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<i>Heliophanus cupreus</i>	LC				E	S	W	185	222	178	215
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<i>Heliophanus dampfi</i>	VU	D2	Largely confined to central Scotland, an additional site at Aberfoyle, found in 2013, boosted the number of hectads for this species to six. Site condition monitoring by SNH in 2011 confirmed its continued presence in the Flanders Moss area. Despite seemingly healthy populations at the small number of known sites, it remains vulnerable to pressures such as hydrological changes, wild-fires and scrub encroachment.	NR	S	W	3	6	3	6		
<i>Heliophanus flavipes</i>	LC				E	S	W	247	359	241	343	
<i>Helophora insignis</i>	LC				E	S	W	424	272	390	244	-37%
<i>Hilaira excisa</i>	LC				E	S	W	246	194	213	166	-22%
<i>Hilaira frigida</i>	LC				E	S	W	92	129	85	102	

<i>Hilaira nubigena</i>	VU	B2ab(ii,iv)	This species of wet upland moors has shown a very substantial decline in AOO with only five locations since 1993. Some under-recording is likely, especially in the Pennines where it was rediscovered at at Buckden Pike in 2013 where it had last been recorded in 1948. Drainage, afforestation and fire are the most likely threats to this species, and while there is a possibility it may persist in more than 10 locations, VU is considered a sensible precautionary status.	NR	E	S		19	5 (7-12)	18	3	-83%
<i>Hilaira pervicax</i>	LC			NS	E	S	W	34	43	30	31	
<i>Holocnemus pluchei</i>	NA		A Mediterranean species that appears to be synanthropic in Britain.		E			0	2	0	2	
<i>Hybocoptus decollatus</i>	LC			NS	E		W	12	23	11	23	

<i>Hygrolycosa rubrofasciata</i>	EN	B2ab(ii,iv)	This lowland wetland species is very restricted in range and there appears to be an ongoing decline in AOO. It has been recorded from four locations since 1993.	NR	E			19	4	19	4	-79%
<i>Hylyphantès graminicola</i>	LC				E	S	W	153	229	149	213	
<i>Hypomma bituberculatum</i>	LC				E	S	W	678	674	621	610	-2%
<i>Hypomma cornutum</i>	LC				E	S	W	201	307	191	289	
<i>Hypomma fulvum</i>	LC			NS	E		W	34	34	32	34	
<i>Hypselistes jacksoni</i>	LC		Widely recorded on the Welsh peatlands prior to 1993, but the lack of survey there in recent years has inflated the rate of decline.	NS	E	S	W	140	65	123	58	-53%
<i>Hypsosinga albovittata</i>	LC			NS	E	S	W	51	48	51	44	-14%

<i>Hypsosinga heri</i>	VU	D2	Previously found only at Wicken Fen, where it was last recorded in 1912, it was recently (2014) discovered in Weymouth, where it appears to be well-established. Any changes in management could result in decline.	E		1	0	1	0		
<i>Hypsosinga pygmaea</i>	LC			E	S	W	186	206	180	199	
<i>Hypsosinga sanguinea</i>	LC			NS	E		27	23	27	23	-15%
<i>Hyptiotes paradoxus</i>	LC			NS	E	W	12	21	12	20	
<i>Improphantes complicatus</i>	NT	B2a	A boreo-alpine species widespread on Scottish mountains, but local and never numerous. Probably under-recorded to an extent, hence NT not VU, but its habitat is under threat from climate change.	NR	S		10	9	10	7	-30%

<i>Islandiana falsifica</i>	DD	A single female was collected in north Wales in 2010. Known in Europe only from Scandinavia; its status in the Britain is uncertain.					0	1	0	0	
<i>Jacksonella falconeri</i>	LC	Appears to have shown a steep decline but it is so small that it is unlikely to be caught except in pitfall traps, and even then it is hard to spot. It is presumably under-recorded as a result, and there are no direct threats to the wide range of habitats it occupies, such that it is not currently regarded as threatened.	NS	E	S	W	64	19	60	16	-73%
<i>Kaestneria dorsalis</i>	LC			E	S	W	251	189	236	177	-25%
<i>Kaestneria pullata</i>	LC			E	S	W	461	352	434	319	-26%

<i>Karita paludosa</i>	VU	D2	<p>Recorded from three hectads since 1993. There is an apparent decline in AOO, but the minute size of this species means that it may possibly have been overlooked in otherwise well-recorded fenland sites, hence downgraded to VU. In the Norfolk Broads, drainage of marshland and invasion of herbaceous fen communities by scrub and carr woodland as a result of abandonment of traditional mowing practices may be the principal threats. In the Somerset Levels, arable conversion of grazing with attendant drainage works has lowered the water table over much of the area. Westhay Moor has also been severely damaged by peat extraction for horticultural use.</p>	NR	E	5	3	5	3	-40%
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<i>Kochiura aulica</i>	LC			NS	E	18	28	18	28	
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<i>Labulla thoracica</i>	LC			E	S	W	370	376	350	345	-1%	
<i>Larinioides cornutus</i>	LC			E	S	W	650	907	617	824		
<i>Larinioides patagiatus</i>	LC			NS	E	S	W	55	38	52	36	-31%
<i>Larinioides sclopetarius</i>	LC			E	S	W	97	184	95	178		
<i>Lathys humilis</i>	LC			E	S	W	170	336	167	318		
<i>Lathys nielsenii</i>	VU	D2		NR	E		4	1	4	1	-75%	

A wet heathland species which is likely to be under-recorded, as not all previous sites have been subject to recent survey work. Changes in management could result in decline.

<i>Lathys stigmatisata</i>	VU	B2ab(ii)	Some continuing decline is accepted, but as this species only just qualifies as EN and there is a possibility of under-recording, it is considered that VU is more appropriate given the number of potential locations.	NR	E	W	7	4 (5-6)	7	4	-43%	
<i>Latithorax faustus</i>	LC			NS	E	S	W	60	54	54	45	-17%
<i>Lepthyphantes leprosus</i>	LC				E	S	W	234	170	218	163	-25%
<i>Lepthyphantes minutus</i>	LC				E	S	W	439	465	421	423	
<i>Leptorhoptrum robustum</i>	LC				E	S	W	258	188	235	179	-24%
<i>Leptothrix hardyi</i>	LC		A winter-active species of heathland and moorland for which the apparent decline is almost certainly a result of under-recording. New surveys are required to establish this.	NS	E	S	W	103	22	96	18	-81%

<i>Lessertia dentichelis</i>	LC		NS	E	W	30	29	29	29		
<i>Linyphia hortensis</i>	LC			E	S	W	502	472	467	437	-6%
<i>Linyphia triangularis</i>	LC			E	S	W	884	873	827	794	-4%
<i>Liocranum rupicola</i>	LC		NS	E	W	19	18	18	17	-6%	
<i>Lophomma punctatum</i>	LC			E	S	W	463	429	427	386	-10%
<i>Macaroeris nidicolens</i>	NA			E		0	5	0	5		
<i>Macrargus carpenteri</i>	LC		NS	E	S	14	14	14	13	-7%	

<i>Macrargus rufus</i>	LC		The winter season of this species may result in under-recording and explain the apparent decline.	E	S	W	393	240	369	226	-39%	
<i>Mangora acalypha</i>	LC			E		W	77	152	76	147		
<i>Maro lepidus</i>	EN	B2ab(ii,iv)	This peatland species has been found at five locations since 1993 and has shown a steep decline in AOO. The most recent record was from Sutherland in 2011. The main threats are peat extraction, drainage and afforestation.	NR	E	S	W	9	4	9	2	-78%
<i>Maro minutus</i>	LC		A northern and upland species occurring in a wide range of habitats and with no obvious threats, such that under-recording is probably the cause of the apparently high rate of decline.	NS	E	S	W	52	18	46	15	-67%

<i>Maro sublestus</i>	EN	B2ab(ii,iv)	This rare fen and wet woodland species has been found at only five locations since 1993, most recently from a new site in Sutherland in 2011, and has shown a substantial decline in AOO. The main threats are loss and drainage of fens and wet woodland.	NR	E	S	9	5	8	3	-63%
<i>Marpissa muscosa</i>	LC			NS	E	S	36	74	36	71	
<i>Marpissa nivoyi</i>	LC		A coastal sand dune species that may be under-recorded but is also vulnerable to habitat loss and damage from tourism and sea level change.	NS	E	W	23	14	23	14	-39%
<i>Marpissa radiata</i>	VU	B2ab(ii,iv)	May be under-recorded but its association with relict fens and a long continuity of habitat makes this species vulnerable to loss of open fen habitat through, lowering of water tables and scrub invasion.	NR	E	W	19	7	18	7	-61%
<i>Maso gallicus</i>	LC			NS	E	W	15	14	14	14	

<i>Maso sundevalli</i>	LC			E	S	W	584	478	546	439	-20%	
<i>Mastigusa arietina</i>	RE		Last recorded 1926.	E			6	0	6	0		
<i>Mastigusa macrophthalma</i>	VU	D2	There is little recent information on the spider's occurrence at its earlier known sites in southern England, possibly because of the lack of sufficient recent targeted survey. As it is found in ants' nests, it may be under-recorded, hence the assignment of VU rather than EN.	NR	E	W	11	3 (9)	11	3	-73%	
<i>Mecopisthes peusi</i>	LC			NS	E	S	W	28	12	27	12	-56%
<i>Mecynargus morulus</i>	LC			NS	E	S	W	57	23	50	16	-68%

<i>Mecynargus paetulus</i>	VU	D2	<p>A rare montane species found above 900m. It has been reported from only two locations since 1993 and appears to have shown a substantial decline. However, the decline may be a result of ealier surveys of montane species in Scotland which have not been repeated since 1993. Given this, VU D2 is regarded as more appropriate than EN. Pressures from recreation (hillwalking and skiing) are probably overstated as the area affected by these activities is significantly less than the available habitat. The limited altitudinal range is of much greater concern in a rapidly changing climate, with little or no scope for adaptation or migration. Nitrogen deposition is also likely to adversely affect the vegetation structure.</p>	NR	S	6	2 (5)	6	2	-67%	
<i>Megalepthyphantes nebulosus</i>	LC		A synanthropic species.	E	S	W	109	18	107	18	-83%

<i>Megalephyphantes</i> sp.	NA			E		0	15	0	15			
<i>Meioneta beata</i>	LC			E	S	W	159	111	146	106	-27%	
<i>Meioneta fuscipalpa</i>	VU	D2	Known from a single site where several specimens were found in 1998 and 1999.	NR	E		0	1	0	1		
<i>Meioneta gulosa</i>	LC		Decline uncertain.	NS	E	S	W	69	40	66	37	-44%
<i>Meioneta innotabilis</i>	LC		Probably under-recorded because of its association with, and unpredictable occurrence on, the surface of tree bark.		E	S	W	100	69	100	67	-33%
<i>Meioneta mollis</i>	NT	B2b	There has been a very substantial decline in AOO for this species, but a degree of under-recording is also likely as not all previous locations have been resurveyed since 1993.	NR	E		W	54	13 (9)	54	12	-78%
<i>Meioneta mossica</i>	LC			NS	E	S	W	5	24	4	18	

<i>Meioneta nigripes</i>	LC		NS	S	W	44	41	42	34	-19%	
<i>Meioneta rurestris</i>	LC			E	S	W	541	460	517	425	-18%
<i>Meioneta saxatilis sens. str.</i>	LC			E	S	W	91	188	85	175	
<i>Meioneta simplicatarsis</i>	LC		NS	E			27	26	27	25	-7%
<i>Mermessus maculata</i>	NA						0	1	0	0	
											A single male of this American species was found in a house in London in 2007. It could possibly spread in a similar way to <i>M. trilobatus</i> .
<i>Mermessus trilobatus</i>	NA						0	1	0	0	
											A single male found in grassland at Tilbury (Essex) in 2007 and several other records from south-east England since then.
<i>Meta bourneti</i>	LC		NS	E	W		9	38	9	37	

<i>Meta menardi</i>	LC			E	S	W	102	123	98	117		
<i>Metellina mengei</i>	LC			E	S	W	908	1078	843	957		
<i>Metellina merianae</i>	LC			E	S	W	664	690	611	618		
<i>Metellina segmentata sens. str.</i>	LC			E	S	W	998	1046	930	930		
<i>Metopobactrus prominulus</i>	LC			E	S	W	238	136	220	128	-42%	
<i>Micaria albovittata</i>	VU	B2ab(ii,iv)	Apparent long-term decline is thought to result from pressures on its coastal grassland habitat.	NR	E		12	7	12	7	-42%	
<i>Micaria alpina</i>	VU	D2	Much of the apparently substantial decline is thought likely to be a result of under-recording although, like other upland species, it remains vulnerable to climate change.	NR		S	W	6	1 (5)	6	1	-83%

<i>Micaria pulicaria</i>	LC			E	S	W	420	446	404	418		
<i>Micaria silesiaca</i>	NT	B2b(ii,iv)	Decline likely to be partly attributable to under-recording on southern heathlands in recent years.	NR	E		24	11	24	11	-54%	
<i>Micaria subopaca</i>	LC			NS	E	S	14	20	14	19		
<i>Micrargus apertus</i>	LC				E	S	W	128	157	113	133	
<i>Micrargus herbigradus sens. str.</i>	LC				E	S	W	628	440	584	407	-30%
<i>Micrargus laudatus</i>	LC			NS	E		W	32	16	32	16	-50%
<i>Micrargus subaequalis</i>	LC				E	S	W	169	192	165	185	

<i>Microctenonyx subitaneus</i>	LC	NS	E	S	W	60	36	58	35	-40%
<i>Microlinyphia impigra</i>	LC		E	S	W	113	110	108	106	-2%
<i>Microlinyphia pusilla</i>	LC		E	S	W	643	639	589	586	-1%
<i>Micrommata virescens</i>	LC	NS	E	S	W	50	30	48	29	-40%
<i>Microneta viaria</i>	LC		E	S	W	596	583	560	540	-4%

<i>Midia midas</i>	EN	B2ab(ii,iv)	Despite recent surveys of historic and other suitable sites for this species, it is known from only four sites in three hectads (though one of these was in 2014 and therefore is not shown in the table), and decline appears genuine. As a species predominantly associated with veteran trees its distribution is highly restricted and sites are isolated. Lack of temporal continuity of such trees is a threat to its future.	NR	E	4	2	4	1	-50%
<i>Milleriana inerrans</i>	LC				E S W	171	226	167	213	

<i>Minicia marginella</i>	DD	<p>Previously thought to be confined to a small area next to the Channel Tunnel, where it was discovered in 1987 and refound in 1991, it was discovered at Butterburn Flow SSSI, Cumbria, in 2015. Butterburn Flow is typical of this species habitat in northern Europe while the Kent chalk appears to be more typical of its habitat central and southern Europe. The species is not difficult to identify and so is unlikely to have been significantly overlooked outside of Butterburn Flow. Given its very restricted distribution it is given a precautionary VU status.</p>	NR	E	1	0 (2)	1	0					
<i>Minyriolus pusillus</i>	LC		E	S	W	188	179	175	147	-16%			

<i>Mioxena blanda</i>	DD	Although collected from a wide range of habitats, it is thought that its true habitat preference has not yet been determined. Since 1993 it has been recorded at only a single location in South Devon in 2003-4. All nine specimens caught there were females captured over four occasions using aeronaut bottle traps during the winter months. This, together with its sporadic occurrence, supports the view that it may be a subterranean species dispersing in the autumn/winter months.	NR	E	S	W	22	1	19	1	-95%
<i>Misumena vatia</i>	LC			E		W	181	275	177	262	
<i>Moebelia penicillata</i>	LC		NS	E	S	W	105	67	102	62	-39%
<i>Monocephalus castaneipes</i>	LC		NS	E	S	W	96	65	88	62	-30%

<i>Monocephalus fuscipes</i>	LC			E	S	W	766	642	706	585	-17%	
<i>Mughiphantes whymeri</i>	LC			NS	E	S	W	35	34	33	27	-18%
<i>Myrmarachne formicaria</i>	LC			NS	E		19	19	19	19		
<i>Neon pictus</i>	NT	B2a	First recorded in 1998, this recently recognised addition to the south coast shingle fauna has a very restricted distribution.	NR	E		0	3	0	3		
<i>Neon reticulatus</i>	LC				E	S	W	378	305	359	276	-23%
<i>Neon robustus</i>	LC			NS	E	S	W	2	28	2	27	

<i>Neon valentulus</i>	CR	B2ab(ii,iv)	Although this species has been reported regularly in the past at Wicken and Chippenham Fens, Cambridgeshire, and at Foulton Common, West Norfolk, the only recent records are from Roydon Fen, Diss, Norfolk, in 1990 and from Wicken Fen in 1999. There appears to have been a very serious decline in AOO.	NR	E		7	1	7	1	-86%	
<i>Neoscona adianta</i>	LC				E	W	79	142	78	139		
<i>Neottiura bimaculata</i>	LC				E	S	W	527	675	517	629	
<i>Neriene clathrata</i>	LC				E	S	W	834	803	790	731	-7%
<i>Neriene emphana</i>	NA		This species is probably a relatively recent arrival that has the potential to become established in Britain, although it has not been re-found since its discovery on the Isle of Wight in 2000.		E			0	1	0	1	

<i>Neriere furtiva</i>	LC		The decline in this species appears to be long-term, although under-recording of the southern heathlands in recent years may be a contributory factor.	NS	E	W	34	17	34	17	-50%	
<i>Neriere montana</i>	LC				E	S	W	551	440	522	405	-22%
<i>Neriere peltata</i>	LC				E	S	W	675	765	628	687	
<i>Neriere radiata</i>	NT	B2a	Apparent decline in its Scottish locations is uncertain because of lack of targeted survey, therefore assigned NT until more survey information is available.	NR	E	S		8	5	7	5	-29%
<i>Nesticus cellulanus</i>	LC				E	S	W	138	171	129	161	
<i>Nigma puella</i>	LC			NS	E	W		30	58	30	56	
<i>Nigma walckenaeri</i>	LC				E			15	111	15	106	

<i>Nothophantes horridus</i>	EN	B2ab(ii,iii,iv)	As an endemic, this species was globally assessed in 2015 and assigned a status of CR A3c, based upon threats to the two known locations, the type location having already been lost. Since then, it has been found at an additional site, and the threat to one of the original locations appears to have significantly reduced. The remaining location is still threatened with development, so a status of EN is given, on the basis of the few locations and projected decline. This species' global status should be reassessed at the next opportunity.	NR	E			1	2	1	2	
<i>Notioscopus sarcinatus</i>	LC		A species of wet moss in woods, heaths and fens, for which a degree of under-recording is likely. Because of this, it is not currently regarded as threatened.	NS	E	S	W	36	18	35	16	-54%
<i>Nuctenea umbratica</i>	LC				E	S	W	506	752	489	698	

<i>Obscuriphantes obscurus</i>	LC		E	S	W	445	319	413	275	-33%
<i>Oedothorax agrestis</i>	LC		E	S	W	201	177	184	161	-13%
<i>Oedothorax apicatus</i>	LC		E	S	W	195	238	185	223	
<i>Oedothorax fuscus</i>	LC		E	S	W	765	765	704	695	-1%
<i>Oedothorax gibbosus</i>	LC		E	S	W	553	549	512	489	-4%
<i>Oedothorax retusus</i>	LC		E	S	W	674	629	618	572	-7%
<i>Oonops domesticus</i>	LC	A synanthropic species.	E	S	W	82	61	82	56	-32%

<i>Oonops pulcher</i>	LC			E	S	W	264	245	248	231	-7%
<i>Orchestina</i> sp.	CR(PE)	D	Searches at the one known site for this species produced single females on six occasions, the last in 1994. Significantly, the quality of the habitat declined at this time when the ivy habitat was cut. Despite targeted searches, the absence of further records in over ten years suggests the population size reduction may be approaching 100%. Other potential sites with similar habitat have been searched, so far without success. There is no evidence that this spider has been introduced and is anything other than an extremely rare species which may now be extinct.	NR	E		1	1	1	1	
<i>Oreonetides vaginatus</i>	LC			NS	E	S	W	60	69	57	57

<i>Oryphantus angulatus</i>	LC			NS	E	S	W	56	49	52	42	-19%
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<i>Ostearius melanopygius</i>	LC				E	S	W	163	220	160	210	
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<i>Oxyopes heterophthalmus</i>	VU	D2		NR	E			9	5	9	5	-44%
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While this species qualifies for EN on the basis of a restricted distribution and decline, most of the heathland sites at which it remains are protected, so the decline is likely to have slowed and VU is regarded as appropriate. However, the particular stage of heather it prefers is threatened by management prescriptions to reduce fire-risk (and is also vulnerable to accidental fires), and at some sites insufficient management has resulted in habitat decline.

<i>Ozyptila atomaria</i>	LC				E	S	W	227	162	219	157	-28%
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<i>Ozyptila blackwalli</i>	EN	B2ab(ii,iv)	This coastal species has undergone a very substantial decline and is now known from only two locations.	NR	E	11	2	11	2	-82%
<i>Ozyptila brevipes</i>	LC				E	W	78	82	76	78
<i>Ozyptila nigrita</i>	LC		This species has declined significantly, but does not yet qualify for VU status.	NS	E	24	14	24	13	-46%
<i>Ozyptila praticola</i>	LC				E	W	127	227	124	216
<i>Ozyptila pullata</i>	VU	D2	Recorded in Britain only from a single a disused chalk quarry site, first in 1997 and most recently in 2002.	NR	E	0	1	0	1	
<i>Ozyptila sanctuaria</i>	LC				E	W	77	116	77	110

<i>Ozyptila scabricula</i>	LC	Fairly common on some Breckland heaths, but less frequent on heaths in Dorset, Hampshire and Surrey. Although its apparently substantial decline may in part be real, under-recording of heathlands in recent years is also likely to be a factor.	NS	E	W	24	9 (>15)	24	9	-63%	
<i>Ozyptila simplex</i>	LC			E	S	W	82	86	82	84	
<i>Ozyptila trux</i>	LC			E	S	W	432	327	390	288	-26%
<i>Pachygnatha clercki</i>	LC			E	S	W	816	804	757	727	-4%
<i>Pachygnatha degeeri</i>	LC			E	S	W	923	969	852	882	
<i>Pachygnatha listeri</i>	LC			E	S	W	161	102	155	95	-39%

Paidiscura pallens LC E S W 617 804 585 738

<i>Palliduphantes antroniensis</i>	CR(PE)	B2ab(iv)	The only British records of this species are two males and six females found at two sites in the Cairngorms in 1979 and 1980, at an altitude of 900-980m. Despite some targeted searches, it has not subsequently been re-discovered. It is unlikely that recreational pressures are important for this species, given the area of similar <i>Empetrum/Vaccinium</i> habitat available. The key threats are likely to be climate change, affecting the vertical zone it can occupy, with little scope for adaptation or migration, and nitrogen deposition affecting vegetation composition and structure.	NR	S	1	0	1	0
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Palliduphantes ericaeus LC E S W 869 755 798 659 -17%

<i>Palliduphantes insignis</i>	LC		NS	E	S	W	46	39	46	38	-17%
<i>Palliduphantes pallidus</i>	LC			E	S	W	420	315	399	298	-25%
<i>Panamomops sulcifrons</i>	LC		NS	E			64	74	63	70	
<i>Pardosa agrestis</i>	LC		NS	E	S	W	39	77	38	74	
<i>Pardosa agricola</i>	LC			E	S	W	139	141	121	127	
<i>Pardosa amentata</i>	LC			E	S	W	1022	978	942	878	-7%
<i>Pardosa hortensis</i>	LC			E	S	W	86	108	83	105	

<i>Pardosa lugubris</i>	LC		Apparently restricted to the north, where it is likely to be fairly widely distributed. Recent taxonomic split from <i>P.saltans</i> .	NS	E	S	0	10	0	9		
<i>Pardosa monticola</i>	LC				E	S	W	251	202	242	189	-22%
<i>Pardosa nigriceps</i>	LC				E	S	W	679	684	621	625	
<i>Pardosa paludicola</i>	EN	B2ab(ii,iv)	The species was apparently fairly numerous at Shapwick Heath and Plaistow, Somerset, and Woodwalton Fen, but it has undergone a significant decline in AOO, with only two post-1993 records - from Woodwalton and from Ilton, Somerset (a single female).	NR	E			6	2	6	1	-83%
<i>Pardosa palustris</i>	LC				E	S	W	469	538	430	505	
<i>Pardosa prativaga</i>	LC				E	S	W	441	526	431	491	

<i>Pardosa proxima</i>	LC		NS	E	S	W	71	73	69	66	-4%
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<i>Pardosa pullata</i>	LC			E	S	W	1181	1197	1078	1063	-1%
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<i>Pardosa purbeckensis</i>	LC			E	S	W	112	103	104	101	-3%
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<i>Pardosa saltans</i>	LC			E	S	W	426	392	407	370	-9%
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<i>Pardosa trailli</i>	VU	B2ab(ii,iv)		NR	E	S	W	16	4 (6-10)	15	4	-73%
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Although there have been some unsuccessful recent surveys of historical sites for this species its montane, scree habitat remains under-visited and this may account for some of the apparent, very substantial decline. Thus, EN is not considered likely to be accurate. While future surveys may find the species at several of the unsurveyed areas, VU is proposed under the precautionary principle.

<i>Pelecopsis elongata</i>	NT	B2a	Although there is no evidence of decline in this species, it occurs in only a small number of Calrdonian pine forest sites and remains threatened by changes in woodland management.	NR	S	4	4	4	4	
<i>Pelecopsis mengei</i>	LC				E S W	151	85	135	74	-45%
<i>Pelecopsis nemoralioides</i>	LC			NS	E S W	65	35	62	35	-44%
<i>Pelecopsis nemoralis</i>	LC				E S W	95	98	85	88	
<i>Pelecopsis parallela</i>	LC				E S W	169	197	161	194	

<i>Pelecopsis radiccicola</i>	EN	B2ab(ii,iv)	The spider was formerly found in numbers at each of its sites except Rodney Stoke, Somerset. It has not been recorded in West Sussex since 1952, Suffolk since 1972, or Dorset since 1979. It has been collected from just two locations since 1993, and exhibits a substantial decline.	NR	E		4	2	4	2	-50%		
<i>Pellenes tripunctatus</i>	VU	D2	This species appears to be restricted to two extended coastal shingle locations where good populations apparently occur. However, shingle habitats are prone to damage by leisure and commercial activities, and exceptional tidal and wave conditions.	NR	E		3	5	3	5			
<i>Peponocranium ludicrum</i>	LC					E	S	W	377	300	351	262	-25%
<i>Phaeoecelus braccatus</i>	VU	B2ab(ii,iv)	An unmistakable species, so unlikely to be overlooked, although southern heathlands have been poorly recorded in recent years.	NR	E		18	9	18	9	-50%		

<i>Philodromus albidus</i>	LC			E	W	85	208	83	199
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<i>Philodromus aureolus</i>	LC			E	S	W	453	558	433	521
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<i>Philodromus cespitum</i>	LC			E	S	W	431	589	416	550
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<i>Philodromus collinus</i>	LC			E			36	110	35	105
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<i>Philodromus dispar</i>	LC			E	S	W	332	439	328	407
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<i>Philodromus emarginatus</i>	VU	B2ab(ii,iv)	B2ab(ii,iv) is justified because this species is known from only six locations since 1993. Found in association with pines, usually on heathland, it is very local and appears to have undergone major long-term decline; AOO has apparently declined steeply.	NR	E	S	20	6	20	6	-70%
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<i>Philodromus fallax</i>	VU	B2ab(ii,iv)	The decline in this coastal sand-dune specialist appears to be real and long-term; it is now known from only a handful of sites.	NR	E	W	24	8	24	8	-67%	
<i>Philodromus histrio</i>	LC		Although some under-recording on southern heathland is accepted, this species seems to have largely disappeared away from these and coastal habitats in Essex and Suffolk.	NS	E	S	W	62	28	59	28	-53%
<i>Philodromus longipalpis</i>	LC			NS	E			7	22	7	22	
<i>Philodromus margaritatus</i>	NT		Although this species has excellent camouflage, on lichen-covered tree trunks, its microhabitat is likely to have been searched by arachnologists; the slight apparent decline is therefore expected to be real. Does not yet qualify for VU as known from more than ten locations.	NR	E	S		12	11	12	8	-33%
<i>Philodromus praedatus</i>	LC				E	S	W	82	155	82	153	

<i>Phlegra fasciata</i>	NT	B2ab(ii,iv)	The apparent decline on its dry, southern coastal sites is likely to be real, but specimens found at two locations on the Gower peninsula in 1994 may indicate a more widespread occurrence on limestone cliffs in that area.	NR	E	W	12	8	12	8	-33%	
<i>Pholcomma gibbum</i>	LC				E	S	W	437	300	417	267	-36%
<i>Pholcus phalangioides</i>	LC				E	S	W	181	570	176	529	
<i>Phrurolithus festivus</i>	LC				E	S	W	203	266	200	260	
<i>Phrurolithus minimus</i>	LC			NS	E			13	15	13	15	
<i>Phylloneta impressa</i>	LC				E	S	W	159	391	157	361	

<i>Phylloneta sisypchia</i>	LC		E	S	W	653	728	628	672		
<i>Piniphantes pinicola</i>	LC	Perferring loose stony terrain on high ground, under-recording is likely to a significant contributor to the apparent decline in this species.	NR	E	S	W	24	12	22	11	-50%
<i>Pirata hygrophilus</i>	LC		E	S	W	364	314	351	292	-17%	
<i>Pirata latitans</i>	LC		E	S	W	204	165	195	158	-19%	
<i>Pirata piraticus</i>	LC		E	S	W	697	729	642	662		
<i>Pirata piscatorius</i>	LC	The apparent decline in this wetland specialist is likely to real, at least in eastern England where suitable habitat had been relatively well surveyed in recent years.	NS	E	S	W	92	50	87	50	-43%

<i>Pirata tenuitarsis</i>	LC			NS	E	S	W	38	46	37	46	
<i>Pirata uliginosus</i>	LC				E	S	W	134	114	129	105	-19%
<i>Pisaura mirabilis</i>	LC				E	S	W	677	906	662	843	
<i>Pistius truncatus</i>	CR	B2ab(ii,iv)	Although originally recorded from the New Forest, it now appears to be confined to a single location in Kent where populations appear to be extremely small and vulnerable.	NR	E			2	1	2	1	-50%
<i>Pityohyphantes phrygianus</i>	LC			NS	E	S		61	72	51	66	
<i>Platnickina tinctoria</i>	LC				E	S	W	198	410	196	396	
<i>Pocadicnemis juncea</i>	LC				E	S	W	294	408	286	383	

<i>Pocadicnemis pumila sens. str.</i>	LC		E	S	W	709	539	649	468	-28%	
<i>Poeciloneta variegata</i>	LC		E	S	W	443	283	410	250	-39%	
<i>Porrhomma cambridgei</i>	DD	Likely to be under-recorded due to its subterranean habit.	NR	E		3	1	3	1	-67%	
<i>Porrhomma campbelli</i>	LC	Rarely encountered, perhaps because of its habitat preference. If, as is thought possible, it is largely subterranean, it may have been significantly under-recorded.	NS	E	S	W	40	26	39	24	-38%
<i>Porrhomma convexum</i>	LC	Given the apparent broad range of subterranean habitats utilised by this species, it is difficult to understand the reason for its apparent recent decline, although it is not thought to be threatened at present.	NS	E	S	W	116	49	110	46	-58%

<i>Porrhomma egeria</i>	LC	Apparent long-term decline especially in the eastern half of country. Elsewhere in Europe this is primarily thought to be a cavernicolous species but our data do not support a strong association with caves. Its recorded association with smaller crevices in mines, cellars and stony debris may have resulted in some under-recording.	NS	E	S	W	38	15	37	14	-62%
<i>Porrhomma errans</i>	LC	Possibly under-recorded because its main habitat is unknown.	NS	E	S	W	25	16	23	15	-35%
<i>Porrhomma microphthalmum</i>	LC			E	S	W	181	183	173	168	-3%
<i>Porrhomma montanum</i>	LC	Decline thought to be due at least in part to recent under-recording of its upland habitat.	NS	E	S	W	53	36	48	32	-33%
<i>Porrhomma oblitum</i>	LC		NS	E		W	36	26	35	26	-26%

<i>Porrhomma pallidum</i>	LC		Apparent decline widespread across the range, but may have been seriously under-recorded in its upland and woodland habitats.	E	S	W	150	82	134	70	-48%
<i>Porrhomma pygmaeum</i>	LC			E	S	W	502	508	476	458	-4%
<i>Porrhomma rosenhaueri</i>	NT	B2a	This troglobitic species has been recorded in two subterranean systems, one of which has not been surveyed in recent years. The impact of quarrying activity on this species is uncertain.	NR		W	2	1 (2)	2	1	-50%

<i>Praestigia duffeyi</i>	EN	B2ab(ii);(iii)	Most of the known populations are vulnerable and in extremely localised habitats threatened by development, recreational pressures and rising sea levels. Many of the Thames Marshes have been reclaimed for industrial development, with the extensive use of concrete-capped iron pilings along the waterfront leaving very little saltmarsh, and there is now enormous pressure to develop high-value riverside housing. Sea levels around Essex are rising relative to the land by some 6 mm a year, causing erosion of saltmarshes. At the present rate most of the habitat will have been lost within a few decades.	NR	E	10	4	10	4	-60%
<i>Prinerigone vagans</i>	LC				E	W	68	125	67	119

<i>Pseudeuophrys erratica</i>	LC	Apparent widespread long-term decline, although the north is less well recorded and the species is likely to occur more widely than current records indicate.	NS	E	S	W	69	28	63	26	-59%
<i>Pseudeuophrys lanigera</i>	LC			E	S	W	83	106	83	104	
<i>Pseudeuophrys obsoleta</i>	LC		NS	E			11	13	11	13	
<i>Pseudomaro aenigmaticus</i>	DD		NR	E			3	2	3	2	-33%
<i>Psilochorus simoni</i>	LC	A synanthropic species.		E	S	W	23	12	21	11	-48%
<i>Robertus arundineti</i>	LC			E	S	W	162	112	145	101	-30%
<i>Robertus insignis</i>	DD	Only three specimens ever recorded in Britain, the last in 1988.	NR	E			3	0	3	0	
<i>Robertus lividus</i>	LC			E	S	W	817	659	742	590	-20%

<i>Robertus neglectus</i>	LC			NS	E	S	W	91	60	89	50	-44%
<i>Robertus scoticus</i>	CR	B2ab(ii,iv)	Confined to the Black Wood of Rannoch. No other pinewood area appears to provide the cool, damp <i>Sphagnum</i> habitat it requires in old-growth Scots Pine forest. It is probably no longer present in the near-by Meggernie woods, its only other recorded location, where it has not been seen since 1965. Threats include climate change and catastrophic habitat damage by such agencies as fire and recently introduced tree diseases. Dense regeneration of pine would also affect suitable habitat.	NR		S		2	1	2	1	-50%
<i>Rugathodes bellicosus</i>	LC			NR	E	S	W	18	13	15	12	-20%
<i>Rugathodes instabilis</i>	LC			NS	E		W	64	67	63	67	

<i>Rugathodes sexpunctatus</i>	NA	First recorded from Britain in Scotland in 2012 and now known from several locations in and around Glasgow.	S	0	1	0	0	
<i>Saaristoa abnormis</i>	LC		E S W	552	360	503	328	-35%
<i>Saaristoa firma</i>	LC	The apparent decline in this species of damp situations in heathland, woodland and scrub on peat soils is thought to result, at least in part, from the lack of recent surveys of Welsh peatlands.	NS E S W	93	61	88	50	-43%
<i>Saloca diceros</i>	LC		NS E W	30	19	30	19	-37%
<i>Salticus cingulatus</i>	LC		E S W	152	155	145	149	
<i>Salticus scenicus</i>	LC		E S W	454	614	440	582	
<i>Salticus zebraneus</i>	LC		NS E	13	34	13	33	

<i>Satilatlas britteni</i>	LC			NS	E	S	W	41	18	32	13	-59%
<i>Savignia frontata</i>	LC				E	S	W	658	472	605	432	-29%
<i>Scotina celans</i>	LC			NS	E	S	W	65	51	63	50	-21%
<i>Scotina gracilipes</i>	LC		At least part of the apparently substantial decline in this species of, predominantly, mature heathlands, is thought to be a result of under-recording, particularly on the southern heaths.	NS	E	S	W	98	41	96	36	-63%
<i>Scotina palliardii</i>	EN	B2ab(ii,iv)	Major decline accepted.	NR	E			10	4	10	4	-60%
<i>Scotinotylus evansi</i>	LC			NS	E	S		84	80	77	66	-14%
<i>Scotophaeus blackwalli</i>	LC				E	S	W	149	187	145	179	

<i>Scotophaeus scutulatus</i>	NA	Assumed to be introduced.		E		1	2	1	2	
<i>Scytodes thoracica</i>	LC	A synanthropic species.		E	W	59	70	59	67	
<i>Segestria bavarica</i>	LC	Any decline uncertain and no threats identified.	NR	E	W	13	11	13	11	-15%
<i>Segestria florentina</i>	LC	This species is steadily increasing in numbers and range.		E	W	22	54	22	52	
<i>Segestria senoculata</i>	LC			E	S W	530	593	494	547	

<i>Semljicola caliginosus</i>	EN	B2ab(ii,iv)	<p>This species has shown a major decline in its AOO and has been found at only three locations since 1993. Although formerly considered endemic, it is now recorded from Siberia and Norway. However the British populations are considered to be globally important. Its wetland habitats are under threat from eutrophication and both land-use and climate change.</p>	NR	E	S	23	3	23	3	-87%	
<i>Sibianor aurocinctus</i>	LC			NS	E	S	25	43	24	43		
<i>Silometopus ambiguus</i>	LC			NS	E	S	W	86	67	82	58	-29%
<i>Silometopus elegans</i>	LC				E	S	W	294	165	264	142	-46%

<i>Silometopus incurvatus</i>	VU	B2ab(ii,iv)	This species has been found at 10 locations since 1993, and appears to have declined by just over 50%, and so is only marginally VU. Its sand-dune habitat has become increasingly fragmented by development (e.g. agriculture and golf courses) and is under increasing pressure from recreation, eutrophication and coastal erosion.	NR	E	S		19	10	19	9	-53%
<i>Silometopus reussi</i>	LC				E	S	W	84	83	80	79	-1%
<i>Simitidion simile</i>	LC				E	S	W	103	141	101	134	
<i>Singa hamata</i>	LC			NS	E	S	W	23	20	23	19	-17%
<i>Sintula corniger</i>	LC		Apparent decline may result in part from under-recording, particularly in the New Forest area, but targeted surveys are needed to establish this.	NS	E	S	W	90	51	87	50	-43%

<i>Sitticus caricis</i>	LC	Decline may be less than it seems in East Anglia because of under-recording of this species' highly-specialised micro-habitat. However acid bog and fen habitats are under threat from succession and climate change.	NR	E	W	28	13 (>15)	28	13	-54%
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<i>Sitticus distinguendus</i>	CR	C2a(ii)	<p>The population of this species is expected to decline by at least 80% within the next 10 years. The two sites where it has been recorded, on either side of the Thames, are scheduled for development. A large proportion of the habitat at the Essex site, which is thought to hold over 90% of the British population, is undergoing development and the Kent site is going through the planning process. Although the species had not been identified in this country prior to 2003, the habitat where it has been found is comparable to that of European populations and the known population is almost certainly the result of natural colonisation of suitable habitat. Suitable habitat may be hard to come by in this country and it is the opinion of the global expert that this species has not been introduced.</p>	NR	E	0	2	0	2
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<i>Sitticus floricola</i>	NT	B2a	Decline uncertain, but this species' peatland habitat is vulnerable to changes in water table resulting from land-use and climate change.	NR	E	S	W	8	7	8	7	-13%
<i>Sitticus inexpectus</i>	LC			NS	E		W	20	25	20	24	
<i>Sitticus pubescens</i>	LC				E	S	W	116	132	113	127	
<i>Sitticus saltator</i>	LC		This species sandy heath and dune habitat is vulnerable to succession, especially at inland sites, and to public pressure on dune systems,	NS	E		W	30	20	29	20	-31%
<i>Steatoda albomaculata</i>	LC			NR	E		W	21	13	21	13	-38%
<i>Steatoda bipunctata</i>	LC				E	S	W	346	405	332	388	
<i>Steatoda grossa</i>	LC				E	S	W	26	132	26	126	

<i>Steatoda nobilis</i>	LC			E	W	3	127	3	121		
<i>Steatoda phalerata</i>	LC			E	S	W	106	131	102	125	
<i>Steatoda triangulosa</i>	NA		First recorded in 1996. Introduced and likely to remain synanthropic if it becomes established.	E		W	0	2	0	2	
<i>Stemonyphantes lineatus</i>	LC			E	S	W	501	362	483	345	-29%
<i>Stroemiellus stroemi</i>	NT	B2a	Specialised habitat, in deep fissures in tree bark, may mean it has been under-recorded, hence downgraded from VU.	NR	E	S	13	8	13	8	-38%
<i>Syedra gracilis</i>	LC			NS	E	S	20	20	19	20	
<i>Synageles venator</i>	LC			NS	E	W	16	14	15	13	-13%

<i>Synema globosum</i>	NA		Not clear if the four specimens recorded in Britain since 2003 represent casual introductions or whether the species is, or will become, established in this country.	E			0	3	0	3	
<i>Talavera aequipes</i>	LC			E	S	W	108	102	107	98	-8%
<i>Talavera petrensis</i>	NT	B2b(ii,iv)	The recent under-recording of southern heathlands suggests this species is probably still present at more than 10 locations, and does not yet justify VU status. Known from only three locations. A single female was taken at Castle Hill, Folkestone, in 1989 and another adult male and female in 1991. Has also been found more recently in Sussex and Surrey, though details are not available. Potential threats include destruction of its grassland habitat or changes in management.	NR	E	S	28	10 (11-15)	28	10	-64%
<i>Talavera thorelli</i>	VU	D2		NR	E		1	0	1	0	

<i>Tallusia experta</i>	LC			E	S	W	321	243	300	220	-27%	
<i>Tapinocyba insecta</i>	LC		A woodland species that still occurs widely across its range and may be under-recorded.	NS	E	S	W	66	30	64	29	-55%
<i>Tapinocyba mitis</i>	EN	B2ab(ii,iv)	This species appears to have declined massively and has been recorded from only one hectad since 1993. However, at least part of this decline may be because of fewer heathland surveys, and the spider may still occur in some of its former sites, so CR is not thought justified. Recent and ongoing surveys of some of these sites have only found it at one, so some decline appears genuine, and EN is proposed. Like other heathland species, it remains vulnerable to destruction of heathland and to lack of, or inappropriate, habitat management.	NR	E			17	1 (2-5)	17	1	-94%

<i>Tapinocyba pallens</i>	LC		E	S	W	208	130	187	111	-41%	
<i>Tapinocyba praecox</i>	LC		E	S	W	193	93	184	92	-50%	
<i>Tapinocyboides pygmaeus</i>	DD	This inconspicuous species, found in soil crevices and tunnels, has been recorded at only two locations since 1993. Its apparently substantial decline is likely to result from difficulty of detection. It appears to have been regularly found at a few sites so collection method is probably important. The loss of grassland to scrub or agricultural improvement may be a threat to this species.	NR	E	S	6	2	5	2	-60%	
<i>Tapinopa longidens</i>	LC		E	S	W	344	193	324	179	-45%	
<i>Taranucnus setosus</i>	LC	There is evidence that this lowland wetland species may have undergone long-term decline.	NS	E	S	W	117	61	114	58	-49%

<i>Tegenaria agrestis</i>	LC			E	S	W	104	133	104	132	
<i>Tegenaria atrica</i>	LC		A synanthropic species.	E	S	W	41	5	40	5	-88%
<i>Tegenaria domestica</i>	LC			E	S	W	275	198	260	194	-25%
<i>Tegenaria ferruginea</i>	NA		An assumed introduction.	E			0	1	0	1	
<i>Tegenaria gigantea</i>	LC			E	S	W	258	460	252	433	
<i>Tegenaria parietina</i>	LC		A synanthropic species.	E			36	19	36	19	-47%
<i>Tegenaria picta</i>	VU	D2	No decline, but this species' association with chalk rubble, including in a former quarry, makes it vulnerable to habitat loss though site re-development.	NR	E		2	2	2	2	

<i>Tegenaria ramblae</i>	NA	A single male was found on a brownfield site in London in 2008. A southern European species.				0	1	0	0	
<i>Tegenaria saeva</i>	LC	E	S	W	124	248	121	232		
<i>Tegenaria silvestris</i>	LC	E	S	W	186	230	182	220		
<i>Tenuiphantes alacris</i>	LC	E	S	W	512	372	475	318	-33%	
<i>Tenuiphantes cristatus</i>	LC	E	S	W	414	296	384	258	-33%	
<i>Tenuiphantes flavipes</i>	LC	E	S	W	455	536	438	504		
<i>Tenuiphantes mengei</i>	LC	E	S	W	773	588	698	514	-26%	

<i>Tenuiphantes tenebricola</i>	LC	E	S	W	325	240	304	211	-31%
<i>Tenuiphantes tenuis</i>	LC	E	S	W	1187	1312	1090	1173	
<i>Tenuiphantes zimmermanni</i>	LC	E	S	W	1111	1085	1015	954	-6%
<i>Tetragnatha extensa</i>	LC	E	S	W	772	981	710	887	
<i>Tetragnatha montana</i>	LC	E	S	W	645	816	612	747	
<i>Tetragnatha nigrita</i>	LC	E		W	56	133	54	129	
<i>Tetragnatha obtusa</i>	LC	E	S	W	169	209	167	199	

<i>Tetragnatha pinicola</i>	LC			E	S	W	96	121	95	116	
<i>Tetragnatha striata</i>	LC			E	S	W	24	111	24	106	
<i>Textrix denticulata</i>	LC			E	S	W	294	311	267	280	
<i>Thanatus formicinus</i>	CR(PE)	B2ab(iv)	Last recorded 1969 despite targeted searches in recent years.	NR	E		3	0	3	0	-100%
<i>Thanatus striatus</i>	LC			NS	E	W	97	80	96	77	-20%
<i>Thanatus vulgaris</i>	NA		Imported with commercial crickets used for feeding reptiles.	E	S		1	1	1	1	
<i>Theonoe minutissima</i>	LC			E	S	W	133	109	124	96	-23%

<i>Theridion blackwalli</i>	LC		NS	E	W	35	83	35	80	
<i>Theridion familiare</i>	LC		NS	E	S	18	23	17	21	
<i>Theridion hannoniae</i>	NA	The status of the only British population, discovered in south Wales in 2007, is uncertain.			W	0	1	0	0	
<i>Theridion hemerobium</i>	NA		NS	E	W	0	74	0	74	
<i>Theridion melanurum</i>	LC			E	S	W	164	186	158	178
<i>Theridion mystaceum</i>	LC			E	S	W	290	412	277	385
<i>Theridion pictum</i>	LC			E	S	W	107	118	104	115

<i>Theridion pinastri</i>	LC	NS	E		6	14	6	14		
<i>Theridion varians</i>	LC		E	S	W	415	528	399	494	
<i>Theridiosoma gemmosum</i>	LC	NS	E		W	45	82	43	78	
<i>Thomisus onustus</i>	LC	NS	E			17	16	17	16	-6%
<i>Thyreosthenius biovatus</i>	LC	NS	E	S	W	21	32	20	32	
<i>Thyreosthenius parasiticus</i>	LC		E	S	W	137	87	131	83	-37%
<i>Tibellus maritimus</i>	LC		E	S	W	158	107	144	94	-35%

<i>Tibellus oblongus</i>	LC		E	S	W	417	478	405	452		
<i>Tiso aestivus</i>	LC		NS	E	S	W	22	33	22	28	
<i>Tiso vagans</i>	LC			E	S	W	491	391	442	360	-19%
<i>Tmeticus affinis</i>	LC		NS	E	S	W	71	70	70	67	-4%
<i>Trachyzelotes fuscipes</i>	DD	Only recorded in Britain as a single female taken from under stones and debris at Kimmeridge Cliffs, Dorset, in 2003. Until further specimens are found its exact status in this country remains unclear.		E			0	1	0	1	
<i>Trachyzelotes pedestris</i>	LC			E		W	60	102	60	94	
<i>Trematocephalus cristatus</i>	LC		NS	E			11	33	11	31	

<i>Trichoncus affinis</i>	LC			NR	E		5	14	5	13	
<i>Trichoncus hackmani</i>	VU	D2	This species of strand lines and sparse, shingle vegetation is known from only three locations. It has been abundant wherever found, which suggests that under-recording is an unlikely explanation for its apparent decline.	NR	E		5	4	5	4	-20%
<i>Trichoncus saxicola</i>	VU	B2ab(ii,iv)	The most recent record for this species is from Kent in 2009. Since 1993 has been found at only seven locations and has shown a very substantial decline in AOO. However, a few of the historic sites have yet to be resurveyed and so it may be more widespread than indicated by the records. Therefore VU is proposed rather than EN.	NR	E	S	33	7 (8-9)	32	7	-78%

<i>Trichopterna cito</i>	EN	B2ab(ii,iv)	Recorded from only three locations since 1993, but appears to be well-established at these sites. This species' AOO appears to have halved, from six hectads before 1993 to just three since, but it may still persist at Sandwich, Kent, where it was last found in 1992. Although apparently formerly numerous at all three sites, at Colne Point, Essex, extensive fieldwork in the early 1990s and in 2004 located only males, in very small numbers, despite the use of pitfall trapping.	NR	E		6	3 (4)	6	3	-50%	
<i>Trichopternoides thorelli</i>	LC				E	S	W	164	86	152	75	-51%
<i>Trochosa robusta</i>	VU	B2ab(ii)	All recent verified records (some older records are doubtful, because of confusion with <i>T. ruricola</i>) are from calcareous grassland, landslips or coastal cliffs. The species has apparently undergone substantial decline.	NR	E		13	8	13	8	-38%	

<i>Trochosa ruricola</i>	LC			E	S	W	431	419	419	391	-7%	
<i>Trochosa spinipalpis</i>	LC		There may have been a long-term decline in this species, but it is subject to misidentification and hence the rate of decline may be over-estimated.	NS	E	S	W	95	36	86	33	-62%
<i>Trochosa terricola</i>	LC				E	S	W	840	757	777	696	-10%
<i>Troxochrus scabriculus</i>	LC				E	S	W	136	152	130	146	
<i>Tuberta maerens</i>	EN	B2ab(ii,iv)	Known from eight locations prior to 1993 but from only one since that date. Though rare and local, and having apparently undergone a major decline, recent work suggests a degree of under-recording, hence CR is not thought justified.	NR	E			9	1 (3-5)	9	1	-89%
<i>Typhochrestus digitatus</i>	LC		A winter-active species of open grassland and heathland that may be under-recorded. It is still widespread and not thought to be threatened at present.	NS	E	S	W	120	50	107	48	-55%

<i>Typhochrestus simoni</i>	CR	B2ab(ii,iv)	The spider was once numerous in one area of Porton Down, Wiltshire, but there has been only one record in Britain for at least 30 years, at Portland, Dorset, in 2003.	NR	E	W	3	1	3	1	-67%
<i>Uloborus plumipes</i>	NA				E	S	W	1	203	1	196
<i>Uloborus walckenaerius</i>	NT	B2a	The species is no longer present, or is severely reduced in numbers, at some of its former strongholds. While it qualifies for EN, it is not considered significantly threatened at its remaining, protected, sites.	NR	E		11	5	11	5	-55%
<i>Urozelotes rusticus</i>	NA		Appears to be associated with humans and is possibly an erratic visitor that does not seem to have become established.		E	W	8	1	8	1	-88%

<i>Wabasso replicatus</i>	VU	D2	D2 is justified because the species is known only from the Insh Marshes (Cairngorms) where any changes in habitat conditions could pose a threat. Although it may have been overlooked in the past, it is likely to be rare. Only known from a single site, any changes in management of Insh Marshes could pose a threat to this species.	NR	S	0	1	0	1	
<i>Walckenaeria acuminata</i>	LC				E S W	795	553	732	496	-32%
<i>Walckenaeria alticeps</i>	LC		This species is usually found in moist leaf litter and shaded <i>Sphagnum</i> . Its apparent substantial decline is likely, at least in part, to be attributable to lack of recent surveys of Welsh peatland sites.	NS	E S W	37	21	36	19	-47%
<i>Walckenaeria antica</i>	LC				E S W	460	370	434	341	-21%
<i>Walckenaeria atrotibialis</i>	LC				E S W	223	162	214	154	-28%

<i>Walckenaeria capito</i>	LC		NS	E	S	W	41	36	40	35	-13%
<i>Walckenaeria clavicornis</i>	LC		NS	E	S	W	57	33	52	22	-58%
<i>Walckenaeria corniculans</i>	CR	B2ab(ii,iv)	NR	E			12	1	12	1	-92%
<i>Walckenaeria cucullata</i>	LC			E	S	W	166	93	160	87	-46%
<i>Walckenaeria cuspidata</i>	LC			E	S	W	415	243	389	211	-46%
<i>Walckenaeria dysderoides</i>	LC		NS	E	S	W	127	56	124	55	-56%
<i>Walckenaeria furcillata</i>	LC		NS	E	S	W	57	40	55	38	-31%

An arctic-alpine species for which an apparent substantial decline may partly be a result of under-recording.

Since 1993, this species has been recorded from just one location in Surrey and has undergone a major decrease in AOO.

Part of the apparently substantial decline in this species may be a result of under-recording of southern heathland in recent years; it is not currently thought to be threatened.

<i>Walckenaeria incisa</i>	LC		Part of the apparent decline in this species may be a result of under-recording of southern heathlands in recent years, and so it is not currently thought to be threatened. It occurs in a wide variety of habitats and the reasons for its overall decline are unclear.	NS	E	S	W	41	19	39	18	-54%
<i>Walckenaeria kochi</i>	LC			NS	E	S	W	102	55	90	44	-51%
<i>Walckenaeria mitrata</i>	VU	D2	Fewer than 10 specimens have been recorded from two sites in Blean Woods NNR, Kent, its only British location. Three males and two females were taken from litter in an area of over-mature coppice chestnut in 1967, one female in 1971 and two males and a female from litter of a five-year-old chestnut coppice in 2004. Changes in woodland management at its known sites pose a threat.	NR	E			1	1	1	1	

<i>Walckenaeria monoceros</i>	LC	This species occurs infrequently throughout Britain, under stones and detritus in open, often sandy, inland habitats, including on burnt heathland. It has never been very numerous on heathland sites and has lost ground throughout its range. The loss and degradation through inappropriate management (including failure to maintain early successional stages) of its heathland subhabitat may have been one cause of decline.	NS	E	S	W	111	34	108	32	-70%
<i>Walckenaeria nodosa</i>	LC	Part of the apparent decline may be a result of under-recording of southern English heathlands and the Welsh peatlands in recent years. This species is not currently thought to be threatened.	NS	E	S	W	116	51	105	48	-54%
<i>Walckenaeria nudipalpis</i>	LC			E	S	W	539	342	497	314	-37%

<i>Walckenaeria obtusa</i>	LC		Too little is known of the ecology and micro-habitat requirements of this species to be sure what threats it faces and whether the size of the apparent decline is real.	NS	E	S	W	62	27	60	26	-57%
<i>Walckenaeria stylifrons</i>	VU	D2	This species is known from a single Breckland site where just six specimens were found between 1963 and 1994, when it was last recorded. Changes in habitat suitability owing to the the current decimation of the Breckland rabbit population by haemorrhagic disease pose a threat.	NR	E			1	1	1	1	
<i>Walckenaeria unicornis</i>	LC				E	S	W	469	340	448	314	-30%
<i>Walckenaeria vigilax</i>	LC				E	S	W	244	157	223	138	-38%

<i>Wiehlea calcarifera</i>	EN	B2ab(ii,iv)	This spider has never been found in abundance at any site. It has not been recorded at any location since 1993 - an apparent 100% decline. However, part of this decline may be a result of under-recording at certain locations, particularly southern heathland sites where new surveys are ongoing, so CR is not currently thought justified.	NR	E			12	0(4)	12	0	100%
<i>Xerolycosa miniata</i>	LC			NS	E	S	W	57	46	55	46	-16%
<i>Xerolycosa nemoralis</i>	LC			NS	E			45	68	45	66	
<i>Xysticus acerbus</i>	LC		Significance of the decline in this rare species of southern, dry grassland habitats is uncertain; further targeted survey is needed.	NR	E		W	14	11	14	11	-21%
<i>Xysticus audax</i>	LC				E	S	W	93	98	91	92	

<i>Xysticus bifasciatus</i>	LC			NS	E	S	W	43	28	41	27	-34%
<i>Xysticus cristatus</i>	LC				E	S	W	1046	1075	964	975	
<i>Xysticus erraticus</i>	LC				E	S	W	218	178	209	166	-21%
<i>Xysticus kochi</i>	LC				E	S	W	132	149	127	142	
<i>Xysticus lanio</i>	LC				E	S	W	88	98	87	95	
<i>Xysticus luctator</i>	EN	B2ab(ii,iv)	Recorded from three locations before 1993, but from just two since that then. Appears to be very rare and declining.	NR	E			3	2	3	2	-33%

<i>Xysticus luctuosus</i>	EN	B2ab(ii,iv)	Although recorded from 16 counties, there are few recent records for this species. Some of the old records from southern counties may refer to <i>X. acerbus</i> Thorell, females of which are very similar to <i>X. luctuosus</i> . B2ab(ii,iv) is justified because the spider has apparently declined precipitously in the past 20 years.	NR	E	S	W	18	4	17	4	-76%
<i>Xysticus robustus</i>	EN	B2ab(ii,iv)	This large, southern species has apparently suffered a very major decline in AOO the past 20 years. Despite recent fieldwork in Dorset it is now known from just one location. However, the spider is considered to be EN rather than CR because it may be under-recorded in the New Forest area, where not all of the past locations have been adequately re-surveyed.	NR	E			10	1 (4)	10	1	-90%
<i>Xysticus sabulosus</i>	LC		A species of heathland sands and gravels for which a significant decline is accepted. However, it remains widespread and is not considered to be at risk of extinction in the near future.	NS	E	S	W	56	21	53	19	-64%

<i>Xysticus ulmi</i>	LC			E	S	W	184	196	181	185	
<i>Zelotes apricorum</i>	LC			E	S	W	131	129	123	125	
<i>Zelotes electus</i>	LC			NS	E	S	W	51	57	50	57
<i>Zelotes latreillei</i>	LC			E	S	W	255	294	251	284	
<i>Zelotes longipes</i>	VU	B2ab(ii)	A species of dry heathlands and coastal habitats. Although apparently substantial, the level of decline is uncertain because of the relative lack of recent surveys of southern heathlands. It may still persist in a few more locations than the recent records indicate, hence downgraded from EN to VU.	NR	E		17	4 (6)	17	4	-76%
<i>Zelotes petrensis</i>	LC		No decline.	NR	E		11	12	11	12	

<i>Zelotes subterraneus</i>	LC			NS	E	S	W	17	21	17	21
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<i>Zilla diodia</i>	LC				E		W	83	172	83	168
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<i>Zodarion fuscum</i>	VU	D2	This species is known from only three locations, one of which has been lost to development. These are believed to be wild populations within their natural range.	NR	E			0	3	0	2
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<i>Zodarion italicum</i>	LC			NS	E			10	28	10	28
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<i>Zodarion rubidum</i>	NA		Native status at its single, brownfield site is uncertain. It may now be extinct in Britain since the site and habitat have been destroyed by development.	NR	E			0	1	0	1
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<i>Zodarion vicinum</i>	VU	D2	This species has been found at only two, geographically linked, locations on coastal cliffs in Kent. The population would appear stable but remains vulnerable to disturbance.	NR	E			1	1	1	1
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<i>Zora armillata</i>	CR	B2ab(ii,iv)	CR B2ab(ii,iv) is justified because there are no records of this species since 1980. While there have been surveys CR(PE) is not considered justified, as the survey effort undertaken is insufficient to give confidence that the species has been lost. The spider is thought to have been fairly frequent in the past on wet areas of Hartland Moor and Morden Bog, Dorset. The catchment of Morden Bog was greatly modified by afforestation with conifers in the area last century. Historical records from the Cambridgeshire Fens are now in doubt. The lowering water tables, for example by drainage of adjacent land and/or water abstraction, would damage all the listed localities of this species.	NR	E		4	0(1)	4	0		
<i>Zora nemoralis</i>	VU	B2ab(ii,iv)	B2ab(ii,iv) is justified because this species has apparently declined by over 50% in the last 20 years and occurs in fewer than 10 post-1993 locations.	NR	E	S	W	17	7	15	7	-53%

<i>Zora silvestris</i>	CR	B2ab(ii,iv)	This spider has only been found in very small numbers. Several specimens were found at Hurt Wood, Surrey, and Sherwood Forest, Nottinghamshire, but it has been recorded from just one location since 1993. It shows a major decline in AOO and is currently known at only a single location.	NR	E		5	1	5	1	-80%	
<i>Zora spinimana</i>	LC				E	S	W	485	480	468	447	-4%
<i>Zoropsis spinimana</i>	NA		Recent colonist; synanthropic.		E			0	0	0	0	
<i>Zygiella atrica</i>	LC				E	S	W	424	414	408	385	-6%
<i>Zygiella x-notata</i>	LC				E	S	W	483	763	461	695	

11.2. Appendix 2. Summary of IUCN Criteria

Summary of the five criteria (A–E) used to evaluate if a taxon belongs in a threatened category (Critically Endangered, Endangered or Vulnerable)

Use any of the criteria A–E	Critically Endangered	Endangered	Vulnerable
A. Population reduction			
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3 & A4	≥ 80%	≥ 50%	≥ 30%
<p>A1. Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible AND understood AND have ceased, based on and specifying any of the following:</p> <ul style="list-style-type: none"> (a) direct observation (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality (d) actual or potential levels of exploitation (e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites. <p>A2. Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased OR may not be understood OR may not be reversible, based on (a) to (e) under A1.</p> <p>A3. Population reduction projected or suspected to be met in the future (up to a maximum of 100 years) based on (b) to (e) under A1.</p> <p>A4. An observed, estimated, inferred, projected or suspected population reduction (up to a maximum of 100 years) where the time period must include both the past and the future, and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible, based on (a) to (e) under A1.</p>			
B. Geographic range in the form of either B1 (extent of occurrence) AND/OR B2 (area of occupancy)			
B1. Extent of occurrence (EOO)	< 100 km ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy (AOO)	< 10 km ²	< 500 km ²	< 2,000 km ²
AND at least 2 of the following:			
(a) Severely fragmented, OR			
Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of			

locations or subpopulations; **(v)** number of mature individuals.

(c) Extreme fluctuations in any of: **(i)** extent of occurrence; **(ii)** area of occupancy; **(iii)** number of locations or subpopulations; **(iv)** number of mature individuals.

C. Small population size and decline

Number of mature individuals < 250 | < 2,500 | < 10,000

AND either C1 or C2:

C1. An estimated continuing decline of at least: (up to a max. of 100 years in future) 25% in 3 years or 1 generation | 20% in 5 years or 2 generations | 10% in 10 years or 3 generations

C2. A continuing decline **AND** (a) and/or (b):

(a i) Number of mature individuals in each subpopulation: < 50 | < 250 | < 1,000
or

(a ii) % individuals in one subpopulation = 90–100% | 95–100% | 100%

(b) Extreme fluctuations in the number of mature individuals.

D. Very small or restricted population

Either:

Number of mature individuals < 50 | < 250 | **D1.** < 1,000

AND/OR

VU D2. Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time. | **D2.** typically: AOO < 20 km² or number of locations ≤ 5

E. Quantitative Analysis

Indicating the probability of extinction in the wild to be: ≥ 50% in 10 years or 3 generations (100 years max.) | ≥ 20% in 20 years or 5 generations (100 years max.) | ≥ 10% in 100 years



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