ECOLOGY IN SOMERSET 2017

EDITORIAL

Each year passes seemingly faster than the one that went before, yet nothing much changes. Or does it? Well, this year it's *plastic* we've been worrying about: it lines our supermarket shelves, litters our streets, and clogs our oceans and waterways. David Attenborough's *Blue Planet II* turned out to be one of the year's most influential TV series. It stirred our collective conscience, such that 'doing something about plastic' has now become a *cause célèbre* for environmental campaigners (and many politicians) the world over. And about time, too.

Things *do* change, and so, every once in a while, it pays to look around and take stock. Naturalists are actually rather good at this: we tend to be quite obsessive about record-keeping, we make endless lists, and we love nothing better than to see something we hadn't noticed before and then share our discovery with the world at large. And all our recording activity feeds in directly, or indirectly, to this process of periodic stock-taking, whereby we find that species 'x' has gone missing from places where it used to be commonplace, or that species 'y' has turned up new to the county. Or what about event 'z', which used to happen in April, yet now seems to be have already done its worst by the middle of March?

Well, in the present issue of *Ecology in Somerset* you'll find not a single mention of plastic, but there is much 'taking stock' nonetheless. Our main paper, on the lichens of Somerset, is a real *tour de force*, and one that continues a long and proud tradition within SANHS of publishing major works on the more difficult (less popular and lesser-known) groups – of which the paper on intertidal invertebrates, by John Crothers, was a notable recent example. It is especially fitting that we should be publishing something on lichens, not only because the senior author (Pat Wolseley) happens to be our outgoing President, but also because it was SANHS that published the original checklist of the county's lichens, by Walter Watson, back in 1930. The present paper is an ample and worthy successor to Watson's pioneering efforts, and will doubtless be an important work of reference for many decades to come. Some, particularly those not of a lichenological bent, may find its length a little off-putting, but we hope that all SANHS members will be pleased that the Society's journal continues to be a place where such work is placed on permanent record. In an age where so much of what we write is designed to appeal to readers 'in a hurry', it is refreshing to find a journal still prepared to publish something that even those with time on their hands might find challenging!

There is much, too, within our natural history reports to excite the stock-taker's eye. Certain themes surface again and again, the effects of climate (and/or weather) being the most insistent; climate change is clearly implicated in a wide array of species declines/losses and (more encouragingly) species increases/gains. As in account-keeping, it's all about debits and credits; but it pays to bear in mind that, certainly from a conservation standpoint, not all species are of 'equal worth'. Otherwise, the demise of species 'x' (an ancient woodland specialist) would be of little or no concern as long as species 'y' (a colonist of urban waste ground) had arrived in the county to take its place on the balance sheet. As our maths teachers were always at pains to point out, 'x' very rarely equals 'y'.

Sadly, for the second year running we have no report on hoverflies, and no report this year on moths. On the other hand, we are pleased to be able to include the first report for many years on bryophytes (mosses and liverworts), as well as an article on spiders – another 'first' for *Ecology in Somerset*. There are several reports already in the pipeline for next year, including something from the recently re-established Somerset Geology Group, and an update on beetles; regarding the latter, we hear there have been several new county records since the last report four years ago.

Our thanks, as always, to authors for their contributions. Thanks also to those who supplied photographs – often at short notice – to illustrate key species, and to the small band of volunteers who read through drafts, offered editorial advice and helped with proof-reading. We hope you enjoy the fruits of their labours.

The Natural History Committee
May 2018

SOMERSET LICHENS AND LICHENICOLOUS FUNGI: AN OVERVIEW AND ANNOTATED CHECKLIST

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Dedicated to the late Dr Francis Rose, MBE

INTRODUCTION TO LICHENS IN SOMERSET

In 1930 the Somerset Archaeological and Natural History Society (SANHS) published Walter Watson's checklist, *The Lichens of Somerset*, as a separate publication from the Society's *Proceedings*. A Yorkshireman by birth, Watson (1872–1960) had been collecting lichens in Somerset since becoming a biology master, first at a school in Bruton, then later in Taunton. He was Botanical recorder for SANHS (1933–1952) and was active long after he retired from Taunton School in 1939.

Although taxonomic concepts have changed considerably since 1930 it is estimated that Watson's checklist comprised roughly 517 species, including 14 lichenicolous fungi but excluding many varieties and forms that have little relevance today. Many of these records are supported by specimens, which are today found at the Natural History Museum (BM) and also in the SANHS collections held at the Somerset Heritage Centre (TTN). Watson included records from 19th century recorders such as Harvey B. Holl (1820–1886), William Joshua (1828–1898) and Henry F. Parsons (1846–1913), as well as those collecting early in the 20th century like Henry H. Knight (1862–1944) and Daniel A. Jones (1861–1936).

In 1958 the British Lichen Society was formed and since that date many people have contributed records of lichens from Somerset. Between 1969 and 1999 Francis Rose (1921–2006) visited Somerset many times and collected data on the lichen flora of the county's woodlands and parklands (Rose 1986; Rose and Wolseley 1984) and, in later years, churchyards. He was often accompanied by other Somerset lichenologists such as Jeff Carrington (1917–1993), Rob Jarman, Sandy O'Dare (now Coppins) and Pat Wolseley, and in 1985 he organised a summer meeting of the British Lichen Society based at Dulverton, which had about 30 attendees from various parts of the UK and from overseas. The data gathered from these activities were to form the basis of a 'New Lichen Flora of Somerset', suggested by Rose in 1987. Further work on Exmoor was initiated by Rob Jarman and funded by the Somerset Trust for Nature Conservation (now Somerset Wildlife Trust). This three year study highlighted the importance of the area for epiphytic lichens, an assessment confirmed by later surveys (Wolseley and O'Dare 1989; Coppins and Coppins 1998; Sanderson 2013, 2016). In the northern parts of Somerset lichen work has concentrated on the Mendips (Coppins and Coppins 2001, 2002b, 2009a, 2009b), although much recording has been done in other areas by David Hill with the Somerset Lichen group and the Bristol Lichen group.

The present checklist includes 984 species, of which 101 are lichenicolous fungi and 20 are non-lichenised fungi. These figures are likely to increase further as more under-recorded habitats are investigated.

Lichens in the Somerset landscape

The combined area of the vice-counties of North and South Somerset (VC6 and 5 respectively) is large, measuring *c*. 112 km from west to east and *c*. 80 km from north to south with the northern border along the Bristol channel and inland borders with West Gloucestershire (VC34), North and South Wiltshire (VC7 and 8), Dorset (VC9) and North and South Devon (VC 4 and 3).

Lichens have been recorded in almost every 5-km square across Somerset, the distribution of species – and species richness – being influenced by geology, climate and habitat, and by past and present management in a county where there are no areas untouched by man. The richest areas for lichens are on Exmoor in the west and in the Mendip hills in the north, in contrast to the relatively species-poor low-lying areas around Taunton and Bridgwater (Fig. 1). While the Exmoor plateau is formed of ancient acid

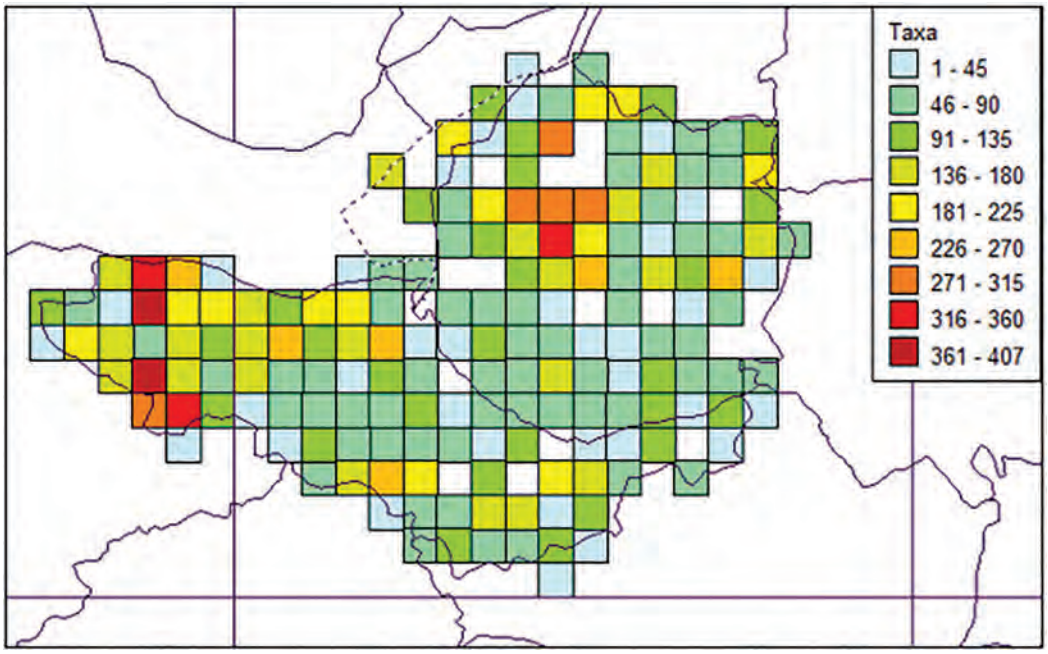

Fig. 1 Distribution of lichen species across Somerset by total number in 5-km squares. This picks out the hotspots, such as Exmoor woodlands in the west of the county, and the Mendip Hills in the north

rocks laid down in Devonian seas, the Mendip hills comprise chiefly younger Carboniferous limestone providing a very different range of (mainly calcareous) lichen habitats. Climatic conditions are also different: annual rainfall is up to 2000mm on Exmoor, compared with <1400mm on the Mendips, and much less than that in the Taunton vale and towards the coast.

South Somerset, and particularly Exmoor, supports lichen communities that are characteristic of the uplands of western Britain. North Somerset typically has a more 'lowland' lichen flora, while south-facing slopes in the Mendip hills support many Mediterranean species. On Exmoor the human population has decreased in the last fifty years whereas in the central part of Somerset there have been huge increases which, combined with changes in agriculture and forestry, have contributed to changes in the lichen communities. Increased road transport and intensification of land management have affected atmospheric conditions across the county. Lichens have responded to increases in atmospheric nitrogen (ammonia and nitrogen oxides) with an increase in the nitrogen-tolerant community *Xanthorion parietinae*. This community, dominated by the golden-yellow foliose lichen *Xanthoria parietina*, is now found in every hectad (10-km square) in Somerset, on roofs and trees and shrubs in our countryside, on roadsides, and in urban parks and gardens. It includes diverse species and some that are more frequent in a Mediterranean environment, so its habitats are areas to watch out for change, as exemplified by the discovery of *Teloschistes chrysophthalmus* in 2017 (see p. 304).

Lichen communities

Lichens grow in distinctive communities on a great range of substrata including rocks (saxicolous), soil (terricolous) and trees (epiphytic) as well as on many man-made structures. Between 1918 and 1935 Watson described the lichen communities he found in Somerset, including sand-dunes (1918a), calcareous soil (1918b), moorland (1932) and woodland (1936a, 1936b). Following extensive collection of data across Britain, James *et al.* (1977) provided a synopsis of lichen communities of the British Isles following the continental phytosociological classification such as used by Barkman (1958). Although some terricolous lichens were incorporated into descriptions of

plant communities in the National Vegetation Classification (Rodwell 1991–2000), their inclusion depended on individual authors and was far from consistent. In the account below, we refer to some of the communities described in James *et al.* (1977) that are of relevance to Somerset. For each community, a coincidence map showing distribution is followed by a brief description and relevent illustrations.

WOODLAND LICHEN COMMUNITIES

The woodlands of Somerset are home to many of the epiphytic communities described by James *et al.* (1977), but the following five include the majority of epiphytic species that are indicative of ecological continuity and of greatest conservation concern.

Base-rich bark woodland lichen community – the *Lobarion pulmonariae*

This community of lichens and bryophytes is associated with mature deciduous woodland and parkland trees that have a bark pH of 5–6, and is regarded as a relict of ancient woodland and wood pasture that formerly would have occurred more widely in Somerset. It is characterised by macrolichen species of *Lobaria* together with cyanobacterial lichens of the genera *Nephroma, Pannaria, Parmeliella* and *Sticta*, and *Pseudocyphellaria crocata*. Many cyanobacterial lichens in this community require sites with high humidity and *Sticta* spp. such as *S. fuliginoides* (Fig. 3) are now frequent only on suitable trees in valley bottoms, as at Horner and the Barle. However, *Lobaria pulmonaria* still remains on open-grown ancient parkland trees, as at Mells, Nettlecombe, and on the Blackdowns, where the community has few other macrolichen indicators (Fig. 2).

Oceanic acid bark community - the *Parmelion laevigatae*

On Exmoor, where high rainfall contributes to leached bark, macrolichen species associated with acid upland regions of Wales and Scotland (Coppins and Coppins 2002a) can be found. Typical are *Hypotrachyna laevigata* and *H. taylorensis*

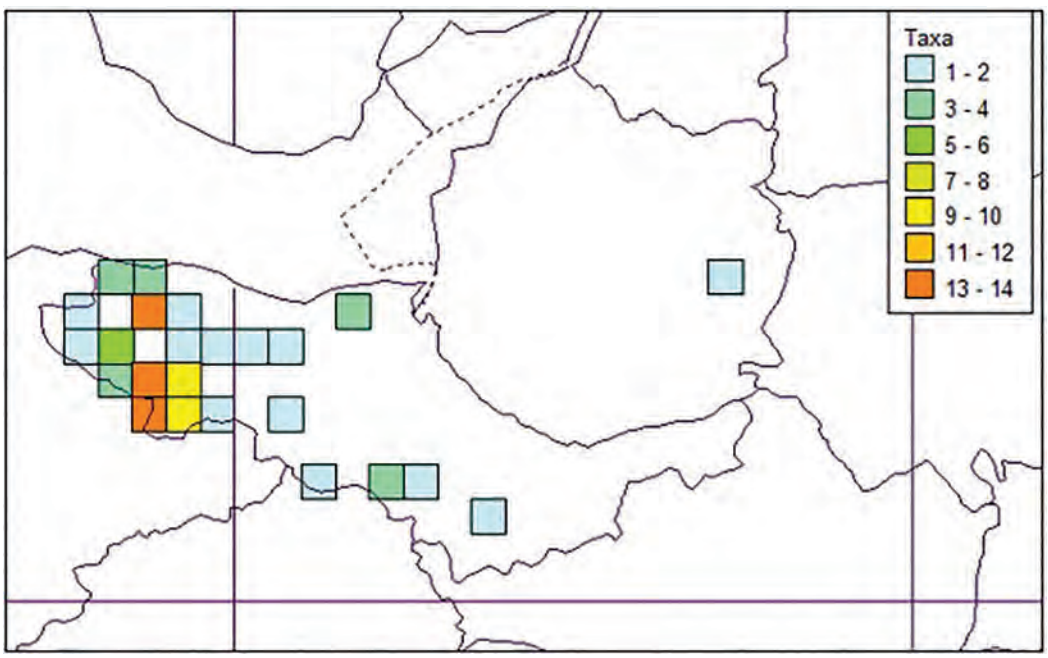

Fig. 2 Coincidence map of macrolichen species in the Lobarion pulmonariae. *Species included:* Lobaria amplissima, L. pulmonaria, L. scrobiculata, L. virens, Nephroma laevigatum, N. parile, Pannaria conoplea, Parmeliella parvula, P. triptophylla, Peltigera collina, Sticta fuliginosa *sens lat.* (*incl.* S. ciliata *and* S. fuliginoides), S. limbata, S. sylvatica

Fig. 3 Sticta fuliginoides *(formerly in* S. fuliginosa*) on Hazel in Horner (Photo: Neil Sanderson)*

together with the rarer *Menegazzia terebrata* (Fig. 5), and also crustose lichens such as *Ochrolechia androgyna*. This community can be found in the valley woodlands of Exmoor, with a few outlying occurrences in the Quantocks and Blackdowns (Fig. 4), where it occurs mainly on Alder (*Alnus glutinosa*), Birch (*Betula*), Oak (*Quercus*) and Willow (*Salix*) with a bark pH of <4.6. At Hurlstone Point it continues to the coast where *Hypotrachyna taylorensis* is also found in maritime heath together with two other rarities, *Heterodermia obscurata* and *Hypotrachyna endochlora*.

Fig. 5 Menegazzia terebrata, *showing swollen lobes with perforations and globose soralia (Photo: AC)*

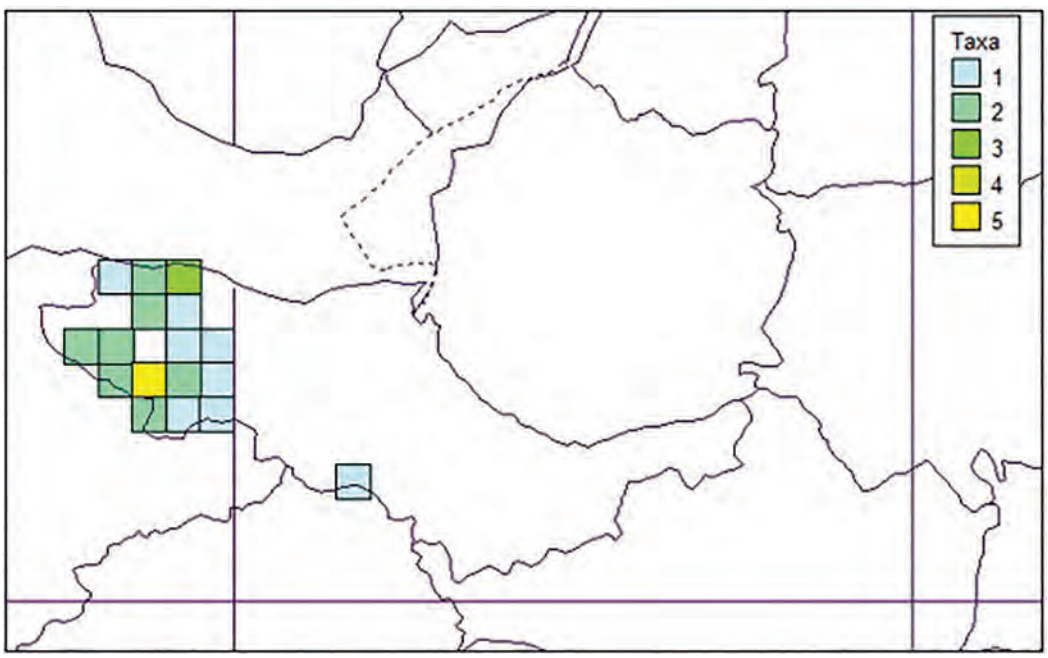

Fig. 4 Coincidence map of oceanic macrolichens. Species included: Cetrelia olivetorum, Hypotrachyna endochlora, H. laevigata, H. sinuosa, H. taylorensis, Menegazzia terebrata

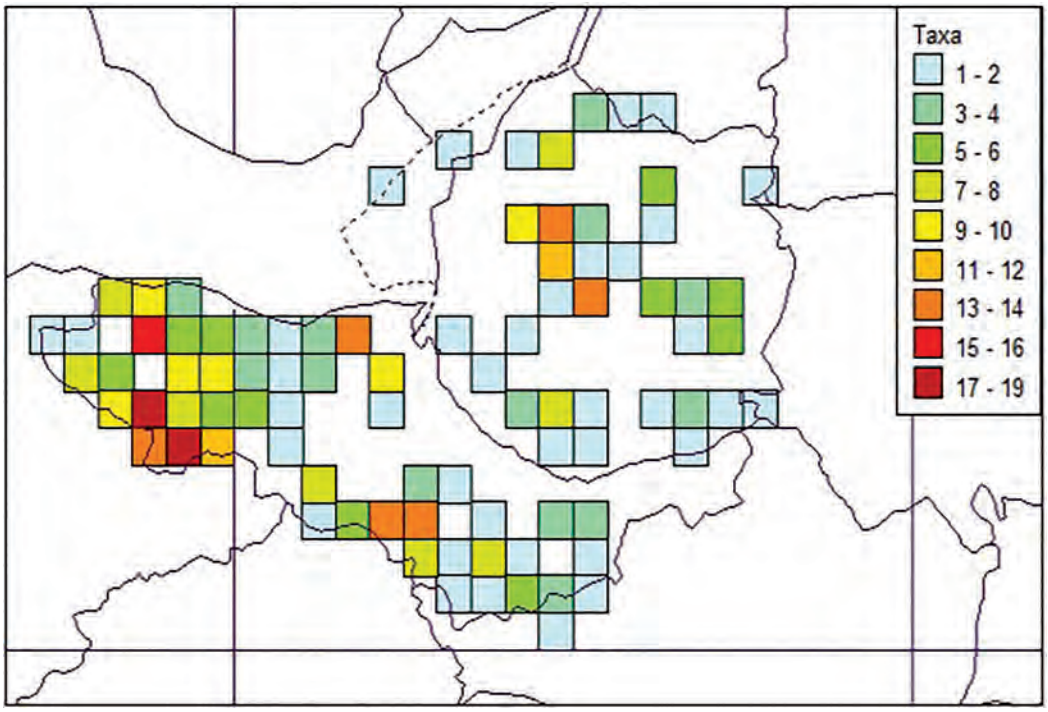

Fig. 6 Coincidence map of script lichens of smooth bark in the Graphidion scriptae. *Species included:* Anisomeridium viridescens, Arthonia astroidestera, Arthonia cinnabarina, A. elegans, A. didyma, A. stellaris, Arthopyrenia cerasi, A. cinereopruinosa, A. fraxini, A. salicis, Arthothelium ruanum, Celothelium ischnobelum, Eopyrenula avellanae, E. grandicula, Graphis elegans, G. scripta, G. inustuloides (Graphina anguina), Mycoporum antecellens, M. lacteum, Phaeographis dendritica, P. smithii, Pyrenula chlorospila, P. coryli, P. macrospora, Tomasellia gelatinosa

Smooth bark community – the *Graphidion scriptae*

A species-rich community of smooth bark, which includes the 'script' lichens (e.g. *Graphis* and *Phaeographis* spp.), 'dot' lichens (e.g. most *Arthopyrenia* spp.) and 'dash' lichens (e.g. some *Arthonia* spp. (Fig. 7) and *Opegrapha* spp.), found on the trunks or branches of Hazel (*Corylus avellana*), Rowan (*Sorbus aucuparia*) and other broad-leaved trees. Particularly species-rich examples may be found in old woodlands, as in the Barle Valley and Horner woods, Neroche Forest and the Mendips, but it occurs widely in isolated pockets throughout Somerset (Fig. 6).

Fig. 7 Arthonia cinnabarina, *a crustose script lichen with red pruina on the margins of the lirellate apothecia (Photo: Neil Sanderson)*

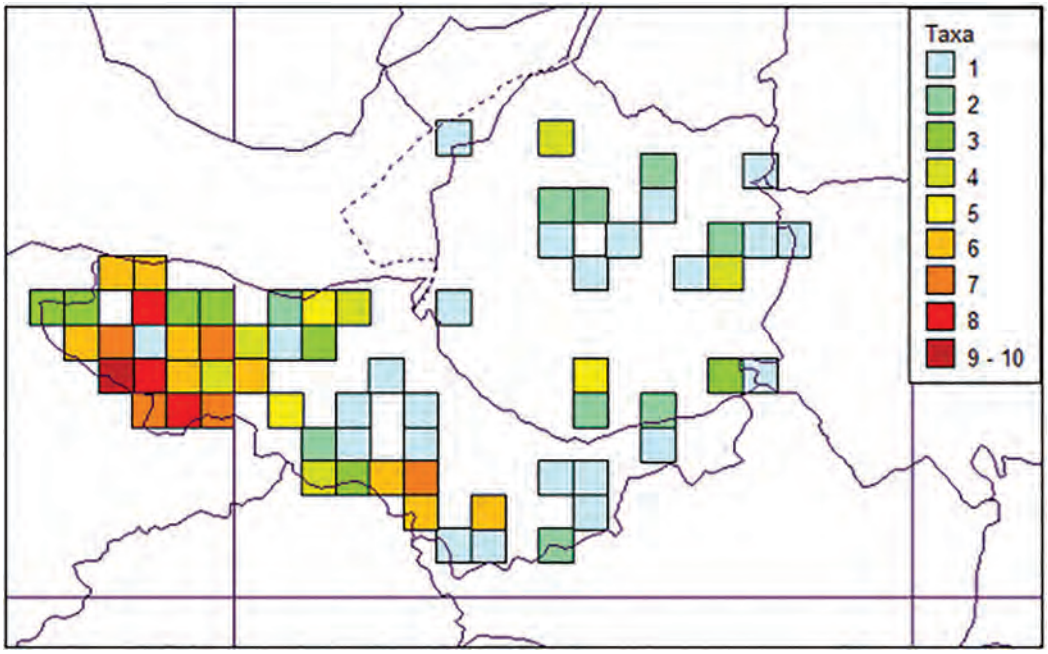

Fig. 8 Coincidence map of beard lichens in the Usneetum articulato-floridae *var.* ceratinae. *Species included:* Usnea articulata, U. ceratina, U. cornuta, U. dasopoga (U. filipendula), U. esperantiana, U. flammea, U. flavocardia, U. florida, U. fragilescens var. mollis *(& s.L.)*, U. rubicunda, U. subfloridana, U. wasmuthii

Tree Beard lichen community – the *Usneetum articulato-floridae* var. *ceratinae*

Beard lichens (*Usnea* spp.) may dominate the canopy of trees in sheltered combes where air humidity is high (Fig. 8). These species are sensitive to air pollution; some that were recorded as common by Watson in 1930 are now becoming rare, such as *Usnea florida* (Fig. 9).

Fig. 9 Usnea florida, showing bushy habit with rayed apothecia (Photo: Simon Leach)

Dry bark community – the *Lecanactidetum premneae*

A community of crustose species found on the dry aspect of veteran trees, especially Oak (*Quercus* spp.) and occasionally ancient churchyard Yews (*Taxus baccata*) (James *et al.* 1977). Although a characteristic component of Somerset woodlands and medieval parklands with long ecological continuity, it does not require a forest microclimate to survive, and species-poor communities dominated by *Cresponea premnea* (Fig. 11) occur as relicts on isolated trees. Others such as *Arthonia arthonioides, Syncesia myrticola* and *Lecanographa* spp. are rare and confined to trees in ancient wood-pasture environments as at Horner, Nettlecombe and in the Barle Valley (Fig. 10). Also present in this community, but occurring more widely, are *Dendrographa decolorans* and

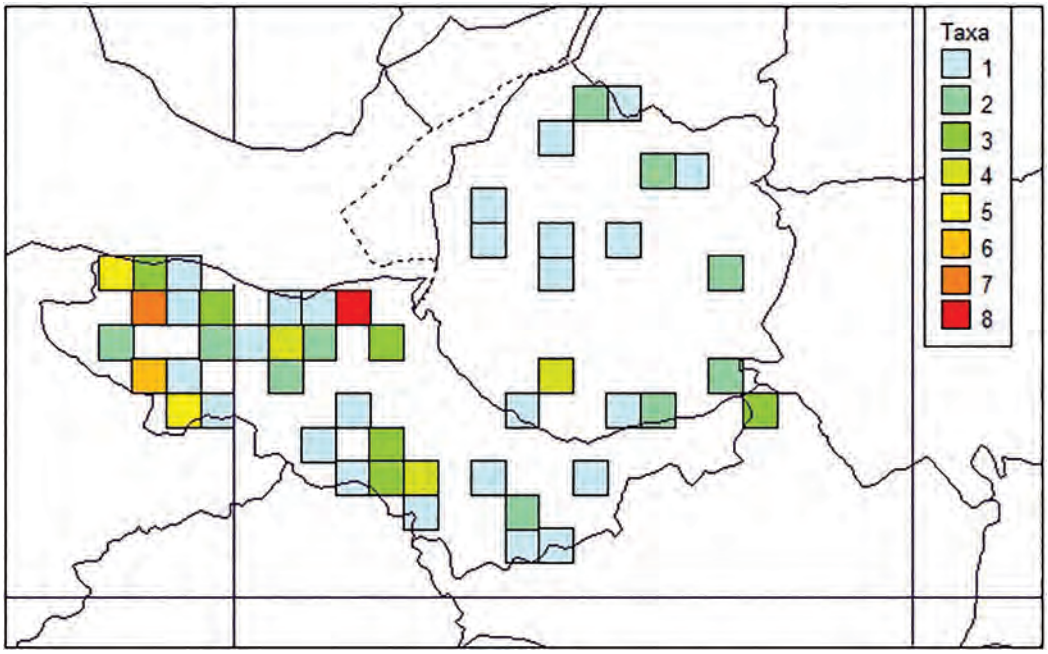

Fig. 10 Coincidence map of crustose species in the dry bark community Lecanactidetum premneae. *Species included:* Arthonia arthonioides, Bactrospora corticola, Cresponea premnea, Syncesia myrticola (Enterographa sorediata), Lecanographa spp, Opegrapha prosodea, O. xerica, Snippocia nivea (Schismatomma niveum), Sporodophoron cretaceum (Schismatomma cretaceum)

Pachnolepia pruinata, which can be found, for example, on old pollarded willows (*Salix* spp.) on the Somerset Levels, as well as on the north walls of old churches.

Fig. 11 Cresponea premnea, *showing dark brown to black apothecia with yellow pruina when young (Photo: Neil Sanderson)*

Dry bark and lignum community of pin head lichens – *Calicion hyperelli*

Pin head lichens, including *Calicium*, *Chaenotheca* and *Chaenothecopsis* spp., with stalked apothecia, are restricted to aged dry bark and lignum of dead and senescing deciduous trees in well-lit situations (James *et al*. 1977). This habitat is rather rare in Somerset (Fig. 12), where dead trees frequently decay rapidly in humid environments, and is restricted to veteran trees in ancient woodlands and parklands; Watson found and illustrated *Calicium viride* in just such a habitat, at Norton Fitzwarren (Fig. 13). On Exmoor it also occurs in bark crevices at the base of ancient trees, as well as on old exposed roots and soil. Many of these species are rare and are included as indicators of ecological continuity by Sanderson *et al*. (2018).

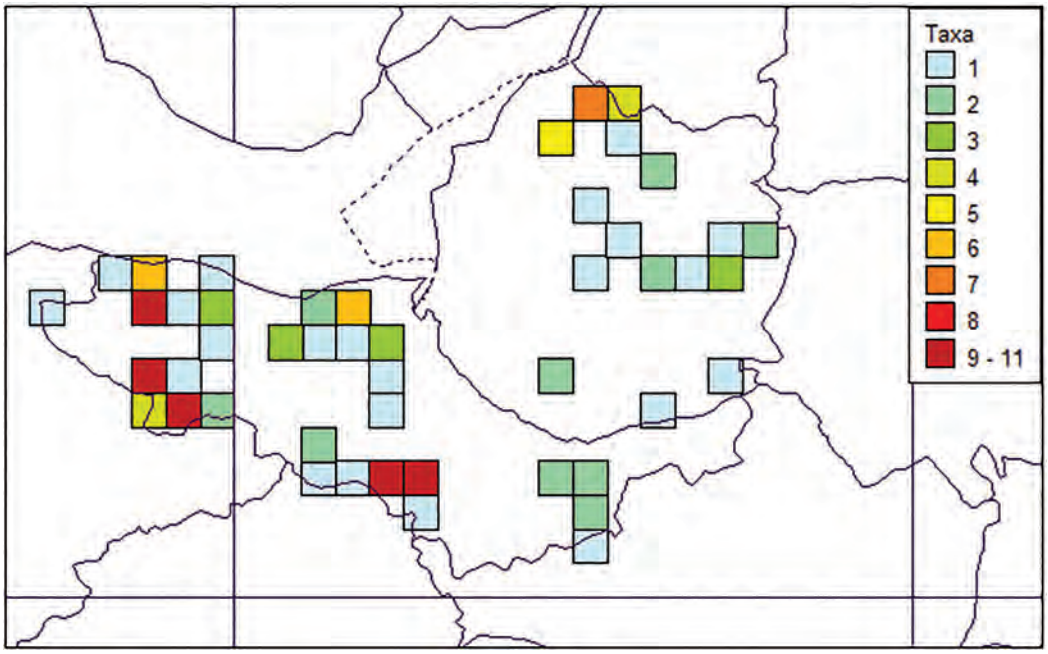

Fig. 12 Coincidence map of dry bark and lignum community of Pin-head lichens, the Calicion hyperelli. *Species included:* Calicium glaucellum, C. lenticulare, C. salicinum, C. viride, Chaenotheca brunneola, C. chrysocephala, C. ferruginea, C. hispidula, C. stemonea, C. trichialis, Chaenothecopsis nigra, C. pusilla, C. savonica, Sclerophora peronella

Fig. 13 Painting of Calicium viride *on veteran oak bark by Walter Watson, showing stalked apothecia on bright green granular thallus (from notebook in SANHS collections held at the Somerset Heritage Centre)*

Woodland lichens as indicators of ecological continuity

Many lichens are highly sensitive to changes in their environment and this, together with the slow growth rate of many crustose species and low population turnover rate in ecologically stable conditions, has led to their being used to indicate woodlands having a long ecological continuity of conditions (Rose 1976). The use of indicator species of *Lobarion* communities highlighted the importance of old woodlands in Somerset, such as those of the Barle and Exe valleys and Horner, all

of which lie within the bounds of the ancient Royal Forest of Exmoor (Rose 1986, Wolseley and O'Dare 1989, Coppins and Coppins 1998, and see below).

The concept of indicators was extended to include species associated with different regions of the British Isles (Coppins and Coppins 2002a), and more recently to include species of dry bark and lignicolous communities of veteran trees characteristic of ancient woodland (Sanderson *et al*. 2018).

Ancient woodlands in Somerset

Somerset included extensive areas of Royal Forests in Saxon times, in the north-east at Mendip and Selwood, in the central area at Neroche and North Petherton, and in the west on Exmoor. These were areas used primarily for hunting by royalty and protected by forest laws but which may or may not have included woodland in their environs (MacDermot 1973). The central area of Exmoor Forest was open moorland and used as pasture for stock as well as hunting. However, woodlands were recorded along the Barle and at Horner in 1257, and in the north of the county, at Selwood and North Petherton, in 1289 (MacDermot 1973). At that time Selwood Forest extended to the boundaries with Dorset and Wiltshire but deforestation was already in progress and continued into the 17th century so that today few isolated veteran trees remain in fields and hedgerows, other than in areas of forest which were enclosed as parks within a landowner's demesne, as at Mells.

Deer parks

Somerset has a great many deer parks whose enclosure began with the Normans. Following disafforestation from the crown, landowners, with permission, could enclose woodland within the forest as well as make new parks. Trees in deer parks were often pollarded to protect trees from grazing

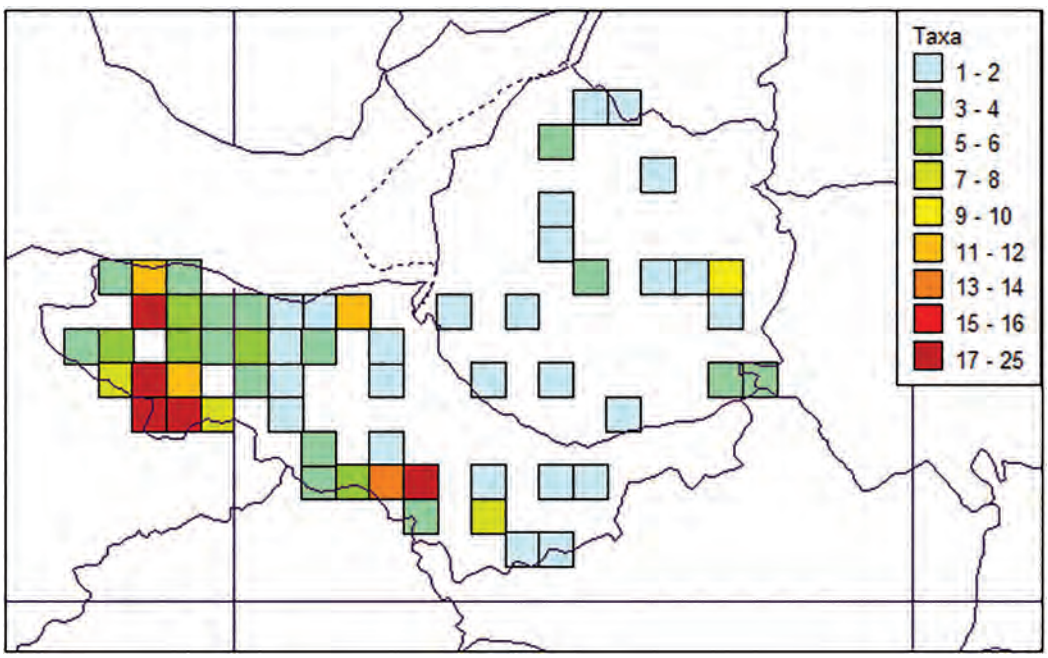

Fig. 14 Coincidence map of ancient woodland lichen species in Somerset. Species included: Agonimia allobata, Agonimia octospora, Arthonia vinosa, Arthopyrenia atractospora, Bacidia biatorina, B. circumspecta, Biatora britannica, Bryobilimbia sanguineoatra, Catinaria atropurpurea, Lecania chlorotiza, Mycobilimbia epixanthoides, M. pilularis, Opegrapha corticola, O. fumosa, O. trochodes, Pachyphiale carneola, Phyllopsora rosei, Piccolia ochrophora, Porina coralloidea, P. rosei, Rinodina griseosoralifera, R. isidioides, R. roboris, Schismatomma quercicola, Sphaerophorus globosus, Thelopsis rubella, Thelotrema lepadinum, Wadeana dendrographa, W. minuta

animals. Where long-term grazing of domestic stock has added nitrogen to the environment, a form of the *Xanthorion parietinae* community with more 'southern' species, such as the distinctive *Anaptychia ciliaris* and *Parmelina carporrhizans*, survives on ancient parkland trees at Nettlecombe and Montacute.

The use of lichen indicators in Somerset has permitted the identification of sites where macrolichen indicators of the *Lobarion* community are now rare due to changes in local climate following deforestation and/or management (Fig. 14). Although high lichen diversity in woodland is restricted to Exmoor (especially the Barle Valley and Horner) and Neroche, there are sites scattered widely across Somerset that coincide with the dry bark indicators of ecological continuity (Fig. 12). Where standard forest trees are maintained following enclosure, old forest species of the *Lobarion* can remain, as in the park at Nettlecombe that was formerly continuous with the woodland (Rose and Wolseley 1984). However, many of the species associated with ecological continuity (Rose 1976) are crusts with a trentepohlioid alga as photobiont such as *Thelotrema lepadinum* (Fig. 15).

Fig. 15 Detail of Thelotrema lepadinum*, showing pot-like apothecia with free papery exciple inside (Photo: Neil Sanderson)*

A changing landscape – tree species

The role of individual tree species in supporting indicators of ecological continuity in our woodlands depends on a number of factors including bark pH and roughness, tree age, and environmental conditions such as light levels and humidity (James *et al.* 1977). The dominant tree species on the more acid soils of Exmoor is Sessile Oak (*Quercus petraea*), while Ash (*Fraxinus excelsior*) becomes more prevalent on base-rich or moist soils. Both Ash and Pedunculate Oak (*Q. robur*) are widespread across Somerset, frequently occurring as veteran trees in woodlands, parklands and hedgerows. Although Ash and Oak have widely different bark structure and chemistry, both support species of high conservation interest including many of the indicators of ecological continuity, as well as rare and/or specialist species associated with particular conditions on a tree. While species on twigs represent contemporary conditions for colonising lichens, species on the trunks of ancient trees, such as *Wadeana* spp., may be a legacy from a time when environmental conditions were very different.

Many of these specialist species are poor colonisers, so that loss of veteran trees may lead directly to the decline or loss of lichen species, as happened in the case of English Elm (*Ulmus procera*) trees due to Dutch elm disease in the 1960s. The disappearance of Elms from the landscape caused the decline of an associated community of crustose lichens that occurs only rarely on trees of other species. Recent work on Elm beams preserved in medieval buildings on Exmoor demonstrated the presence of lichen species, such as *Bacidia friesiana, Collema fragrans, Gyalecta derivata, Strigula taylorii* and *Wadeana dendrographa* (Yahr *et al.* 2011, 2014). In the present checklist these species are recorded only on Maples (*Acer* spp.), Ash and Elder (*Sambucus*), all of which have a similar bark pH to Elm. *Collema fragrans* and *Wadeana dendrographa* are now rare and threatened in Somerset and throughout the British Isles.

The 'Orange-fruited elm lichen', *Caloplaca luteoalba*, was found on Elm by Watson at "Higher Thurlbear" (presumably near Thurlbear) in 1911, but has not been seen in the county since. Also from Elm, Watson collected *Bacidia auerswaldii* in the 1930s at Norton Fitzwarren; it has not been recorded in England since. Another of the 'Elm lichens', *Bacidia incompta*, was last seen on Elm in the county in 1990, but has been seen more recently on wounded trunks of Ash and Oak. The appearance of Ash dieback (caused by the Ascomycete fungus *Hymenoscyphus fraxineus*) on Ash in Somerset in 2012 is also causing concern as a number of rare lichens are associated with veteran Ash trees.

Many other native tree species in Somerset contribute to the diversity of lichen communities

including Hazel, Field Maple (*Acer campestre*), Hawthorns (*Crataegus* spp.), Rowan, Willows, and Poplars (*Populus* spp.). Hazel in particular is important in this respect, supporting many 'ancient woodland' lichens of the *Graphidion* and *Lobarion*, with the latter often having larger populations on Hazel, and sometimes also on Willows, than on adjacent Ash and Oak.

Beech

Beech (*Fagus sylvatica*) was introduced to Exmoor by the Knight family in the 1820s for use in boundary hedges around enclosures, but has since become established in the woodlands. Elsewhere in Somerset it is known from prehistoric records (Packham *et al*. 2012), and occurs widely in the Blackdown hills and in north-east Somerset. Single large trees are abundant along upper margins of many Exmoor woods, and the smooth bark supports species of the *Graphidion* such as *Thelotrema lepadinum* and *Graphis* spp., including the rare *G. ruiziana* together with abundant *Usnea ceratina* on the trunks. In Dibble Wood *Heterodermia obscurata* has been recorded on Beech twigs, and at Barford Park the rare *Schismatomma graphidioides* occurs abundantly on the trunk and branches of a Beech tree.

Sycamore

Sycamore (*Acer pseudoplatanus*) was introduced to Somerset from about 1500 and is long-established in a range of habitats from coast to exposed hilltop. It has a similar bark pH to Ash and Elm, and rare species formerly associated with Elms have been found on it. If the 'worst happens' with regard to the effect of Ash dieback, then the lichenological significance of Sycamore (and of Hazel and Willows) will be enhanced.

Changing management practices

The 19th century saw the conversion of areas of wood pasture on Exmoor into Oak plantations that are now around 200 years old. At the same time extensive areas of Oak woodlands on Exmoor were coppiced in order to supply charcoal and tan bark to local industries (Teverson 1981). However, specialist lichens of ancient woodland are conspicuously absent from these plantations and coppices where stems are even-aged and microclimatic conditions alter with the management regime (Wolseley and O'Dare 1989, 1990).

Conifers have been widely planted in Somerset, and where older pine trees or plantations occur in exposed places we can find *Bryoria* spp., rarities associated with the acid-barked Scots Pine (*Pinus sylvestris*). These lichens are found in four woods in the Upper Barle valley, and in a 19th-century Scots Pine plantation above Culbone. Meanwhile much ancient woodland has been replaced by conifers in the 19th and 20th century, as at Dunster, Greatwood on the Quantocks, Neroche on the Blackdowns, areas of the Mendips and parts of Selwood Forest. Most conifer woods planted in the 20th century, however, have a relatively species-poor lichen flora.

SAXICOLOUS AND TERRICOLOUS LICHEN COMMUNITIES

Acid rock and heath communities

Hard acid rocks

These comprise two formations from very different geological eras. The Devonian sandstones and silts form the Exmoor plateau and the Quantock hills, while chert (a form of silica) is exposed as seams or nodules in the Carboniferous limestone (e.g. in the old workings at Ubley Warren) or as 'free' stones (presumably large nodules), as at Lynchcombe (Fig. 16). Species associated with chert include *Buellia*

Fig. 16 BJC examining a large boulder of chert, in the Mendip hills (Photo: AC)

saxorum (Fig. 17) and *Catillaria atomarioides*, as well as *Fuscidea cyathoides, Lecanora rupicola* and *Pertusaria corallina*, three species that are rare on Devonian rocks in Somerset but widespread on acid rocks further west in Devon.

Fig. 17 Mosaic of the crustose species Buellia saxorum*, a lichen strongly associated with sarsen stones, particularly the natural outcrops at Fyfield Down in Wiltshire, and the megalithic monuments of Stonehenge and Avebury. In Somerset, this species is also on the standing stones of Stanton Drew (Photo: AC)*

Much of the Exmoor plateau is open moorland or farmland where there are few rock exposures, so typical species of open sunny sites such as *Xanthoparmelia conspersa* and *Rhizocarpon geographicum* are more abundant on slate roofs and memorials than they are on natural rock. Corresponding communities of sheltered, more or less vertical acid rock surfaces are also of restricted occurrence in Somerset, being mainly found in the Exmoor valley woodlands. Notable species of such habitats are very rare, e.g. *Arthonia atlantica* is recorded only in Horner at Rowbarrow Wood and Goss's Rocks, *Tylothallia biformigera* is only at Hawkcombe, while *Porpidia glaucophaea* is only at Hawkridge.

Heathland

On Exmoor, in areas of high rainfall and/or impeded drainage on acid soils, a specialist group of lichens associated with heathland include widespread *Cladonia* spp. such as *C. portentosa*, along with some that are restricted to one or two sites such as *C. callosa, C. gracilis*, and *Pycnothelia papillaria*. This habitat is more or less restricted in Somerset to the Exmoor plateau but also occurs in maritime heath on North Hill at Hurlstone Point, and at Ubley Warren in the Mendip hills. It is possible that heathland communities with a lichen component occur on Black Down in the Mendips, but we have no records for there, and also very scant information for the heathlands on Greensand in the Blackdown Hills.

Streams and rivers on hard acid rock

Unpolluted water-courses on Exmoor and the Quantocks, and in the Mendip hills, support a number of local and rare species such as *Bacidia inundata, Dermatocarpon luridum, Staurothele fissa, Hydropunctaria rheitrophila* and *Verrucaria* spp. The rare and threatened *Collema dichotomum* occurs on the Barle. The presence of these lichens indicate high-quality, unpolluted streams on acid rocks (Sanderson *et al.* 2018); in Somerset, such lichen communities are very much restricted to Exmoor (Fig. 18).

Saxicolous and terricolous communities on calcareous rocks

Calcareous rocks outcrop in several places in Somerset, the most conspicuous – as already noted – being the Carboniferous limestone plateau of the Mendip hills and its outliers. Natural exposures do occur elsewhere, including Jurassic and late Triassic outcrops around Blue Anchor, Watchet and Lilstock, but these are too limited and/or easily eroded to have developed any significant lichen flora, and some are mainly intertidal. The south-facing slopes of the Mendips, along with Brean Down and Sand Point on the coast, constitute a unique habitat in Britain. Here Carboniferous limestone outcrops on warm, sunny slopes support a species-rich saxicolous lichen flora. The outcrops are dry in summer and the sparsely vegetated, skeletal soils surrounding them provide an opportunity for the development of a complementary suite of terricolous lichens.

Terricolous communities of calcareous limestone grasslands

In Britain, these communities are mostly associated with coastal habitats (calcareous sand-dunes), chalk (generally species-poor) or Breckland (calcareous sand over chalk, species-rich, although in recent years much degraded). The combination of both species-rich saxicolous and terricolous

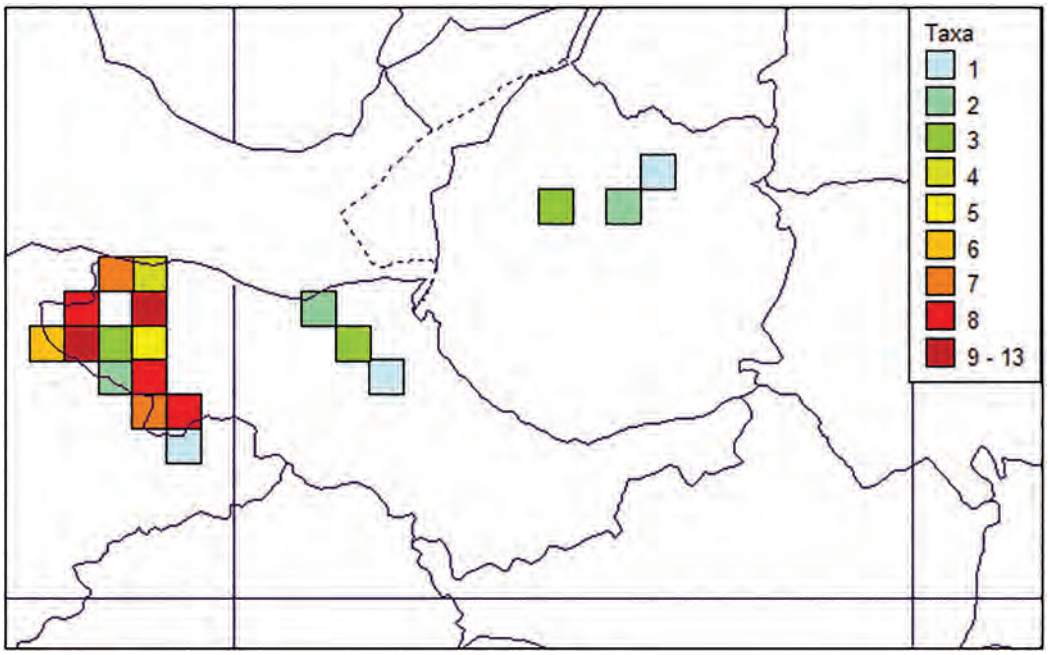

Fig. 18 Coincidence map of lichens in streams and rivers on hard acid rock. Species included: Bacidia inundata, Collema dichotomum, Dermatocarpon luridum, Hydropunctaria rheitrophila, Porina lectissima, Rhizocarpon lavatum, Rinodina fimbriata, Staurothele fissa, Verrucaria aquatilis, V. funckii, V. hydrela, V. margacea

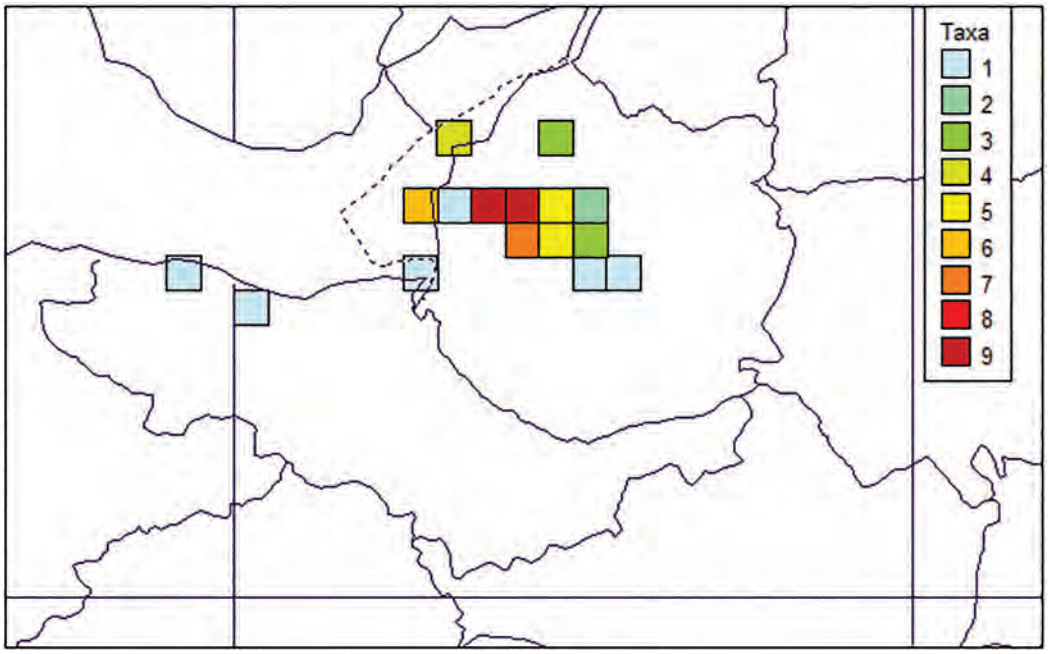

Fig. 19 Coincidence map of lichens on calcareous soils showing importance of the sites in the Mendip Hills. Species included: Agonimia globulifera, Cladonia convoluta, C. foliacea, C. symphycarpa, Fulgensia fulgens, Peltigera canina, Placidiopsis custnani, Placidium pilosellum, Psora decipiens, Toninia sedifolia

communities together is rarely encountered. In 2002, 37 terricolous lichen taxa were recorded from the southern slopes of Crook Peak, Wavering Down, Shute Shelve, Axbridge Hill (Figs 19 and 20) and Fry's Hill (Coppins and Coppins 2002b).

Fig. 20 Limestone habitat for saxicolous and terricolous lichens, Axbridge Hill, 2009 (Photo: AC)

Fig. 21 Placidiopsis custnani *squamules colonising moribund moss cushions at Axbridge Hill. These small lobed lichens are poor competitors of robust vascular vegetation (Photo: AC)*

This is a significant assemblage and reflects the extent and ecological continuity of suitable habitats in this area; key species include *Cladonia convoluta*, *C. foliacea*, *C. symphycarpa*, *Placidiopsis custnani* (Fig. 21), *Placidium pilosellum*, *P. squamulosum*, *Psora decipiens* and *Toninia sedifolia*.

The dynamics of the habitat required by terricolous communities is poorly understood, but appears to be dependent on grazing to reduce competition from vascular plants. Rabbits play a key role in this respect, not only through tightly browsing vegetation, but by localised disturbance of the sward, through scrapes, dislodging moss cushions and scuffing up clumps of *Cladonia*. From the evidence seen on Axbridge Hill and Fry's Hill, it would seem that occasional poaching of the ground by cattle may also be beneficial, producing little pockets of disturbed ground which (during periods of recovery and stability) are then colonised by acrocarpous mosses and terricolous lichens. However, the degree of disturbance is critical, and there must be intervening periods of non-disturbance to allow terricolous organisms time to establish – in essence 'the stability of the instability'.

Hard Carboniferous limestone

Included here is a wide range of habitat features and niches: exposed and shaded rocks, cliffs, crevices, shallow outcrops, small terraces, boulders, karst and scree.

The characteristic lichens of exposed limestone are very familiar, and include the distinctive yellow-lobed *Caloplaca* spp. (Fig. 22) on a background of extensive white crustose patches

Fig. 22 Caloplaca *spp. on hard Carboniferous limestone:* Caloplaca flavescens, C. aurantia, C. dichroa, C. oasis *(Photo: AC)*

Fig. 23 Caloplaca cirrochroa, *with narrow deep orange lobes and pale gold soredia (Photo: AC)*

Fig. 24 Solorina saccata, *a species of sheltered, moist crevices, often initially established over bryophytes; Cheddar Gorge and Ebbor Gorge are the only extant localities in southern England for this striking species (Photo: AC)*

of, for example, *Aspicilia calcarea* and *Bagliettoa* spp., contrasting black patches of *Verrucaria nigrescens* and, growing in crevices and water-seepage zones, the black thalli of *Collema* and *Placynthium* spp. Shaded, vertical outcrops have a rather different suite of species, including *Acrocordia conoidea*, *Caloplaca cirrochroa* (Fig. 23), *Gyalecta jenensis* and *Hymenelia prevostii*, and in moist crevices *Solorina saccata* can be found (Fig. 24).

Many of the limestone lichens can be found also on calcareous substrata in the built environment (see below), but about 30 species in Somerset are confined to naturally-occurring outcrops, e.g. *Caloplaca alociza*, *Clauzadea chondrodes*, *Collema fragile*, *Farnoldia jurana*, *Placynthium garovaglii*, *Romjularia lurida* and *Squamarina cartilaginea* (Fig. 25). A specialised community of rare cyanobacterial lichens occurs on limestone clitter (Fig. 26).

Fig. 25 Thick lobes of Squamarina cartilaginea *growing over exposed slightly flushed limestone (Photo: AC)*

Fig. 26 BJC investigating limestone 'clitter'; a good lichen habitat niche supporting specialised species, e.g. Leptogium diffractum *and* L. massiliense. *(Photo: AC)*

where water collects from dew condensing on the edges of stones. This community includes the rare *Leptogium massiliense* (Fig. 27).

Fig. 27 Leptogium massiliense*: this small cyanobacterial lichen needs liquid water which it obtains from dew condensing on the edges of stones (Photo: AC)*

Threats to calcareous terricolous lichens, and those of low, limestone outcrops

In recent years there has been a marked decline in lichen populations in these habitats. In part this is due to increasing atmospheric nitrogen favouring (faster-growing) vascular plants, resulting in a 'sea' of invading scrub, especially on the middle and lower slopes of these south-facing hills. Unchecked scrub invasion is a significant threat to all terricolous and many saxicolous lichens in the Mendip hills, and a major cause for concern.

The recent decline of *Cladonia convoluta* is a case in point. This distinctive leafy-lobed species, pale green above and a pale primrose yellow below, is quite eye-catching. Thalli are often not attached to the soil and appear loose on the ground. A threatened species nationally, it can be confused with *C. foliacea*, with which it also occurs, and which has similar colouring, but the lobes are much smaller and attached to the soil. The main populations of *C. convoluta* in Somerset appear to be at Dolebury Warren; but a visit to this site in 2016 revealed significant losses, and it is now rare there (David Hill, pers. comm.).

Coastal rocks, shingle and dunes

Much of the Somerset coast consists of low-lying outcrops of Jurassic lias which has a species-poor calcareous lichen community (see Fig. 19). However, both Hurlstone Point and the shingle ridge at Porlock-Bossington have developed interesting communities of lichens, especially along the oldest area of the ridge (O'Dare 1986, 1987). Other sites with coastal shingle investigated by lichenologists, albeit cursorily, are at Blue Anchor and Catsford Common. The sand-dunes at Berrow have not been investigated thoroughly for lichens. Maritime lichens have been well recorded on the Carboniferous limestone at Brean Down and Sand Point, but remain to be studied in any depth on the rocky shores between Clevedon and Portishead. Especially poorly recorded are lichens of the littoral zone (below the high tide mark), and lichens such as *Collemopsidium foveolatum* and *Lichina confinis* are likely to be much more common than the records suggest.

THE BUILT ENVIRONMENT

Humans have been altering their environment ever since they first started clearing forests and quarrying stone in prehistoric times. Buildings have progressed through the building of medieval churches and churchyards to the present day with the use of industrial concrete and metal, all of which have been colonised by lichens.

Churches, churchyards and walls

The building of churches and churchyard walls and memorials requires a lot of stone, often sourced locally, although rarely naturally exposed, e.g. Blue Lias or Ham Stone (Hardy 1999), but also carried considerable distances from outside the county, such as granite used for gravestones. Regarding local stone, a notable feature on the Somerset Levels is the imposing gate posts made of Draycott Marble (a limestone breccia), usually well-endowed with lichens. As a result, many lichens associated with rock outcrops are also found widely on churches and other structures, along with other species that are more or less restricted to this habitat. Species that are more widespread on stonework in Somerset than on natural rock exposures include *Caloplaca teicholyta, C. chlorina, Physcia tribacia, Rinodina teichophila, Sarcopyrenia gibba*, and the recently recorded species *Verrucaria obfuscans* below sills of lead-lined church windows, and *V. sphaerospora* on a slate roof. Also known in the county only on slate roofs are *Xanthoparmelia pulla* and *X. tinctina*; this habitat has much potential for the lichen hunter if the difficulty of access can be overcome!

Returning to churchyards, a noteworthy recent discovery is of the nationally threatened species *Roccella phycopsis*, found growing abundantly on the north- and east-facing walls and buttresses of Brent Knoll church (Figs 28 and 29).

Fig. 28 BJC in October 2017 at Brent Knoll Church investigating Roccella phycopsis *in the sheltered NE-facing niche created by the buttress (Photo: AC)*

Fig. 29 Roccella phycopsis, *with soralia (plus cobwebs), growing with crustose* Dirina massiliensis *f.* sorediata *(Photo: AC)*

Fig. 30 Old gravestone decorated with lichens, Holcombe Old Church, N. Somerset, 2015 (Photo: AC)

It is otherwise known in the county only from a wall at Nailsea, but has scattered localities along the North Devon coast (Benfield 2001). *Paralecanographa grumulosa* also occurs on limestone on this church and at only two other medieval churches in Somerset. A three or four hour study of an old churchyard with a good range of stone types (e.g. Fig. 30) can be expected to provide a list in excess of a hundred lichen species. Such a rich biodiversity adds much of interest in areas devoid of naturally occurring rock, such as the Somerset Levels.

Worked timber

As with stonework, the use of wood for fencing, gates, huts, footbridges, seats and benches, etc., can provide a valuable habitat for lichens, especially where the wood has been untreated or long neglected in this regard. The lichens to be found can be 'lignum' specialists, as found on dead or damaged standing trees, decorticated branches or fallen trunks; but more often they are generalist species usually found on bark or stonework. It is the specialist lignicolous species that require untreated timber, and the decline of the easily recognised *Cyphelium inquinans* (*q.v.*) reflects the increased use of chemically-treated softwoods and a move towards the large-scale replacement of fencing (often grant-aided) rather than a 'patch and mend' approach that would have been carried out by estates and farms in the past.

Fig. 31 'Gruffy ground' in the Mendip Hills: these are lead rakes, where lead was mined in historic times. The exposed outcrops support typical limestone lichens, while bands of chert support more acid-loving species (Photo: AC)

Mining sites

Lead was mined in the Mendip hills from Roman times at Ubley Warren, and also in the 17th, 18th and 19th centuries (Fig. 31), yet of the 201 saxicolous and terricolous species recorded at this site only 13 are metallophytes; these include *Epilichen scabrosus*, *Lecanora handelii*, *Stereocaulon leucophaeopsis*, S. *nanodes* and *S. pileatum* (Fig. 32). Copper and iron mining was practised on the Brendon hills and Exmoor but the only relevant lichen records that we have are from Wheal Eliza in the Barle Valley, which was operated from 1845–57: among the 58 lichen species recorded there only five can be considered metallophytes. Many more mining sites are found in the upland areas of Somerset and, even if not extensive in area, these would certainly repay further study.

Fig. 32 Ubley Warren, slag colonised by Stereocaulon *spp. tolerant of heavy metal and acid conditions (Photo: AC)*

Quarries

Quarries have been little studied by lichenologists in Somerset, and are perhaps a 'neglected habitat' worthy of further investigation. However, a few notable species have been found in such places, e.g.

Biatorella fossarum has one of its only three known British localities at the Ham Hill Jurassic limestone quarry, and *Peltigera polydactylon* is found at the Treborough Wood slate quarry.

LICHENICOLOUS FUNGI

Lichenicolous fungi are fungi that parasitise lichens, and after many years of neglect in study, they are now receiving much more attention by taxonomists and field recorders. It is relevant here that Walter Watson developed an interest in them and produced the first British checklist (Watson 1948). Some of these fungi (e.g. *Lichenoconium erodens* and *Muellerella lichenicola* (Fig. 33)) have a wide host range, occurring on lichens from different, unrelated genera, but most are more specific and confined to a single family (e.g. *Heterocephalacria physciacearum* on *Physciaceae*), genus (e.g. *Neobarya peltigerae* on *Peltigera*), or species (e.g. *Xanthoriicola physciae* on *Xanthoria parietina*). Some are pathogenic and destructive to their host, e.g. *Pronectria oligospora* on *Punctelia subrudecta*, and *Marchandiomyces corallinus* on a wide range of hosts (mainly *Parmeliaceae* in Somerset), while others appear more benign and commensalistic, e.g. *Opegrapha rupestris* on *Bagliettoa* spp. For a general introduction to these intriguing organisms, Hawksworth (2004) is recommended.

INTRODUCTION TO THE CHECKLIST

Area surveyed and boundaries

Biological recording in Somerset is based on the Watsonian vice counties VC5 (South Somerset) and VC6 (North Somerset), where the internal boundary between VC5 and VC6 follows the rivers Parrett and Yeo and the A303, while the boundary with VC34 (West Gloucestershire) is mostly the river Avon although VC6 extends in the north-east to include the City of Bath. It should be noted that the boundaries with neighbouring VCs in Devon, Dorset and Wiltshire do not always coincide with the modern administrative county boundaries.

Arrangement of taxa and nomenclature

The 1003 accepted taxa included in this checklist are arranged alphabetically, as in the latest comprehensive treatment of British lichens (Smith *et al*. 2009, Hawksworth 2003). We did consider a systematic arrangement, but the higher taxonomic groupings (e.g. families and orders) have been subject to much change in recent years. Following recent phylogenetic studies employing molecular techniques, it is anticipated that a generally accepted hierarchy of taxa should be in place within a year or two (Lücking *et al.* 2016), and will be adopted for the third edition of *Lichens of Great Britain and Ireland* which has just begun preparation. Nomenclature of vascular plants follows Stace (2010).

Format and arrangement of the species entries

Each entry begins with the current name, in **bold** type, as it appears in the Taxon Dictionary on the British Lichen Society (BLS) website (www.britishlichensociety.org.uk/). Then, where appropriate, synonyms are provided: those within round brackets are previously used names (e.g. in Smith *et al*. 2009); those within square brackets are

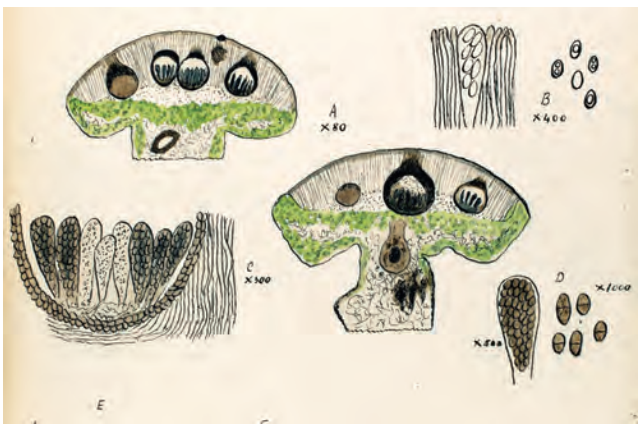

Fig. 33 An illustration by Walter Watson, drawn in 1914, depicting a section of the apothecium of Lecanora campestris *with the perithecia of a lichenicolous fungus* Muellerella lichenicola *(A), 8-spored ascus of* L. campestris *(B) and polyspored asci of* M. lichenicola *(C, D) (from notebook in SANHS collections held at the Somerset Heritage Centre)*

names not in current usage but which are likely to be adopted by the BLS in the near future. After the name/s [LF] denotes a lichenicolous fungus and [F] a non- or weakly lichenised fungus that has traditionally been treated as a lichen.

Next come any abbreviations for current conservation evaluation (threat and rarity categories – see below), which mainly follow Woods and Coppins (2012). These are followed by numbers in bold, **5** and/or **6**, to indicate that a taxon has been recorded in South Somerset (VC5) and/or North Somerset (VC6) respectively. There then follows a brief statement of habitats, substrata or hosts and a comment on abundance within Somerset, and sometimes other notes.

Hectad (10-km square) records of each taxon are then given, arranged numerically within the two 100-km squares, SS and ST. Hectads in normal type are supported by localised and dated records in the BLS database, while those in *italics* are unlocalised hectad records in the BLS Mapping Scheme database. This database contains just presence/absence records at hectad scale within two date classes: 1629–1959 and 1960–2009. For hectads in italic type we have yet to trace the origin of the record/s; and where such a hectad overlaps with one or more neighbouring vice-counties, the record could be from one of those, rather than from Somerset. Hectads (or vice-counties) listed within square brackets have pre-1960 records only. Further information is supplied for the supporting record(s), where deemed useful. The entry sometimes ends with additional notes. In site names and descriptions, Ch = Church; nr = near; N, S, E, W (etc.) = North, South, East, West (etc.); and R. = River.

Readers wishing to find out more details of the records can do so via the National Biodiversity Network's NBN Atlas. There are sometimes delays in uploading data from the BLS database to the NBN Atlas, so for any specific enquiries please contact BJC (lichensel@btinternet.com), or the BLS Data Manager (at records@britishlichensociety.org.uk).

With regard to tracking down 'old' names, many of these are found in the Taxon Dictionary on the BLS web site. However, it should be noted that the use and interpretation of names has changed much over the years, and there are many such examples in Watson (1930). One of these is *Lecanora chlarona*, a synonym of *L. pulicaris*, but Watson used the name *L. chlarona* almost consistently for what is now *Lecanora argentata*; indeed, none of his herbarium specimens of *L. chlarona* in BM or TTN are *L. pulicaris.*

There can also be problems with interpreting earlier usage of names in current use. Watson (1930) cited several specimens of *Ramalina pollinaria*, but his specimens under this name are represented by *R. canariensis*, *R. lacera* and *R. farinacea*, whereas *R. pollinaria* is not reliably reported from the county.

In short, there is no substitute to visiting relevant local and national herbaria and 'ground-truthing' the identity of specimens (where they exist) supporting the records. Furthermore, this demonstrates the importance of maintaining and adding to collections held by local museums.

Threat and rarity categories

In this checklist we give the IUCN threat categories used in Woods and Coppins (2012), as follows: CR = Critically Endangered; EN = Endangered; VU = Vulnerable; DD = Data Deficient (a taxon that is likely to be threatened but for which there is insufficient data to enable a threat category to be assigned); NT = Near Threatened; LC = Least Concern; NE = Not Evaluated.

Other abbreviations used are: IR = International Responsibility (usually an endemic or near-endemic taxon, or one for which Britain has at least 10% of the extant European or global population); NR = Nationally Rare (recorded in 15 or fewer hectads in Britain); NS = Nationally Scarce (recorded in 16–100 hectads in Britain). For further explanation, see Woods and Coppins (2012).

For these various threat and rarity categories Somerset has the following numbers of species: CR, 4; EN, 8; VU, 16; NT, 50; DD, 32; NR, 140; NS, 268; IR, 60. Among the threatened species, nine have not been seen in recent times (i.e. since 1960): *Squamarina lentigera* (CR), *Caloplaca flavorubescens* (EN), *C. luteoalba* (EN), *Heterodermia leucomelos* (EN), *Megaspora verrucosa* (NT), *Staurothele rugulosa* (NT), *Vulpicida pinastri* (NT), *Bacidia auerswaldii* (DD) and *Verrucaria sandstedei* (DD).

A few notes of caution need to be made about the threat and rarity assessments of Woods and Coppins (2012) used in this checklist. Firstly, they are based on information for the UK (except Northern Ireland), meaning that some species abundant in the Scottish highlands and islands are evaluated as being of Least Concern (LC), even though they may be rare or very rare, and clearly threatened, in England. Examples are

Hypotrachyna endochlora, *H. taylorensis*, *Lobaria amplissima*, *L. scrobiculata*, *Pannaria conoplea*, *Parmotrema crinitum*, *Pectenia plumbea*, *Peltigera polydactylon* and *Pseudocyphellaria crocata*.

Secondly, since publication of Woods and Coppins (2012) our knowledge of some species has improved such that their threat statuses would now probably need to be downgraded, e.g. *Ochrolechia arborea* (NT), *Pyrenula coryli* (VU) and *Schismatomma graphidioides* (VU). There is the case of *Teloschistes chrysophthalmus* (CR), a species long thought to be extinct, but one which has made a remarkable recovery during the last ten years, being recorded in at least 30 localities in England and Wales (including one in Somerset), and for which a threat status of CR is clearly no longer justified. On the other hand, owing to their limited populations and evidence of recent decline, a few other taxa, such as *Lecanora quercicola* (VU) and *Rinodina isidioides* (NT), would probably need to be upgraded.

Finally, assignment of rarity categories Nationally Rare (NR) and Nationally Scarce (NS) is now much out of date owing to additional recording since 2012. Also, some species denoted NR or NS are actually much under-recorded and in some cases are likely to be quite common; this is especially so for some lichenicolous fungi, e.g. *Arthonia apotheciorum* (given as NS) and *Lichenochora obscuroides* (given as NR).

Abbreviations for collectors and recorders

AA = André Aptroot; ABC = B.J. Coppins and A.M. Coppins; AC = A.M. Coppins (formerly A.M. O'Dare); AO = A. Orange; AP = A.R. Perry; BB = B. Benfield; BE = B. Edwards; BJC = B.J. Coppins; BLS = British Lichen Society field meetings or workshops; CJBH = C.J.B. Hitch; DAJ = D.A. Jones; DHB = D.H. Brown; DJH = D.J. Hill; DL = D. Lester; DLH = D.L. Hawksworth; FS = F.A. Sowter; FD = F.S. Dobson; FR = F. Rose; GB = G. Brunt; JC = J.V. Carrington; JG = J. Gray; HBH = H.B. Holl; HC = H. Corder; HP = H.F. Parsons; HK = H.H. Knight; IP = I. Pedley; JB = J.P.M. Brenan; KS = K. Sandell; LS = L.B. Sparrius; MA = Ann Allen; MH = M. Hickmott; MP = M. Powell; NAS = Neil Sanderson; NB = Nicola Bacciu; OLG = O.L. Gilbert; PD = P. Diederich; PH = P. Harrold; PW = P.A. Wolseley; PWJ = P.W. James; RJ = R. Jarman; SD = S.R. Davey; SS = S. Street; TC = T. Chester; TDVS = T.D.V. Swinscow; VG = V.J. Giavarini; WJ = W. Joshua; WW = Walter Watson.

Abbreviations for herbaria

BM = Natural History Museum, London; BON = Bolton Museum, Lancashire; BR = Botanic Garden Meise, Belgium; E = Royal Botanic Garden, Edinburgh; HDD = Tolson Memorial Museum, Huddersfield; K = Royal Botanic Gardens, Kew; LSR = Leicestershire Museums, Leicester; M = Botanische Staatssammlung, München, Germany; NMW = National Museum of Wales, Cardiff; NWH = Castle Museum, Norwich; TTN = Somerset County Museum, Taunton.

Taxonomic abbreviations

- ad. int. = 'in the meantime', signifying a taxon yet to be formally named and described, but currently known by the name given
- aff. = 'similar to' the named taxon, but differing in a way that suggests it may be a new, as yet undescribed, taxon
- agg. = aggregate, implying that the named taxon encompasses a group of closely related taxa
- auct. = 'as used by most authors'
- auct. brit. = 'as used by British authors'
- cf. = 'comparable to'
- conf. and det. = in case of a record, where the identity of the taxon concerned has been either *confirmed* or *determined* by the person cited
- f. = form, a taxonomic entity below that of species, subspecies and variety
- s. lat. = *sensu lato*, literally 'in the broad sense'
- s. str. = *sensu stricto*, literally 'in the strict sense'
- sp. = species (singular)
- spp. = species (plural)
- subsp. = subspecies, a taxonomic entity below that of species but above that of variety or form
- var. = variety, a taxonomic entity below that of subspecies

Summary statistics

In the following list, there are 1003 accepted taxa, including 19 infraspecific taxa (subspecies, varieties, forms). Thus, the number of **species** is 984, of which 863 are lichenised fungi, 101 are lichenicolous fungi [LF], and 20 are non-lichenised fungi [F] that are traditionally treated with the lichens.

THE CHECKLIST

Abrothallus bertianus [LF]. LC NS. **5**. Parasitic on thallus of *Melanelixia glabratula* and rarely *M. subaurifera*. SS 83, 92, 94.

Abrothallus microspermus [LF]. LC NS. **5**. Parasitic on thallus of *Flavoparmelia caperata*. SS 83, 84, 92, 94; ST 03, 21, 23, 51.

Abrothallus sp. [LF]. NE. **5**. Parasitic on thallus of *Melanohalea exasperata*. ST03 Clatworthy woods, 1996 BJC (E).

Absconditella lignicola. LC NR. **5**. An ephemeral coloniser of compacted acid soil; very rare. SS 84 Hawkcombe, Peep-out woods 2000 VG.

Acarospora fuscata. LC. **5**, **6**. On hard acidic rocks, and on granite or sandstone memorials in churchyards, also coastal shingle; frequent and widespread where suitable substrata occur. All squares except SS 74, 82; ST 25, 26, 30, 34, 36, 40, 50, 53, 67; probably in all.

Acarospora glaucocarpa. LC NS. **5**, **6**. On calcareous rocks and stonework; very rare. ST 41 Montacute Ch DJH, 45 Dolebury Warren, on chert BJC, [46 Yatton WJ (BM)].

Acarospora impressula. On maritime rocks and shingle, very rare. **5**. SS 84 Porlock Beach AC, 94 Hurlstone Point ABC.

Acarospora nitrophila auct. brit. LC NS. **5**. On siliceous gravestone, rare or overlooked. ST 13 Nether Stowey 2003 AA & LS. British material under this name apparently belongs to another species.

Acarospora veronensis. LC NS. **5**. On pebbles; rare. ST 24 Cannington Park 1988 JC, and Catsford Common 1994 ABC.

Acrocordia cavata. DD NR. **6**. On base-rich bark; very rare. ST 45 Cheddar, by path to Ashridge Farm, on *Fraxinus*, 1997 BJC.

Acrocordia conoidea. LC. **5**, **6**. On hard limestone, especially vertical or shaded natural outcrops in the Mendips, also on stonework in churchyards; locally common. ST 20, 23–26, 33, 35, 36, 41, 42, 44–46, 51–57, 61–66, 74–76, 85.

Acrocordia gemmata. LC. **5**, **6**. On bark of mature trees, especially *Acer*, *Fraxinus* and *Quercus*; frequent locally, especially in old parkland. SS 82–84, 92–94; ST 03, 13, 21–24, 30, 31, 44, 45, 52, 54, 64, 74, [85 Farleigh Hungerford 1869 HP (TTN)].

Acrocordia salweyi. LC. **5**, **6**. On soft limestones of both natural outcrops and stonework, and mortar of old walls; locally frequent only in central and east Somerset. SS 84, 93; ST 04, 11, [12 Norton Fitzwarren 1923 WW (TTN)]. 13, 20, 23, 30, 31, 40–46, 51, 54, 55, 63, 65, 76.

Adelococcus interlatens [LF]. NE NR. **6**. On thallus of *Hymenelia prevostii*. ST 35 Crook Peak 2002 ABC (E).

Agonimia allobata. LC NS. **5**. On trees in ancient woodlandand wood pasture; very rare. SS 83 East Hollowcombe 2002 ABC, 84 Horner Combe PWJ, Rowbarrow Wood 1998 ABC.

Agonimia globulifera. LC NS. **5**, **6**. Over and among moribund mosses and lichens on sunny calcareous soil; rare. ST 04 Blue Anchor Bay 2002 OLG, 25 Brean Down 1989 AC, 35 below Crook Peak 1987 AC, Compton Hill 2002 ABC, 45 Fry's Hill 1989 AC, and 1992 BJC (fertile), Cheddar Gorge ABC 2001, Wavering Down, Shute Shelve and Axbridge Hill 2002 ABC.

Agonimia octospora. NT NS. **6**. On old oaks in ancient woodland; very rare. ST 74 N of Finger Valley, Mells Park 1979 FR. Should be looked for in the Barle and Horner areas.

Agonimia repleta. DD NR. **5**. Over and among moribund mosses in cliff-top turf; very rare. SS 94 Hurlstone Point 1993 ABC (E). A recently described species from Central Europe, but now known to occur in Cornwall, Somerset and Wales.

Agonimia tristicula (*Polyblastia tristicula*). LC. **5**, **6**. Among mosses on limestone rocks and turf, and old walls, especially in churchyards; locally frequent in the Mendips and other central areas. SS 74 Wheal Eliza ABC, 94 Piles Mill, on mossy roof tile, 2006 ABC; ST 04, 13, 22, 25, 26, 31, 35, 36, 40–43, 45, 46, 51, 54–56, 63, 66, 72, 75, 76.

Amandinea pelidna (*A. lecideina*, *Rinodina lecideina*). LC. **5**, **6**. On siliceous rocks, including granite chippings in churchyards and beach pebbles; uncommon, but probably overlooked. SS 84 & 94 Hurlstone Point ABC; ST 24 Catsford Common ABC, 43 Walton Ch 1994 BJC. Some records of saxicolous *A. punctata* may belong here.

Amandinea punctata. LC. **5**, **6**. On basic bark, lignum, and on acid rock (mostly on sandstone churchyard memorials); very common in eutrophicated situations. All squares except SS 73, 74, 82; ST 02, 37. (Some saxicolous records may be referable to *A. pelidna*).

Anaptychia ciliaris subsp. ***ciliata***. EN NS. **5**, **6**. On mature, well-lit trees with basic bark, mostly in parklands; more rarely on limestone or plaster of old churchyards; formerly common, now much

decreased. SS [93]; ST 03 Nettlecombe Park, on *Quercus*, 2003, AA & LS, 11 Chelmsine Chapel, [12], 21 Mount Fancy, [22], 23 Enmore, 32 Hatch Beauchamp Park, [33, 34], 35, 41, [43], 51 Montacute Park on *Tilia*, 52 Hazelgrove, [54, 56], 57 Easton in Gordano Ch, on headstone, 1996 IP, not refound in 2017, 62 Sparkford, 63 N of Bruton, [64], 73 Redlynch, 74 Mells Park DJH 2012, 75 Orchardleigh and Ammerdown Parks.

Anaptychia runcinata. LC. **5**. On coastal cliffs and rocks; very local. SS 84, 94 Hurlstone Point and cliffs to east. Surprisingly not reported by WW.

Anisomeridium biforme. LC. **5**, **6**. On trees with base-rich bark; frequent. SS 82–84, 92–94; ST 03, 12, 13, 21–24, 31, 33, 40, [42], 43, 45, 50–54, 63, 72, 74, 75.

Anisomeridium polypori. LC. **5**, **6**. On trees and shrubs with base-rich bark, especially *Sambucus*, also on shaded boulders in woodland; probably under-recorded. SS 73, 82, 83, 84 Horner Woods on trees and boulders 1998 ABC, 92; ST 03, [21 Brown Down 1926 WW (TTN), 36, 43, 45, 46, [53 Copley Wood WW (BM)], 54, 55, 57.

Anisomeridium ranunculosporum. LC. **5**, **6**. On mature trees (e.g. *Alnus*, *Fraxinus*, *Quercus*) in ancient woodlands, mainly on flat areas of bark of *Fraxinus* and *Quercus*; widespread but local, and most frequent in Exmoor woods. SS 73, 82–84, 92, 93; ST 03 Nettlecombe, 21 Long Lye 2003 NAS, 45, 46 Goblin Combe, 54 Ebbor, 73 Stourton Woods, 74 Mells Park.

Anisomeridium robustum. LC NS. **5**. On bark of mature *Quercus*; very rare, SS 84 Parsons Wood 2013 BLS.

Anisomeridium viridescens. LC NS. **5**, **6**. On smooth bark of *Corylus* in valley woodland; rare but probably under-recorded in Exmoor woods. SS 83 Slade Wood, 1997, ABC; ST 03 Clatworthy woods 1996 ABC, 21 Neroche Forest BJC, 43 Ivythorn Hill BJC, 45 Cheddar Wood, Long Wood and Round House Hill ABC.

Antenulariella lichenisata. LC NS. **5**. On dry, acid bark; rare. SS 83 Barle Valley, Worth Wood, 2013, BLS; ST 03 Clatworthy woods, on *Quercus*, 1996, ABC (E).

Arthonia anombrophila. LC NS. **5**, **6**. On dry bark of mature and ancient *Fraxinus* and *Quercus*; rare. SS 82 Castlemeadow Linhay 1997 ABC`, 83 Slade Wood 1997 ABC, East Hollowcombe 2002 ABC, 84 Embelle Wood FR & RJ, Horner Side and Cloutsham Ball 1998 ABC; ST 03 Nettlecombe Park 1991 PWJ, 12 Langford Heathfield 2013 DJH, 74 Mells Ch 2015.

Arthonia apotheciorum [LF]. LC NS. **5**. In apothecia of *Lecanora dispersa* agg., especially *L. albescens*; rare or overlooked. SS 94 Selworthy Ch, on *L. albescens*, 2011 DJH; ST 03, 13, [21 Staple Fitzpaine 1930 WW], 23, 31, 32, 36, 45 Axbridge Hill, on *L. albescens*, 2002 ABC.

Arthonia arthonioides. LC NS. **5**. On dry bark of ancient *Quercus*; rare. SS 83 Ashway Hat 1988 AC, SS 84 Horner, Ten Acre Cleeve 1998 ABC, 93 Old Stowey Wood 2001 NS. WW's specimen of *A. aspersa* from Langford Heathfield is *A. stellaris.*

Arthonia astroidestera. NT NS. **5**. On *Ilex* in ancient woodland; a rare southern oceanic species. SS 82 Barle Valley PW, AC, FR, 92 Haddeo Valley FR.

Arthonia atlantica. NT NR. **5**. On acidic rocks in woodland. SS 84 Horner, Rowbarrow Wood 1998 ABC (E) and by Goss's Rocks 2016 NAS.

Arthonia cinnabarina [*Coniocarpon cinnabarinum*]. LC. **5**, **6**. On smooth bark, mostly of *Corylus*, in old woodlands; locally frequent in the west. SS 82–84, 92–94; ST 04, 13, 14, 21, 34, 45, 53, 54, 64, 74 Mells Park. (Fig. 7)

Arthonia didyma. LC. **5**, **6**. On bark, mostly of younger trees, in woodland; probably overlooked. SS 82–84, 92, 93, [94 Dunster WW (NMW)]; ST 03, 13, 21, [23], 43, 45, 46, 54, 64.

Arthonia digitatae [LF]. LC NR. **5**. On squamules of *Cladonia macilenta* on a tree stump. SS 83, Slade Wood 1997 ABC (E).

Arthonia diploiciae [LF]. DD NR. **5**. On thallus of *Diploicia canescens*, rare or overlooked. ST 13 Nether Stowey 2003 AA.

Arthonia elegans [*Coniocarpon fallax*]. LC. **5**, **6**. On bark, mostly of *Corylus*, but also *Quercus* and *Sorbus*, in woodlands; rather rare. SS 73 Simonsbath, 82–84, 92; ST 03 Clatworthy woods ABC, 21 Neroche Forest, [23 Buncombe Wood 1924, WW (BM)], 45 Cheddar, 46, 53, 54 Ebbor Gorge, 64 Blacker's Hill valley.

Arthonia fusca (*A. lapidicola* auct.). LC. **5**, **6**. On limestone and limestone stones, also areas of stonework on buildings with metal-rich run-off, especially below church windows; probably under-recorded. SS 94; ST 03, [13 Cothelstone 1938 WW (TTN)]. 22, 25 Brean Down, 35 Compton Hill 2002 ABC, 41, 45 Dolebury 1984 BJC, Cheddar Gorge 2001 ABC, Axbridge Hill 2002 ABC, 51, 55, 57, 75 Buckland Dinham Ch TC.

Arthonia graphidicola [LF]. LC NS. **5**. On thallus of *Graphis scripta* on *Corylus*; rare. SS 83 Great Wood 2013 BJC (E).

Arthonia invadens [LF]. LC NR. **5**. On thallus of *Schismatomma quercicola* on *Quercus*; rare. SS 82 Hawkridge Ridge Wood 2009 NAS, 83, Dibble Wood 1997 ABC (E), 92 Pixton Park 2017 NAS.

Arthonia mediella. LC NS. **5**. On bark or mosses on bark of *Fraxinus* and *Quercus* in ancient woodland; rare, but very inconspicuous and probably overlooked. SS 82 Hawkridge Ridge Wood, 1994 ABC, 83 Dibble Wood 1997 ABC, 84 Hawkcombe woods 1992 ABC, 92 Weir Cleeve 1994 ABC.

Arthonia molendoi [LF]. LC NR. **5**. On *Caloplaca arnoldii*; very rare. SS 84 Hurlstone Point 1987 AC (E).

Arthonia muscigena [*Bryostigma muscigena*]. LC. **5**, **6**. On mosses or bark, probably overlooked. SS 84 Hawkcombe woods 1992 ABC, Ten Acre Cleeve 1998 ABC; ST 43 Ivythorn Hill 2014 DJH.

Arthonia 'parva' Coppins ad int. NE NR. **5**. On bark of *Ilex*. SS 83, Slade Wood 1987 ABC (E).

Arthonia phaeophysciae [LF]. **6**. On thallus of *Phaeophyscia orbicularis*. Probably much overlooked. SS 35, 45.

Arthonia punctella [LF]. LC NR. **5**. On thallus of *Diplotomma alboatrum*, probably overlooked. ST 12 Bradford-on-Tone Ch 2016 DJH.

Arthonia punctiformis [F]. LC. **5**, **6**. On smooth bark, especially of young twigs, of various trees and shrubs; common but under-recorded. SS 73, 82–84, 92–94; ST 02, 03, 12, 13, 21, 22, 41, 43, 45, 46, 52–54, 74.

Arthonia radiata. LC. **5**, **6**. On smooth bark of young stems or branches, mainly in woodland; common. All squares except: ST 25, 50.

Arthonia spadicea. LC. **5**, **6**. On mainly rough bark, especially *Quercus* but also *Alnus*, *Corylus*, *Fagus*, *Ilex* and *Salix*, in woodland; common. All squares except: ST 20, 24–26, 30, 32, 33, 35, 37, 42, 47, 52, 65, 66, 72, 75.

Arthonia stellaris. LC NS. **5**. On smooth bark of *Corylus*; a very rare species in S. England. SS 82 Mountsey Wood, 83 King's Wood, and Horse Wood - all in the Barle Valley, 1987, 1997, ABC; ST [12 border of Langford Heathfield, nr Milverton, on *Fraxinus*, 1927 WW (BM), as '*A. aspersa*' and as '*A. dispersa*'].

Arthonia thoriana. NE NR. **5**. On dry bark of trunks of old *Quercus* in old-growth woodland; very rare. SS 84 Horner Combe (Cloutsham Ball and Parsons Wood) 2016 NAS (BR, E). Horner Combe is the type locality for this recently described species (Ertz *et al.* 2018b).

Arthonia varians [LF]. LC NR. **5**. In apothecia of *Lecanora rupicola* on sandstone headstone. SS 94, Selworthy Ch 2011 DJH.

Arthonia vinosa. LC. **5**, **6**. On bark, mostly of *Quercus*, in ancient woodland; commonest in the west. SS 82–84, 92–94; ST 02–04, 11–13, 20, 21, 23, 31, 40, 46, 73, 74.

Arthonia zwackhii. NT NR. **5**. On *Quercus*; very rare. ST 21 Cherry Tree Farm (Long Copse) 2012 BB & DJH.

Arthopyrenia analepta [F]. LC. **5**, **6**. On smooth bark (e.g. *Sorbus*) in woodland; occasional. SS 73, 84, 92, 94; ST 02–04, 11–14, 21, 43, 44–46, 54, [73 Stavordale, on *Betula*, 1920 WW (TTN)], 76.

Arthopyrenia atractospora. NT NR. **5**. In crevices of mature *Quercus*; very rare. SS 84 Horner 1998 ABC.

Arthopyrenia cerasi [F]. LC NS. **5**. On smooth bark; very rare. SS 84 Horner Combe FR. The records in Watson (1930) appear to refer to *A. punctiformis*.

Arthopyrenia cinereopruinosa [F]**.** LC. **5**. On smooth bark of *Fraxinus*; apparently rare. SS 73 Ashcombe Plantation 1994 ABC, 84 Aller Combe 1998 ABC, 92 Weir Cleeve ABC.

Arthopyrenia fraxini [F]. LC NS. **5**. On smooth bark of *Quercus*; rare or overlooked. SS 84 Hawkcombe woods 1992 ABC.

Arthopyrenia punctiformis (*A. epidermidis*, *A. laburni*) [F]. LC. **5**, **6**. On smooth bark, especially of twigs and small branches; occasional and probably under-recorded. SS 73, 82–84, 92, 94; ST 03, 12, 20, [21 Curland, on plum in orchard, 1922 WW as '*A. cerasi*' (BM)], 24, 36, (42), 43, 45, 53, 54, 63, 64, 74.

Arthopyrenia salicis [± F]. LC. **5**, **6**. On smooth bark, especially of *Corylus*, in valley woodlands; probably under-recorded. SS 83, 84, 92, 93; ST 21 Neroche Forest BJC, 45 Long Wood, on *Fraxinus*, 1993 BJC.

Arthopyrenia saxicola. LC NS. **6**. On shaded hard limestone in the Mendips; local. ST 45 Burrington Combe, Cheddar Gorge, The Perch, Draycott Sleights, several supported by specimens in E.

Arthothelium ruanum [*Arthonia ruana*]. LC NS. **5**, **6**. On smooth bark, especially of *Corylus*, in woodlands; rare. SS 83 several woods in the

Barle valley, 92 Haddeo Valley 1978 FR, 1994 NAS; ST 45 Rodney Stoke, on *Quercus*, 1993 ABC.

Arthrorhaphis aeruginosa [LF]. LC NS. **5**. On *Cladonia* squamules. SS 82 Hawkridge Ridge Wood, Barle Valley, fertile 1994 ABC.

Arthrorhaphis citrinella. LC. **5**. Acid rock crevices; very rare. SS 73 nr Wheal Eliza Mine, 1994 ABC, 74 nr Pinkery Fm 2000 ABC.

Aspicilia caesiocinerea (*A. gibbosa* auct.) [*Circinaria caesiocinerea*]. LC. **5**, **6**. On hard siliceous rocks or pebbles. SS 73, 74, 82, 84 Porlock Beach, on pebbles; ST 47 Tickenham churchyard, on sandstone, FR, 56 & 66 Stanton Drew stone circle.

Aspicilia calcarea [*Circinaria calcarea*]. LC. **5**, **6**. On both natural limestone in the Mendips, etc., and on stonework especially in churchyards; very common. In all squares except SS 73, 74, 82, 83 & ST 50, where suitable substrata have not yet been found.

Aspicilia contorta subsp. ***contorta*** [*Circinaria contorta*]. LC. **5**, **6**. On horizontal surfaces of both natural limestones and calcareous stonework, also coastal shingle; common. In all squares except SS 73, 74, 82, 84, 93; ST 14, 24, 26, 33, 50.

Aspicilia contorta subsp. ***hoffmanniana*** [*Circinaria contorta* subsp. *hoffmanniana*]. LC. **6**. On horizontal surfaces of natural limestone in the Mendips; locally frequent. ST 35 above Rackley and Compton Hill 2002 ABC, 45 Cheddar Gorge 2001 ABC, Wavering Down to Fry's Hill 2002 ABC.

Aspicilia grisea (incl. *A. insolata*). LC. **5**, **6**. On acid rocks and stonework; rare. SS 84 Porlock Beach on pebbles AC; ST 46 Goblin Combe, 66 Stanton Drew standing stones; 76 Bath Abbey Cemetery PWJ.

Aspicilia laevata. LC NS. **5**. On acid rocks. SS 83 Barle Rocks, 92 Dulverton.

Aspicilia leprosescens [*Circinaria leprosescens*]. LC. **5**, **6**. On somewhat eutrophicated acid rocks and stonework nr coast or inland on megaliths; rare. SS 84 Porlock Beach on wall AC; ST 25 Brean Down, 56 Stanton Drew standing stones.

Aspicilia radiosa (*A. subcircinata*) [*Lobothallia radiosa*]. LC. **5**, **6**. On natural limestones, and on calcareous stonework, especially chest tombs in churchyards. ST 21 Pitminster Ch, 22 Creech St Michael Ch, 25 Brean Down OLG, Sand Point BJC, 31 Chaffcombe Ch, 35 above Rackley 2002 ABC, 44 Wedmore Ch.

Bacidia adastra [*Bacidina adastra*]. LC NS. **5**, **6**. On bark and on the ground; often sterile and probably overlooked. ST 30 Chard, on trees in orchard, 2013 BB, 57 Long Ashton Ch, terricolous and richly fertile, 2009 DJH, 64 Harridge Wood, on bark, 2015 DJH.

Bacidia arceutina. LC. **5**, **6**. On base-rich bark of trunks and branches; uncommon, mostly on *Sambucus.* SS 84 Hawkcombe, Radford Wood, on *Sambucus*, 2000 VG, [94 Dunster Warren 1928 WW (BM)]; ST 04 Cleeve PWJ, [11 Blackdowns 1926 WW (BM), 21 Scrapton, Combe St Nicholas 1926 WW (BM)], 54 nr Wells, 55, 63, 74.

Bacidia arnoldiana [*Bacidina arnoldiana*]. LC. **5**, **6**. On damp shaded calcareous rocks and walls; rare or overlooked. ST 04 PWJ, 23, 26 Steep Holm 1980 OLG, 45 Winscombe railway cutting 1993 BJC, Cheddar Gorge 2001 ABC, 46 Goblin Combe 1988 BJC, 51, 55 Ubley Warren BJC, 57 Leigh Woods 2003 BJC, 76.

[***Bacidia auerswaldii*** (*Bilimbia effusa*). DD NR. **5**. Formerly on *Ulmus* trunks; not seen since *c* 1930. ST 12 Norton Manor, Norton Fitzwarren 1927, 1935 & 1937 WW (BM); certainly extinct here in 1991, AC. The only known English site for this species.]

Bacidia bagliettoana. LC. **5**, **6**. Over mosses on limestone and calcareous soil; locally common in the Carboniferous limestone areas. ST [22 Taunton area, several specimens WW (BM)], 24 Steart, 25 Brean Down, 26 Steep Holm OLG, 31 Chaffcombe, 35 Weston, 36 Sand Point, 41 Ham Hill, 45 Cheddar, 46 Goblin Combe, 55 Ubley Warren.

Bacidia biatorina. LC. **5**, **6**. On old *Quercus* and *Fraxinus* in ancient woodlands; frequent on Exmoor, scattered elsewhere. SS 82, 83 Barle woods, 84 Horner Combe, 92 Haddeo Valley, 93; ST 03 Nettlecombe Park, 13 Holford Combe, 21 Neroche Forest, 31 Chaffcombe Wood, 73 Stourton Woods FR, 74 Mells Park.

Bacidia caligans [*Bacidina caligans*]. LC NS. **5**, **6**. On sheltered calcareous rocks and stonework, rarely on bark; rare or overlooked. ST 42 Kingsbury Episcopi Ch 1994 BJC & KS, 57 Avon Gorge, by old railway, BJC, 76 Bath Abbey Cemetery PWJ.

Bacidia chloroticula [*Bacidina chloroticula*]. LC NS. **5**. On cross memorial in churchyard; probably overlooked. ST 14 Holford Ch 2010 DJH.

Bacidia circumspecta. VU NS. **5**. On *Quercus* in old woodland; very rare. SS 82 Ashwick Wood FR, 84 Rowbarrow Wood 1998 ABC.

Bacidia delicata [*Bacidina delicata*]. LC. **5**, **6**. On shaded calcareous rocks, or on trees in woodland or churchyards; rare or overlooked. SS 92 Weir Cleeve, on *Fraxinus*, 1994 ABC; ST 03 Nettlecombe 2003 LS, 43 Ivythorn Hill, on *Acer campestre*, 1994 ABC, 45 Cheddar Gorge, on shaded limestone cliff, 2001 ABC, 57 Avon Gorge 1993 BJC, 75 Orchardleigh Ch, on *Taxus*, 2017 DJH & JB.

Bacidia egenula. [*Bacidina egenula*]. LC. **6**. On more or less calcareous stonework; rare or overlooked. 75 Orchardleigh Ch, on sandstone headstone, 2017 DJH & JB.

Bacidia friesiana. LC NS. **5**, **6**. On nutrient-enriched bark, especially *Sambucus*; rare. ST [21 Scrapton, Combe St Nicholas 1926 WW, as '*B. beckhausii*' (BM), 23 Broomfield, opposite Felton Wood 1932 WW, as '*B.effusa*' (BM)], 43 Ivythorn Hill ABC, 44 PWJ, 50 White Vine Farm Woods, on *Acer*, 1988 FR, [51 Montacute Park 1939 WW (BM)], [53], 54, 72, 74 Mells Park, [76].

Bacidia fuscoviridis. LC NS. **6**. On shaded limestone; local, often sterile. ST 35 above Rackley 2002 ABC, 36 Sand Point, 1991 BJC, 45 Winscombe railway cutting 1993 BJC, Cheddar Gorge 2001 ABC, Wavering Down 2002 ABC, 54 Ebbor Gorge BJC, 55, 64.

Bacidia incompta. VU. **5**, **6**. On bark, especially of *Ulmus*, affected by nutrient seepage, or on lignum inside hollowed trees; now very rare. ST [53], 54 Ebbor Gorge, on *Ulmus*, 1990 AC, Lynchcombe, inside hollow *Fraxinus* pollard, 2016 ABC, 57 Ashton Court on *Quercus*, 2012 DJH, [63], 75 Orchardleigh Park, on *Ulmus*, 1974 FR. The record for ST 11, Brown Down (Watson 1930) refers to *B. arceutina*.

Bacidia inundata [*Bacidina inundata*]. LC. **5**. On acidic rocks in and by rivers and streams; locally frequent on Exmoor. SS 73 Simonsbath, by R. Barle VG, 74, 83 Landacre Bridge and Tarr Steps VG, 84 Hawkcombe 1991 ABC, East Water and Chalk Water VG, 92 R. Haddeo VG; ST 11, [14], 04 PWJ.

Bacidia laurocerasi. LC. **5**, **6**. On base-rich bark of well-lit trees and shrubs; frequent. SS 84, 93; ST [02], 03 Nettlecombe Park DLH, 13, 17, 21, [22], 26 Steep Holm OLG, 40, 43, 44, 53, 54, 72, 74, [76].

Bacidia neosquamulosa [*Bacidina neosquamulosa*]. LC NS. **5**. On bark. ST 21 Ruttersleigh SSSI 2010 NAS.

Bacidia phacodes [*Bacidina phacodes*]. LC. **5**, **6**. On base-rich bark; occasional - has declined, as everywhere in England, with use of fertiliser sprays and loss of elms. Not seen in this survey in intensively farmed areas in the central lowlands. SS 84 Horner Combe, 92; ST 11, 12, 21, 31 Chaffcombe Wood, 36, 40, 43, 46, 54, 63, 74.

Bacidia rubella. LC. **5**, **6**. On base-rich bark, mostly of *Fraxinus* and *Acer*, formerly *Ulmus*; widespread and still frequent locally, but probably has declined like the last two species. SS 82–84, [92, 93], 94; ST [02], 03, [04, 12, 13], 21, 22, 24, 30, 33, 43, 46, 50, 51, 53, 54, 57, 63, 74, [76].

Bacidia scopulicola. LC. **5**. Coastal rocks; very rare (but maritime rocks of hard acid rock are very limited in the county). SS 94 Hurlstone Point 1987 VG.

Bacidia squamellosa [*Bacidina squamellosa*]. LC NS. **5**. On *Corylus*, *Quercus* and *Salix* in old woodlands; rare. SS 83 Great Wood, on *Corylus*, 1988 AC, and Slade Wood 1997 ABC, 84 Whitbarrow Wood, on *Quercus*, 1988 AC; ST 03 Clatworthy, Northern Wood 1996 ABC.

Bacidia sulphurella [*Bacidina sulphurella*] (*Bacidia arnoldiana* f. *corticola*). LC NS. **5**. On bark, especially of *Sambucus*; rare or overlooked. SS 83 Great Wood 2013, BLS; ST 03 Nettlecombe, on *Quercus*, 2003 AA & LS, 21 Neroche Forest 1991 BJC. Only recently separated from *B. arnoldiana*, often sterile and easily overlooked.

Bacidia trachona. LC NS. **5**. On acid rocks in underhangs by water; rare. SS 84 Horner 1991 BJC, 93.

Bacidia viridescens. LC NS. **5**, **6**. On limestone rocks; very rare. ST 04 nr Cleeve PWJ, 35 above Rackley 2002 ABC, 36 Sand Point 1991 BJC.

Bacidia viridifarinosa. LC. **5**, **6**. On shaded bark (e.g. *Quercus*) and acidic rocks in woodlands; frequent in Exmoor woods. SS 82, 84, 92–94; ST 04 Cleeve PWJ, 43 Ivythorn Hill BJC, 74 Mells Park FR.

Bactrospora corticola. LC NS. **5**. In crevices of dry bark of old oaks; very rare. SS 84 Hollow Combe, nr Porlock 1987 AC.

Baeomyces rufus. LC. **5**, **6**. On bare acid soil of tracks and banks, etc.; frequent in much of the

county. SS 73, 74, 82–84, 92, 94; ST 03, (13), 14, 21, (23), 41, 45, 55, 73 Stourton Woods 1985 FR.

Bagliettoa baldensis s. lat. (*Verrucaria baldensis*; incl. *B. steineri*). LC. **5**, **6**. On mostly well-lit hard limestone, both natural and in churchyards; common except in far west, where it is absent. Unrecorded in SS 73, 74, 82–84, 92; ST 03, 12, 14, 21, 23, 32, 33, 52, 53. Recent research suggests that most records may refer to *B. steineri* (A. Orange pers. comm.).

Bagliettoa calciseda (*Verrucaria calciseda*). LC. **5**, **6**. On exposed Carboniferous limestone rocks and stonework, especially gravestones; common, except in the far west. SS 94; ST 03, 04, 12, 13, 22–26, 31–33, 35, 36, 41–46, 52, 54–57, 62–65, 72, 74–76.

Bagliettoa parmigerella (*Verrucaria parmigerella*). LC NR. **6**. On Carboniferous limestone outcrops; rare. LC NR. ST 45 Axbridge Hill, 54 Lynchcombe, 55 Ubley Warren 2012 BJC (E).

Belonia calcicola [*Gyalecta calcicola*]. DD NR. **6**. On shaded limestone; very rare. ST 46 Goblin Combe 1934 WW (BM), refound in 2005 by BE & VG. An apparent endemic to the British Isles, with a rather vague locality from the Lake District being its only other site (Edwards 2005).

Belonia nidarosiensis (*Clathroporina calcarea*) [*Gyalecta nidarosiensis*]. LC. **5**, **6**. On damp, especially N-facing exposures of natural limestone and old walls, especially of churches; now known to be very common, but still under-recorded. SS 93 Winsford Ch, 94 Selworthy, Dunster; ST 04, 14, 20, 22, 30–35, 37, 41–47, 54, 55 Harptree Combe, fertile, 2016 DJH, 56, 63–66, 76.

Biatora britannica. LC NR. **5**. On trees in old woodland. SS 84 Horner – Stoke Wood and Rowbarrow, on *Fraxinus*, 2012 NS; ST 21 Ruttersleigh 2010 NS.

Biatora chrysantha. LC NS. **5**. On acid bark in valley woodlands of the Barle and Haddeo; rare. SS 83 Mill Wood, Park Wood (fertile on *Alnus* 2009 NAS) and Lea Wood, 93 Pickett Hill Plantation.

Biatorella fossarum. EN NR. **5**. On soil over Liassic limestone; very rare. ST 41 Ham Hill, nr Stoke sub Hamdon (4616), 1989, KS & AC (E), also 2003 VG and 2011 DJH. Elsewhere in the British Isles, only at Isle of Portland (Dorset) and Great Orme (Caernarvonshire).

Biatoridium delitescens. VU NR. **5**. On bark of *Corylus* in ancient woodland; very rare. SS 83 Barle Valley, Slade Wood 1997 ABC. Only English record.

Bilimbia sabuletorum. LC. **5**, **6**. On mossy limestone, calcareous stonework, and calcareous soil in grassland; common in central and east Somerset. SS 73, 74, 82–84, [93], 94; ST 02–04, 11–13, 20, [21, 22], 23, 25, 26, 30, 31, 35, 36, 40–43, 45, 46, [47], 51, 52, 54–57, 63, 66, 72, 74–76.

Bilimbia lobulata. LC. **5**, **6**. On open calcareous sandy soil and soil-filled crevices in limestone outcrops; rare. SS 73 Wheal Eliza Mine 1994 ABC; ST 25 Brean Down, 35 NE-facing outcrops below Crook Peak 2002 ABC, 45 Burrington Combe 1987 BJC, Wavering Down 2002 ABC, 46 Kenn Ch 2009 DJH, 55 Ubley Warren BJC, [76 Bathampton HBH (BM)].

Botryolepraria lesdainii. LC. **5**, **6**. In humid crevices in limestone outcrops and old walls; widespread and probably frequent. SS 94; ST 13, 22, 25, 30, 35, 41–43, 45, 54, 55, 57, 75, 76.

Brianaria bauschiana (*Micarea bauschiana*). LC. **5**. In dry but sheltered sites on acidic rocks, stones, soil, tree roots, etc. Apparently rare (or overlooked) outside Exmoor. SS 73 Simonsbath, 82–84, 92, 94; ST [02 nr Wiveliscombe 1924 WW (BM)], 03 Clatworthy woods, [04 Washford 1916 WW (BM), 13 Cothelstone 1917 & 1928, and Crowcombe 1929 WW (BM), 14 St Audrie's 1916 WW (BM), 21 Blagdon Hill 1915 and Staple Hill 1924 WW (BM)].

Brianaria lutulata (*Micarea lutulata*). LC. **5**. On shaded acid rocks, mainly in woodland; local. SS 73 Upper Barle, ABC, 82 Hawkridge Ridge Wood, 83 Mill Ham and Slade Woods ABC, 84 Embelle Wood AC, Hawkcombe ABC and Horner woods.

Brianaria sylvicola (*Micarea sylvicola*). LC. **5**. On shaded acid rocks; rare but probably overlooked. SS 82 Hawkridge Ridge Wood 1994 ABC (E), 83 Shircombe Rocks 2002 ABC (E), [84 Yenworthy 1948 FS (LSR)], 92, 94; ST [13 above Triscombe 1927 WW (BM), 21 Staple Hill 1927 WW (BM)].

Briancoppinsia cytospora (*Phoma cytospora*) [LF]. LC NS. **5**. On thallus of *Punctelia borreri*. ST 23 Barford House 2012 ABC & MP (E).

Bryobilimbia ahlesii (*Lecidea ahlesii*). LC NS. **5**. On rocks by rivers; very rare, only in Exmoor. SS 82 Mounsey Wood 1997 ABC, 84 Rowbarrow Wood 1998 ABC.

Bryobilimbia hypnorum (*Lecidea hypnorum* s. str.) LC NS. **6**. Over mosses in short limestone turf on S-facing slopes in the Mendips. Probably all records are errors except the following – others

refer to *B. sanguineoatra*. ST 45 Fry's Hill 1992 BJC and 2002 ABC (E), Wavering Down and Axbridge Hill 2002 ABC (E).

Bryobilimbia sanguineoatra (*Lecidea sanguineoatra*). LC NS. **5**. On bryophytes on old oaks or slightly base-rich rocks (records include those made earlier as *Lecidea hypnorum*); very local, only in Exmoor woods. SS 82 Castlemeadow Linhay, base of *Quercus* by river, 1997 ABC (E), 83 Barle Valley Woods, 84 Horner woods.

Bryoria fuscescens. LC. **5**. On *Pinus sylvestris* on Exmoor; very local. SS 83 four woods in the upper Barle Valley AC & PW, 84 Quarter Barrow Plantation, one thallus recorded 23 cm long, AC & PW, and Pitt Plantations 1985 FR & RJ, Metcombe Plantation 1991 DJH.

Bryoria subcana. LC. **5**. On *Quercus* and *Pinus sylvestris*, mostly with *B. fuscescens* but scarcer. SS 83, 84 Pitt Plantation, S of Culbone FR.

Buellia aethalea. LC. **5**, **6**. On hard acid rocks, boulders and pebbles, also in churchyards, where granite and sandstone memorials are the main substrata. Common but under-recorded. SS 73, 84, 93, 94; ST 03, 04, 13, 14, 20, 22, 24, 30, 31, 33, 34, 37, 40–47, 55–57, 62, 64–66, 72–76.

Buellia badia. LC NS. **5**. On roof slates and siliceous pebbles, often closely associated with *Xanthoparmelia* spp. SS 94 Porlock – Piles Mill, on roof, 2006 ABC; ST 04 Blue Anchor, on stabilised shingle, 2015 BJC, MP & PW, 23 Barford House, on roof, 2012 BC & MP.

Buellia disciformis. LC. **5**. On mature trees (*Fagus*, *Quercus*) in ancient woodlands; very local and so far only in Exmoor woods. SS 82 & 83 Barle Valley woods, 84 Horner Combe, 92 Pixton Park, 93 Sale Wood; ST 03 Clatworthy Wood 1996 ABC.

Buellia griseovirens. LC. **5**, **6**. On mostly smooth bark of trunks and branches, incl. *Fraxinus* and *Salix*, also on worked timber; widespread but overlooked. SS 82 & 83 Barle Valley woods, 84 Horner woods, 92 Haddeo woods; ST 03 Clatworthy woods 1996 ABC, 21, 40, 41, 45, 51, 55, 57, 72.

Buellia ocellata (*B. verruculosa*). LC. **5**, **6**. On hard acidic rocks and beach pebbles in the west, but mostly on sandstone and granite memorials in the centre and east of the county. SS 73, 74, 83, 84 Porlock Beach on pebbles AC, 93, 94 Hurlstone Point; ST 03, 04 Blue Anchor ABC & PW 2006, 13, 14, 20, 22, 24, 30–34, 37, 40–43, 45–47, 55, 56, 57, 62–66, 73, 75, 76.

Buellia saxorum. NT NR. **6**. On hard siliceous rock (sarsen stone and chert); very rare. ST 54 Lynchcombe, on chert outcrops, 2016 ABC, 56 & 66 Stanton Drew stone circle 1985 AC, BJC & DJH. (Fig. 17)

Buellia schaereri. LC. **5**. On acid bark in ancient parkland; very rare. SS 94 Dunster Park, 1985 FR (BLS excursion).

Buellia spuria. DD NR. **5**. On coastal shingle. ST 24 Steart Point 1962 D. Ranwell (BM Determination Book 1, 109).

Buellia stellulata. LC. **5**. On acid coastal rocks and shingle; very local. Much confused with *B. aethalea*, and possibly elsewhere on the coast. SS 84 Porlock Beach AC, 94 Hurlstone Point ABC.

Buellia subdisciformis. LC. **5**. On hard acid rocks and pebbles on the coast; very local. SS 84 Porlock Beach 1986 AC, 94 Hurlstone Point. The record from W of Minehead, 1920, by WW is probably correct, but other old records are suspect.

Buelliella physciicola [LF]. LC NS. **5**, **6**. On thallus of *Phaeophyscia orbicularis*. ST 22 Kingston St Mary Ch 1991 TC, 35, 36 Sand Point 1991 BJC, 45, 55.

Bunodophoron melanocarpum. LC. **5**. On bark and lignum of old oaks; only in the Barle Valley; very rare. ST 83 Ashway Hat Wood 2009 NS.

Byssoloma marginatum. LC NS. **5**. On bark or over bryophytes on bark of *Corylus* and *Fraxinus*, *Quercus* and *Salix* in old woodlands; local and so far only from Exmoor. SS 82 Mounsey Wood, 1997 ABC, 83 Slade Wood, 1997, ABC, 84 Hawkcombe, 1992, ABC.

Caeruleum heppii (*Acarospora heppii*, *Myriospora heppii*). LC NS. **6**. On calcareous rocks and pebbles, rare. ST 24 Steart Point BB & DJH, 55 Ubley Warren BJC.

Calicium glaucellum. LC. **5**, **6**. On lignum and dry acid bark; locally frequent. SS 83 Barle woods, 84 Hawkcombe and Horner woods, 92 Pixton Park, on *Castanea* bark, 1987 AC (E) and Barlynch Wood 2001 NAS, 94 Dunster Park; ST 03 Nettlecombe Park, 13 Quantock woods, 14, [20 Bewley Down 1921 WW (BM)], 21 Neroche Forest, [22 Staplegrove 1924 WW (BM, TTN), West Monkton, nr Tauton 1940 WW (BM), 23 nr Tetton Fm, Kingston St Mary 1930 WW (BM)], 45 Cheddar Gorge woods, 46 Goblin Combe, 55, 57 Long Ashton, 66, 74 Mells Park.

Calicium lenticulare. LC NS IR. **5**. On lignum of old *Quercus*, only in Horner woods; very rare.

SS 84 Whitbarrow Wood 1988 AC, Ten Acre Cleeve 1998 ABC & 2016 NAS, Rowberrow 2012 NAS, Stoke Wood 2012 NAS.

Calicium salicinum. LC. **5**, **6**. On dry bark or lignum, especially *Quercus*; scattered and formerly locally frequent, although there is only one record since 1992. SS 83 Nine Acre Copse 1987 AC & PW, 84 Horner Combe 1987 & 1988 AC, 92 Pixton Park 2017 NAS, 94 Dunster Park 1984 FR; ST 03, 13 Quantocks woodlands 1972–1982 FR, 21 Higher Shute's Copse 1991 BJC *et al*., 51 East Coker 1985 FR, *54*, 57 Aston Park 1974 A.M. Brand, 73 Redlynch 1985 FR, 74 Mells Park 1989 FR.

Calicium viride. LC. **5**, **6**. On bark on the drier sides of old trees; common in old woodlands and parks. SS 74, 82–84, 92–94; ST 03, 11–14, 21, [22], 23, 31, *42*, *44*, 51, 53, [54 Ebbor Gorge 1929 WW (BM)], 57, [*63*], 64, 65, 74, 75. (Fig. 13)

Caloplaca albolutescens. LC NS. **5**. On calcareous stonework; probably under-recorded partly owing to confusion with *C. teicholyta*. ST 03 Nettlecombe Ch, 04 Blue Anchor, on concrete defensive structure, 23 Spaxton Ch.

Caloplaca alociza [*Pyrenodesmia alociza*]. LC NS. **6**. On hard Carboniferous limestone in sunny situations; rare. ST [26 Steep Holm *c*. 1924 R.C. McClean (TTN), 35 Purn Hill 1935 DAJ (TTN)], 36 Sand Point 1991 BJC, 45 Burrington Combe 1987 BJC, Fry's Hill BJC, Shute Shelve 2002 BJC, 46 Goblin Combe 1988 BJC.

Caloplaca arcis [*Flavoplaca arcis*]. LC. **5**, **6**. On calcareous stonework, especially vertical surfaces of walls, rarely on natural rock outcrops; common, but under-recorded until recently. Previously included within *C. citrina*. SS 94; ST 03, 04, 13, 14, 21, 23, 26, 32, 33, 35, 41, 42, 45, 46, 51, 54, 55, 57, 64, 75.

Caloplaca arenaria [*Rufoplaca arenaria*]. LC NS. **5**. On roof slates and shale and slate outcrops; rare. SS 74 nr Pinkery Fm 2000 ABC; ST 03 Nettlecombe 1990 AC & PW, [12 Tarr Hill, on shale, 1928 WW (BM)].

Caloplaca arnoldii [*Calogaya arnoldii*]. LC. **5**, **6**. On rocks and walls nr the sea. SS 84 Porlock Beach AC, 94 Hurlstone Point ABC; ST 26 Steep Holm OLG, 47 Portishead 2011 DJH.

Caloplaca asserigena. LC NS. **5**. On twigs; rare or overlooked. SS 83 Westwater Linhay, on *Quercus*, 2002 ABC, 84 Hawk Combe 1992 ABC; ST 03 Nettlecombe 2015 MP, BJC & PW.

Caloplaca aurantia [*Klauderuiella aurantia, Variospora aurantia*]. LC. **5**, **6**. On sunny limestone rocks, both natural in the Mendips, and on old walls and churchyards; common in central and east Somerset, rare in the far west. SS 84, 94 Dunster Ch; ST 03, 04, 12–14, 20, 22–26, 30–37, 40–47, 51–57, 62–66, 72–76, 85.

Caloplaca austrocitrina [*Flavoplaca austrocitrina*]. LC. **5**, **6**. On vertical surfaces, especially E- or N-facing, of calcareous rocks, walls and churchyard memorials, often where there is 'metal' influence (e.g. below leaded windows); common but under-recorded, being until recently subsumed under *C. citrina*. SS 94; ST 03, 23, 26, 41, 44, 45, 52, 55, 57, 62, 63, 74, 75. These records may include *C. citrina* s. str. as the two species appear difficult to distinguish without DNA analysis.

Caloplaca britannica [*Haloplaca britannica*]. LC. **5**, **6**. On sea-cliffs, both limestone and sandstone; rare. SS 84 Hurlstone Point 2013 BLS; ST 26 Steep Holm 2014 DJH, 36 Sand Point 2011 BLS, 47 Portishead 2011 DJH.

Caloplaca cerina. LC. **5**, **6**. On nutrient-enriched tree bark or fence rails; occasional in centre and east of the county. ST 03, [12], 21–26, 32, 33, 41, [43 High Ham, on pales, 1914 WW (TTN)], 44–46, 54, 55, 74, 76.

Caloplaca cerinella [*Athallia cerinella*]. LC. **5**, **6**. On base-rich bark, especially of twigs, in *Xanthorion*; probably under-recorded. SS 84, 94; ST 03 Clatworthy, on *Sambucus*, 1996 ABC, 12, 21, 23, 26, 41, 33 Othery, on *Populus*, JC, 43, 45 Cheddar, on *Fraxinus*, 1997 BJC, 45, 46, 54, 55, 57, 63, 66, 67, 74–76.

Caloplaca chalybaea [*Pyrenodesmia chalybaea*]. LC NS. **5**, **6**. Especially on Carboniferous limestone in the Mendips; rare. ST 04 Watchet, St Decuman's Ch, top of limestone table tomb, 2015, MP & ABC, [35 Uphill 1935 WW (BM)], 36 Sand Point 1991 BJC, 44, 45 Cheddar Gorge ABC 2001, Shute Shelve and Fry's Hill 2002 ABC, 54 Ebbor.

Caloplaca chlorina. LC. **5**, **6**. On ± nutrient-enriched acidic rock surfaces, especially granite or sandstone memorials in churchyards, also on *Thymus* stems in S-facing limestone grassland; rare or overlooked. SS 83; ST 03 Nettlecombe, on gravestone, 2003 AA & LS, 12, 13 Nether Stowey, on church wall, 2003 AA & LS., 23, 35 Compton Hill 2002 ABC, 42 Kingsbury Episcopi, on church wall, 2003 AA & LS, 45 Cheddar, Fry's Hill 2002 ABC, 46, 47, 66 Stanton Drew, 76 Bath Abbey Cemetery PWJ, 85.

Caloplaca cirrochroa [*Leproplaca cirrochroa*]. LC. **5**, **6**. On sheltered outcrops of natural limestone in the Mendips, also on calcareous stonework in one churchyard; very local. ST 14 East Quantoxhead Ch, TC, 25, 26 Steep Holm OLG, 35, 36 Sand Point BJC, 45 Wavering Down, Cheddar Gorge and Draycott, 46 Goblin Combe 1988 BJC, 47 DHB, 54 Ebbor Gorge. (Fig. 23)

Caloplaca citrina s. lat. (*C. arcis*, *C. austrocitrina*, *C. citrina* s. str., *C. dichroa*, *C. flavocitrina*, *C. limonia*, *C. phlogina*). A complex group of species, whose taxonomy is in the process of being clarified. This species group has been recorded in all squares except SS 82. *Caloplaca citrina* s. str. has not been reliably reported from Somerset, but it may well occur. DNA analysis is required for confirmation (see under *C. austrocitrina*).

Caloplaca crenularia [*Blastenia crenularia*]. LC. **5**, **6**. On weakly basic to more or less base-rich sandstones, both on natural outcrops and on churchyard memorials; frequent. SS 74, 83, [84], 94 Selworthy Ch; ST 03, 04, 12–14, 20 Wambrook, [21] 24, [26], 32 Hatch Beauchamp Ch, 33, 35, 37, 41, 44–47, 53–57, 65 Holcombe Old Ch, 66, 74 Mells Ch, 75, 76 Bath Abbey Cemetery PWJ.

Caloplaca crenulatella [*Xanthocarpia crenulatella*]. LC. **5**, **6**. On limestone and concrete; uncommon. SS 84, 92, 94; ST 04 Blue Anchor, on concrete pebble, ABC & PW, 23, 25, 35 above Rackley, on low limestone outcrop, 2002 ABC, 41, 45, 46, 51, 53–55, 57, 67, 74–76, [85 Beckington 1869 HP (TTN)].

Caloplaca dalmatica. LC. **5**, **6**. On sun-lit limestone, both on natural outcrops and on old church walls; frequent but under-recorded until recent years. SS 94 Dunster Ch; ST 04, 14, East Quantoxhead Ch, 20, 23, 25, [26], 30, 31 Chaffcombe Ch, 33–37, 42–47, 51–57, 61–64, 66, 72, 74–76.

Caloplaca decipiens [*Calogaya decipiens*]. LC. **5**, **6**. On natural limestone and on stonework, often in nutrient-enriched or polluted sites; rather rare. ST 03 Nettlecombe, on gravestone, 2003 AA & LS, 13 Nether Stowey, on church wall, 2003 AA & LS, 30, 36 Sand Point, BJC, 42–45, 55, 57, 65, 66, 74, 75, 85.

Caloplaca dichroa [*Flavoplaca dichroa*]. LC. **5**, **6**. On exposed and slightly nutrient-enriched Carboniferous limestone outcrops and tops of limestone or marble gravestones; common but until recently overlooked as *C. citrina* s. lat. or *C. flavocitrina*. SS 83, 94; ST 03, 04, 12–14, 21, 23–26, 31, 33, 35–37, 41–46, 51, 52, 54, 57, 62, 63, 66, 67, 74–76.

Caloplaca flavescens [*Klauderuiella flavescens*, *Variospora flavescens*]. LC. **5**, **6**. On natural limestone, calcareous stonework, mortar and asbestos; very common. Unrecorded only in squares where suitable substrata apparently rare: SS 74, 82; ST 50.

Caloplaca flavocitrina [*Flavoplaca flavocitrina*]. LC. **5**, **6**. On calcareous rocks and stonework, in exposed and shaded situations, also sandstone pebbles in coastal shingle; common but under-recorded, only recently recognised as separate from *C. citrina*. SS 83, 84, 94; ST 03, 04, 12, 23–26, 33, 35, 36, 41, 51, 53–55, 57, 63, 64, 66, 67, 72, 74–76.

[***Caloplaca flavorubescens*** [*Gyalolechia flavorubescens*]. EN NS. **6**. On basic bark of old trees; extinct. ST 85 Standerwick 1869 HP (TTN).]

Caloplaca flavovirescens [*Gyalolechia flavovirescens*, *Laundonia flavovirescens*]. LC. **5**, **6**. On natural limestone and calcareous stonework, including limestone roof tiles; occasional. SS 73, 83, 93, 94; ST 03, 04, 13, [21, 22], 23–26, 35–37, 41, 42, 44–46, 52, 54–56, 74–76.

Caloplaca granulosa [*Flavoplaca granulosa*]. NT NR. **6**. On natural limestone in sheltered sites, also on a church wall at one site; very rare. ST 26 Steep Holm 2014 DJH, 36 Sand Point 1991 BJC, [45 Cheddar WJ (BM), 54 Ebbor Gorge 1917 WW], 61 Poyntington Ch, on buttress and tower, 1997 & 2001, VG.

Caloplaca holocarpa s. str. [*Athallia holocarpa*]. LC. **5**, **6**. On more or less nutrient-enriched siliceous rock and stonework, including granite, sandstone and slate gravestones, and also on worked timber metalwork. Records rather confused; probably widely occurring but much less common than *C. oasis* (*q.v.*) with which it was confused until recently. Confirmed from ST 03, [21], 33, 35, 47.

Caloplaca limonia [*Flavoplaca limonia*]. LC. **5**, **6**. On vertical surfaces, especially E- or N-facing, of calcareous rocks, walls and churchyard memorials; common but under-recorded, being until recently subsumed under *C. citrina*. SS 94; ST 03, 04, 12, 23, 24, 26, 31–33, 35, 36, 41, 43–45, 55, 62, 63, 74, 75, 76 [85 Beckington 1869 HP (TTN)].

Caloplaca littorea. LC NS. **6**. On sea-cliff; very rare. ST 26 Steep Holm 2014 DJH.

[***Caloplaca luteoalba*** [*Cerothallia luteoalba*]. EN NS. (**5**). On old elms, especially in wound tracks; always rare and now probably extinct. ST [22 Higher Thurlbear 1911 WW (BM, TTN)].] All located specimens supporting Watson's records on limestone are *C. marmorata*. The map in Seaward and Hitch (1983) gives pre-1960 records for ST 03, 12, 34 and 75, and post-1960 records for ST 14 & 54. That for ST 12 refers to a Watson specimen from Langford Budville, which is *C. phlogina*, and another on shale from Tarr Hill, which is *C. arenaria*; we have not traced original sources for the others.

Caloplaca marina [*Flavoplaca marina*]. LC. **5**, **6**. On coastal rocks in the mesic-supralittoral zone; local. SS 84, 94 Porlock to Hurlstone Point; ST [04], 24, 25 Brean Down, 26 Steep Holm, [34], 36 Sand Point, 47 Clevedon.

Caloplaca marmorata (*C. lactea* auct.) [*Xanthocarpia marmorata*]. LC. **5**, **6**. On limestone rocks, stones and walls, especially in the Mendips; locally frequent. ST [14 Quantoxhead 1918 WW (BM)], 20 Wambrook Ch SS, [22 Staplehay, nr Taunton 1918 WW (BM)], 24 Catsford Common, on beach pebbles, 1994 ABC, 25 Brean Down, [30 Winsham 1914 WW (BM)], 35 above Rackley & Compton Hill 2002 ABC, 36 Sand Point BJC, 42, 45 Axbridge Hill, Cheddar Gorge, Dolebury Warren and Wavering Down, 46 Goblin Combe, [54 Milton nr Wells 1921 HC (BM)], 55 Ubley Warren, 56 & 66 Stanton Drew, 76 Bath Abbey Cemetery PWJ.

Caloplaca microthallina [*Flavoplaca microthallina*]. LC. **5**, **6**. On coastal rocks in the mesic-supralittoral zone; local. ST 24–26, 36.

Caloplaca oasis (*C. holocarpa* auct. p.p., *C. lithophila*, *C. polycarpa* auct. brit.) [*Flavoplaca oasis*]. On calcareous rocks and stonework; common, but under-recorded as until recently considered to belong to *C. holocarpa*. SS 94; ST 03, 04, 13, 23–26, 31, 35, 36, 41, 44–46, 54, 55, 63, 67. Sometimes parasitic on *Bagliettoa* spp. and called *C. polycarpa*, as recorded in ST 35, 36, 44, 45, 46, 54.

Caloplaca obscurella. LC. **5**, **6**. On basic bark, rarely fence rails or rock; rarely recorded though probably widespread but overlooked. SS 82–84; ST 03 Nettlecombe, on *Fraxinus*, 2003 AA & LS, 04 Blue Anchor, on sandstone pebbles, 2006 ABC & PW, 21 Higher Shute's Copse, Neroche Forest, 1992 BJC *et al.*, 30, 41, 44–46, 51, 55, 57

Caloplaca ochracea [*Xanthocarpia ochracea*]. LC NS. **6**. Mainly on natural limestone in the Mendip area, occasionally on limestone walls; locally frequent. ST 24, 25 Brean Down, 35 above Rackley & Crook Peak 2002 ABC, 36 Sand Point BJC, 44, 45 Cheddar Gorge, Wavering Down, Shute Shelve & Fry's Hill, 46, 54, 55, 57, 74, 76, 85. Other, earlier records on stonework are referable to *C. dalmatica*.

Caloplaca phlogina [*Polycauliona phlogina*, *Scythioria phlogina*]. NE ?NS. 5, 6. On basic barked trees and on coastal fence posts; probably not uncommon, being previously recorded as *Caloplaca citrina* s. lat., but may have declined owing to the demise of mature elms. ST [21 Staple Fitzpaine, on *Ulmus*, WW (TTN), 12 on *Ulmus*, Langford Budville WW, as *Placodium luteoalbum*], 24 on fence posts, Steart, 2015 DJH, 26 on *Sambucus*, Steep Holm, 2014, DJH, 30 Chard, on *Fraxinus* in orchard, 2013 BB, [31 Combe St Nicholas, on *Ulmus*, WW (TTN)].

Caloplaca saxicola [*Calogaya pusilla*]. LC. **5**, **6**. On limestone rocks and calcareous stonework, most common on the latter, especially in churchyards; common. All squares except SS 73, 74, 82, 83, 93; ST 37, 50.

[***Caloplaca sol***. NE NR. 5. On sunny coastal rocks; rare or overlooked. SS 94 Greenaleigh Point 1920 WW (BM).] A recently described species that is probably still present, and should also be looked for on coastal limestone in VC 6.

Caloplaca 'soralifera'. NE. **5**. On sandstone pebbles in coastal shingle; rare, but only recently recognised and possibly overlooked. ST 04 Blue Anchor 2006 ABC & PW. This material was provisionally identified as *C. soralifera*, but is actually an undescribed species (M. Powell, per. comm.).

Caloplaca teicholyta. LC. **5**, **6**. On limestone stonework, especially in churchyards, occasionally on natural outcrops; common except in the far west, rarely fertile. All squares except SS 73, 74, 82, 83, 92; ST 37.

Caloplaca thallincola [*Klauderuiella thallincola*, *Variospora thallincola*]. LC. **5**, **6**. On coastal rocks; very local. SS 84, 94; ST 25, 26, 36, 37, 47.

Caloplaca ulcerosa. LC. **5**, **6**. On basic bark (rearly lignum) of trees; rare but perhaps overlooked. SS 84 West Luccombe, on *Juglans*, 1998 ABC, 92 on lignum of *Acer*, Pixton, 2017 NS; ST 03 Nettlecombe Park, on *Quercus cerris*, 1982 FR, 12, 33, 41, 42, 44, 45, 51, 54, 57.

Caloplaca variabilis [*Pyrenodesmia variabilis*]. LC. **5**, **6**. On exposed, flat surfaces of natural limestone in the Mendips, and on old limestone chest tombs in churchyards; widely occurring but usually localised. SS 94; ST 24, 25 Brean Down, 26 Steep Holm, 30 Cricket St Thomas, 31, 35 above Rackley and Compton Hill 2002 ABC, 36, 41 Ham Hill, 42, 43, 45 Cheddar Gorge 2001 ABC, Wavering Down to Fry's Hill 2002 ABC, (46), 51, 52, 54, (55), 56, 57, 61–66, 74–76.

Candelaria concolor. LC. **5**, **6**. On tree trunks with somewhat enriched bark, mostly in parklands; rarely on lignum or stonework; formerly uncommon but apparently increasing and now common. SS 83, 84, 94; ST 03, 12–14, 21–23, 30, 31, 41, 44–45, 51, 53–57, 62, 64, 74–76.

Candelariella aurella. LC. **5**, **6**. On natural limestone, but more often on stonework, concrete and asbestos sheeting, also coastal shingle and worked timber; common, less so in the west. SS 83, 92, 94; ST 02–04 11–14, 22–26, 30. 31, 33–37, 41, 42, 44–47, 51, 52, 55–57, 61–63, 65–67, 72–76.

Candelariella coralliza. LC. **5, 6**. On upland sandstone rocks used as bird perches; very rare, Exmoor only. SS 73 upper Barle valley, nr Wheal Eliza mine 1994 ABC, 74 nr Pinkery Fm 2000 ABC. Records from unusual 'lowland' situations require confirmation: ST 13 Crowcombe Ch, 24 Steart, 42 Kingsbury Episcopi Ch, 55 Ubley Warren, 75 Orchardleigh Ch, on sandstone gravestone, 2017 DJH.

Candelariella medians. LC. **5**, **6**. On calcareous stonework and churchyard memorials, rare on natural limestone; very common in centre and east. SS 83, 94; ST 03, 04, 12–14, 22–24, 26, 30–36, 41–44, 47, 51–57, 62–67, 72–76.

Candelariella medians f. ***steepholmensis***. LC NS. **6**. On calcareous rock. ST 26 Steep Holm, on limestone, 1980 OLG (BM, type collection) and on concrete gun emplacement, 2014 DJH. A rare citrine-green morphotype, mostly found in SE England.

Candelariella reflexa. LC. **5**, **6**. On trees, especially branches, with basic or eutrophicated bark, e.g. *Fagus*, *Fraxinus* and *Sambucus*, more rarely on worked timber; frequent. SS 82–84, 92, 94; ST 03, 11–14, 21–23, 30. 31, 33, 34, 36, 41, 43–46, 50–55, 57, 62, 65, 66, 72, 74–76.

Candelariella vitellina f. ***vitellina***. LC. **5**, **6**. On sandstone, especially in churchyards, roof tiles and slates, lignum, and dust-impregnated bark; very common. All squares except SS 82.

Candelariella vitellina f. ***flavovirella***. LC. **5**, **6**. On sandstone headstones. ST03 Treborough Ch; ST57 Long Ashton Ch.

Candelariella xanthostigma. LC. **5**, **6**. On trunks of mature broad-leaved trees in well-lit situations; uncommon. SS 84 Horner village; ST 03 Nettlecombe Park, 21, 41, 43, 51, 52, 62, 74 Mells Park FR, 76.

Capronia normandinae [LF]. LC NS. **5**. Parasitic on *Normandina pulchella*; rare. SS 83 Great Wood 2013 BLS.

Carbonea vitellinaria [LF]. LC NS. **6**. Parasitic on *Candelariella vitellina*; rare or overlooked. ST 55 Ubley Warren 2016 DJH and 2018 NB, 66 Folly Farm 1994 Mike Simms.

Catillaria atomarioides. LC NS. **5**, **6**. On sandstone beach pebbles, slaty rocks, siliceous gravestones and on chert in limestone outcrops; probably common but overlooked. SS 74 nr Pinkery Fm 2000 ABC, 84 Bossington Beach BLS 2013; ST 04 Blue Anchor 2006 ABC & PW, [22 Shoreditch, 1918 WW (BM, as *Biatorina lenticularis* f. *acrustacea*)], 24 Steart Point 1988 JC, and Catsford Common 1994 ABC, 33, 35, 42, 44, 45 Cheddar Gorge, on chert, 2001 ABC, 54, 57, 66, 72.

Catillaria chalybeia. LC. **5**, **6**. On weakly acid, usually base-rich sandstone outcrops, pebbles and stonework, especially in churchyards; rarely overgrowing *Aspicilia calcarea* on Carboniferous limestone; some records on rocks by Exmoor rivers may belong to var. *chloropoliza*; frequent. SS 73, 74, 82–84, 92, 94; ST 03–04, 12, 13, 22–26, 30–33, 35–37, 40–45, 47, 55–57, 61, 65–67, 76, 85.

Catillaria fungoides. NE NR. **6**. On branch of *Fraxinus* at woodland edge. Rare but easily overlooked; a species recently added to the British list, but seems to be increasing in S England. ST 45 Bradley Cross Farm 2016 BJC.

Catillaria lenticularis. LC. **5**, **6**. On limestone, both natural outcrops and on stonework, especially in churchyards; frequent but probably under-recorded in some areas. SS 84, 93, 94; ST 03, 04, 12–14. 22–26, 31–33, 35–37, 40–47, 51–57, 61–64, 66, 72, 75, 76, 85.

Catillaria nigroclavata. LC. **5**, **6**. On bark, especially twigs of *Crataegus* and *Fraxinus*, but also *Corylus* and *Quercus*, more rarely on worked timber. Probably much overlooked and more common than records suggest, and possibly increasing; first recorded in 2005. ST 12, 21, 22, 44–46, 54, 55, 64, 66, 76.

Catinaria atropurpurea (*Catillaria atropurpurea*). LC. **5**, **6**. On mature trees, mostly *Quercus* and *Fraxinus*, in ancient woodlands and parklands; locally frequent, especially on Exmoor. SS 73, 82–84, 92–94; ST 03 Clatworthy woods, 04 Withycombe, 11–14, 21 Neroche Forest, 31 Chaffcombe, 46 Goblin Combe, 74 Mells Park.

Catinaria aff. ***atropurpurea***. NE NS. **5**, **6**. On mature trees in woodland; very rare. SS 84 Hawkcombe woods, on *Fraxinus*, 1992 ABC; ST 45 nr Black Rock, Cheddar. Similar to *C. atropurpurea*, but ascospores with warted walls.

Catinaria papillosa Coppins ad int. NE NR. **5**. SS 82 Burridge Wood 1994 ABC. Similar to *C. atropurpurea*, but ascospores 3-septate and with warted walls.

Cecidonia xenophana [LF]. LC NS. **5**. On *Porpidia* sp. on stones. SS 84 Hawkcombe, Shillet Wood 1987 AC.

Celothelium ischnobelum. LC. **5**, **6**. On smooth bark of *Corylus*; rare. SS 73 Ashcombe Plantation ABC, 83, 84 Horner woods ABC, 92 Weir Cleeve 1994 ABC; ST 03 Clatworthy woods 1996 ABC, 45 Cheddar Gorge 1991 BJC, [46 Cleeve Combe 1934 DAJ (BM)].

Cercidospora epipolytropa [LF]. LC. **5**, **6**. Parasitic on *Lecanora polytropa*; probably common but under-recorded. ST 04, 67.

Cetraria aculeata. LC. **5**, **6**. Heathland; much decreased and now very rare. SS 73, [84], [92], 94 Hurlstone Point; ST for those hectads, 35 Crook Peak DJH, 45 Cheddar, Fry's Hill 2002 ABC, [55].

Cetraria muricata. LC. **5**. Heath on maritime cliffs and on inland rock outcrops. Very rare. SS [73], 83 nr Landacre Bridge, on dyke-like outcrop, 2005 ABC, 94 Hurlstone Point cliffs in heath, 2013 BLS.

Cetrelia cetrarioides. LC. **5**. On trees. ST 03 Northern Wood, Clatworthy, on *Fraxinus*, 1996 ABC (E, confirmed by thin-layer chromatography). Some or even most of the records of *C. olivetorum* s. lat. will belong here.

Cetrelia olivetorum s. lat. LC. **5**. On acid bark in damp, ancient woods, including *Salix* carr; very local and only in Exmoor. SS 73 Ashcombe Plantation, 82 & 83 Barle Valley woods, 84 Horner woods, 92 Looseall Wood 1994 SD and Haddeo Valley, 93 Sale Wood nr Exton 1988 AC & PW.

Chaenotheca brachypoda. LC. **5**. On lignum of hollowed or split trunks of old trees (*Fraxinus*, *Quercus*, *Sorbus*); very rare. SS 83 Barle valley, Lea Wood 1991–2016 NAS, 84 Horner, Cloutsham Ball, 2016 NAS; ST 03 Northern Wood, Clatworthy 1996 ABC.

Chaenotheca brunneola. LC. **5**, **6**. On dry lignum or dry bark crevices of old trees, especially *Quercus*, in old woodlands. Rather rare. SS 82 & 83 Barle valley woodlands, 84 Hawkcombe and Horner woods, 92 Pixton Park on *Castanea* 1987 FR and on *Pinus* and *Quercus* 2017 NAS, 94 Dunster Park; ST 03 Nettlecombe Park 2008 NAS, 13 Holford Combe, Quantocks FR, 21 Higher Shutes Copse, Neroche Forest 1991 BJC, 46 Goblin Combe 1988 BJC & BLS, 57 Ashton Court, Clarkencombe Wood, 2012–2013 BLS.

Chaenotheca chrysocephala. LC. **5**, **6**. On dry bark and lignum of old *Quercus* trunks, in old woodlands; rare. SS 84 Hawkcombe and Horner woods; ST 21 Higher Shute's Copse, Neroche Forest 1991 BJC, 46 Goblin Combe 1988 BJC, 57 Ashton Court, Clarkencombe Wood, 2013 BLS

Chaenotheca ferruginea. LC. **5**, **6**. On lignum and on acid bark on dry sides of trees, but not confined to old trees; locally frequent or occasional. SS 83, 84 Horner woods, 92–94; ST 12, 14, 21 Higher Shute's Copse BJC *et al.*, *43*, 46 Goblin Combe 1988 BJC, *56*, 57 Leigh Woods 2003 BJC, 64, 66, 74–76.

Chaenotheca furfuracea. LC. **5**, **6**. In bark crevices and hollows at bases of old *Fagus* and *Quercus*, and on acid rock, soil or roots in underhangs and steep banks in woodland; rare. SS 82 Mounsey and Ashwick Woods 1997 ABC, 83 Shircombe Rocks 2002 ABC, 84 Hawkcombe and Horner woods; ST 03 Northern Wood, Clatworthy, 1996 ABC, [13 Lydeard St Lawrence 1922 WW (BM, TTN)], 14 Alfoxton Wood 2010 BB, 21 Higher Shute's Copse, [22 West Monkton Quarry 1943 WW (TTN)], 55 Ubley Warren 1972 DHB, 64 Harridge Woods 2016 DJH.

Chaenotheca hispidula. LC NS. **5**, **6**. On dry bark and lignum of old oaks and ash; rare. SS 82 Barle Valley woods, 84 Hawkcombe and Horner Combe, 94 Dunster Castle gardens; ST 14 Alfoxton, 21 Higher Shute's Copse 1991 BJC *et al*., 22 Creech St Michael 2002 BB & F.R. Gomm, 23 Barford Wood, 41 Montacute Old Park 2004 BWE, 43 Ivythorn Hill 2014 BB & DJH, 46 Goblin Combe 1988 BJC & BLS, 51 Montacute, Mill Copse, 2004 BE.

Chaenotheca stemonea. LC NS. **5**, **6**. On dry bark and lignum of old oaks; very rare. SS 84

Hawkcombe ABC 1991; ST 03 Nettlecombe 2003 AA, 21 S of Corfe in Neroche Forest 1983 FR and Higher Shute's Copse 2010 NAS, 57 Ashton Court, Clarkencombe Wood, 2012–2013 BLS.

Chaenotheca trichialis. LC. **5**, **6**. On dry bark and lignum of old oaks in woodland and old parkland; rare. SS 84 Hawkcombe and Horner woods, 92 Haddeo woods and Pixton Park, 94 Dunster Park 1984 FR; ST 03 Nettlecombe Park, 13 Somerton Combe, 14 Hodders Combe and Alfoxton Park, 21 Higher Shute's Copse 1991 BJC *et al*., 23 Barford Wood, 50 Whitevine Farm Woods 1988 FR, 56 Bedminster Down 2004 DJH.

Chaenothecopsis nigra. LC NS. **5**, **6**. On bark and lignum of old oaks, once on worked timber; rare. SS 82 Castle Meadow 2009 NAS. 83 Nine Acre Copse 2009 NAS, 84 Hawkcombe 1992 ABC and Horner Combe 2016 NAS, 92 Pixton Park 2017 NAS, 94 Dunster Deer Park 2013 BLS; ST 03 Nettlecombe Park 2008 NAS, 14 Alfoxton Park 2013 BLS, 23 Barford House, on wooden upright to barn, 2012 BJC & MP, 57 Ashton Court, Clarkencombe Wood, 2012–2013 BLS, 62 Hazelgrove Park 1985 FR.

Chaenothecopsis pusilla. LC NS. **5**, **6**. On dry bark and lignum, very rare or overlooked. SS 83 Nine Acre Copse 2009 NAS, 92 Weir Cleeve, Dulverton 1994 ABC; ST 14 Alfoxton Park 2013 BLS, 21 Higher Shute's Copse 2010 NAS and Piddle Wood 2011 NAS, [30 on stump nr Chard 1924 WW (BM)], 74 Mells Park, on *Calicium salicinum* on *Quercus*, 1989 FR.

Chaenothecopsis savonica. NT NR. **5**. On lignum of oak and pine; rare. SS 74 The Chains 2000–2007, BB, 83 Hawkridge Ridge Wood 2009 NAS and Great Wood 2016 NAS, 92 Pixton Park 2017 NAS.

Chrysothrix candelaris. LC. **5**, **6**. On dry acidic bark of mature trees, on shaded sides; common. Rarely on lignum or on sandstone rocks. All squares except ST 25, 26, 35–37, 47, 55, 56, 64, 76.

Chrysothrix flavovirens. LC. **5**, **6**. On acidified bark and lignum, especially of old oaks; occasional. SS 82, 83, 84, 92, 94; ST 03, 13, 14, 21, 23, 43, 45, 46 Goblin Combe, 54, 57 Leigh Woods 2003 BJC, 64, 74.

Cladonia arbuscula subsp. ***squarrosa***. LC. **5**. *Calluna* heaths; now confined to Exmoor heaths. SS 74 nr Pinkery, Simonsbath, 83 Winsford Hill, 84 & 94 Hurlstone Point and heaths to east.

Cladonia caespiticia. LC. **5**, **6**. On trees and on acid barks in ancient woodlands; rather rare, mostly in the west. SS 73 Simonsbath, 82 Barle Valley woods, 84 Hawkcombe ABC, Horner Combe FR *et al*., 92 Weir Cleeve 1994 ABC and Pixton Park 2017 NAS; ST [02], 03 Nettlecombe 2003 AA & LS, 20 Bickham Wood, Wambrook 1994 BB & SS, [23 Tetton 1933 WW (TTN)], 57 Ashton Court, Clarkencombe Wood, 2012 BLS.

Cladonia callosa. LC NS. **5**. In open areas of heathland; very rare. SS 94 Dunkery Hill, Robin How 2016 NAS.

Cladonia cervicornis subsp. ***cervicornis***. LC. **5**, **6**. In short turf and on rocks in limestone areas, also sea-cliffs, rather rare and local. SS 73, 83, 84, 94; ST 25 Brean Down, 35 Compton Hill and below Crook Peak, 45 Wavering Down to Fry's Hill 2002 ABC, 46.

Cladonia cervicornis subsp. ***verticillata***. LC. **5**. On acid heaths; very rare now in Somerset, where little heath survives now outside Exmoor. SS 73 nr Flexbarrow 1994 ABC, 74, 94 Dunkery Beacon; ST 11 Leigh Hill *c*. 1987 JC.

Cladonia chlorophaea s. lat. LC. **5**, **6**. On tree bases, lignum and on houses on wall-tops; very common. In all squares except ST 26, 32, 33, 37, 41, 47, 52, 63, 72, 73, 75, 76.

***Cladonia ciliata*.** LC. **5**, **6**. In heathland and in acid grassland, including leached soils on limestone, rather rare. SS [73], 74, 83, 84, 94 Hurlstone Point cliff heath 2013 BLS (both races); ST *03*, *04*, 11, *21*, 35 below Crook Peak 2002 ABC, 45 Wavering Down 2016 BJC & NAS, 55 Ubley Warren 1974 BLS. Most records appear to be of the usnic acid-containing race (var. *tenuis*). The usnic acid deficient race is recorded with certainty only from Hurlstone Point.

Cladonia coccifera s. lat. LC. **5**, **6**. In *Calluna* heath, and on acid lignum; rare, except on Exmoor and the Quantocks. SS 73, 74 Landacre Bridge area, 83, 84 Dunkery Beacon, 94 heaths above Hurlstone Point; ST 03, [*11*], 13, 21, *32*, 45 above Cheddar, [*54*]. Most, if not all, records probably refer to *C. diversa*.

Cladonia coniocraea. LC. **5**, **6**. On acid bark, stumps, wooden rails, acid rocks and soils etc.; very common and tolerant of pollution of various kinds. In all squares except ST 24, 35–37, 42, but probably in all.

Cladonia convoluta. VU NR. **6**. On limestone grassland and screes in sunny south aspects; very locally abundant in the Mendips, which are its main British headquarters. However, much

declined at its former prime site, Dolebury Warren, by 2016 DJH (pers. comm.). ST 35 Purn Hill and below Crook Peak, 45 Wavering Down to Fry's Hill 2002 ABC, Burrington Combe and Dolebury Warren, 46 Goblin Combe 1988 BJC, ?55 Ubley Warren 1960, unverified record.

Cladonia crispata var. ***cetrariiformis***. LC. **5**, **6**. In *Calluna* heathland; rare except on Exmoor and the Quantocks. SS 74, 83 nr Landacre Bridge and Winsford Hill, 84 Exmoor heaths, 94 Dunkery Hill 2016 NAS; ST *03*, 13 Quantocks, *46*.

Cladonia cryptochlorophaea. LC. **5**. Moorland; rare, although some records of *C. chlorophaea* s. lat. may belong here. SS 94 Dunkery Hill 2016 NAS.

Cladonia digitata. LC. **5**, **6**. On acid bark and on lignum, stumps, etc.; uncommon. SS 73, 82–84, *92*; ST 03, *04*, *13*, 14, 21, 31, *45*, 46, 54, 55, 57, 74.

Cladonia fimbriata. LC. **5**, **6**. On acid bark, acid stonework, lignum and on humus; common and pollution tolerant. SS 73, 83, 84, 92, *93*, 94; ST 02, 03, *04*, 12–14, 2*0*, 21–22, *32*, 35, 43, 45, 47, 55–57, 62, 64–66, 74–76.

Cladonia floerkeana. LC. **5**, **6**. Acid *Calluna* heath, acidic lignum, etc.; locally common on Exmoor, rare elsewhere. SS 73, 74, 82–84, 92–94; ST *03*, 11, 13, 14, 21, 31, [*43*], 45, 55 Ubley Warren.

Cladonia foliacea. LC. **5**, **6**. On dry maritime grassland, fixed shingle, and in short dry turf over limestone; very locally frequent in Mendips. SS 84 Porlock Beach, 94 Hurlstone Point and Western Brockholes, 25 Brean Down (plentiful), 35 Compton Hill and below Crook Peak, 36 Sand Point, 45 Wavering Down to Fry's Hill, 46 Goblin Combe, [*47*], [54 Ebbor Gorge WW].

Cladonia furcata subsp. ***furcata***. LC. **5**, **6**. Heaths and acid grass-heaths; locally common on Exmoor and over limestone in the Mendips. SS 73, 74, 82–84, [93], 94; ST *03*, 11, 21, 25 Brean Down, *26*, 35 below Crook Peak, 36, 45, 46, 54, 55, 64, 65.

Cladonia furcata subsp. ***subrangiformis***. LC. ?**5**, **6**. In short dry very open calcareous turf; very local, on lias and Carboniferous limestone. ST *04*, 25 Brean Down, 35 below Crook Peak, *43*, 45 Wavering Down to Fry's Hill, 46 Goblin Combe, *55*.

Cladonia glauca. LC. **5**, **6**. Acid heaths; very rare. SS 83, 84, 94; ST 55 Ubley Warren.

Cladonia gracilis. LC. **5**, **6**. Acid heaths; very rare. SS 73 nr Flexbarrow 1994 ABC, 74 nr Pinkery Fm 2000 ABC, 84, [*92*], 94 on Exmoor; ST 64 Downhead 1987 FR.

Cladonia humilis. LC. **5**, **6**. In basic short open grassland and grassy turf; local. SS 83, 84, 94; ST 03 Clatworthy Reservoir, 04 Blue Anchor Bay 2002 OLG, *11*, 35 above Rackley 2002 ABC, 45 Wavering Down 2002 ABC, 46 Goblin Combe 1974 DJH, 55 Ubley Warren, 76 Bath Abbey Cemetery 1994 PWJ.

Cladonia incrassata. LC NS. **5**, **6**. On lignum of tall *Quercus* coppice stubs and stumps, and vertical sides of peat cuttings; very rare. SS 84 Ley Combe, Hawkcombe 2001 NS; ST 44 Westhay Moor NNR, on peat, 2005, BE, 57 Ashton Court, Clarkencombe Wood, 2013 BLS.

Cladonia macilenta. LC. **5**, **6**. On acid tree trunks, lignum, and on heaths; common but possibly over-recorded owing to confusion with immature or stunted *C. polydactyla*. SS 73–75, 82–84, 92–94; ST 02, 03, 11, 13, 14, 20, 21–23, 30, 31, *45*, 46, 55, 57, 64, 65, 73–75.

Cladonia norvegica. DD NR. **6**. On mossy rocks, oak trunks and logs in old woodland; very rare (but possibly overlooked as *C. coniocraea* or *C. macilenta*). SS 83 Ashway Hat Wood, among *Plagiothecium undulatum*, 1976 FR (BM) and on oak, 2009 NAS, also Lea Wood, on log, 2016 NAS.

Cladonia ochrochlora. LC. **5**, **6**. Rotting tree stumps, lignum, etc.; very local and mostly on Exmoor. SS 73, 82–84, 92, 94; ST 03, 13, 14, 21, 31, 40, 53, *54*, 73, 76.

Cladonia parasitica. LC. **5**, **6**. On *Quercus* wood in old woodlands; rare. ST 82 Hawkridge Ridge Wood 1994 ABC, 83 Barle Valley woods, 84 Hawkcombe and Horner woods, 92 Burridge Wood and Pixton park, 94; ST 03 Clatworthy, Northern Wood 1996 ABC, 13, 55, 57, 64, 74 Mells Park.

Cladonia pocillum. LC. **5**, **6**. On limestone including old walls in churchyards, occasional, largely in the Mendip area, where it is a common calcicole. ST 04, 25, 26, 35–37, 41, 45, 46, 54, 55, 57, 74 Mells Ch, 75 Buckland Dinham Ch.

Cladonia polydactyla var. ***polydactyla***. LC. **5**, **6**. On acid bark and lignum or on humus in woodlands, heaths, etc.; a common calcifuge. SS 73, 74, 82–84, 92–94; ST 03, 11, 13, 14, 20, 21, 23, 31, 45, 46, 55–57, 64, 73, 74.

Cladonia polydactyla var. ***umbricola***. DD NR. **5.** As var. *polydactyla* but rarely recorded. SS 83 Ashway Hat 1988 AC & PW.

Cladonia portentosa. LC. **5**, **6**. In *Calluna* heaths, on acidic humus and twigs in damp woodlands;

locally abundant on Exmoor and the Quantocks, and the Mendip sandstone heaths. Elsewhere rare and local at present due to loss of heathland: it must have once been abundant on the Shapwick raised bog area. SS 73, 74, 82–84, 94; ST *03*, 11, 13, 14, 21, [*22*], 23, *35*, *44*, 45, 46, 54, 55, 65.

Cladonia pyxidata. LC. **5**, **6**. On tree bases, wall-tops, mossy rocks, in acid to slightly basic situations; widespread but common only in the Exmoor woodlands. SS 73, 82–84, 92-94; ST 02, 03, 13, 21, 22, 25, 26, 35, 36, 40, 41, 45–47, 54–56, 64, 74, 76.

Cladonia ramulosa. LC. **5**, **6**. On acid heaths and grasslands, rotting wood, fence rails, old thatch, banks etc.; scattered in Exmoor and Mendip areas rare (like many *Cladonia* species) in highly farmed lowland areas of Somerset. SS 83, 84, 94; ST 03, 12, 21, 22 Kingston St Mary, on 20 year-old thatch of cottage, 1991 ABC & JG, 23, 44, *45*, 46, 55, 57.

Cladonia rangiformis. LC. **5**, **6**. In open grassland sites, mainly over calcareous substrata, often associated with rabbit-grazed areas, cliff-tops and old quarries. SS 73, 83, 84, 94; ST *03*, *04*, 11, [*22*], 24–26, *31*, 35, 36, 45, 46, 54, 55, 64 Downhead quarries, [*76*]. An unusual morph with large, white soralia has been found at Priddy Ponds (ST 55). It has been named as var. *sorediophora* (Nyl.) Vain., although probably does not merit taxonomic recognition.

Cladonia scabriuscula. LC. **5**. Open acid soil within woodland; very rare. SS 84 Horner Wood 1988 AC, 92 Haddeo Wood 1987 AC.

Cladonia squamosa s. lat. LC. **5**, **6**. On heathland and on acid bark, wood, and sandstone rocks; locally frequent especially on Quantocks and on Exmoor; elsewhere scattered. See below for the two varieties; the following have not been distinguished: SS 73; ST 03, 11, 12, 13, 31, 35, 53, 57, 64, 73.

Cladonia squamosa var. ***squamosa***. LC. **5**, **6**. SS 74, 83, 84, 92–94; ST 21, 55.

Cladonia squamosa var. ***subsquamosa***. LC. **5**, **6**. Mainly recorded from the Barle and Horner woods, but not always separated from the type variety. SS 82–84; ST *45*, 55 Ubley Warren.

Cladonia strepsilis. LC. **5**. In wet heathland (H4d); rare. SS 84 Weir Wood 1987 AC, 94 Luccombe Hill, in wet heathland (H4d), 1999 NAS.

Cladonia subcervicornis. LC. **5**. On hard acid rocks on sea-cliffs and moorlands; rare. SS 73 nr Simonsbath, 74 nr Pinkery Fm 2000 ABC, 83 nr Landacre Bridge 2005 ABC, 94 Hurlstone Point.

Cladonia subulata. LC. **5**, **6**. On acid heaths; rare. SS 73 upper Barle Valley, 74 Pinkery, 83, 84, 94 Hurlstone Point; ST *03*, 14, 45, 55 Ubley Warren.

Cladonia symphycarpa (*C. 'symphycarpia'*). LC NS. **6**. In short turf on Carboniferous limestone in Mendips; very local. ST 25 Brean Down, 35 Compton Hill and below Crook Peak, 36 Sand Point BJC, 45 Wavering Down to Fry's Hill 2002 ABC, 55 S of Bristol Plain Farm.

Cladonia uncialis subsp. ***biuncialis***. LC. **5**, **6**. In *Calluna* heaths; rare and local now, as are heaths. SS 73, 74, 83, 84, 94 on Exmoor; ST [*03*], 13 Quantocks, *21*, 55 Ubley Warren.

Clauzadea chondrodes. DD NR. **6**. On low Carboniferous limestone outcrops and stones, on S-facing slopes of the Mendips; rare. ST 35 Purn Hill 2008 BJC, Compton Hill and above Rackley 2002 ABC, 45 Wavering Down 2002 ABC, Burrington Combe 2009 BJC & DJH, Draycott Sleights 2012 DJH, [46 Yatton 1876 WJ (BM, M)], 54 Ebbor Gorge 2015 DJH.

Clauzadea immersa. LC. **6**. On Carboniferous limestone rocks and limestone stonework; locally abundant. ST 25 Brean Down, 35 Crook Peak etc., 36, 40, 44, 45 Wavering Down to Fry's Hill, Cheddar Gorge, 46 Goblin Combe, 54, 55 Ubley Warren, 62, 64.

Clauzadea metzleri. LC NS. **6**. On limestone rocks and stones; local. ST 25 Brean Down, *32*, 35 Compton Hill and above Rackley 2002 ABC, 45 Dolebury Warren 1984 BJC, Burrington Combe 1987 BJC, Cheddar Gorge 2001 ABC, Wavering Down to Fry's Hill 2002 ABC, 46 Goblin Combe, 54, 55 Ubley Warren, 56.

Clauzadea monticola. LC. **5**, **6**. On both natural limestone and on stonework, especially in churchyards; frequent. SS *83*, 84, *93*; ST 02, 12, 13, 22–25, 30, 31, 35, 36, 41–43, 45, 46, 51–55, 57, 62–64, 72, 74–76.

Cliostomum flavidulum. LC NS. **5**. On mature trees, especially *Quercus*, in ancient woodland and old parkland; rare, so far only recorded from Exmoor. SS 83 Barle Valley woods, 84 Horner woods, 92, Pixton Park 2017 NAS.

Cliostomum griffithii. LC. **5**, **6**. On tree bark or occasionally lignum, usually where somewhat nitrate enriched; rarely saxicolous in churchyards; common. All squares except ST 25, 35, 47, 56, 62, 65, 76, 85.

Cliostomum tenerum (*Lecanora tenera*). LD. **5**. In crevices of maritime siliceous rocks (supra-littoral); rare. SS 94 Hurlstone Point 1993 ABC.

Collema auriforme [*Lathagrium auriforme*]. LC. **5**,

6. Calcareous rocks, mortar, soil and stonework, in damp situations; very common. Unrecorded only in SS 73; ST, 47, 53, 56.

Collema crispum var**. *crispum*** [*Blennothallia crispa*]. LC. **5**, **6**. Calcareous rocks, mortar, and stonework, especially in damp situations; common. Unrecorded only in SS 73, 74, 82, 83; ST 02.

Collema crispum var. ***metzleri*** NE NR. **5**. Possibly a stunted or immature morph of the former. ST [21 Curland 1921 WW (TTN)], 41 Ham Hill 1994 BJC (E).

Collema cristatum [*Lathagrium cristatum*]. LC. **6**. On natural limestone rocks and old limestone stonework, mainly in the Mendips; mostly referable to the var. *marginale* and without apothecia; locally frequent. ST [22 Thurlbear 1915 & 1917 WW (TTN)], 23 Spaxton Ch, 25 Brean Down, 35 Crook Peak, 36, 45 Dolebury Warren, Wavering Down to Fry's Hill and Cheddar Gorge, 46 Goblin Combe, 54 Ebbor Gorge, 55 Ubley Warren BJC. 63, 66.

Collema dichotomum [*Lathagrium dichotomum*]. VU NS. **5**. On slabs of shelving rocks in the R. Barle, and one site on R. Exe; rare. SS 73, 83, 92 (Giavarini 1999).

Collema flaccidum. LC. **5**. Modern records from: wet rocks by Exmoor rivers and streams, SS 73 nr Pickedstones 1999 VG, 74 Badgworthy Water 1992 VG, 82, Ashwick Wood 1997 ABC, 83 nr Ashway Hat Cottages VG, 84 Chalk Water 1992 VG, 92 R. Barle nr New Bridge 1999 VG. ST [23 Merridge 1924 WW (TTN]. Several old records in Watson (1930) are errors for *C. fuscovirens.*

Collema fragile [*Scytinium fragile*]. VU NS. **6**. On periodically flushed limestone rock faces and humid scree; rare, but locally frequent in Cheddar Gorge. ST [26 Steep Holm, 1935 WW], 45 Draycott Sleights 1993 ABC, Cheddar Gorge 1949 Degelius and 2001 ABC, Wavering Down 2002 ABC, 46 Cleeve Combe 1934 WW, Goblin Combe 2017 DJH, 54 Ebbor Gorge 1929 WW], 55 Ubley Warren 1984 VG. WW's material determined by Degelius (1954: 273).

Collema fragrans [*Scytinium fragrans*]. EN NR IR, **5**. On old trees; very rare. SS92 Pixton Park on ancient hollow *Acer pseudoplatanus,* 2017 NAS.

Collema furfuraceum. LC. **5**, **6**. On basic bark of trees, especially *Fraxinus*, and once on limestone; now very rare. SS 83 on *Fraxinus*, above Tarr Steps 1972 FR, [84 Horner woods 1920 HK]; ST 21 Staple Fitzpaine, on *Ulmus*, 1916 WW(BM, TTN), Curland, on *Ulmus*, WW (TTN), Old Combe, Corfe, on *Fraxinus,* 1985 FR [22, 31 Sticklepath Fm, Broadway, 1919 & 1926 WW (BM, TTN), and Crock Street 1927 WW (BM), 33 Othery, on pollarded *Salix*, 1914 WW (BM)], 45 Rodney Stoke, on limestone, 2015 DJH, [85 Beckington, on tree, 1869 HP (TTN)]. All old Somerset records of *C. nigrescens* apparently belong here.

Collema fuscovirens [*Lathagrium fuscovirens*]. LC. **5**, **6**. On natural limestone outcrops and scree in the Mendips, and on chest tombs, etc., in churchyards; occasional. SS 92; ST 03, [12 Norton Fitzwarren Ch 1928 WW (BM, TTN), 13 Cushuish 1912 WW (BM) and Leigh Mills 1932 WW (BM)], 14, [22 Dodhill 1923 WW (TTN) and Cheddon Fitzpaine 1911 WW (BM], 23, 25, 26, 30–32, 35 Crook Peak and slopes below 2002 ABC, 36 Sand Point BJC, 41, 42 Kingsbury Episcopi 2003 AA & LS, 43 Dundon churchyard FR, 45 Winscombe 1993 BJC, Draycott 1993 BJC, Cheddar Gorge 2001 ABC, Wavering Down to Fry's Hill 2002 ABC, 46 Goblin Combe BJC, 51, 52, 54 Ebbor, 55 Ubley Warren, 61–63, 74–76

Collema limosum [*Enchylium limosum*] (*Collema glaucescens*). LC NS. **5**, **6**. Calcareous or clayey soil; extinct? ST [22 Stoke St Mary 1918 WW (TTN), 41 Dinnington pre-1918 WW, 42 Somerton 1923 WW].

Collema multipartitum [*Callome multipartita*]. LC NS. **6**. On Carboniferous limestone outcrops in the Mendips; very local. ST 45 Shute Shelve Hill and Fry's Hill, Cheddar Gorge, Draycott Sleights, 46 Goblin Combe, [*55*].

Collema polycarpon [*Enchylium polycarpon*]. LC NS. **5**, **6**. On limestone; rare. SS 14 East Quantoxhead Ch 2011 DJH; ST 35 [Purn Hill 1933 WW (BM)], Compton Bishop Ch, limestone slabs at base of S wall of church, 2017 ABC; 45 Cheddar cliff 1874 WJ (BM) and in Landslip Quarry 2001 ABC, [46 Cleeve Hill 1877 WJ (BM)], 55 Cheddar Head 1917 WW (BM) and Priddy Ch 2011 DJH.

Collema subflaccidum. LC. **5**. On *Fraxinus*, and formerly *Ulmus*; very rare and perhaps extinct. SS 82 Dibble Wood 1983 FR; ST [21 Curland, on *Ulmus* with *C. furfuraceum*, 1922 WW (TTN) and Staple Fitzpaine 1912 WW (TTN)].

Collema tenax [*Enchylium tenax*] (incl. var. *tenax* and var. *vulgare*). LC. **5**, **6**. Calcareous soil, stonework, and rocks; common in suitable habitats. In all squares except SS 73, 74, 82, 92; ST 37, 47, 56, 57, 63, 64, 66, 73, 74.

Collema tenax var. ***ceranoides***. LC. **5**, **6**. On calcareous soil and in churchyards; uncommon. SS [94 Minehead Warren 1924 WW (BM, TTN)]; ST 03, [22 Staplegrove 1921 WW (TTN) and Thurlbear 1924 WW (TTN)], 23, 24, [25 Berrow Dunes 1912 WW (BM)], 36, 41, 44–46, 55, 57 Avon Gorge 1993 BJC, [76].

Collemopsidium angermannicum (*Pyrenocollema strontianense*). NT NS. **5**. On hard acid rocks in streams and rivers on Exmoor; local. SS 73, 74, 83 Landacre Bridge VG, 84 Hawkcombe 1992 ABC, 92 New Bridge 1999 VG.

Collemopsidium foveolatum (*Pyrenocollema halodytes* auct. p. max. p.). LC. ?**5**, **6**. On limestone, barnacles or molluscan shells in the eulittoral zone only; much under-recorded. ST 25 Brean Down, 26 Steep Holm, [36 Sand Bay, on limestone, 1927 WW (TTN)]. This is the commonest of the marine species of this genus. There are apparent records of related species, *C. halodytes* s. str. and *C. sublitorale*, but these have not been fully re-assessed here (but see next).

[***Collemopsidium halodytes*** (*Pyrenocollema orustense*) LC. **5**, **6**. On rocks in the eu-littoral zone. ST 04 Watchet 1924 WW (TTN), 37 Clevedon 1924 WW (TTN).] There are no modern records, but the species is certain to be present still.

Corticifraga fuckelii [LF]. LC NS. **5**. Parasitic on *Peltigera didactyla* on shingle beach. ST 04 Blue Anchor 2015 MP.

Cresponea premnea. LC. **5**, **6**. On ancient oaks in old woodlands and parklands, especially on pollards, rarely on rock; quite frequent in suitable sites. SS 74 Oare Common 1973 P. H, 83, 84 Horner, on rocks at Rowbarrow Wood 1998 ABC, 92, 94; ST 03, 04, 11–14, 21–23, 31, 46, 51, 52, 54, *56*, 57 Clarkencombe Wood, 62, 63, [*64*], 65, 66, 72, 73, 74 Mells Park. (Fig. 11)

Cryptodiscus gloeocapsa (*Bryophagus gloeocapsa*). LC NS. **5**. Overgrowing hepatics on crumbling, shaded siliceous rocks; rare. SS 83 nr Landacre Bridge 2005 ABC.

Cryptolechia carneolutea. EN NS. **6**. On basic bark in sheltered sites; very rare. ST 43 old *Fraxinus* in wood, Dundon Hill Wood 1988 FR & JC.

Cyphelium inquinans [*Acolium inquinans*]. LC. **5**, **6**. On lignum of stumps, but mostly of old fences, gates and wooden benches; rare and apparently much declined, and not seen in the county since 1996. ST 12 Nynehead Court *c.* 1987 JC, [13 Triscombe 1923 WW (BM, TTN), Cothelstone Beacon, on gate post, 1923 WW (BM) and Cushuish, on gate post, 1923 WW (BM)], [22 Cheddon Fitzpaine, on gate, 1923 WW (BM)], 24 Bridgwater Bay 1965–1967 PWJ, 31 Ashill Wood 1990 FR, 57 Easton in Gordano Ch, on wooden bench, 1996 IP, 65 S of Chewton Mendip DLH, 66 S of Keynsham 1974 MH, 73 Moulton's Park Wood, on gate, 1973 FR.

Cyphelium sessile [*Acolium sessile*] [LF]. LC NS. **5**. Parasitic on *Pertusaria coccodes,* usually on *Quercus*; very rare. SS 92 Pixton Park 1987 AC and 2017 NAS, 94 Dunster Park 1984 FR; ST 21 Neroche Forest 2012 DJH, 32 Ostlers Wood, Curry Rival 1985 FR.

Cyrtidula quercus (*Mycoporum quercus*) [F]. LC. **5**, **6**. On young *Quercus* twigs, occasionally on *Corylus*; probably common but under-recorded. SS 73, 74, 82–84, 92–94; ST 03 Nettlecombe, 11–13, 21, [31 Ely Wood nr Chard WW (TTN)], 41, 43, 45, 54, 57.

Cystocoleus ebeneus. LC. **5**. On damp acidic rock underhangs, more rarely on acid bark; local on Exmoor. SS 73, 74 nr Pinkery Fm 2000 ABC, 82 Mounsey and Ashwick Woods 1997 ABC, 83 Shircombe Brake, on *Betula*, 2002 ABC, nr Landacre Bridge, on rocks, 2005 ABC, 84 Hawkcombe and Horner woods FR, ABC, VG, 92 Sweetoak Copse 2002 VG, 93 Haddeo Valley 1987 AC & PW; ST 03 Northern Wood, Clatworthy 1996 BJC.

Dactylospora parasitica [LF]. **5**, **6**. Parasitic on *Pertusaria hymenea*, and once on *P. albescens* and *P. pertusa*; occasional. SS 84, 92 Pixton Park, on *P. hymenea* and *P. pertusa*, 2017 NAS, 94; ST 03 Nettlecombe Park on *P. albescens* and *P. hymenea*, 21, 23, 54.

Dendrographa decolorans (*Schismatomma decolorans*). LC. **5**, **6**. On the drier, usually NE sides of mainly mature trees, mostly *Quercus*; fairly pollution tolerant; common; also, rare on old stonework of church walls. Unrecorded in SS 73, 74; ST 35–37, 72, 76. Found fertile at ST 03 Nettlecombe, on *Quercus*, 2003 AA. Saxicolous records from: ST 13, 40, 46.

Dendrographa latebrarum (*Lecanactis latebrarum*). LC NS. **5**. Underhangs in N-facing siliceous rock outcrops rare. SS 83 nr Landacre Bridge 2005 ABC.

Dermatocarpon luridum. LC. **5**. On acidic rocks in and by rivers and streams on Exmoor; very locally plentiful. SS 73 R. Barle nr Pickedstones, 83 by R. Barle and Dane's Brook, 84 Horner

and Hawkcombe woods, 92 Haddeo valley, [94 Selworthy 1920 HK].

Dermatocarpon miniatum (incl. var. *complicatum*). LC. ?**5**, **6**. On limestone rocks, mainly in the Mendips; locally common. ST *03*, [*11*], *24*, 25, 35 above Rackley 2002, Purn Hill ABC, 36 Sand Point, 45 Cheddar Gorge 2002 ABC, Wavering Down, Axebridge Hill and Fry's Hill 2002 ABC, 46 Goblin Combe, [*47*], 54 Ebbor Gorge, 55 Ubley Warren, 56, 64, 66 Stanton Drew stone circle, [*74*].

Dibaeis baeomyces (*Baeomyces roseus*). LC. **5**. On bare acidic soil, especially in Exmoor; very local and rare, but usually sterile perhaps overlooked; not refound east of Exmoor. SS 73 Wheal Eliza 1994 ABC, 74 nr Pinkery Fm 1988 FR & 2000 ABC, 83 nr Landacre Bridge, on rocks, 2005 ABC, 84 Weir Wood 1987 AC & PW, [*92*], 94 Hanny Combe 1999 NAS; [ST *03*, *11*, *13*, *21*].

Dimerella lutea [*Coenogonium luteum*]. LC. **5**, **6**. A species of the *Lobarion*, on mossy bark on mature trees (mostly *Quercus* and *Fraxinus*) in ancient woodlands of which it is an excellent indicator. Quite common in Exmoor woods, scattered in the Quantocks and Neroche Forest, it extends sparsely right to the east of the county. SS 73, 82–84, 92–94; ST 02, 03 Clatworthy woods, *04*, 11, 13, 14, 21, 31 Chaffcombe, 45 Cheddar, Long Wood, 54 Ebbor, 55, 64, 73, 74 Mells Park, *75*.

Dimerella pineti [*Coenogonium pineti*]. LC. **5**, **6**. On shaded bark and lignum in woodlands, including relatively recent ones; common. SS 73, 82–84, 92–94; ST *02*, 03, 04, 12–14, 21–23, 25, 31, 36, 40, 43, 45–47, [52 Limington 1941 WW (TTN)], *53*, *54*, 57, 64, 74.

Diploicia canescens. LC. **5**, **6**. On basic rocks, stonework, walls and trees, in hypertrophicated or dirty, well-lit situations; very common except on Exmoor. Unrecorded only in SS 73, 74, 82.

Diploschistes gypsaceus. LC NS. **6**. On hard limestone rocks in humid underhangs; very rare and only in the Mendips. ST 45 above Black Rock 1934 WW and Burrington Combe 1989 BJC, 46 Goblin Combe, 55 Ubley Warren 1992 BJC, [76 Bathampton Downs 1847 HBH (BM)].

Diploschistes muscorum. LC. **5**, **6.** Parasitic, at least initially, on *Cladonia* squamules (especially *C. cervicornis* and *C. pocillum*) on limestone turf, rocks, walls, and (more rarely) tree trunks; rare. SS 84; ST [*03*], 12, [21 nr Castle Inn, Castle Neroche 1941 WW (TTN), 22 Orchard Portman 1928 WW (TTN) and Upper Cheddon 1932 WW (TTN)], 25 Brean Down, 35 Compton Hill and below Crook Peak, 45 Dolebury, Wavering Down to Fry's Hill 2002 ABC, [46], 55 Ubley Warren, [73], [76] (many old WW records).

Diploschistes scruposus. LC. **5**, **6**. On mildly acidic rocks and wall-tops (including brick walls), in well-lit situations; frequent. SS 73, 74, 83, 84, 94; ST 03, *04*, 12, 21–25, 31, 32, 45, [47], *51*, 55, 56, 66, *74* Mells churchyard, [*75*, *76*].

Diplotomma alboatrum. LC. **5**, **6**. On calcareous rocks and beach pebbles, also stonework and mortar, in sunny situations, especially on S side of old churches. Formerly common on enriched bark, but now rare on trees. Common except in far west. SS 84, 94; ST 02–04, 11–14, 20–26, 30–37, 41–47, 51–57, 61–67, 72, 74–76, 85.

Diplotomma chlorophaeum. LC. **5**. Sheltered, rather basic, maritime rocks and pebble beaches; very local. SS 84 Porlock Beach 1987 AC, 94 Hurlstone Point ABC; [ST 22 Volis Hill 1929 WW (BM)].

Diplotomma hedinii (*D. venustum* auct. brit., *D. epipolium* auct.). LC NS. **6**. Calcareous natural limestone outcrops and sandstone, especially coastal ones; more rarely church walls; rare and local. ST 25 Brean Down 1986 BJC, 35 below Crook Peak DJH and 2002 ABC, 36 Sand Point BJC, 45 Wavering Down and Shute Shelve 2002 ABC, 46 Backwell Ch 2010 DJH, 57 Easton in Gordano Ch 2017 DJH, 63 Castle Cary Ch 2016 DJH, 67 Arnos Vale Cemetery 2004 DJH.

Dirina massiliensis f. ***soredíata***. LC. **5**, **6**. On dry limestone and on mortar and plaster, especially on the N sides of old churches where not directly wetted by rainwater; very common except on Exmoor, where it is rare, on dry shaded natural rocks in sheltered places. SS 83 rocks by R. Barle, 84 Hawkcombe and Hurlstone Point ABC, 92–94.; ST 03–04, 12–14, 20–24, 26, 30–35, 40–47, 51–57, 61–63, 65, 66, 72–76, 85. Some of the Exmoor records on non-calcareous rocks may belong to the recently recognised *Dirina fallax*. (Fig. 29)

Endocarpon pallidulum. CR NR. **5, 6**. On or below church walls, very rare. ST 26 Steep Holm, on cliff, 2014 DJH, 42 Kingsbury Episcopi 2003 AA & LS, 75 Lullington Ch, on a yellow sandstone in gutter below church wall, 2017 DJH.

Endococcus apiciicola [LF]. LC NS. **5**. Parasitic on *Usnea florida*; very rare. SS 84 Berry Castle Wood 1992 ABC (E).

Endococcus caudisporus [LF]. NE NR. **6**. Parasitic on *Leptogium pulvinatum*; rare. ST 45 above Rodney Stoke 2015 DJH.

Endococcus cf. ***perpusillus*** [LF]. NE NR. **6**. Parasitic on *Protoblastenia calva*; rare. ST 62 Corton Denham Ch 2015 DJH ("spores rather small").

Endococcus propinquus [LF]. LC NS. **6**. Parasitic on *Verrucaria* sp. (*V. macrostoma* or *V. viridula*); rare. ST 36 Sand Point 2006 DJH.

Endococcus protoblastenae [LF]. NE NR. **6**. Parasitic on *Protoblastenia rupestris*; rare. ST 55 Priddy Pools 2016 ABC (E).

Endococcus rugulosus [LF]. NE NR. **5**, **6**. Parasitic on *Verrucaria nigrescens, V. macrostoma* and *V. viridula*; rare. ST 23 Broomfield Ch, 43 High Ham Ch, 45 Wavering Down, Shute Shelve Hill and Fry's Hill 2002 ABC (E).

Enterographa crassa. LC. **5**, **6**. On mature trees in old (or at least long established) woodlands and parklands. Common except in the far west of Exmoor. Also on rocks (with *E. hutchinsiae*) in SS 84 Hawkcombe. In all squares except SS 73, 74; ST 47, 55.

Enterographa hutchinsiae. LC. **5**. On shaded rocks by Exmoor rivers, rarely on shaded bases of *Fagus, Ilex* and *Quercus*; very local. SS 73 nr Simonsbath VG, and nr Wheal Eliza ABC, 82 & 83 rocks by R. Barle, also in 82 at base of *Fagus* at boundary of Dibble Wood and Mounsey Wood, 84 Horner and Hawkcombe ABC & VG, 92 Weir Cleeve 1993 ABC.

Enterographa zonata (*Opegrapha zonata*). LC. **5**, **6**. On dry shaded vertical rocks and underhangs, also N-facing walls of churches; rare and local. SS 73, 82–84; ST 03, 55, 64.

Eopyrenula avellanae [F]. LC NS. **5**. On smooth bark of *Corylus*; rare. SS 83 Mill Ham Wood 1997 ABC, 84 Horner, Cloutsham Ball 1991 BJC *et al*., Rey Combe 2016 NAS.

Eopyrenula grandicula [F]. LC. **5**, **6**. On smooth bark, especially of *Corylus*; local. SS 73 Ashcombe Plantation, on *Buxus* and *Fraxinus*, 1994 ABC, 83 Slade and Horse Woods 1997 ABC, 84 Horner woods, 92 Burridge Wood 1994 ABC, 93 Old Stowey Wood 2001 NS; ST 11, 14, 21 Higher Shute's Copse 1991 BJC *et al*., 23, 41, 45 Cheddar, Long Wood, *Fraxinus* and *Corylus*, 1991 BJC, 54 Ebbor Gorge, 57 Ashton Court, on *Quercus*, 2012 BLS, 73 Castle Wood, Stourton FR.

Ephebe lanata. LC. **5**. On flushed acidic rocks; rare. SS [73 nr Simonsbath 1916 WW (BM, TTN)], 92 Haddeo Valley 1974 FR.

Epigloea bactrospora. LC NR. **5**. On algal film over mosses on bark; rare or overlooked. SS 84 Horner woods 1998 AC

Epilichen scabrosus [LF]. LC NS. **6**. Parasitic on *Baeomyces rufus*; very rare. ST 55 Charterhouse-on-Mendip 1987 VG.

Erythricium aurantiacum (*Marchandiomyces aurantiacus*) [LF]. LC. **5**, **6**. On *Physcia* spp., especially *P. tenella*; common but under-recorded. SS 92, 94. ST 45, 56.

Evernia prunastri. LC. **5**, **6**. Common on trees, occasionally on wooden fencing and siliceous gravestones. In all squares.

Everniicola flexispora [LF]. LC NS. **5**. Parasitic on *Platismatia glauca*; rare or overlooked. SS 83 Slade Wood 1997 ABC (E).

Farnoldia jurana. LC NS. **6**. On Carboniferous limestone; rare. ST 46 Goblin Combe, on talus, 1934 WW (BM)], 55 Ubley Warren; [76 Bathampton Downs HBH (BM)].

Fellhanera bouteillei. LC. **5**, **6**. Foliicolous on *Buxus* and other evergreen shrubs, but also corticolous, and lignicolous on worked timber; rare or overlooked. SS 73 Ashcombe Plantation, on *Buxus*, 1994 ABC, [83 Withypool, on wood of hut, 1918 WW (TTN)]; ST 23 Fyne Court, Broomfield, 2010 BB, 45 Mendip Lodge Wood 2016, 55 King Down Farm, on *Fraxinus*, 2013 BJC, 75.

Fellhanera subtilis. LC NR. **6**. On wood of garden seat; rare or overlooked. ST 57 University of Bristol Botanic Garden (Bracken Hill House) 2003 BJC.

Fellhaneropsis vezdae. LC. **5**, **6**. On neutral to acid bark; local but probably overlooked. SS 73, 82, 84, 92, 94; ST 12, 21, 22, 43, 45, 46, *53*, [57 Leigh Wood, on *Fraxinus*, 1932 DAJ (BM), det. by WW as '*Bacidia incompta* f. *minor*'].

Flavoparmelia caperata. LC. **5**, **6**. On trees, rocks, walls, etc.; abundant throughout the county in all squares.

Flavoparmelia soredians. LC. **5**, **6**. On trees and tombstones, rare or overlooked, perhaps increasing as the first record was from 1995. ST 03 Nettlecombe, on *Quercus*, 2003 AA & LS, 13 Nether Stowey Ch 2003 AA, 30 Touchstone Lane 2013 BB, 31 Barrington Court 2012 DJH, 37 Clevedon, St Andrew's Ch 2016 DJH, 51 Montacute Park 2012 BE, 66 Newton Park 2010 DJH, 74 Mells Ch 1995 Mike Simms, 2015 DJH.

Fulgensia fulgens [*Gyalolechia fulgens*]. EN NR. **6**. In *Fulgensietum* association on red soil on

S-facing slope on limestone; very rare. ST 25 Brean Down, S side of the Down, abundant locally, recorded between 1974 and 2015.

Fuscidea cyathoides. LC. **5**, **6**. On hard, well-lit acid rocks in the Exmoor area; very local. SS 73, 74, 83, 84, 94; ST 03 Treborough Wood 2002 NAS, 45 Burrington Combe, on chert, 1987 BJC *et al*., 55 Harptree Combe 2012 DJH, 76 Bath Abbey Cemetery, on granite, 1994 PWJ.

Fuscidea lightfootii. LC. **5**, **6**. On smooth bark or twigs; frequent. SS 73 Birchcleave Wood, 82–84 Horner woods, 92 Haddeo, 93; ST 02, 03 Nettlecombe, 11–14, 20–23, 30–33, 40, 41, 43–46, 50, 52, 54–57, 62, 66, 75.

[***Fuscidea lygaea***. LC. **5**. On siliceous stones; possibly overlooked. SS 84 summit of Dunkery, 1927 WW (BM), as '*Lecidea kochiana* var. *lygaea*'.]

Fuscidea praeruptarum. LC. **5**. On slate outcrop; very rare. SS 74 nr Pinkery Fm 2000 ABC.

Fuscidea recensa. LC. **5**. On vertical faces of acid rocks; rare, but perhaps overlooked and more common, at least on Exmoor. SS 84 Rowbarrow Wood 1998 ABC, 94 Hurlstone Point 1992 ABC.

Fuscopannaria mediterranea. LC NS. **5**. On trees in ancient oceanic woodland; very rare. SS 92 Pixton Park, on *Quercus*, 1987 FR and 2017 NAS. Other Somerset records are referred to *Parmeliella parvula*.

Graphina pauciloculata. VU NR IR. **5**. On smoothish bark of *Corylus*, *Ilex*, *Quercus* and once on *Betula*, often seemingly parasitising *Graphis ruiziana*, in ancient woodlands; local in Barle and Horner woods. SS 83, 84, 94.

Graphis elegans. LC. **5**, **6**. On smooth to slightly roughened bark of trees, e.g. *Alnus*, *Corylus*, *Crataegus*, *Fagus*, *Ilex* and *Quercus*, also on small branches; common. SS 73, 82–84, 92–94; ST 02, 03, 11, [12], 13, 14, 21, 23, 30, 33, 36, 40, 44–46, 51, 55, 57, 65, 66, 73, 74.

Graphis inustuloides (*Graphina anguina* auct. brit.). LC. **5**, **6**. On smooth bark of *Corylus*, *Fagus*, *Ilex* and *Quercus*; rare or overlooked (for *Graphis scripta).* SS 73, 83, 84, 92, 94 Dunster, on *Ilex*, 1920 WW (BM) and on *Corylus* 2013 BLS; ST 03 Nettlecombe, on *Fagus*, 2003 AA & LS, 14 Alfoxton, 66 Folly Farm 1994 Mike Simms.

Graphis scripta. LC. **5**, **6**. Similar habitats to *G. elegans*; common. SS 73, 82–84, 92–94; ST 02–04, 11–14, 21–23, 30–33, [*36*], 40–46, 50–55, 57, 62–66, 73, 74, 76.

Graphis ruiziana (*Graphina ruiziana*). LC NS. **5**. On smooth bark of *Acer pseudoplatanus*, *Alnus*, *Betula*, *Buxus*, *Corylus*, *Crataegus*, *Fraxinus*, *Quercus* and *Sorbus*, in moist Exmoor woods: a local oceanic species. SS 73 Ashcombe Plantation, 83 Barle woods, 84 Hawkcombe and Horner woods, 92 Burridge Wood and Haddeo woods, 93 Old Stowey Wood and Rookery Wood 1987 AC. ST [03 Leigh Wood, Brendons, on *Betula*, 1916 WW (BM)].

Gyalecta biformis. DD NR. **5**. On crumbling rock/soil interface; very rare. SS 94, Hurlstone Point 2003 KS (E).

Gyalecta derivata. LC NS. **5**. On *Fraxinus* in hedge; rare. SS 82 nr Beer Mine 1992 BB.

Gyalecta flotowii. NT NS. **5**. Probably more common formerly, but declined with loss of elms. Recently at ST 21 Neroche Forest, Higher Shute's Copse, on crumbling *Fraxinus* pollard 1991 ABC and Barnsclose Copse 2010 NAS.

Gyalecta jenensis. LC. **5**, **6**. On natural limestone in damp, somewhat shaded situations, also on chest tombs etc. in old churchyards; occasional in centre of county, rare in west. SS 73 Wheal Eliza Mine 1994 ABC, 82 Hinam Wood, on mortar of stonework, 2002 VG; ST 03 Elworthy and Nettlecombe churchyards 2015 BJC & MP, [22 Thurlbear 1929 WW], 31, 35–37, 45, 46 Goblin Combe, 51, 54 Ebbor, 55 Ubley Warren, 62–64, 75, [76 Bathampton HBH].

Gyalecta truncigena. LC. **5**, **6**. On rough bark of mossy tree trunks, especially *Quercus* and *Fraxinus*, rarely on old stonework; occasional. SS 83, 84, 93, 94; ST 03, 12, 13, 21–23, 30, 31, *33*, 40, 43, 45, *46*, 51, 52, 54, 73–75.

Gyalideopsis muscicola. LC NS. **5**. On mosses on trees; rare. SS 73 Birchcleave Wood, on *Fagus* 1994 ABC, 82 Mounsey Wood, on *Corylus*, 1997 ABC, 83 Slade Wood, on *Fraxinus*, 2009 NAS, 84 Ten Acre Cleeve, on *Quercus*, 2016 NAS.

Haematomma ochroleucum var. ***ochroleucum***. LC. **5**, **6**. On vertical acidic or slightly basic rocks; much rarer than the var. *porphyrium*. The only modern records are: SS 84, 94; ST 31, 55 Ubley Warren, 56, 62. However, these require confirmation owing to common confusion with other greenish sterile crusts, e.g. *Lecanora orosthea* and *Lepraria ecorticata*, or the recorder not making clear the colour morph involved.

Haematomma ochroleucum var. ***porphyrium***. LC. **5**, **6**. Rather less common than in counties to the east. Frequent on base-enriched rock and

stonework, especially in churchyards. SS 83 nr Landacre Bridge, 2005 ABC, 84 Rowbarrow Wood 1998 ABC, 94; ST 03, *04*, 13, *14*, 22, *31*, 42, 47 Tickenham Ch, 51 E.Coker Ch, 52, 54, 55 Ubley Warren, 57 Long Ashton, 62, 64, 65, 66, 73 Pensel Wood, 75, 76 Bath Abbey Cemetery.

Halecania viridescens. LC NS. **5**, **6**. On tree branches; rare or overlooked, and possibly increasing. SS 83 East Hollowcombe and Westwater Linhay, on *Fraxinus* branches, 2002 ABC, 84 Whitburrow Wood, on *Corylus* 1998 ABC (E); ST 03 Clatworthy woods, on *Fraxinus*, 1996 ABC (E), 14, 45 by old railway, Winscombe, 1993 BJC, 46 Goblin Combe 2014 MP *et al*.

Heterocephalacria bachmannii (*Syzygospora bachmannii*) [LF]. LC NR. **6**. Parasitic on *Cladonia rangiformis*; rare. ST 55 Priddy Pools 2017 ABC (E).

Heterocephalacria physciacearum (*Syzygospora physciacearum*) [LF]. LC. **5**, **6**. Parasitic on *Physcia aipolia*, *P. adscendens* and *P. tenella*, and once on *Physconia grisea*; common. SS 82–84, 94; ST 23, 35, 43, 45, 46, 55.

[***Heterodermia leucomelos*** [*Leucodermia leucomelos*]. EN NR. **6**. Extinct. ST 76 Bathwick Down 1881 Miss Griffiths (BM). No doubt on sunny limestone rocks or grassland, but site seems no longer possible for it.]

Heterodermia obscurata. NT NS. **5, 6**. On boles, boughs and twigs of deciduous trees, mainly in the Barle Valley, and on coastal cliff-top heath; rare. SS 82 on *Fagus* twigs, Dibble Wood 1998 ABC (E) and Mill Wood and Park Wood by R. Barle 1986 FR, 84, 92 Pixton Park, on *Acer*, *Crataegus* and *Salix*, 2017 NAS, 94 Hurlstone Point among *Armeria* turf 1976 FR; ST 21 Ruttersleigh SSSI, on *Fraxinus* and *Quercus*, 2010 NAS, 55 Stockhill Plantation, on *Quercus*, 2015, DJH. This last recent find, and another at Black Down in S. Devon, suggest that this species may be increasing its range.

Heteroplacidium fusculum. NE NR. **6**. Associated with *Aspicilia calcarea* on exposed limestone; very rare. ST 36 Sand Point 2011–2014 DJH (E), still the only British locality.

Homostegia piggotii [LF]. LC. **5**. Parasitic on *Parmelia saxatilis*; occasional in Exmoor and Neroche Forest woodlands. SS 83, 84, 92; ST 21.

Hydropunctaria maura (*Verrucaria maura*). LC. **5**, **6**. On maritime rocks in the littoral and supralittoral zones; frequent. SS 84 Porlock Beach 1987 AC, 94; ST 04 Blue Anchor 2011 DJH, [14 Lilstock 1918 WW (TTN)], 25 Brean Down, 26 Steep Holm, 36 Sand Point, 37 Clevedon 2011 DJH, [46], 47 Portishead 2011 DJH.

Hydropunctaria rheitrophila (*Verrucaria rheitrophila*). LC NS. **5**. Rocks in upland streams. SS 83, 84, 92 VG; ST 03 Nettlecombe Chidgley stream 2009 Thüs & PW (BM), [13 Cothelstone lodge 1946 WW (BM), Aisholt 1913 WW (BM)].

Hymenelia prevostii. LC NS. **5**, **6**. On horizontal limestone slabs that retain moisture temporarily, both natural surfaces and on memorials such as chest-tomb tops in churchyards, or on shaded or N-facing vertical rocks; local but sometimes locally abundant. ST 22 nr Thurlbear Wood 2010 DJH, 35 Crook Peak, above Rackley, Barton Rocks and Compton Hill 2002 ABC, 44, 45 Burrington Combe 1987 BLS, Cheddar Gorge 2001 ABC, Wavering Down, Shute Shelve and Fry's Hill 2002 ABC, 52, 54, 55 Ubley Warren 1992 BJC, 62, 74, 75, *76*.

Hyperphyscia adglutinata. LC. **5**, **6**. On trees (e.g. *Fraxinus, Acer*) with enriched bark, also on stonework and natural limestone; locally frequent. SS 84, 94; ST 03, 12–14, 22, 23, 26, 30–37, 40–46, *47*, 51, *52*, 53–57, 62, 63, 67, 73–76.

Hypocenomyce scalaris. LC. **5**, **6**. On acid bark, lignum and acidic stone; not common, though widespread. SS 83, 84, 92–94; ST 03, 13, 14, 23, 57, 73–75.

Hypogymnia physodes. LC. **5**, **6**. On acid bark, including small twigs in burned sites, lignum, and acid stonework, etc.; very common and often abundant. In all grid squares except ST 37.

Hypogymnia tubulosa. LC. **5**, **6**. On twigs and branches, lignum and stonework; very common. In all grid squares except ST 20, 37, 76.

Hypotrachyna afrorevoluta. LC. **5**, **6**. On trees in woodland and parkland, occasionally on siliceous gravestones; common but under-recorded as only recently distinguished from *H. revoluta*. SS 83, 84, 92, 94; ST 03. 11, 13. 14, 21, 23, 24, [30 Cricket St Thomas WW (TTN)], 31, 35, 43, 45, 54, 55, 57, 75, 76.

Hypotrachyna britannica. LC. **5**, **6**. On acid rocks; rare, but possibly not separable from *H. afrorevoluta*. LC. **5**, **6**. SS 73 Upper Barle Valley 1994 ABC; ST 46 Nailsea, roadside wall, 2010 DJH *et al*., 55 top of Harptree Combe, 63 Castle Cary Ch 1994 FR, 56 & 66 Stanton Drew stone circle.

Hypotrachyna endochlora. LC NS. **5**. In cliff-top *Armeria* turf; very rare. SS 94 Hurlstone Point 1985 FR, and seen there by BLS in 2013.

Hypotrachyna laevigata. LC. **5**. On trees with leached bark in the high rainfall areas of the Exmoor woods, both on *Alnus* in valley floors and on *Quercus* at higher elevations; very locally common, also (very rare) in the Quantocks and Blackdowns. SS 73, 82–84, 92–94; ST 03 Nettlecombe Park 2003 AA & LS, 11 Ruggin 2012 DJH, 13 Swinage Wood 1972–1982 FR.

Hypotrachyna revoluta s. lat. (incl. *H. afrorevoluta* and *H. revoluta* s. str.). See the component species. The two species have not been distinguished in the following hectads: SS73, 74, 93; ST 02, 30, 32, 34, 40–42, 50, 51, 53, 62, 73, 74.

Hypotrachyna revoluta s. str. LC. **5**, **6**. On trees, especially twigs and branches, in woodland and parkland, occasionally on siliceous gravestones; common but under-recorded as only recently distinguished from *H. afrorevoluta*, which appears to be the more abundant. SS 83, 84, 92; ST 03, 33, 35, 45, 46, 52, 54, 55, 57, 64.

Hypotrachyna sinuosa. LC IR. **5**. On twigs in oceanic valley woodland; very rare. SS 83 Great Wood, on *Salix* twigs, 2016, NAS.

Hypotrachyna taylorensis. LC IR. **5**. In the old Exmoor woods on damp acid rocks and leached acid bark in humid situations, also on coastal cliff-top turf; a very local oceanic species. SS 83 trees by R. Barle, 84 Hawkcombe rocks, and Horner Combe, 94 Hurlstone Point, in *Armeria* heath, 1974 and later.

Illosporiopsis christiansenii [LF]. LC. **5**, **6**. Parasitic on *Physcia adscendens* and *P. tenella*, mainly on twigs; common but under-recorded. ST13, 23, 45, 46, 55, 57.

Illosporium carneum [LF]. NE NS. **6**. Parasitic on *Peltigera rufescens*; rare. ST 55 Ubley Warren 2018 Matt Prince.

Inoderma subabietina (*Lecanactis subabietina*). LC IR. **5**, **6**. On dry, usually flaky, bark of old trees, especially oaks in old woodland; very local. SS 84 Hawkcombe and Horner woods, 92 Pixton Park, 94 Dunster Park; ST 03, 04, *12*, 13, 14, 21, 23, 34, 74 Mells Park.

Ionaspis lacustris (*Hymenelia lacustris*). LC. **5**. On partly submerged, or flushed acid rocks in and by rivers on Exmoor; locally frequent on Exmoor but rare elsewhere. SS 73, 74, 82–84, 92; ST 03 Treborough slate quarry 2015 MP & BJC.

Jamesiella anastomosans. LC. **5**, **6**. On shaded bark or lignum, mostly in woodland; occasional. SS 73 Ashcombe Plantation and Birchcleave Wood, 1994 ABC, 82 Ashwick Wood, 83 Slade and Horse woods, 84 Horner woods, 92, 94; ST 03 Nettlecombe, on old fence rails, 2000 ABC & PW, 04, 21, 43, 45, 55, 57, 64.

Japewiella tavaresiana. LC. **5**. On bark of leaning trunks or branches, especially *Fraxinus* and *Salix*; rather rare and mostly from Exmoor. SS 73, 82, 83, 84, 92; ST 12, 21, 46.

Kalaallia reactiva [LF]. LC NR. **5**. Parasitic on *Ionaspis lacustris.* SS 82 R. Barle, at Ashwick Wood 1997, ABC (E).

Laetisaria lichenicola [LF]. NE. **6**. Parasitic on *Physcia adscendens*; rare or under-recorded. ST 55 Compton Martin 2016 DJH.

Lecanactis abietina. LC. **5**, **6**. On acidic bark, usually on the drier sides of *Alnus*, *Betula* and *Quercus*, in both ancient and secondary mature woodland, more rarely on acidic rock in underhangs; common, except in the Levels and other areas without woodland. SS 82–84, 92–94; ST 02–04, 11–14, *20*, 21, 22, 23, 31, 32, [*42*], 43, 45, 46, 52, *53*, 54, 62–64, 66, 73, 74, 76.

Lecania aipospila. LC NS. **5**. On coastal cliff; very rare. SS 84 Hurlstone Point 2011 DJH.

Lecania atrynoides. LC NS. **6**. Neutral to acid rocks on the coast; rare. ST 25 Brean Down 1974 A.M. Brand, 26 Steep Holm 2014 DJH, 36 Sand Point 1991 BJC (E) and 2011 DJH.

Lecania chlorotiza. NT NS IR. **5**, **6**. On trunks of mature trees; rare. SS 82 Ashwick Wood, on large cankered *Quercus*, 1997 ABC, 84 Rowbarrow Wood, on *Quercus*, 1998 ABC; ST 11 Ruggin, on *Populus*, 2012 DJH, 21 Ruttersleigh SSSI 2010 NAS, [46 Cleeve Combe, 'on conifer' (? *Taxus*) 1934 DA J & HK (NMW as '*Biatora erysiboides*, and *Lecidea micrococca*')], 54 Ebbor Gorge, on *Acer campestre*, 1994 BJC (E), [57 Leigh Woods, on *Ulmus*, 1865, on elm, Larbalestier (BM, isotype collection of *Lecidea chlorotiza* Nyl.) - in Watson (1930, p. 37) as '*Biatora fallax*'], 74 Finger Valley, Mells Park, on *Quercus*, 1989 FR, det. BJC.

Lecania cuprea. LC NS. **6**. On dry, shaded limestone outcrops and scree in the Mendips; local, mostly in crevices and underhangs. ST 25 Brean Down 1983 BJC, 35 Crook Peak 1984 BJC, 45 old railway cutting, Winscombe 1993 BJC, Draycott 1984 BJC, Cheddar Gorge 1981 BLS and 2001 ABC, Wavering Down to Fry's Hill 2002 ABC, 46 Goblin Combe 1988 BJC *et*

al., 54 Ebbor Gorge, Harptree Combe 2016 DJH, 57 Clarkencombe Wood 2013 BJC.

Lecania cyrtella. LC. **5**, **6**. On base-rich bark, especially of *Sambucus* and *Fraxinus* branches; common but under-recorded. SS 83 Shircombe Brake and Westwater Linhay 2002 ABC, 84, 94; ST 03 Nettlecombe Park, 11, [13 Cothelstone, on *Sambucus*, 1934 WW (BM)], 21, 22, 23, 25, 26, 30, 31, 34, 36, 41, 43, 45, 46, 51, 54–57, 63, 66, 67, 74, 75, 76.

Lecania cyrtellina. LC. **5**, **6**. On basic bark in old woodlands, not in *Xanthorion*; uncommon but somewhat overlooked. ST 84 Hawkcombe, on *Fraxinus* 1992 ABC, 92 Pixton Park 2017 NAS; ST 21 Ruttersleigh SSSI 2010 NAS, 43 Ivythorn Hill, on *Acer campestre*, 1994 BJC (E), 45 nr Bradley Cross Farm, on *Sambucus*, BJC, [53 Copley Wood, on *Sambucus*, 1923 WW (BM)].

Lecania erysibe. LC. **5**, **6**. On calcareous rock and stonework, especially on horizontal, nutrient-enriched surfaces; frequent, but under-recorded. SS 84, 94; ST 03, 31, 33–35, 41–43, 45, 47, 56, 66, 75. These records are for the blastidiate species, at one time known as *L. erysibe* f. *sorediata*. The species delimitation within the *Lecania erysibe* group is notoriously difficult, and in much need of a modern taxonomic revision. Apart from *L. erysibe*, the other taxa currently recognised are *L. inundata*, *L. rabenhorstii* and *L. turicensis*.

Lecania hutchinsiae. LC. **5**, **6**. On siliceous or more often weakly calcareous rocks, especially stonework in dry or overhung niches; rarely recorded but easily overlooked. SS [94 North Hill, Minehead, 1920 HK as *Biatorina littorella*]; ST 03 Elworthy Ch and Nettlecombe Ch 2015 MP & BJC, 23 Barford House 2012 MP, 31 Combe St Nicholas Ch 2013 DJH, 61 Poyntington Ch 1997 VG.

Lecania inundata. LC. **5**, **6**. On damp or shaded calcareous or sandstone stonework, stones or slabs, etc. All Somerset records so far are from churchyards; common but under-recorded. SS 94; ST 04, 13, 14, 21, [22 Taunton 1917 WW (TTN)], 23, 33, 36, 41, 42, 44–46, 54, 57, 63, 74.

Lecania naegelii. LC. **5**, **6**. On base-rich bark of well-lit trees and shrubs, mostly *Sambucus* and *Fraxinus*; frequent. SS 73, 83, 84, 94; ST 03, *04*, 11, [12 Langford Heathfield, on *Ulmus*, DAJ, HK & WW (BM), Hillfarrance, on *Acer campestre*, 1923 WW (BM)], 13, 21–23, 24, 26, 31, 35, 42, 44–46, 51, 53–55, 57, 64, 67, 72, 74–76. Watson's records of '*Lecania syringea*' belong here, as do most of those of '*Bilimbia sphaeroides*'.

Lecania nylanderiana. DD NR. **5**. On limestone stonework of church porch; very rare. SS 14 East Quantoxhead Ch 2011 DJH.

Lecania rabenhorstii. LC. **5**, **6**. On limestone and calcareous stonework. Widely occurring but under-recorded. SS 94; ST 03 Nettlecombe 2003 AA & LS, 12–14, 21, [22 Dodhill 1922 WW (TTN)], 23, 25, 26, 32, [34 Burnham WW (TTN)], 35 Crook Peak and above Rackley 2002 ABC (E), 36 Sand Point 1991 BJC, 41, 42 Kingsbury Episcopi 2003 AA & LS, 45 Wavering Down 2002 ABC (E), 46, 55, 57, 75, 76.

Lecania turicensis. LC. **5**, **6**. On calcareous rocks, also on calcareous stonework, especially on old churches. Probably frequent in central and east Somerset but little recorded yet, and also much confused with *L. rabenhorstii*. SS 84, 94; ST 03, 13, 14, 26, 32 Hatch Beauchamp churchyard 1991 TC, 36, 41, 42, 53–55, 62, 63, 66, 72, 75.

Lecanographa amylacea. VU NS. **5**. At the base of, and in crevices in, the dry, brittle bark of ancient oaks (usually over 250 years old); very rare. ST 03 Nettlecombe Park, old *Quercus*, 1985 FR, 13 Fairfield Park, on *Quercus*, 1984 FR, 62 Hazelgrove Park 1985 FR. All these records are based on sterile thalli, such that specimens should be checked by thin-layer chromatography to ensure they are not sterile *L. lyncea*.

Lecanographa lyncea. LC IR. **5**, **6**. On ancient oaks in medieval parkland, and forest relics; uncommon but widespread. SS 83 Nine Acre Copse 2009 NAS, 92 Pixton Park; ST 03 Nettlecombe Park, 14 Fairfield Park and Afoxton Park, 21 Neroche Forest, wood S of Corfe, 22 Poundisford Park 1973 FR, 62 Hazelgrove Park 1985 FR, 57 Long Ashton Park 1973 DHB & FR, 66 Folly Farm 1994 M. Simms, 73 Redlynch Park 1985 FR, 74 Mells Park 1972 & 1989 FR.

Lecanora agardhiana. DD NS. **5**, **6**. On limestone, especially nr the coast. ST 14 East Quantoxshead Ch, on W wall of church, 2011, DJH, 25 Brean Down, 26 Steep Holm, [35 Purn Hill 1935 DAJ & WW (BM)], 36 Sand Point.

Lecanora aitema. LC. **5**. On acid bark and lignum; rare or overlooked. SS 84 Pitt Plantation on *Pinus*, 1985 FR; ST 03 Nettlecombe Park, on palings, 2003 BLS.

Lecanora albella (*L. pallida* auct.). LC NS. **5**, **6**. On acidic bark of deciduous trees, especially *Quercus* in oakwoods on acidic soils; uncommon. SS 83 Barle Valley Woods, 84 Horner woods, 92 Burridge Wood 1994 ABC,

93 Sale and Halscombe Wood 1988 AC & PW, 94; ST 12, 13, 21, 56 Manor Woods 2010 JS. Also recorded from ST 22, 66 and 74, but these records are more likely to be of *L. carpinea*.

Lecanora albescens [*Myriolecis albescens*]. LC. **5**, **6**. On both natural limestone and on calcareous stonework, in well-lit places, especially churchyards; very common. SS 73, 83, 84, 92–94; ST 02–04, 11–14, 20–26, 30–37, 40–47, 51–57, 61–67, 72, 74–76, 85.

Lecanora alboflavida (*Ochrolechia inversa*). LC NS. **5**. On acid bark or rocks in ancient woodlands in the west; rare. SS 83 Slade Wood, on *Alnus*, 1997 ABC, also on *Quercus* at Shircombe Rocks and Westwater Copse 2002 ABC, 84 Hawkcombe, Colescombe Wood, on rocks, 1992 ABC; ST 11 Buckland Wood, on *Quercus*, 1984 FR, 21 Ruttersleigh SSSI 2010 NAS.

Lecanora antiqua [*Myriolecis antiqua*] (*L. conferta* auct.). LC. **5**, **6**. On calcareous stonework of old church walls, especially on N and E sides, rather rare or more probably overlooked until recently. SS 94; ST 03, 12, 13 Nether Stowey 2003 AA & LS, 23, 37 Old Clevedon Ch 1994 FR, 40–42, 46, 57.

Lecanora argentata. LC. **5**, **6**. On bark of trees, especially on trunks, and rarely on gravestones; probably frequent, but often passed over for the more common *L. chlarotera*. SS 92, 94; ST 11, 12, 14, [22 Orchard Portman 1916 WW (TTN)], 30, 36, 43, 45, 47, 57, 64, 65 Holcombe Ch, on sandstone headstone, 2017 ABC, 74, [85 Beckington 1869 HP (TTN)].

Lecanora barkmaniana. LC NS. **5**, **6**. On bark of trees, especially in parklands; uncommon, but probably overlooked. SS84, 94; ST 21, 23, 30, 46, 51 Montacute Park, on *Acer pseudoplatanus*, 2004 BE, 54, 55, 74.

Lecanora campestris subsp. ***campestris***. LC. **5**, **6**. On limestone, both natural outcrops and (especially) stonework, also on sandstone beach pebbles, mortar, basic brick walls, etc., occasionally on worked timber and once on spreading roots of *Fagus* (Ashton Court); very common throughout. Unrecorded only in SS 73.

Lecanora campestris subsp. ***dolomitica***. LC NS. **6**. On dolomitic limestone, very rare. ST 45 below Fore Cliff on lower slope of Wavering Down 2002 ABC (E).

Lecanora carpinea. LC. **5**, **6**. On twigs and branches of broad-leaved trees with basic or neutral bark; frequent, but probably under-recorded. SS 84 Hawkcombe on *Fraxinus* 1992 ABC, 92–94; ST 03, 11, [12 Hillfarrance 1921 WW (TTN)], 13, 22, 26, 30, 31, 33, 34–36, 41, 43, 45, 46, 51, 53–57, 62, 64, 67, 74, 75.

Lecanora chlarotera. LC. **5**, **6**. On bark of broad-leaved trees, sometimes on worked timber and on sandstone headstones; very common. In all squares. Recorded on sandstone headstones in ST 23, 33, 35, 61, 62.

Lecanora compallens. LC. **5**, **6**. On trunks of trees and worked timber; probably much overlooked. ST 03 Nettlecombe, on *Quercus*, 2003 AA & LS, 23, 31, 51, 56.

Lecanora confusa. LC. **5**, **6**. On neutral smooth bark of twigs and branches, occasionally on worked timber; frequent. SS 73, 74, 82-84, 92–94; ST 03, 14, 21, 22, [*23*], 31, 36, 41, 43–45, 51–53, 56, 62, 64, 67, 74, 75.

Lecanora conizaeoides. LC. **5**, **6**. On bark of trees, especially on twigs; on lignum and on acid stonework. Abundant generally up to *c.* 1980, but in recent years this species has greatly declined with the huge fall in SO_2 concentrations in the air, but is still common on lignum and acid stonework. Unrecorded only in SS 73, 74.

Lecanora crenulata [*Myriolecis crenulata*]. LC. **5**, **6**. On calcareous rocks, including stonework, especially in old churchyards; very common, but still unrecorded in SS 73, 74, 82, 83, 92; ST 73.

Lecanora dispersa agg. [*Myriolecis dispersa*]. LC. **5**, **6**. On basic rocks, beach pebbles, brickwork, roof tiles, etc., on trees with enriched bark, and on worked timber; common throughout. Unrecorded only in SS 82.

Lecanora expallens. LC. **5**, **6**. On bark of trees including twigs; abundant throughout. Also frequent on sandstone, stonework, and natural outcrops. In all squares.

Lecanora farinaria. LC. **6**. On bark and worked timber; rare or overlooked. ST 45 Cheddar Gorge, on *Fraxinus*, 1991 BJC (E, with apothecia), 74 Mells Ch, on wooden cross, 2015 DJH.

Lecanora fugiens [*Myriolecis fugiens*]. LC. **5**, **6**. On coastal rocks, very local; also on megalithic monuments. SS 94 Hurlstone Point cliffs 1993 ABC; ST 56 & 66, Stanton Drew standing stones 1985 DJH & BJC.

Lecanora gangaleoides. LC. **5**, **6**. On hard acid rocks and stonework both on the coast and inland; local and uncommon. SS 82 Hawkridge Ridge Wood 1994 ABC, 83 Shircombe Rocks 2002 ABC, 84 Porlock Beach, and Horner woods, 92 Paddons Wood 1994 ABC, 94; ST

[03 Monksilver 1917 WW (TTN)], *04*, *12*, *14*, 32 Hatch Beauchamp Ch 1991 FD, 37, 42, 54, 55 Ubley Warren, 56 Stanton Drew standing stones, 57.

Lecanora gisleriana. DD NR. **6**. Parasitic on *Lecanora subaurea* on slag in metal-rich spoil-heap; very rare. ST 55 Ubley Warren 1967 PWJ (BM).

Lecanora hagenii [*Myriolecis hagenii*]. LC. **5**, **6**. Mainly on twigs of trees or shrubs, less often on stonework; common but under-recorded. SS 84, 94; ST 03, 13, 23, 26, 42, 44, 45, 54, 55, 67, 74, 76.

Lecanora handelii. NT NS. **6**. On slag in metal-rich spoil-heap; very rare. ST 55 Ubley Warren 1992 BJC (E).

Lecanora helicopis. LC. **5**, **6**. On maritime rocks and shingle beaches; very local. SS 84 Porlock Beach 1987 AC, 94; ST 25 Brean Down, 26 Steep Holm, 36 Sand Point, 47 Clevedon and Portishead.

Lecanora horiza. NT NS. **5**, **6**. On deciduous trees with base-rich bark and probably formerly frequent on *Ulmus*, but it has recently been appreciated that it not uncommonly occurs on limestone gravestones and church walls. ST 03 Nettlecombe Park, on *Quercus*, 2003, AA & LS, and recorded in 2015 at Nettlecombe Ch, on headstone, and Monksilver Ch, on church wall, by BJC & MP, 13, [22 Thurlbear, on *Ulmus*, 1917 WW (TTN)], 24, 35, 41, 42, 45, 75.

Lecanora intricata. LC. **5**, **6**. On siliceous rocks and stonework, especially maritime; rare. SS 74, 83, 84 Porlock Beach, 94 Hurlstone Point; ST *03*, 13, *44*, 55, 66, 74, 76.

Lecanora intumescens. LC. **5**, **6**. On bark of deciduous trees in usually well-lit situations; little recorded so far. SS 92 Pixton Park 2017 NAS; ST 31, 54.

Lecanora jamesii. LC. **5**. On smoothish bark, mostly of *Salix cinerea*, in wet carr woodland mainly; frequent in Exmoor old woodlands, also in Quantocks. SS 73, 74, 82, 83 (fertile), 84, 92, 94; ST 02–04, 13, 21, 41.

Lecanora muralis. LC. **5**, **6**. On nutrient-enriched, more or less calcareous rocks, especially on stonework and paths in churchyards and similar places; often on flagstones on paths or little-used tarmac roads, also on spreading roots of *Fagus* in parkland (ST 57 Ashton Court). Common generally in such places. Unrecorded for SS 73, 74, 82, 83, 92, 93; ST 21, 26.

Lecanora ochroidea (*L. subcarnea* auct. p.p.). LC NS IR, **5**. On more or less acidic maritime rocks; very rare. SS 84, 94 Hurlstone Point 1987 AC.

Lecanora orosthea. LC. **5**, **6**. On siliceous rocks, especially on churchyard walls or stonework; locally frequent. SS 84 Hawkcombe and Horner woods, 94 Hurlstone Point; ST 03, 04, 13, 14, 22, 23, 30, 31, 35, 37, 44–47, 54–57, 62, 63, 65, 66, 72, 74, 85.

***Lecanora persimilis*.** LC. **5**, **6**. On twigs and small branches, especially of *Fraxinus* and *Sambucus*; a recently recognised species by some authors, though doubtfully distinct from *L. hagenii*. SS 94; ST 03, 12, 22, 24, 26, 41, 45, 55, 67, 76.

Lecanora polytropa. LC. **5**, **6**. On siliceous rocks, especially on granite or sandstone churchyard memorials, rarely on worked timber; frequent. SS 73, 74, 83, 84, 92–94; ST 02–04, 12–14, 20–24, 30–37, 40–47, 51, 52, 54–57, 61–67, 74–76, 83, 85.

Lecanora praepostera. LC NS. **5**. On maritime rocks on cliffs; very local and rare. SS 94 Hurlstone Point, 1993 ABC.

Lecanora pruinosa [*Myriolecis pruinosa*]. LC NS. **6**. On dry vertical faces of natural Carboniferous limestone and on church walls, very rare and local. ST 33 Moorlinch Ch, NE corner of church wall, 2017 ABC, 45 Cheddar Gorge 2001 ABC, [46, Cleeve Hill 1875 & 1877 WJ (BM)], 62 North Cadbury CH 2002 KS.

Lecanora pulicaris. LC. **5**, **6**. On tree bark, mostly on twigs and branches, and on worked timber; uncommon. SS 84 Horner woods AC; ST 03, 21, 22, 26, 36, 37, 55.

Lecanora quercicola. VU NS IR. **6**. On rough bark of *Quercus* in well-lit ancient woodlands and parklands; very rare. ST 24 Cannington Park, on old *Quercus*, 1987 JC, conf. FR.

Lecanora rupicola. LC. **5**, **6**. On siliceous rocks, mainly coastal but also on sandstone memorials inland; rare and local. SS 84, 94 Hurlstone Point and Selworthy Ch; ST 03 Monksilver Ch, 04, 35, 37, 44–46, 54 Lynchcombe, on chert, 2016 ABC, 55, 57, 66 Stanton Drew standing stones, 76.

Lecanora saligna. LC. **5**, **6**. On lignum in exposed situations such as fence rails: especially nr the sea. SS 84 Horner Combe, on *Quercus* lignum, 2012 NAS; ST 03, 23, 36 Sand Point, on fence post, 1991 BJC, 44 Cocklake, on gate rail, 1991 BJC, 45, 46, 62.

Lecanora salina [*Myriolecis salina*]. DD NR. **5**. On beach pebbles, very rare. SS 84 Porlock Beach, AC det. BJC.

Lecanora sambuci [*Myriolecis sambuci*]. LC.

5, **6**. On nutrient-enriched bark, especially of *Sambucus* and *Ulmus*; few recent records. ST [12 Langford Budville 1928 WW (BM). Watson (1930,p. 49) also gives: 21 Browndown in Blackdowns, 23 Broomfield, 31 Combe St Nicholas, nr churchyard.], 45 Cheddar Wood and The Perch, on twigs, 2005 VG.

Lecanora semipallida [*Myriolecis semipallida*] (*Lecanora xanthostoma*). LC NS. **5**, **6**. On Carboniferous limestone, limestone pebbles; rare or overlooked. ST 24 Steart 2015 DJH, 45 Shute Shelve 2002 BJC and Axbridge Hill 2011 DJH, 46 Goblin Combe 2014 MP *et al*., 63 Castle Cary Ch 2016 DJH.

Lecanora soralifera. LC. **5**, **6**. On siliceous rocks, including memorials and slag; uncommon. SS 74 nr Pinkery Fm 2000 ABC, 84, 94; ST 23, 32, 44, 45, 55 Ubley Warren, 76.

Lecanora stenotropa. LC. **6**. On slag (but can occur on other substrata, including chemically treated worked timber); rare, or overlooked for *L. polytropa*. ST 55 Ubley Warren 2016 DJH.

Lecanora subaurea. LC NS. **5**, **6**. On metal-rich gravestone and slag; rare. ST 13 Nether Stowey Ch 2003 AA & LS, 55 Ubley Warren 1967 PWJ (BM, sub *L. gisleriana*).

Lecanora sublivescens. NT NS IR. **6**. On well-lit ancient *Quercus* in old woodland or parklands; very rare. An ancient pasture-woodland species. ST 74 Mells Park, on old *Quercus*, 1982 & 1989 FR (E), 2012 DJH.

Lecanora sulphurea. LC. **5**, **6**. On well-lit nutrient-enriched siliceous rocks, including churchyard memorials and walls; occasional. SS 84, 93, 94; ST 03, 04, 22–24, 35–37, 45–47, 55, 57, *62*, 63, 64, 66, 72–74, 76.

Lecanora symmicta. LC. **5**, **6**. On twigs and lignum, especially worked timber; frequent. SS 73, *83*, 84, 94; ST 03, 04, 21, 23–25, 32, [34 Huntspill Moor 1910 WW (TTN)], 36, 37, 41, *42*, 44–46, 55–57, 66, 67, 75.

Lecanora varia. LC. **5**, **6**. On lignum of fence rails, etc.; rare. ST *34*, 41, 51, 66.

Lecidea erythrophaea. VU NR. **5**. On smooth bark in damp woodland; very rare. SS 92 Newgate Plantation, nr Dulverton, on *Fraxinus*, 1994 ABC (E).

Lecidea fuscoatra s. lat. (incl. *L. grisella* and *L. fuscoatra* s. str.). On siliceous rock and stonework. See below under *L. fuscoatra* s. str. and *L. grisella*. Unassigned hectad record: SS 74.

Lecidea fuscoatra s. str. LC, **5**. So far confirmed on beach pebbles and a sandstone gravestone. ST 04 Blue Anchor, on pebbles, 2015 BJC & MP, 23 Spaxton Ch on coped stone 2015 BJC & MP.

Lecidea diducens. LC NS. **5**. On granite headstone; rare. ST 31 Combe St Nicholas Ch 2013 DJH.

Lecidea grisella. LC. **5**, **6**. On siliceous rocks and stonework; frequent. SS 73, 84, 92, 94; ST 02, 03, 13, 22–24, 32, 44, 52, 54, 55, 57, 61, 65, 66, 72, 74, 75, 76. The majority of unassigned records of *Lecidea fuscoatra* s. lat. probably belong here.

Lecidea hypopta. LC NS. **5**. On dry acid lignum; rare. SS 92 Pixton Park, on *Castanea* lignum in open parkland, 1987 AC (E); ST 03 Nettlecombe Park, on lignum of fence, DLH (Rose and Wolseley 1984: 134).

Lecidea lactea. LC. **5**. On maritime shingle beaches and sea-cliffs; very rare and local. SS 84 Porlock Beach and Bossington Beach, 94 Hurlstone Point cliffs.

Lecidea lithophila. LC. **5**. On exposed acid rocks; rare. SS 73 nr Wheal Eliza mine 1994 ABC, 74 nr Pinkery Fm 2000 ABC, 84 Dunkery Beacon 2013 JS *et al*., 92, Dulverton, on bridge, BLS.

Lecidea phaeops. LC. **5**. On N-facing siliceous rock outcrop; very rare. SS 83 nr Landacre Bridge 2005 ABC.

Lecidea plana. LC. **5**. On siliceous pebbles and gravestones; rare or somewhat overlooked. SS 84 Bossington Beach, on pebbles, 2013 BLS; ST 03 Monksilver Ch, on sandstone coped tomb, 2015 BJC & MP.

Lecidella anomaloides. LC NS. **5**. On acidic rock in underhangs, in woodland; rare. SS 84, rocks by river, Horner Side 1991 BJC *et al*. (E), outcrops on steep slope, Rowbarrow Wood 1998 ABC (E).

Lecidella carpathica. LC. **5**, **6**. On slate in quarry, granite memorials, and walls; rare. ST 03 Clatworthy Reservoir, on wall of dam, 1996 BJC and Treborough, on slate, 2015 MP & BJC, 43–46, 55, 57, 63, 67.

Lecidella elaeochroma f. ***elaeochroma***. LC. **5**, **6**. On mostly smooth bark of small trees and twigs; common throughout Somerset. Recorded in all squares.

Lecidella elaeochroma f. ***soralifera***. LC. **5**, **6**. As previous; probably under-recorded. SS 82, 84, 92. ST 40, 45, 51, 76.

Lecidella scabra. LC. **5**, **6**. On siliceous rocks, both natural and on stonework, especially in churchyards, also worked timber and

occasionally dust-impreganted bark; common. Unrecorded for SS 82, 93; ST 36, 53.

Lecidella stigmatea. LC. **5**, **6**. On calcareous rocks and on stonework; frequent. SS 73, 83, 84, 92, 94; ST 02–04, 12–14, 21–26, 30, 31, 33, 35–37, 40–47, 52, 54, 55, 57, 61–64, 66, 67, 72, 74–76, 86.

Lecidella viridans. DD NR. **5**. On sandstone beach pebbles; very rare. ST 04 Blue Anchor 2006 ABC & PW (E).

Lemmopsis arnoldiana. NT NR. **5**, **6**. On shaded, usually calcareous damp rocks; very rare. SS 83 rocks by R. Barle, Tarr Steps VG; ST 25 Brean Down 1986 OLG, 54 Ebbor Gorge 1990 AC.

Lempholemma botryosum. LC NS. **6**. On Carboniferous limestone, in flushes and hollows where water persists after rain. ST 25 Brean Down 1986 BJC & OLG, 35 W end of Wavering Down 2002 ABC.

[***Lempholemma chalazanellum***. LC NS. **5**. On limestone wall. ST 22 Henlade, Taunton 1916 WW (BM, TTN).]

Lempholemma polyanthes. LC NS. **5**, **6**. On limestone and calcareous stonework. ST [22 Sherford, Taunton 1917 WW (BM)], 23 Barford House 2012 MP & BJC (E), 45, 54, 55 Ubley Warren.

Lepraria atlantica. LC NS. VC **5**. Over mosses on acid shale outcrop; rare. SS 74 nr Pinkery Farm 2000 ABC (E).

Lepraria caesioalba. LC. **5**. On mosses on exposed, acidic rock outcrop; rare. SS 73 nr Wheal Eliza 1994 ABC (E), *94*.

Lepraria eburnea. LC NS. **6**. On mosses on vertical limestone rock faces in the Mendips; rare or overlooked. ST 45 Cheddar Gorge 2001 ABC (E), 54 Ebbor Gorge DJH.

Lepraria ecorticata. LC NS. **5**. On dry siliceous rock faces or dry undersides of old trees. Rare but poorly recorded. SS 83 nr Landacre Bridge 2005 ABC, 84 Rowbarrow Wood 1998 ABC (E); ST 03 Clatworthy Wood 1996 BJC (E), 21 Ruttersleigh SSSI 2010 NAS. Until recently, often confused with the greenish morph of *Haematomma ochroleucum*.

Lepraria finkii (*Lepraria lobificans*). LC. **5**, **6**. On shaded bark and on base-rich rocks, both on natural outcrops and on stonework; common. SS 73, 74, 82–84 Hawkcombe, 92–94; ST 03, 04 Old Cleeve PWJ, 13, 2–23, 30–33, 35, 40–46, 51, 54, 55, 57, 66, 67, 75.

Lepraria incana. LC. **5**, **6**. Common on acid bark, lignum, acid rocks and stonework, etc. Unrecorded only in SS 74; ST 25.

Lepraria jackii s. lat. (incl. *L. humida, L. jackii* s. str., *L. sylvicola*). On shaded tree trunks and acid rocks, often overgrowing mosses, in woodlands; under-recorded, but probably common, especially on Exmoor. SS 82–84, 92; ST 03, 44, 57. It is likely that most Somerset records refer to *L. sylvicola*. The three species require thin-layer chromatography for certain identification.

Lepraria membranacea (*Leproloma membranaceum*). LC. **5**, ?**6**. On acid bark, especially *Alnus*, *Betula* and *Quercus* and rocks in humid situations. SS 74, 82 Mounsey, on *Alnus* and *Betula* 1997 ABC, 83 Shircombe Brake, on *Alnus*, 2002 ABC, Westwater Copse, abundant on rock outcrop by R. Barle, and on *Quercus*, 2002 ABC, 84 Horner woods, 92 Burridge Wood (as epiphyte) 1994 ABC, 93 Haddeo and Avill valleys. Also recorded for ST 11, 31, 40, 45, 54, 64, 65, 76, mainly from churchyards, but more likely these records represent *L. vouauxii*.

Lepraria nivalis. LC NS. **6**. On sheltered vertical limestone outcrops; locally common in the Mendips. ST 35 Barton Rocks 2002 ABC, 45 Cheddar Gorge 2001 ABC (E), Burrington Combe, 54 Ebbor Gorge 1994 BJC (E), 55 Ubley Warren and Harptree Combe.

Lepraria rigidula. LC. **5**. On acid bark of *Alnus*, *Betula*, *Quercus* and *Salix*, or more rarely rock in humid woodlands; frequent in Exmoor woods. SS 82–84, 92.

Lepraria umbricola. LC NS. **5**, **6**. On undersides and in hollows of old trees and large stumps of *Alnus*, *Betula*, *Quercus* and *Pinus*, mainly in ancient woodlands. SS 82 & 83 Barle Valley Woods, 84 Hawk Combe, and Horner woods, 92 Weir Cleeve 1994 ABC and Haddeo Valley Woods; ST 03 Clatworthy woods 1996 ABC, 57 Leigh woods and Clarkencombe Wood.

Lepraria vouauxii (*Leproloma vouauxii*). LC. **5**, **6**. On ± basic rocks and on old stonework, and on tree trunks; quite common but under-recorded. SS 73, 84, 93; ST 03, 12–14, 30, 31, 33–35, 40–43, 45, 51, 55, 57, 62, 63, 65, 66, 72–75.

Leprocaulon microscopicum. LC. **5**. In crevices on cliff faces; rare. SS 84 & 94 Hurlstone Point; [ST 03 Brendon Hills, The Incline 1918 WW (BM), 13 the Quantocks WW (Watson 1930, p. 76), 22 Tetton, nr Taunton, on slate, 1912 WW (BON-Hb. Livens)].

Leproplaca chrysodeta (*Caloplaca chrysodeta*). LC. **5**, **6**. On rather shaded limestone or calcareous sandstone, both on natural rock and

on stonework; frequent in the limestone regions. SS 84, 94; ST 12, 13, 22, 31, 36, 41, 42, 45, 46, 54, 55, 57, 61–64, 66, 72, *73*, 74–76.

Leproplaca xantholyta (*Caloplaca xantholyta*). LC. **5**, **6**. Similar habitats to *L. chrysodeta*, but usually in drier, sunnier situations. ST 03, 12, 22, 35, 36, 41–46, 51, 54, 55, 61–64, 66, 72, 74, 75, 76.

Leptogium biatorinum [*Scytinium biatorinum*]. LC NS. **5**, **6**. On calcareous soil and limestone rocks; very rare or overlooked. ST 04 Blue Anchor Bay 2002 OLG, [22 Volis Hill 1930 WW (BM), 23 Merridge 1914 WW (TTN), Broomfield 1924 WW (BM, TTN), 26 Steep Holm 1930 WW], 41 Ham Hill 2011 DJH, 43 Gilling Down 2014 DJH.

Leptogium britannicum. LC NS IR. **5**. Mossy rocks by Exmoor streams; very rare. SS 84 Chalk Water 1992 VG, Horner woods 2013 BLS.

[***Leptogium burgessii***. LC IR. **5**. On mossy trees; apparently extinct. SS 84 Horner woods, on tree, 1920 HK (BM, TTN).]

Leptogium cyanescens. LC IR. **5**. On damp mossy *Fraxinus* and *Corylus* and also mossy rocks in ancient Exmoor woods; very rare. SS 83 Dibble Wood 1983 FR (BM) & 2009 NAS, 84 Horner woods (several localities), 92 W side of R. Barle, Oldberry Lane, on retaining wall, 1994 ABC (E).

Leptogium diffractum [*Pseudoleptogium diffractum*]. NT NS. **6**. On Carboniferous limestone outcrops on steep slopes and on talus below cliffs in the Mendips, only once in a churchyard; rare and local. ST 31 Combe St Nicholas Ch, on hard mortar fragment on N wall of church, 2013 DJH, 35 Purn Hill 1934 WW (BM), NE-facing crags below Crook Peak 2002 ABC, 45 Cheddar Gorge 1981 PWJ (BM), and 2001 ABC, Wavering Down, Shute Shelve and Fry's Hill 2002 ABC, 46 Cleeve Combe 1923 WW (BM) and Goblin Combe 1988 BJC.

Leptogium gelatinosum [*Scytinium gelatinosum*]. LC. **5**, **6**. On calcareous soil, on limestone rock ledges, old stonework in churchyards; common in the Mendips, but local elsewhere. SS 74 nr Pinkery Fm, on stonework of small bridge, 2000 ABC, 82, 83 Landacre Bridge 2005 ABC, 94; ST 03, 04, [12 Langford 1922 WW (BM)], 21, [22 Orchard Portman 1936 WW (BM)], 23, 25, 30, 31, 35, 36, 41–46, 51, 54–57, 64, 66, 74, 76, 85.

Leptogium lichenoides [*Scytinium lichenoides*]. LC. **5**, **6**. On old mossy trees, especially *Fraxinus*, and mossy rocks, mainly in old woodlands; locally frequent. SS 74, 82 & 83 Barle Woods, 84 Horner woods, 92 Haddeo Valley and Pixton Park, 94 Dunster Park; ST 12, 14, 21 Neroche Forest, [23 Broomfield 1912 WW (BM, TTN)], 24 Cannington Park 1987 JC, *32*, 42, 45, 46, 51, 53, 54 Ebbor, 55, 57, *62*, 74 Mells Park. Some records from outside of woodlands may refer to *L. pulvinatum*.

Leptogium massiliense [*Scytinium massiliense*]. NT NR. **6**. On shaded limestone scree; rare. ST 35 Rackley Spur 2016 ABC, 45 Cheddar Gorge 2001 ABC, Shute Shelve, Axbridge Hill and Fry's Hill 2002 ABC, 46 Goblin Combe 1934 WW (TTN) and 1988 (E) & 2014 BJC *et al*., Brockley Combe 1917 WW (TTN), 54 Ebbor Gorge, AC. (Fig. 27)

Leptogium palmatum. NT NS. **5**, **6**. Among mosses on on the ground; very rare. SS [83 between Newlands and Pennycombe Water above Chibbet ('Gibbet') Post, Exford, mossy side of road 1918 WW (BM, TTN), 94 Wootton Courtenay 1911 WW (BM)]; ST 63 Ditchet Ch 2001 AA & BH.

Leptogium plicatile. [*Scytinium plicatile*]. LC. **5**, **6**. On limestone stonework, roofs, and natural limestone outcrops and scree; occasional. SS 73, 84, 92, 94; ST 03, 04, [12 Norton Fitzwarren Ch 1936 WW (BM)], 13, 14, 25 Brean Down, 26 Steep Holm, 31, 33, 35, 36 Sand Point BJC, 41–46, 51, 54, 55 Ubley Warren, 57, 61–63, 74–76, 85.

Leptogium pulvinatum [*Scytinium pulvinatum*]. LC. **5**, **6**. On calcareous soil, on limestone rock ledges, old stonework in churchyards; frequent, until recently often confused with *L. gelatinosum*. ST 03, 04, [13 nr Crowcombe 1924 WW (TTN)], 24, 25, 35, 36, 41, 42, 44–46, 52, 54, 55, 74–76.

Leptogium schraderi [*Scytinium schraderi*]. LC. **5**, **6**. On bare calcareous soil in grassland, or on calcareous rocks; occasional. SS 73; ST [22 Staplegrove 1932 WW (BM)], 25 Brean Down, 35 below Crook Peak AC, Compton Hill 2002 ABC, 36 Sand Point BJC, 41 Ham Hill 1994 BJC & KS, 45 Axbridge Hill and Fry's Hill 2002 ABC, Cheddar Gorge, 46 Goblin Combe, [51 Odcombe Yeovil 1938 WW (BM)], 54, Ebbor Gorge, 55 Ubley Warren.

Leptogium subtile [*Scytinium subtile*]. LC NS. **5**, **6**. On short turf and turf-capped walls; rare. ST [03 Combe Sydenham 1916 WW (BM), 13 Cushuish 1922 WW (BM, TTN), 21 Otterford Mill 1919 WW (BM) and Whitestaunton 1928 WW (BM),

23 Barford House 2012 BJC & MP, [31 Combe St Nicholas 1927 WW (BM)], 46 Cleeve Combe 1923 WW(TTN).

Leptogium teretiusculum [*Scytinium teretiusculum*] (*Leptogium microscopicum*). LC. **5**, **6**. On old trees, especially *Fraxinus*, in ancient woods and wood pasture, also on limestone scree, and more rarely on old walls; occasional. SS 82–84, 92; ST 03, 04, 11, 13, 21–23, 26, 30, 31, 35, 41, 45, 46, 50, 51, 52, 54, 55, 57, 66, [73 Penselwood 1920 WW (TTN)], 74, 76.

Leptogium turgidum [*Scytinium turgidum*]. LC. **5**, **6**. On stonework and on natural limestone outcrops and scree; occasional. SS 73 Wheal Eliza, 74 nr Pinkery Fm 2000 ABC (E), 84; ST 03, [22 Staplegrove 1921 WW (TTN)], 23, 25 Brean Down 1986 BJC (BM, E), 35, 36, 41, 42, 44, 45, 46, 51, 52, 54, 55, 57, 62, 66, 76.

Leptorhaphis epidermidis [F]. LC. **5**. On smooth bark of *Betula*; rare or overlooked. SS 84 Hawkcombe and Horner woods, [94 Croydon Hill 1920 WW (TTN)]; ST 52 Hazelgrove Park 1985 FR.

Leptorhaphis laricis [F]. LC NR. **5**. On living twigs of *Cedrus* and *Larix*; probably overlooked. ST 03 Nettlecombe Park 2015 MP *et al*.

Leptorhaphis maggiana [F]. LC. **5**, **6**. On smooth bark of *Corylus*; rare and local, or overlooked. ST 21 Higher Shute's Copse, Neroche 1991 BJC (E); ST 43 Ivythorn Hill 1994 BJC, 45 Cheddar Gorge 1991 BJC (E).

Lichenochora aipoliae [LF]. NE NR. **5**. Parasitic on *Physcia aipolia*; rare SS 83 East Hollowcombe 2002 ABC (E); ST 46 Goblin Combe 2014 BJC *et al*. (E).

Lichenochora obscuroides [LF]. LC NR. **6**. Parasitic on *Phaeophyscia obscuroides* on *Fraxinus* twigs; rare or overlooked. ST 45 Bradley Cross Farm BJC.

Lichenoconium erodens [LF]. LC. **5**. Parasitic on diverse lichens; probably much under-recorded. SS 83 Dibble Wood, on *Flavoparmelia caperata*, 1997 ABC (E); ST 03 Clatworthy Wood, on *Platismatia glauca* and *Usnea cornuta*, 1996 BJC (E).

Lichenoconium lecanorae [LF]. LC NS. **5**. Parasitic on *Lecanora chlarotera*; rare or overlooked, potentially on other hosts. SS 03 Treborough Ch 2015 MP.

Lichenoconium usneae [LF]. LC NR. **5**. Parasitic on *Physcia aipolia* (apothecia); rare or overlooked, potentially on other hosts. ST 03, Clatworthy, Northern Wood 1996 ABC (E).

Lichenodiplis lecanorae [LF]. LC NS. **5**. Parasitic on *Lecanora chlarotera*; probably overlooked, and may occur on several other hosts. SS 92 above Dulverton 1994 ABC.

Lichenodiplis opegraphae (*Laeviomyces opegraphae*) [LF]. **5**, **6**. Parasitic on *Opegrapha herbarum*, *O. niveoatra* and *O. vulgata*; occasional. SS 83 Dibble Wood, on *Opegrapha herbarum*, 1997 ABC (E), 84 Hawk Combe 1992 ABC, 94 Dunster Park 2013 BLS: ST 23 Barford House, on *O. niveoatra* and *O. vulgata*, 2012 BJC *et al*. (E), 46 Wedmore 2012, on *O. niveoatra*, 2012 BJC.

Lichenodiplis pertusariicola [LF]. LC. **5**. Parasitic on *Pertusaria leioplaca*; rare or overlooked. SS 92 Pixton Park 2017 NAS.

Lichenomphalia hudsoniana (*Coriscium viride*). LC. **5,** [?**6**]. On cliff-top turf; very rare. SS 94 Hurlstone Point 1993 ABC; [ST *55*].

Lichenomphalia umbellifera. LC. **5**. On rotting bark and lignum; rare, but probably under-recorded. SS 82 Barle Valley woods, 84 Horner woods; ST 03 Clatworthy woods.

Lichenostigma alpinum (*Phaeosporobolus alpinus*) [LF]. LC NR. **6**. Parasitic on *Pertusaria albescens* var. *corallina*. ST 35 Compton Hill 2002 ABC.

Lichenostigma elongatum [LF]. NE NR. **5**. Parasitic on *Aspicilia calcarea*; rare or overlooked. ST 42 Kingsbury Episcopi Ch 2003 AA & LS.

Lichina confinis. LC. **5**, **6**. On maritime rocks; rare. [SS 94 Greenaleigh Point 1920 WW (TTN)]; ST 25 Brean Down BJC, 36 Sand Point BJC, [47 Clevedon 1923 WW (TTN)].

[***Lichina pygmaea***. LC. **5**, **6**. On eulittoral, seashore rocks; no recent records, although potential habitats insufficiently explored. SS 84 Porlock WW, 94 Minehead 1910 WW; ST 47 Clevedon 1923 WW.]

Llimonaea sorediata. LC NS. **5**, **6**. On sandstone or conglomerate outcrops, N walls of churches and once on an old *Quercus*. SS 84 Rowbarrow Wood, on outcrops, 2012 NAS, 94 Bossington Hill, on wall, and on old oak in Dunster Park, 2013 BLS (E); ST 04 Watchet Ch 2015 BJC & MP, 35 Brent Knoll Ch 2017 ABC, 57 Clarkencombe Wood, on conglomerate outcrop, 2013 BLS.

Lobaria amplissima [*Ricasolia amplissima*]**.** LC IR. **5**. On mature trees in ancient woodland or parkland; very rare and local. SS 83 Newlands Wood, on *Fraxinus*, 1984 FR, 84 Horner Combe, west branch, on six trees at least, 1991 FR, and

Horner Wood, on *Fraxinus* and *Quercus*, 2016 NAS; ST 03 Nettlecombe Park, plentiful on three ancient *Quercus*, 1982 FR, but now two trees in 2017 PW.

Lobaria pulmonaria. LC IR. **5**, **6**. Very local, but plentiful on *Quercus, Fraxinus, Salix,* and old *Corylus* in the ancient woods of Exmoor (Horner Combe, Barle, and Exe valleys); rare and local in the Quantocks, the Blackdowns, and Neroche Forest. SS 82–84, 92–94; ST 03 Nettlecombe Park, 11 Neroche Forest 1985 FR, 13 Stowey woods 1986 FR, 14 Alfoxton Wood 1971–1982 FR, 21 Neroche Forest, 31 Chaffcombe Wood, [54 Wells area], [63 Redlynch 1877 HP], 74 Mells Park 2012.

Lobaria scrobiculata [*Lobarina scrobiculata*]. LC IR. **5**. Rare and decreasing, but still present in the old Exmoor woods on better-lit old trees in ancient woodland, *Fraxinus, Quercus, Corylus* and once on *Sorbus*. SS 82 Ashwick and Mounsey Woods, 83 upper Barle Woods, still frequent, 84 Horner woods, now rather scarce, 92 Haddeo woods 1974 FR, 93 Sale Wood, S of Exton 1974 FR and 1988 AC & PW, 94 Horner woods, E of Cloutsham 1984 FR. No longer present in England east of Exmoor.

Lobaria virens [*Ricasolia virens*]. LC IR. **5**. On *Quercus* and *Fraxinus*, and occasionally on *Acer campestre*, and once on rocks, in ancient woodlands of Exmoor; locally abundant but very rare in The Quantocks. It tolerates greater shade than the other *Lobaria* species. SS 82 & 83 Barle Valley woods; 84 Horner woods, 92 Haddeo Valley and Looseall Wood; ST 14 Holford Glen, N of the village 1971–1982 FR, [63 Redlynch 1877 HP (TTN)].

Loxospora elatina. LC. **5**, **6**. On acid bark and lignum in moist sites in ancient woodland, including carr woodland; Mostly confined to the Exmoor area, but strangely absent or rare in the Horner woods. SS 73 N of Simonsbath, 82 & 83 frequent in the Barle Valley woods, 84 Withycombe Wood, 92 Pixton Park, Haddeo woods ABC, 93 Exe Valley woods; ST 13 The Quantocks woods 1972–1982 FR, 57 Clarkencombe Wood, on fallen decorticated oak, 2012 BLS, 74 Melcombe Wood 1997 SD.

Marchandiomyces corallinus [LF]. LC. **5**, **6**. Parasitic on lichens of the *Parmeliaceae*; occasional. SS 84 on *Parmelia sulcata*, 92 on *Usnea subfloridana*; ST 23 on *Parmelina pastillifera*, 35 on *Melanelixia fuliginosa*, 51 on *Parmelia sulcata*.

Megalaria pulverea. LC. **5**. On bark of *Fraxinus, Quercus, Salix*, etc., in old woodland and carr; locally frequent and occasionally fertile in Exmoor woods, rare elsewhere. SS 73, 82–84, 92, 93; ST 03 Clatworthy woods, 21 Neroche Forest, 22 Thurlbear Wood, 31 Chaffcombe, Park Wood, 40 Blackmoor Wood.

Megalospora tuberculosa. NT NS IR. **5**. On *Fraxinus* and *Quercus* in ancient woodland in the Exmoor area only; rare, but locally frequent. SS 82 Ashwick Wood 1997 ABC, 83 Great Wood above Tarr Steps, 1988 FR (the only known site for the fertile plant in Britain since the 19th century), Lea Wood 1987 AC *et al.* (E) and 2009 NAS, Park Wood NAS 2009, 84 Horner woods, Rowbarrow Wood 2012 NAS. There are several other records from the area (e.g. SS 92 Pixton Park), but many are thought to be misidentifications for *Megalaria pulverea*.

[***Megaspora verrucosa***. NT NS. **6**. On plant debris over limestone soil or rocks; extinct. ST 35 Bleadon, Purn Hill, on soil and withered twig, 1935 DAJ (BM).]

Melanelixia fuliginosa. LC. **5**, **6**. On acid rocks and stonework, very rarely on trees and worked timber; very common. In all squares except SS 74, 82; ST 31, 25, 26, 41, 42, 50–52, 73.

Melanelixia glabratula. LC. **5**, **6**. On trees, rarely on stonework and worked timber; very common. In all squares except ST 25.

Melanelixia subaurifera. LC. **5**, **6**. On trees, especially on horizontal branches and twigs; also worked timber and acid stonework; very common. In all squares.

Melanohalea elegantula. LC. **5**, **6**. On trees in parkland; uncommon so far, but it is spreading westwards. SS 83, 94 Dunster Park 1984 FR and 2013 BLS; ST 03 Nettlecombe, 32, 34, *42*, 55 Chewton Mendip Park 1974 FR, 65, 66, 76.

Melanohalea exasperata. LC. **5**, **6**. On twigs, including those of *Fraxinus, Juglans, Quercus* and *Sambucus*; rather rare. SS 83, 84 Horner on *Juglans*, 1991 ABC; ST 03 Nettlecombe, 11, 12, 14, 21, 30 Cricket St Thomas, *32*, *46*, 74.

Melanohalea exasperatula. LC. **5**, **6**. On trees with rather acid, enriched bark, especially on branches and twigs; rather rare. SS 73 Birchcleave, on *Fagus* twigs, 1994 ABC, 82–84; ST 03 Clatworthy, on *Fraxinus* twigs, 1996 ABC, 04, 11, 21, 23, 45, 51, 55, 74.

Melanohalea laciniatula. LC. **5**, **6**. On somewhat acidic bark of trunks and branches in open situations; now rather common. SS 82–84, 92–

94; ST 02, 03, 11–14, 21, 23, 30, 34, 41, *42*, 45, 51, 54, 55, *56*, 61, 64, 65, 72, 74.

Melaspilea amota [F]. NT NR. On bark of mature *Quercus* in ancient woodland; rare. SS 83 Ashway and Nine Acre Copse 2009 NAS, 84 Wilmersham Wood 2012 NAS.

Melaspilea ochrothalamia [F]. LC NS. **5**. On bark of *Quercus* and *Salix*; rare, mostly in Exmoor. SS 83 Barle Valley woods, 84 Hawkcombe and Horner woods, 92, 93; ST 03 Clatworthy woods 1996 ABC.

Menegazzia terebrata. LC IR. **5**. On moist acid bark; very rare, Barle valley only. SS 83 Slade Wood, on *Alnus* in carr above R. Barle 1985 FR, and on two adjacent trees in 1997 ABC, but declined owing to increased shade by 2009 NAS, also Shircombe Brake on an *Alnus* by Dane's Brook, 2002 ABC and Westwater Copse, on *Quercus*, 2009 NAS. (Fig. 5)

Merismatium deminutum (*Polyblastia deminuta*). LC NS. **6**. On Carboniferous limestone rocks in the Mendips, occasional. ST 35 below Crook Peak 2002 ABC, 45 Cheddar Gorge 2001 ABC, Shute Shelve and Fry's Hill 2002 ABC, 54 Ebbor PWJ, 55 Ubley Warren BJC *et al.*

Merismatium discrepans. LC NS. **6**. Parasitic on *Protoblastenia rupestris* and *P. calva*; locally frequent on the Mendip limestone. ST 25, 45, 55.

Micarea adnata. LC NS. **5**. On fallen trunks and old stumps of *Quercus*; rare and so far only from several woods in Horner. SS 84.

Micarea alabastrites. LC IR. **5**. On acid bark of *Betula* in moist woodland; rare. SS 73 nr Simonsbath, 83 Barle Valley and Dane's Brook woods, 84 Horner woods.

Micarea botryoides. LC IR. **5**. On acid rocks, often overgrowing bryophytes, and on exposed tree roots, mainly in woodlands; local. SS 73 Ascombe Plantation, Birchcleave and Wheal Eliza mine 1994 ABC, 74 nr Pinkery Fm 2000 ABC, 82 & 83 Barle valley woods, 84 Hawkcombe and Horner woods, 92 Sweetoak Copse 2002 VG, 93 Rabbit Wood 1988 AC & PW; ST 03 Clatworthy woods 1996 ABC.

Micarea cinerea. LC. **5**. On acidic bark and lignum of *Alnus*, *Quercus* and *Salix* in oceanic woodlands; rare and local. Exmoor only. SS 73 Ashcombe Plantation ABC, 82 & 83 Barle Woods, frequent BJC, 84 Hawkcombe and Horner woods, 92 Sweetoak Wood 2002 VG.

Micarea coppinsii. LC. **5**. On acid twigs of *Crataegus*, *Quercus* and *Sorbus*, and on lignun; rare but overlooked. SS 92 Haddeo woods 2002 ABC (E); ST 03 Treborough Ch, on wooden gate, 2015 BJC & MP, 45, 57 Clarkencombe Wood, on *Quercus* lignum, 2012 BJC (E).

Micarea denigrata. LC. **5**, **6**. Mostly on lignum of fence-posts, etc., rarely shaded acid stonework; apparently local, but probably under-recorded. SS 82 on stonework of bridge, Mounsey 1997 ABC, 94; ST 03, 21, 22, 24, 31, 36, 40, [43 nr Ashcott Station 1924 WW (BM)], 41, 44–46, 51, 62, 63.

Micarea doliiformis (*Lecidea doliiformis*). LC NS. **5**, **6**. On rough bark or exposed lignum of old *Quercus*, or rarely *Pinus*, in sheltered, mostly ancient woodlands; rare, mainly in Exmoor. SS 82–84, 92 Pixton Park; ST 03 Nettlecombe Park 2008 NAS, 31 Chaffcombe, Park Wood, 57 Leigh Woods, on several old *Quercus*, 2003 BJC.

Micarea erratica. LC. **5**, **6**. On acid rocks and stones; probably common but overlooked. SS 82; [ST 04 Blue Anchor, WW (BM)]; ST 21, 23, 31, 45, 76.

Micarea hedlundii. NT NR. **5**. On lignum of fallen oaks in ancient woodland; very rare. SS 84 Stoke Wood 2012 NAS.

Micarea leprosula. LC. **5**. Over bryophytes on siliceous rocks; rare. SS 73 Wheal Eliza and Upper Barle 1994 ABC, 74 Pinkworthy, Goat Hill 1971 AP (NMW), 83 nr Landacre Bridge 2005 ABC.

Micarea lignaria var. ***lignaria***. LC. **5**, **6**. On acid rocks, sometimes overgrowing mosses, or lignum; uncommon. SS 73 Upper Barle ABC, 74 Pinkworthy AP (NMW), 83 Pennycombe Water, old iron works, 1987 AC, 84 Horner Combe; ST 03, [20 Bewley Down 1917 WW (BM), 21 Britty Common, on dead *Ulex*, 1942 WW (BM)], 55 Ubley Warren.

Micarea lithinella. LC NS. **5**. On damp acidic rocks and stones; rare or overlooked. SS 73 Birchcleave Wood 1994 ABC (E), 83, 84 edge of Wilmersham Wood 1988 AC, Sweetworthy Water, Cloutsham 1992 VG.

Micarea melaena. LC NS. **5**. On lignum of fallen old trees and stumps, once on stones in scree; rare. SS 82 Hawkridge Ridge Wood 1994 ABC, 84 Hawkcombe and Horner woods, [*93*], 94 Croydon Hill, turf, 1920 WW & HK (BM) and Dunster Park, on top of old stump, 2013 BLS.

Micarea myriocarpa. LC NS. **5**. On shaded rocks and exposed tree roots in banks; local. SS 82 Hawkridge Ridge Wood 1994 ABC, 83 Slade Wood 1997 ABC, 84, Horner woods ABC, 92

Paddons Wood 1994 ABC, Haddeo woods 2002 ABC; ST 03 Clatworthy Wood 1996 ABC, [20 Lissington nr Chard, on flints, 1921 WW (BM)].

Micarea nitschkeana. LC. **5**, **6**. On twigs; uncommon, but easily overlooked. SS 94 Luccombe Allers, on *Fraxinus*, 1987 AC; ST 03 Clatworthy woods, on *Fraxinus* twigs, 1996 ABC, 55 Ubley Warren.

Micarea peliocarpa. LC. **5**, **6**. On acid bark and lignum, and stones; rarely recorded. but probably under-recorded, SS 83 Barle Valley; [ST 20 Bewley Down, on sandstone, 1917 WW (BM)], 21 Ruttersleigh SSSI, Clarkencombe Wood, on *Quercus* lignum, 2012 BLS.

Micarea prasina s. lat. (incl. *M. byssacea*, *M. micrococca* and *M. prasina* s. str.). LC. **5**, **6**. On acid bark and lignum; common. SS 73, 82, 83, 84, 92–94; ST 03, [13], 21, [22], 43, 45, 46, 54, 55, 57, 64. A difficult species complex, requiring thin-layer chromatography or DNA analysis for certain identification. Most records are likely to be referable to *M. byssacea*, but *M. prasina* s. str. (*q.v.*) has been confirmed from one site.

Micarea prasina s. str. LC NS. **5**. On acid bark and lignum of old trees (especially *Quercus*) in old woodland; probably mostly to be found in the Exmoor woods. SS 92 Haddeo woods 2002 ABC (E).

Micarea pycnidiophora. LC NS IR. **5**. On ?*Quercus* bark. A southern oceanic species of old woodland, with humid climates; very rare. SS 84 Horner, west Eastwater Valley 1988 AC.

Micarea stipitata. LC IR. **5**. On sheltered acid rocks, although usually a corticolous species; very rare. SS 83 Shircombe Rocks 2002 ABC (E).

Micarea subnigrata. LC NS. **5**. On exposed hard acid rocks; rare. SS 73 Upper Barle 1994 ABC (E), 74 nr Pinkery Fm 2000 ABC (E).

Micarea viridileprosa. LC NE. **5**, **6**. On lignum of old *Quercus* stumps and bark of old *Quercus* trunks; rare or overlooked. SS 84 Horner woods, 92 Haddeo woods 2002 ABC (E) and Pixton Park 2017 NAS, 94 Dunster Park 2013 BLS; ST 03, on *Quercus*, Nettlecombe 2003 AA, 14 Alfoxton Park 2012 BLS, 57 Clarkencombe Wood 2013 BLS.

Micarea xanthonica. LC NS IR. **5**. On acid bark of *Quercus*, rarely also lignum; local in Exmoor woods. SS 83 Ashway Hat 1988 PW (E), and several subsequent records from this hectad, 84 Horner woods 2012 & 2016 NAS.

Microcalicium ahlneri [F]. LC NS. **5**, **6**. On bark and lignum of standing dead *Quercus* and once on *Castanea*; rare. SS 83 Nine Acre Copse 2009 NAS, 84 Hawkcombe and Horner woods; ST 21 Ruttersleigh SSSI 2010 NAS, 46 Goblin Combe 1988 BJC, 57 Clarkencombe Wood 2013 BJC (E).

Milospium graphideorum [LF]. **5**, **6**. Parasitic on *Lecanographa lyncea* and sterile *Trentepohlia*-containing crusts on old trees, or on *Dirina massiliensis* f. *sorediata* on church and other walls; occasional. **5**, **6**. SS 83, 84, 92 Pixton Park, 94 Bossington Hill, on wall, 2013 BLS; ST 03, 14, 21, 35 Brent Knoll Ch, 42 Muchelney Ch, 51.

Milospium lacoizquetae [LF]. **5**. Parasitic on *Cladonia* squamules on tree stump. SS 83 Slade Wood 1997 ABC (E).

Minutoexcipula tephromelae [LF]. LC NR. **5**, **6**. Parasitic on *Tephromela atra*; under-recorded. ST 03 Treborough Ch 2015 BJC & MP, 04 Watchet, St Decuman's Ch 2015 BJC & MP, 46 Puxton Ch 2017 ABC.

Moelleropsis nebulosa. LC NS. **5**. On soil and soil-capped rocks and walls; rare. ST 13 Halsway, Quantocks 2011 DJH, [22]. Also Reported by Watson (1930, p. 17) in SS 84 Horner 1913 (TTN), 93; ST 03, 22].

Muellerella lichenicola [LF]. LC. **5**, **6**. Parasitic on a wide range of crustose lichens, especially on calcareous rocks and stonework, including *Aspicilia calcarea*, *Caloplaca* spp., *Lecanora campestris* and *Protoblastenia rupestris*; common but under-recorded. SS 73; ST 13, 13, 23, 31, 35, 36, 43, 45, 55, 76. The record of *M. pygmaea* on *Clauzadea monticola*, from ST Castle Cary Ch 2016 DJH, probably belongs here. *Muellerella pygmaea* is certain to be found in the county, but most likely on crustose lichens on siliceous rocks in Exmoor. (Fig. 33)

Muellerella ventosicola [LF]. NE NR. **6**. Parasitic on *Rhizocarpon geographicum*; rare. ST 55 Ubley Warren 2016 DJH.

Mycobilimbia epixanthoides (*Biatora epixanthoides*). LC. **5**. On old trees, especially *Quercus* and *Fraxinus* in ancient woodlands; a local member of the *Lobarion*. SS 82, 83 Barle Valley woods, 84 Horner woods, 93 Sale Wood FR; ST 11, 21 Neroche Forest (Higher Shute's Copse) BJC.

Mycobilimbia pilularis (*Biatora sphaeroides*, *Biatorina pilularis*). LC. **5**, **6**. On old mossy trees, especially *Quercus* and *Fraxinus* in ancient woodlands; a local member of the *Lobarion*. SS

82, 83 Barle Valley woods, 84 Horner Combe, 92 Haddeo woods, 94 Cloutsham; ST 21 Neroche Forest, 54 Ebbor Gorge, 73 Stourton Woods, 74 Mells Park.

Mycoblastus caesius. LC. **5**. On acidic, ± smooth bark and lignum; mostly confined to Exmoor, where it is rather common. SS 73, 74, 82–84, 93, 93; ST 14 Alfoxton Park

Mycoporum antecellens (*Arthopyrenia antecellens*) [F]. LC. **5**, **6**. On smooth bark (e.g. *Betula*, *Corylus*, *Quercus*) in established woodlands; very local, commonest in the Exmoor valleys. SS 73 Ashcleave, FR, ABC, 83 Shircombe Brake and East Hollowcombe 2002 ABC, 84 Horner Combe, 92 Haddeo valley woods; ST 04 Cleeve Hill PWJ, 12 Langford Heathfield, 43, 54 Ebbor, 73 Stourton Woods, 74 Mells Park.

Mycoporum lacteum (*Tomasellia lactea*). NT NS. **5**. On ancient *Ilex* in old woodland; very rare – mainly found in S. England in the New Forest, where it is frequent. ST 14 Alfoxton Woods 1975 FR and 2013 BLS (E).

Myriospora rufescens (*Acarospora rufescens*). LC. **5**, **6**. On siliceous rocks, especially sandstone stonework, probably overlooked. [SS 94 Selworthy 1920 HK in Watson (1930)]; ST 14, 57, 76.

Myriospora smaragdula (*Acarospora smaragdula*). LC. **5**. Occasional on acid rocks, pebbles and stonework. SS 74 nr Pinkery Fm 2000 ABC, 84 Porlock Beach AC, 94 Hurlstone Point AC; ST 03 Nettlecombe 2003 AA & LS, 04 Blue Anchor 2006 ABC & PW, 13 Nether Stowey, on church wall, 2003 AA & LS, 42 Kingsbury Episcopi 2003 AA & LS, 45, 55, 62, 64, 75, 76.

Neobarya peltigerae [LF]. NE NR. **5**. On moribund *Peltigera membranacea*; very rare. SS 84 East Water 2017 H. Paul (K).

Nephroma laevigatum. LC IR. **5**, [?**6**]. On *Quercus*, *Fraxinus* and *Corylus* in the damper ancient woods of Exmoor; apparently much declined since the 1990s and now rare. Last recorded at two sites in Horner woods in 2012 by NAS. SS 82–84, 92; ST [*03*], [*57*].

Nephroma parile. LC. **5**. On *Quercus*, *Fraxinus*, *Corylus* and *Salix* in the damper ancient woods and sheltered valleys of Exmoor; locally frequent. SS 82 & 83 Barle Valley woods FR, 84 Horner woods FR, and 1998 ABC, Haddeo FR, 93 Sale Wood and Stowey Wood FR.

Normandina acroglypta (*Lauderlindsaya acroglypta*). LC. **5**, **6**. On bark of *Fraxinus*, *Quercus* and *Salix*, in woodlands or woodland edges; rare but probably overlooked. ST 21, 45, 46, 54, 55 Ubley Warren 2008 BJC (E), 64.

Normandina pulchella. LC. **5**, **6**. On mossy bark of broad-leaved trees in mature woodlands; rather common through much of Somerset except in the treeless Levels and intensively farmed areas. SS 73 Birchcleave ABC, 82–84, 92–94; ST 03, 12, 13, 14, 21, 23, 30–32, *33*, [*36*], 40, 41, 43, 45, 46, 50, 51, 53–55, 57, 63–65, 73–75. Recorded with perithecia in SS 83 and ST 45.

Ochrolechia arborea. NT NR. **5**. On branch of fallen *Quercus*; rare or somewhat overlooked. ST 23 Barford House 2013 BJC (E).

Ochrolechia androgyna. LC. **5**, **6**. On acid bark and rocks; common in Exmoor, but occasional elsewhere. SS 73, 74, 82–84, 92–94; ST 03, 11, 13, 14, *20*, 21, 23, 31, [*42*], 45, 54, 55, 57, *64*, 65, 66, 73–75.

Ochrolechia microstictoides. LC. **5**. On acid bark and lignum; rare, or mistaken for *O. turneri*. SS 83 Nine Acre Copse 2009, NAS, 84 Culbone Hill, on *Pinus*, 2014 Tony Holwill & Maxine Putnam, and Rowbarrow Wood, on bark and lignum of *Quercus*, 2016 NAS.

Ochrolechia parella. LC. **5**, **6**. On basic sandstone outcrops and on stonework, very rarely on parkland trees; common. SS 73, 74, 82–84, 92–94; ST 02–04, 12–14, 21–24, 31–33, 35–37, 41, 42, 44–47, 52, 54–57, 63–66, 72–76.

Ochrolechia subviridis. LC. **5**, **6**. On basic bark of *Quercus*, *Fraxinus*, etc.; common. SS 74, 82–84, 92–94; ST 03, 11, 12, 14, 21–23, 30–32, 34, 40, 41, 45, 51–55, 62–66, 73–77.

Ochrolechia turneri. LC. **5**, **6**. On rather basic bark and on lignum; common. SS 73, 82–84, 94; ST 03, 04, 13, 14, [*32*], *33*, 43, 45 Velvet Bottom, on *Acer pseudoplatanus*, 1992 BJC (E), *47*, 54, 55, 63, *64*, 65, 74, 76. Usually sterile, but recorded with apothecia in SS83, ST45 & 51. Some records may refer to the recently recognised *O. microstictoides*, especially if from acidic bark or lignum.

Opegrapha areniseda. LC NS. **5**, **6**. On church walls; rare. ST 12 Nynehead Court 2011 BB, 13 Nether Stowey Ch 2003 AA & LS, 57 Long Ashton Ch 2009, DJH, Lullington Ch 2017 DJH.

Opegrapha atra [*Arthonia atra*]. LC. **5**, **6**. On smooth bark in woodland, less often on rough bark or lignum; common generally. In all squares except SS 73; ST 35–37, 47, 65, 73.

Opegrapha calcarea (*O. saxatilis* auct.) [*Arthonia calcarea*]. LC. **5**, **6**. On natural limestone in the Mendips, and on stonework especially of the N

sides of old churches, rather common. SS 83, 84, 93, 94; ST 03, 04, 12, 13, 23, 25, 26, 31. 33, 35–37, 41–47, 51, 52, 54, 55, 57, 61–63, 65, 66, 72, 74–76.

Opegrapha cesareensis. LC. **5**. On overhung coastal siliceous rocks; very rare. SS 84 Hurlstone Point 2011 DJH.

Opegrapha corticola. LC IR. **5**, **6**. On rough bark, especially of *Quercus*, in ancient woodlands; rare, but locally frequent. SS 83, 84, 92 Pixton Park, 94; ST 11, 14 Alfoxton, on *Ilex* and *Quercus*, 2013 BLS, 21 Neroche Forest, 23, 44 Shapwick NNR, on *Populus*, 2010 BB & DJH, 64.

Opegrapha dolomitica. LC NS. **6**. On crevices in limestone cliffs; very rare, in the Mendips only. ST 45 Burrington Combe 1987 & 2009 BJC *et al*. Also recorded on stonework from ST 53 and 64, but these require verification.

Opegrapha fumosa. LC NS IR. **5**. In bark of mature *Quercus* and *Fraxinus* in ancient woodland in Exmoor and Neroche Forest. SS 82–84, 92; ST 21.

Opegrapha gyrocarpa [*Gyrographa gyrocarpa*]. LC. **5**, **6**. On hard sandstone rocks and stonework, including gravestones; occasional. SS 73, 74, 83, 84, 94; ST 03, 04, 21, 23, 31, 32, 35, 40, 42, 43, 46, 54, 55, 57, 63, 74–76.

Opegrapha herbarum [*Alyxoria culmigena*]. LC. **5**, **6**. On rather basic bark of old trees in woodlands and parklands; frequent. SS 83, 84, 92–94; ST 03, 12, 14, 21, 22, 30, *31*, 36, 43, 45, 46, 55, 63, 64, 72, 74.

Opegrapha hochstetteri ad int. [LF]. LC NR. **6**. Parasitic on *Verrucaria hochstetteri*; rare, but easily overlooked. ST 25 Brean Down, on *Verrucaria hochstetteri*, 1986 BJC (E).

Opegrapha lithyrga. LC NS. **5**. On sandstone rock underhangs by rivers; rare. SS 84, Horner and Hawkcombe woods.

Opegrapha mougeotii [*Alyxoria mougeotii*]. LC NS. **5**, **6**. On calcareous rocks and stonework, mostly on church walls; rare, or confused with *O. calcarea*. ST 03, 42, 54 Ebbor Gorge, 62, 64, 66, 76.

Opegrapha multipuncta. LC. **5**, **6**. On trees and rocks in old woodland; probably overlooked. SS 82 Hawkridge Ridge Wood, in rock underhang, 1994 ABC; 84 Horner, rocks by river, 1991 BJC and Hawkcombe on *Fraxinus* and *Quercus*, 1992 ABC; ST 45 Long Wood, on *Fraxinus*, 1992 BJC.

Opegrapha niveoatra. LC. **5**, **6**. On trees with basic bark; probably common but confused with *O. vulgata*. SS 84, 92, 94; ST 03 Nettlecombe, 23, 32, 43, 45, 46, 55, 57, 75, 76.

Opegrapha ochrocheila [*Alyxoria ochrocheila*]. LC. **5**, **6**. On dry bark and lignum of trees in well-established woodland and wood pasture, more rarely on siliceous rock in underhangs; locally frequent. SS 82–84, 92–94; ST 03, 12–14, 44, 45, 46, 54, 57, 75. On rock: SS 83 nr Landacre Bridge 2005 ABC.

Opegrapha parasitica [LF]. LC NR. **6**. On limestone rocks, parasitic on *Aspicilia calcarea* and *A. contorta* subsp. *hoffmanniana*; rare, in the Mendips only. ST 35 above Rackley 2002 ABC, 45 Cheddar Gorge 2001 ABC (E), Fry's Hill 2002 ABC (E).

Opegrapha pertusariicola [LF]. LC NS IR. **5**. Parasitic on *Pertusaria leioplaca* on *Corylus*; very rare. SS 83 Horse Wood and Slade Wood 1997 ABC (E).

Opegrapha physciaria [*Phacothecium varium*] [LF]. LC NR. **6**. Parasitic on *Xanthoria parietina*; rare. ST 36 Sand Point 2011 BJC (E).

Opegrapha prosodea [*Zwackhia prosodea*]. NT NS IR. **5**, **6**. On ancient *Quercus* in old forest and old parklands, uncommon; also on old *Taxus* in churchyards, but most earlier records refer to *O. xerica*. SS 84 Porlock Ch, 94 Dunster Park; ST 03 Nettlecombe Park, 14 Fairfield Park, 22 Poundisford Park, 23 Barford and Enmore parkland, 41 Hinton St George Ch, 43, 45 Cheddar Ch, on *Taxus*, 1963, 1970, 1967, 1969 PWJ *et al*., but not found in 2017 by DJH, 52 Hazelgrove Park 1985 BLS, 57 Long Ashton Park 1973 FR (not seen in subsequent visits).

Opegrapha rufescens [*Pseudoschismatomma rufescens*]. LC. **5**, **6**. On smooth bark, especially of *Fraxinus*; frequent. SS 82–84, 92–94; ST *03*, 11, 14, 21, 23, 43, 45, 54, 57, 64–66, 72, 74.

Opegrapha rupestris [LF]. LC NS. **5**, **6**. On limestone rocks and memorials, parasitic on *Baglietoa* spp.; local. ST 03 14, 23, 26, 35, 36, 41, 45, 46, 54, 55, 57, 62, 66, 75, 76.

Opegrapha saxigena [*Gyrographa gyrocarpa*]. LC NS IR. **5**. On siliceous rock underhangs; very rare. SS 84 Horner Wood, Goss's Rocks 2016 NAS, 94 Hurlstone Point 1987 AC (E) and 2013 BLS.

Opegrapha sorediifera [*Zwackhia sorediifera*]. LC. **5**, **6**. On rough bark in woodland; frequent. SS 82–84, 92–94; ST 03, 11, 13, 14, 21, 31, 40, 41, 43, 45, 52, 54, 64, 74.

Opegrapha thelotrematis [LF]. LC NS IR. **5**.

Parasitic on *Thelotrema lepadinum* in the Barle Valley woods; rare. SS 82, 83.

Opegrapha trochodes. NT NR. **5**. On bark of mature *Quercus* in valley woodland. ST 84 Horner woods, Rowbarrow Wood 1998 ABC (E) & 2012 NAS, Stoke Wood 1988 AC & PW (E).

Opegrapha varia [*Alyxoria varia*]. LC. **5**, **6**. On base-rich rough bark; frequent. SS 82–84, 92–94; ST 03, 04, *12*, 13, 14, 21, 23, 24, 30, 40, 41, 43–46, 51, *52*, 53–55, 57, *64*, 66, 67, 74, 76.

Opegrapha vermicellifera. LC. **5**, **6**. On dry base-rich bark; frequent. SS 82–84, 92–94; ST 03, 12–14, 21, 22 Kingston St Mary 1916 WW, as *Pyrenothea aphanes*, (K), and Thurlbear Wood 2010 DJH, 41–43, 45, 46, *53*, 54, 57, 74, 75.

Opegrapha verrucariae ad. int. [LF]. **6**. On limestone, parasitic on *Verrucaria nigrescens*; very rare, but locally abundant at its few sites. ST 35 Crook Peak and above Rackley 2002 ABC, 36 Sand Point BJC (E), 45 Wavering Down 2002 ABC. An undescribed species related to *O. pulvinata*, which has larger ascospores and parasitises *Dermatocarpon* spp.

Opegrapha viridipruinosa [*Alyxoria viridi-pruinosa*]**.** LC NS. **5**, **6**. On trees with basic bark, especially *Fraxinus*; a recently described that is so far poorly recorded. ST 14 Holford car park 2013 BLS, 44 Westbury-sub-Mendip Ch, on *Taxus*, 2014 DJH, 45 Bradley Cross Farm 2017 BJC, 54 N of Ebbor Wood 2008 BJC (E).

Opegrapha viridis [*Zwackhia viridis*]. DD NS. **5**, **6**. On mature trees in parkland or woodland; very rare. ST 03 Nettlecombe, on *Quercus cerris*, 2003 AA & LS, 31 Chaffcombe Wood, on *Quercus*, 1986 JC, det FR, 43 Ivythorn Hill, on *Acer campestre*, 2014 BB & DJH. These records require verification, they could be based on richly fertile, poorly sorediate specimens of *O. sorediifera*.

Opegrapha vulgata. LC. 5, **6**. On trees, in woodland and in more open places; common. Unrecorded in ST 25, 36, 37, 56, 62, 72, 76.

Opegrapha xerica. LC NS. **5**, **6**. On bark of ancient *Taxus* in churchyards, and in old woodlands on *Quercus* and with single records on *Corylus*, *Fraxinus* and *Ilex* lignum; probably quite frequent, but overlooked until recently. SS 83, 84, 92, 94; ST 03, 14, 21, 23, 35, 40 North Perrott Ch FR (E), 41, 43 Dundon Ch FR & JC (E), 44, 57, 72.

Pachnolepia pruinata (*Arthonia pruinata*). LC. **5**, **6**. On dry, base-rich bark of old trees in parks, pasture woodland and churchyards, and on old pollard *Salix* on the Levels; rather common; also rare on old walls. All squares except: SS 73, 74, 82, 83, 93; ST 02, 14, 20, 25, 26, 30, 35–37, 40, 53, 55, 56, 64–67, 72, 76. Saxicolous record: ST 13 Nether Stowey, on church wall, 2003 AA & LS.

Pachyphiale carneola [*Gyalecta carneola*]. LC. **5**, **6**. On *Quercus*, *Fraxinus* and also *Corylus* and *Fagus* in ancient woodlands; frequent in the old Exmoor (Barle, Horner Combe, Exe) woods, but much rarer eastwards. SS 82–84, 92–94; ST 03 Nettlecombe Park, 11 Neroche Forest, woods nr Wellington Monument 1985 FR, 13 Crowcombe Park, 21 Ruttersleigh SSSI, 73 Stourton woods 1985 FR, 74 Mells Park 1972 FR (not seen in more recent surveys there).

Pannaria conoplea. LC IR. **5**. On trees, mainly *Fraxinus*, but also *Corylus*, *Quercus* and *Salix*, in damp ancient upland woodlands or wood pasture, in the *Lobarion*; formerly locally frequent in such habitats but apparently declining. SS 82–84, 92–94; ST 13 Cockercombe 1972 FR, 21 wood above Pitminster 1916 WW (TTN), Neroche Forest, Prior Park wood 1973–1981, RJ & FR.

Paralecanographa grumulosa (*Lecanactis hemisphaerica*, *Lecanographa grumulosa*). LC NS. **5**, **6**. On plaster and limestone of church walls and towers; rare. ST 35 Brent Knoll Ch 2017 ABC, 42 Kingsbury Episcopi 1991 KS, 2000 VG and 2003 AA & LS, 45 Winscombe Ch 2017 ABC.

Paranectria oropensis subsp. ***oropensis*** [LF]. LC NS. **6**. Parasitic on an unidentified granular crustose lichen. ST 63 Castle Cary Ch 2016 DJH.

Parmelia omphalodes. LC. **5**. On acid sandstone outcrops on W Exmoor in well-lit places. SS 73 Upper Barle 1994 ABC (E); SS 74 on open rocks in moorland S of Pinkery Farm, Goat Hill, 83 Sherdon Hutch 2005 ABC, 83, 84.

Parmelia saxatilis s. lat. (incl. *P. ernstiae*, *P. saxatilis* s. str., *P. serrana*) LC. **5**, **6**. On broad-leaved trees, conifers, and acid rocks including sandstone memorials; very common. Unrecorded only in ST 26. *Parmelia saxatilis* has recently been shown to include three semi-cryptic species that require DNA analysis for certain identification; they are not distinguished here; all three probably occur in Somerset.

Parmelia sulcata. LC. **5**, **6**. On trees, lignum, stonework, rock outcrops, walls, etc., except when very calcareous; abundant. In all squares.

Parmelina carporrhizans *(P. quercina* auct. brit.). VU NS. **5**, **6**. On well-lit parkland trees; very

rare. SS 84 Horner, on *Juglans*, 1977 FR, [94 Dunster, on the hill by the tower, on oaks, 1799 James Sowerby (BM)]; ST 03 Nettlecombe Park, on *Quercus*, 1982 FR, 41 Ham Hill Country Park, on *Fraxinus* branch, 2004 VG, 51 Montacute Park, on *Tilia*, 2004 BE.

Parmelina pastillifera. LC. **5**, **6**. On trees (especially branches), memorials, roof tiles and wooden gate rails; occasional and locally frequent. SS 73, 83 East Hollowcombe, on branches of *Fagus* and *Ilex*, 2002 ABC (E), 84, 92, 93, 94 Piles Mill, on roof tiles, 2006 ABC; ST 03 Nettlecombe 11, 13 Nether Stowey, on *Acer*, 2003 AA, 30–32, 44, 45, *46*, *47*, 53–55, *56*, 64, 74, 85.

Parmelina tiliacea. LC. **5**, **6**. On trees (especially branches) in well-lit situations; rare. SS 83 East Hollowcombe Farm, abundant on *Fagus* branches, 2002 ABC (E), 84, 92 Pixton Park 2017 NAS, 93, 94 Dunster Park 2013 BLS; ST 03 Nettlecombe Park, on *Cratagus*, 2008 BJC, 45 Cheddar Ch, on *Acer*, PWJ (BM), 66 S of Keynsham 1974 MH.

Parmeliella parvula. LC IR. **5**. On trees, especially *Fraxinus*, but also *Corylus*, *Crataegus*, *Quercus* and *Salix*, in Exmoor woodlands; rare and apparently declined in the last two decades. SS 82 Venford Wood 2009 NAS, 83 Barle Valley woods, latest being Mill Wood 2009 NAS, 84 Horner woods, e.g. Horner Combe, on *Fraxinus*, 1975 FR (originally as *P. mediterranea*), Whitburrow Wood 1988 AC, Ten Acre Cleeve 2016 NAS; 92 Pixton Park 1987 FR, but not seen there in recent surveys.

Parmeliella triptophylla. LC IR. **5**. On *Corylus*, *Fraxinus* and *Quercus* in the Exmoor woods; locally frequent in the Exmoor woods, and very rare or extinct in Neroche Forest. SS 82 & 83 Barle Valley woods, 84 Horner woods, 94 Cloutsham; ST 21 Neroche Forest, Higher Shute's Copse 1991 ABC, but not refound in more recent surveys there.

Parmeliopsis ambigua. LC. **5**, **6**. On acid bark and possibly other substrata; rather rare, and probably declining owing to lowering of SO_2 levels and increased nitrogen pollution. SS 82 Hawkridge Ridge Wood 1994 ABC; ST 03, *45–47*, 55, 57, [*64*], 65 S of Chewton Mendip *c.* 1970 DLH, *75*.

Parmeliopsis hyperopta. LC. **6**. On acid bark of *Quercus*; very rare. ST 57 Leigh Woods 2005 ABC.

Parmotrema perlatum. LC. **5**, **6**. On trees in woodland and in open situations, also in churchyards on granite and sandstone memorials; common. Unrecorded only in ST 04, 36.

Parmotrema crinitum. LC. **5**. On mature trees and formerly rocks in ancient woodlands; very local and only in Exmoor, where it seems to have declined. Dates given are those when last recorded: SS 83 Tarr steps,on *Fraxinus* by river, 1986 FR, [84 "on rock, Horner Wood" according to Watson (1930, p. 42)], 92 Pixton Park, on *Quercus* and *Fagus*, 2017 NAS, 93 Exe valley, Middle Broford Wood 1987 AC & PW; ST 03 Nettlecombe, on *Quercus*, 2003 AA & LS.

***Parmotrema reticulatum*.** LC. **5**, **6**. On mature trees in parkland; very rare in Somerset (unlike counties to the east). SS 83 Barle Valley Woods, 92 Pixton Park; ST 03 Monksilver Ch, on *Taxus* branch, 2015 MP *et al*., 30 Cricket St Thomas Park 1970 FR & BJC, 45 Bradley Cross Farm, on *Fraxinus* branch, 2017 BJC (E), 51 Montacute Park, 62, 64, 74. The similar *P. pseudoreticulatum* may also occur in Somerset, but has not been recognised to date.

[***Pectenia plumbea*** (*Degelia plumbea*). LC IR. **5**. On trees, extinct. SS 84 Horner, 1921, HK (TTN) (Knight 1921).]

Peltigera canina. LC. **5**, **6**. In grassland and disturbed thin soils on limestone or amongs stabilised coastal shingle; rare. ST 04 Blue Anchor 2015 BJC *et al*., 24 Steart 2015 DJH, 35 above Rackley 2002 ABC, 36 Sand Point BJC, 45 Velvet Bottom 1992 BJC, Shute Shelve and Axbridge Hill 2002 ABC, 55 Ubley Warren BJC.

Peltigera collina. LC IR. **5**. On mature *Quercus* and *Fraxinus* especially in ancient woodland; Exmoor woods only, locally frequent but apparently declining. SS 82 & 83 Barle Valley woods, 84 Horner woods, 92 Haddeo Valley, Birch Wood, on large *Fraxinus*, 1987 FR, Pixton Park 1987, FR *et al*. [not refound in 2017 by NAS], Looseall Wood 1994 SD, 93 Exe Valley, Rookery Wood, on *Fraxinus*, 1987 AC.

Peltigera didactyla. LC. ?**5**, **6**. On acid open soil, often on disturbed areas on heathland; rare. SS *84*; ST 25 Brean Down, *35*, 55 Ubley Warren, 62.

Peltigera horizontalis. LC. **5**, **6**. On mossy trees and rocks in ancient woodland; local, common in Exmoor woods. SS 82 & 83 Barle Valley woods, 84 Horner woods, 92 Haddeo Valley woods and Pixton Park, 93 Exe, Haddeo and Quarme valley woodlands, and Lype Brake, 94; ST 11, 13, 14, 21, 35 Crook Peak 2002 ABC, 45 Long Wood

And Cheddar Gorge, 46, 54 Ebbor Gorge, [*57*], [*63*], 64, 73 Castle Woods, 74 Mells Park.

Peltigera hymenina. LC. **5**, **6**. On damp rocks and among grass, also mossy tree bases (especially *Salix* by rivers); occasional to frequent. SS 73, 74, 82–84, 94; ST 03, *04*, 14, 21, 25, 35, 36, 45, 46, 54, 55, *64*, 65, 74, 76.

Peltigera membranacea. LC. **5**, **6**. Locally common on bare damp ground and grassland, rocks, etc.; frequent in areas with less intensive farming. SS 73, 82–84, 92–94; ST 03, 11, 13, 14, 21, 24, 31, 32, 40, 44–46, 53–55, 64, 74.

Peltigera neckeri. LC NS. **6**. On disturbed calcareous soil; rare. ST 35 below Crook Peak 1989 AC and 2002 ABC, Compton Hill 2002 ABC, 45 Velvet Bottom 1992 BJC (E), Wavering Down to Fry's Hill 2002 ABC.

Peltigera polydactylon. LC NS. **5**, **6**. On waste tip of slate quarry, and on mosses over and among low limestone outcrops; rare. ST 03 Treborough Wood slate quarry 2002 NAS and 2015 BJC & MP (E), 45 Wavering Down (Cross Plain) and Axbridge Hill 2002 ABC (E).

Peltigera praetextata. LC NS. **5**, **6**. Old moist woodland, rarely on open limestone slopes, on trees and rocks; frequent. SS 73, 82–84, 92–94; ST 02, 03, *04*, 11–14, 21, [*22*], [*23*], 31, 35 NE-facing outcrops below Crook Peak 2002 ABC, 40, 41, 45, 46, 53–55, 57, 64, 66, 73, 74, 76.

Peltigera rufescens. LC. **5**, **6**. Calcareous dry grassland; frequent in the Mendips. SS 73; ST *03*, 04, 21, 24, 25, 35, 36, 41 Ham Hill KS, 45, 46, 54, 55, 57, [*63*], 64, *75*.

Pertusaria albescens var. ***albescens*** [*Lepra albescens* var. *albescens*]. LC. **5**, **6**. On trees, rarely on stonework; frequent in most parts. SS 73, 74; ST 03, 11–14, 21–23, 30. 31, 33, 41–46, 51–55, 57, 63, 65, 66, 73–76, 85.

Pertusaria albescens var. ***corallina*** [*Lepra albescens* var. *corallina*]. LC. **5**, **6**. On trees, occasionally on rocks, stonework or overgrowing moss on low limestone outcrops; common. SS 73, 74, 82–84, 92–94; ST 03, 11–14, 21–25, 30–32, 34, 35, 37, 40, 42, 44–46, 51, 53–57, 62–66, 72–76.

Pertusaria amara f. ***amara*** [*Lepra amara*]. LC. **5**, **6**. On trees; abundant; also on acid rocks and stonework. Unrecorded only in ST 25, 26, 37, 47, all areas with few trees.

Pertusaria amara f. ***pulvinata*** [*Lepra pulvinata*]. NE, **5**. On trunks of mature trees in old woodland; very rare. SS 83 Nine Acre Copse, on *Quercus*, 2009 NAS, SS92 Pixton Park, on *Fraxinus* and *Quercus*, 2017 NS. Apparently worthy of recognition as a full species.

Pertusaria aspergilla [*Lepra aspergilla*]. LC. **5**. On acidic rocks in Exmoor region, elsewhere mainly on old stonework in churchyards; very local. SS 73 Upper Barle ABC, 74 nr Pinkery Fm 2000 ABC, 82, 83 Shircombe Rocks 2002 ABC, 84 Porlock Beach AC, Hawkcombe, on N-facing rocks, 1984 FR, [94 Selworthy 1920 HK]; ST 47, 55, 57, 76.

Pertusaria coccodes. LC. **5**, **6**. On mature, well-lit tree boles, especially in parkland and ± hypertrophicated situations; frequent especially to the east. SS *83*, 92, 93; ST *03*, 11, [*12*], 21, *23*, 24, 31, *46*, *47*, 51, 55, *56*, 62–64, 66, 73–75.

Pertusaria corallina [*Lepra corallina*]. LC. **5**, **6**. On acidic rocks; very local. SS 73 Upper Barle ABC, 74 nr Pinkery Fm 2000 ABC, 83 Upper Barle; 84 Hawkcombe FR, AC, 94; ST *03*, [*13*], 55 Ubley Warren, on chert, 1984 BJC.

Pertusaria coronata. LC NS. **5**. On bark of *Quercus cerris* in parkland; rare but easily overlooked. ST 03 Nettlecombe Park 2014 ABC & PW (E).

Pertusaria excludens. LC NS. **5**. On siliceous beach pebbles; very rare. SS 84 Bossington Beach 2013 BLS.

Pertusaria flavida. LC. **5**, **6**. On trees; occasional, but more frequent eastward. SS 94 Dunster Park, on *Quercus*, 2013 BLS; ST 03 Nettlecombe, 04, 11, 51, [*55*], 62, *63*, 65, 66, *72*, 73, 74 Mells Park. Recorded in the Barle Valley by Davey (1994) from Marsh Wood (SS 82 or 92) and Looseall Wood (SS 92 or 93), but voucher material was not retained. The records could be based on *Ochrolechia subviridis* overgrown by a free-living epiphytic alga.

Pertusaria hymenea. LC. **5**, **6**. On trees, mainly in woodland; common. Unrecorded in ST 24–26, 33, 35–37, 47, 66, 85.

Pertusaria lactescens. LC. **5**, **6**. On granite and sandstone gravestones and perhaps other siliceous rocks and stonework, rare or overlooked. SS 84 Dunkery Beacon 2013 JS *et al*., Bossington Beach 2013 BLS, 94 Wootton Courtenay Ch 2003; ST 13 Nether Stowey 2003 AA, 35 Compton Bishop Ch 2017 ABC.

Pertusaria leioplaca. LC. **5**, **6**. On smooth bark; rather common, especially in woodlands. Unrecorded in ST 24–26, 32–37, 40, 42, 47, 52, 55–57, 62, 63, 65, 72, 76.

Pertusaria multipuncta [*Lepra multipuncta*]. LC. **5**, **6**. On mature trees (including old *Corylus* stems) in old woodlands only; local. SS 73, 82–

84, 92–94; ST 03, 13, 14, 21, 22, 31, 45, 46, *53*, *54*, 64, 73, 74.

Pertusaria pertusa. LC. **5**, **6**. On trees, rarely on worked timber or siliceous gravestones in churchyards; very common. Unrecorded only in ST 25, 26, 62, 85.

Pertusaria pseudocorallina. LC. **5**, **6**. On acidic rocks and shingle, also on sandstone gravestones; rare. SS 73 Upper Barle ABC, 74 nr Pinkery Fm 2000 ABC, 83 nr Landacre Bridge 2005 ABC, 84; ST 37 Clevedon St Andrew Ch 2016 DJH, 46 Kenn Ch 2009 DJH, 54 Lynchcombe, on chert, 2016 ABC.

Pertusaria pupillaris. LC. **5**, **6**. On trees, including *Acer pseudoplatanus*, *Corylus*, *Quercus* and *Salix* in old woodlands; rare. SS 73 Ashcombe Plantation, 83, 84, 92; ST *03*, *04*, 45 Long Wood, on *Quercus*, 1992 BJC.

Petractis clausa. LC. **5**, **6**. On limestone outcrops in the Mendips, rarely on churchyard memorials; local. ST 35 Crook Peak FR, Barton Rocks 2002 ABC, 41 Ham Hill, 45 Burrington Combe, Wavering Down, Axbridge Hill and Fry's Hill, Cheddar Gorge and Long Wood, BJC, 46 Goblin Combe BJC, 54, [*55*], 57, 75.

Petractis nodispora. DD NR. **6**. On boundary wall of church; rare or overlooked**.** ST 75 Hinton Charterhouse Ch 2014 DJH fertile (BM).

Phaeographis dendritica. LC. **5**, **6**. On smooth bark; widespread but absent from the dry, heavily farmed, ± woodless areas of mid-Somerset. SS 73, 74, 83, 84, 92–94; ST *04*, 12–14, 21, 22, [23 Buncombe, Quantocks, on *Corylus*, 1920 WW (BM)], 40, 43–45, 50, *53*, 54, 55, 66, 73, 74 Mells Park.

Phaeographis inusta. LC NS IR. LC. **5**. On smooth bark; very rare. SS 84 Parsons Wood, on *Ilex*, 2016 NAS; ST 21 Ruttersleigh SSSI 2010 NAS.

Phaeographis smithii. LC. **5**, **6**. On smooth bark; rather rare and local. SS 73 Ashcombe 1994 ABC, 83 Barle Valley woods, 84 Horner woods, 92, 93, [94 nr Dunster, on *Ilex*, 1920 WW (NMW)]; ST [02 Waterrow 1919 WW (BM)], 21, 23, [30 Chard Reservoir 1924 WW (BM), 31 Puckington 1915 WW (BM) and Combe St Nicholas 1921 WW (BM)], 40 Woolminstone Wood FR & BJC, 45, 46, 50, 54. Possibly under-recorded owing to confusion with *P. dendritica*.

Phaeophyscia nigricans. LC. **5**, **6**. Very rare, on calcareous stonework; rare, but possibly overlooked. ST 04 Blue Anchor, roadside sea-wall, 2015 MP, 11 Chelmsine Chapel 1985 JRL, 12, 26, 31, 41, 42 Kingsbury Episcopi, on church wall, 2003 AA & LS, 64.

Phaeophyscia orbicularis. LC. **5**, **6**. Abundant on trees, shrubs, calcareous rocks and stonework in hypertrophicated situations. All squares except SS 73, 82.

Phaeopyxis varia [LF]. LC NR. **5**. Parasitic on *Trapeliopsis gelatinosa*; rare. SS 82 Hawkridge Ridge Wood 1994 ABC (E).

Phaeospora parasitica [LF]. LC NS. **6**. Parasitic on *Rhizocarpon reductum*; rare, but probably overlooked. ST 55 Ubley Warren 2016 DJH.

[***Phaeospora rimosicola*** [LF]. LC NS. **5**. Parasitic on *Rhizocarpon petraeum*; not seen recently, but probably overlooked. SS 94 Minehead 1920 HK.]

Phylloblastia inexpectata. LC NS. **5**, **6**. On living leaves of *Buxus* and *Prunus laurocerasus*; probably much overlooked. ST 03, 23, 67.

Phyllopsora rosei. LC NS IR. **5**. A local ancient woodland species of old Exmoor woods; very local, but locally frequent. SS 82 & 83 Barle Valley woods, 84 Horner and Hawkcombe woods; 92 Pixton Park and Haddeo Valley woods, 93 Sale Wood 1988 FR.

Phlyctis agelaea. NT NS. **5**, [**6**]. On smooth bark of trees; very rare now. SS 83 Tarr Wood 1988 AC & PW, 92 Pixton Park, on *Salix*, 2017 NAS, 93 Hoe Farm Wood 1988 AC & PW, [94 Dunster 1920 HK]; ST 11 Buckland Wood 1984 FR, [13 Cothelstone 1924 WW (E)], 22 West Monkton 1939 WW (BM) and Thurlbear Wood 1989 AC (E), [23 Buncombe Wood 1924 WW (BM), 53 Copley Wood 1923 WW (BM), 76 Bathampton Down 1866 HBH (BM)].

Phlyctis argena. LC. **5**, **6**. Abundant on trees and acidic stonework. Unrecorded only in ST 25, 26, 36, 37.

Physcia adscendens. LC. **5**, **6**. Trees, rocks and stonework, especially where calcareous; common and often abundant. Unrecorded only in SS 82.

Physcia aipolia. LC. **5**, **6**. On trees (especially branches and twigs) with basic enriched bark in open situations; also on *Corylus* in the west, and sometimes on fence and gate rails; common. Unrecorded in SS 74; ST 02, 33–36, 40, 42, 47, 56, 62–65, 72, 73, 76, 85.

Physcia caesia. LC. **5**, **6**. On calcareous (and sometimes acidic) stonework, roof slates and nutrient-enriched acidic rocks, and more rarely on worked timber and trees; common. Unrecorded only in SS 82; ST 02, 14, 25, 46, 52.

Physcia clementei. NT NS. **5**, **6**. On base-rich bark, churchyard memorials and small limestone outcrops; rare. ST 22 Taunton, on tree, JC, conf. FR, 41, 42 Kingsbury Episcopi Ch, on two table tombs, 1994 BJC & KS, 45 Wavering Down & Fry's Hill, on small limestone outcrops, 2002 ABC (E), 51 Montacute Park, on *Quercus*, 2004 & 2012 BE, 53, 54 Lynchcombe, on *Salix* by car park, 2016 ABC.

Physcia dubia. LC. **5**, **6**. On siliceous stonework and roof slates, also rarely on trees or worked timber; occasional. SS 93 Winsford Ch 1996 FR, 94 Piles Mill 2006 ABC; ST 03 Nettlecombe Park, on *Quercus*, 2003 AA & LS, 04, 13, 20, 22, 23, 26, 30, 32, 42, 43, 46, 55, 62, 65, 66, 75, 85.

Physcia leptalea (*P. semipinnata*). LC. **6**. On trees with basic bark; very rare. ST [25 Berrow 1916 WW (BM)], 74 Mells Park 1972 FR, [85 Rudge 1869 HP (BM)].

Physcia stellaris. LC. **5**, **6**. On branches and twigs of broad-leaved trees, rarely worked timber; rare but possibly increasing. SS 84 Pentley Wood, Horner, on *Juglans*, 1991 ABC, 94; ST 03 Clatworthy, on *Quercus* branch, 1996 ABC (E), 12, 14 nr Holford 2002 ABC, 21 nr Corfe, JC det. FR, 23, 41, 44, 45, 54.

Physcia tenella. LC. **5**, **6**. On branches, twigs and lignum, also beach pebbles and stonework; common. Unrecorded for ST 02, 40, 72.

Physcia tribacia. LC. **5**, **6**. On enriched bark and stonework (including roof tiles), especially in churchyards or villages; widespread but only locally frequent; rare in the west of the county. SS [*84*], 94; ST 03, *04*, 13 Nether Stowey, on *Populus*, 2003 LS, *22*, 24, 25, 32, 34, 42, 44, 45, 51, 52, 54, 57, *62*, 63, 74.

Physconia distorta. LC. **5**, **6**. On bark of broad-leaved trees, especially where somewhat enriched and well illuminated, rarely on stonework; frequent to locally common especially in central Somerset. SS 83, 84, 92, 94; ST 03, 04, 11, 14, 21, 22, *23*, 30, 32, *42*, 44, 51, *52*, 53, 54, 56, *62*, 63, 74–76.

Physconia enteroxantha. LC. **5**, **6**. On enriched bark of broadleaved trees, especially *Acer pseudoplatanus*, *Fraxinus* and *Acer campestre*; rare. SS 82 Dibble Wood 1987 ABC, 83 East Hollowcombe Fm, on *Fagus* branches, 2002 ABC; ST 03 Nettlecombe Park, [42 Longport WW], 44 nr Wedmore, 45 Cheddar Gorge 1988 DJH, 57 Ashton Court, on *Tilia*, 2012 BLS.

Physconia grisea. LC. **5**, **6**. On enriched bark and on old walls of churchyards and memorials, rarely on worked timber; common in the east, but rare or absent westward in higher rainfall areas. SS 94; ST 03, 04, 11–14, 21–24, 26, 30–35, 40–46, 51–57, 61–67, 72, 74–76, 85.

Physconia perisidiosa. LC. **5**, **6**. On trees with enriched bark; rather rare and more so in the far west. SS 92 Pixton Park 2017 NAS; ST 03 Nettlecombe, 41, 42, 51, *52*, *62*, 63, 65, 66, 74, 75.

Piccolia ochrophora (*Strangospora ochrophora*). LC. **5**. On moist bark of old trees (especially *Fraxinus* and *Quercus*) in ancient woodland, within *Lobarion* community; rare and local. SS 82 & 83 Barle woods, 84 Hawkcombe and Horner woods, 92; ST 21 Neroche Forest, Higher Shute's Copse 1991 FR.

Placidiopsis custnani. NT NS. **6**. A very local species of limestone soils, usually overgrowing acrocarpous mosses, on S-facing slopes; western Mendips only. ST 25 Brean Down, 35 Crook Peak 1987 FR & AC etc., 45 Wavering Down, Shute Shelve, Axbridge Hill and Fry's Hill 2002 ABC, Wavering Down BJC & NAS 2016. (Fig. 21)

Placidium boccanum. DD NR. **6**. ST 45 Axbridge Ch, on mortar of church porch, 2014 DJH (BM, conf. O. Breuss).

Placidium pilosellum (*Catapyrenium pilosellum*). NT NS. **6**. On exposed, compacted soil or humus over limestone, once on stonework. ST 35 Compton Hill 2002 ABC, 45 Rodney Stoke 1974 H. Sipman (B), Wavering Down 2002 ABC, 54 Ebbor Gorge 1959 TDVS (BM), 54 Bishop's Palace, Wells 2007 DJH, 55 S of Bristol Plain Farm 2013 BJC.

Placidium rufescens *(Catapyrenium rufescens).* DD NR. **5**, **6**. On stonework, rare. ST 42 Kingsbury Episcopi Ch 2015 DJH, 54 Bishop's Palace, Wells 2007 DJH (conf. A. Orange).

Placidium squamulosum (*Catapyrenium squamulosum*). LC. **5**, **6**. In open, short, calcareous turf and on soil amongst limestone rocks; common in the Mendips but rare elsewhere. ST *03*, 22, 24, 25 Brean Down, 26 Steep Holm, 31, 35, 36, 41 Ham Hill KS, *42*, 43–46, *47*, 54, 55, 74.

Placopsis lambii. LC. **5**. On acid rocks, usual with an influence of heavy metals; very rare. SS 73 Wheal Eliza mine, on metalliferous mine-waste 1994 ABC (E), 74 nr Pinkery Fm, on small, S-facing slate outcrop, 2000 ABC (E).

Placopyrenium canellum (*Verrucaria canella*, *Verrucaria aspiciliicola*). LC NR. **6**. On exposed limestone, beginning as parasitic on *Aspicilia*

calcarea; very local, only in the Mendips. ST 25 Brean Down 1933 WW(BM), 1959 TDVS (BM), 2015 DJH, 35, 36, 45, 54 Ebbor Gorge 1967 PWJ (BM), 55, 64 Neighbourne Ch 2008 DJH.

Placopyrenium fuscellum (*Verrucaria glaucina* auct. brit.). LC NR. **5**, **6**. On limestone and calcareous stonework; common except in far west. SS 73, 83, 92–94; ST 03, 04, 12–14, 20, 22–26, 30–37, 40–46, 51–57, 61–64, 66, 67, 72, 74–76, 85.

Placynthiella icmalea. LC NR. **5**, **6**. On decaying wood or peat, or decaying acid bark; probably quite common but much overlooked, as *Placynthiella* spp. were not properly separated until the mid-1980s. SS 73, 82–84, 92–94; ST 03, *04*, 21, 23, 24, 26, 44–46, 54–57, 64, 66, 74–76.

Placynthiella oligotropha. LC NS. **5**. On exposed peaty turf; very rare or overlooked. SS 73 Upper Barle 1994 ABC (E).

Placynthiella uliginosa. LC NR. **5**, **6**. On peaty soil and humus; uncommon but under-recorded. SS 73, 83, *84*, *92*, 94; ST *02*, *03*, *11*, 55. Most early records of '*Lecidea uliginosa*' refer to *P. icmalea*.

Placynthium garovaglii. DD NR. **6**. On shaded limestone rock faces; very rare. ST 45 Cheddar Gorge 1981 PWJ, and 2001 ABC, Wavering Down (Yew Tree Cliff) 2002 ABC.

Placynthium nigrum. LC. **5**, **6**. On damp horizontal limestone, including chest tombstones in churchyards; common in suitable habitats throughout the county. Unrecorded in SS 82, 83, 93; ST 50, 73.

Placynthium subradiatum. LC NS. **6**. Periodically damp, hard, well-lit limestone, mostly on vertical surfaces; rare in a few Mendip sites. ST 36 Sand Point 1991 BJC (E); 45 Cheddar Gorge 1981 PWJ and 2001 ABC, Axbridge Hill and Fry's Hill 2002 ABC, Burrington Combe 1987 BJC.

Placynthium tantaleum. LC NS. **5**. On limestone; very rare. ST24 Bridgwater Bay, 1964 PWJ. Specimen not traced in BM, so identification in some doubt.

Platismatia glauca. LC. **5**, **6**. On acidic rocks in W. Somerset and on acidic bark and lignum (with *Hypogymnia* etc.) where this occurs, usually in woodlands; frequent across much of the county, but especially in the west; tends to avoid coastal sites. Unrecorded in ST 22, 25, 26, 30, 32, 35, 37, 40, 42, 50, 52, 63, 72. (Mainly in highly agricultural areas.)

Pleurosticta acetabulum. LC. **5**, **6**. On mature trees with basic bark in well-lit dry parkland; very rare so far west – a continental species. ST 51 Montacute Park, on *Tilia*, 2004 BE & 2012 BLS, 75 Ammerdown Park, on *Ulmus*, 1974 FR, not refound 1985.

Polyblastia albida. LC NS. **6**. On hard limestone and stones; rare or overlooked. ST 35 above Rackley 2002 ABC, 45 Wavering Down and Shute Shelve 2002 ABC, Fry's Hill 1992 BJC and 2002 ABC, 76 Bath Abbey Cemetery 1994 PWJ.

Polyblastia cruenta. LC. **5**. On submerged rocks in stream effluent; very rare. SS 74 Pinkworthy Pond 1971 PH (E).

Polyblastia cupularis. LC NS. **6**. On hard limestone; very rare. ST 45 Cheddar 1928 HK (BM), Cheddar Gorge 2001 ABC (E).

Polyblastia dermatodes. LC NS. **5**, **6**. On hard, well-lit limestone; rare. SS 94; ST 03 Nettlecombe Ch 2015 MP, 35 above Rackley 2002 ABC, 36 Middle Hope, 45 Burrington Combe, SD, 54 Ebbor Gorge 1960 TDVS (BM). Not easily distinguished from, and possibly conspecific with, *Thelidium incavatum*.

Polyblastia philaea. DD NR. **5**, **6**. On compacted soil of open patches in grassland. ST 22 outside Thurlbear Wood 2010 DJH, 43 Gilling Down NR 2014 DJH.

Polycoccum marmoratum [LF]. NE NR. **6**. Parasitic on foveolate *Verrucariaceae*; rare. ST 45 Fry's Hill, The Perch and Burringtom Combe.

Polycoccum pulvinatum [LF]. NE NR. **6**. Parasitic on *Physcia caesia*; probably much under-recorded. ST 03 Clatworthy Reservoir 1996 ABC (E); SS 55 Ubley Warren 2018 NB.

Polysporina simplex. LC. **5**, **6**. On hard siliceous rocks, on pebble beaches, and more widely on granite churchyard memorials; occasional but probably much under-recorded. SS 73, 83, 84 Porlock Beach; ST 03, 04, 13, 14, 20–24, 31–35, 37, 41–47, 52, 54, 55, 57, 61–63, 65, 66, 72, 74–76.

***Porina aenea*.** LC. **5**, **6**. On mostly smooth bark, especially of *Corylus* and *Fraxinus*; frequent. SS 73, 82–84, 92–94; ST 03, 11, 12, *13*, 14, 21–23, *24*, 30–32, *42*, 41–43, 45, 46, 51, *53*, 54, 55, 57, 64, 67, 74.

Porina ahlesiana. NT NS. **5**. Damp and shaded siliceous rocks; very rare. SS 84 rocks by river, Horner 1991 BJC *et al*. (E) and Rowbarrow ABC 1998 (E).

Porina borreri. LC NS. **5**, **6**. On smoothish bark; uncommon. SS 82–84. 92, 94; ST 11, 12, 23, 31, 43, 45, 54, 57.

Porina byssophila. LC. NS. **5**, **6**. On smoothish bark and on shaded limestone; rarely recorded but probably overlooked – corticolous specimens are easily confused with *P. aenea*. SS 92, Pixton Park, on *Acer pseudoplatanus*; ST 23 Barford Wood, on *Corylus*, 2012 BJC & MP (E), 36 Sand Point, on limestone, 2015 DJH, 64, Harridge Woods, on limestone, 2016 DJH.

Porina chlorotica. LC. **5**, **6**. On acidic siliceous rocks and stonework; occasional. SS 73, 82–84, 92, 94; ST 03, 13, 14, *21*, *24*, 26, 30, [*36*], 41, 43, 45, 47, 55, 57, 61, 64, 67, 76.

Porina coralloidea. LC NS IR. **5**. On older trees, especially *Quercus*, in ancient woodland; very local. SS 83 Barle Valley woods, 84 Horner and Hawkcombe woods, 92 Haddeo Valley woods 1974 FR, Pixton Park 2017 NAS. ST 13 Somerton Combe 2013 BLS, 14 Alfoxton Park 2013 BLS.

Porina lectissima. LC. **5**. Siliceous rocks by rivers and streams; rare, or overlooked. SS 73, 82–84.

Porina leptalea. LC. **5**, **6**. On bark, especially of *Corylus* and *Ilex*, in old woodlands; rare, but probably under-recorded. SS 73, 82–84, 92, 93; ST 03, 11, 14, 21, 45, 51, 54, 57.

Porina linearis. LC. **5**, **6**. On shaded limestone in sheltered sites and calcareous stonework; occasional. ST 03, 23–26, 35, 36, 41, 43–46, 54–57; 72, 74.

Porina rosei. NT NS IR. **5**, **6**. On old trees, especially *Quercus*, in valley woodlands; rare. SS 83 Barle Valley woods, 84 Ley Combe, Hawkcombe 2001 NAS and Horner woods; ST 21 Ruttersleigh SSSI 2010 NAS, 46 Goblin Combe, on *Taxus* in valley bottom, 2005 BE.

Porocyphus leptogiella. NT NR. **5**. On riverside rocks and on sandy soil in short grassland; rare. SS 83 Tarr Steps 1992 VG & OLG; ST 41 Ham Hill 2011 DJH (BM, conf. M. Schultz).

Porpidia cinereoatra. LC. **5**, **6**. On acidic rocks and stonework; local and mostly in the west. SS 73, 74, 83, 84, 93, 94; ST *03*, *11*, 23, 54, 55.

Porpidia crustulata. LC. **5**, **6**. Siliceous rocks, stones and pebbles; probably under-recorded. SS 73, 74, 82–84, 92, 94; ST 03, 04 Blue Anchor Bay 2006 ABC & PW, 21 Neroche Forest, [22 Volis Hill, Taunton, on wall 1931 WW (BM)], 31, 45, 51, 55, 64, *72*, 74.

Porpidia macrocarpa f. ***macrocarpa***. LC. **5**, **6**. On siliceous rocks, and occasionally stonework; rare. SS 73, 74, 83, 84, 92, 94; ST 04, 23, 32, 46, 54, 55.

Porpidia macrocarpa f. ***nigrocruenta***. LC. **5**, **6**. On sandstone coped tomb; very rare. ST 03 Monksilver Ch 2015 MP & BJC.

Porpidia melinodes. LC NS. **6**. On metal-rich rock; very rare. ST 55 Ubley Warren 2016 DJH.

Porpidia platycarpoides. LC. **5**, **6**. On hard siliceous rocks; rare. SS 83 Shircombe Rocks 2002 ABC (E), nr Landacre Bridge 2005 ABC (E). 84 Rowbarrow Wood 1998 ABC, 92 Burridge Wood 1994 ABC (E), 94 Hurlstone Point; ST 45 Cross Plain, on chert boulder, 2009 ABC, 55 Ubley Warren, 56 Stanton Drew stone circle.

Porpidia rugosa. LC. **5**. Damp siliceous rocks in Exmoor valleys; rare. SS 82 Hawkridge Ridge Wood 1994 ABC (E), 83 Shircombe Rocks 2002 ABC (E).

Porpidia soredizodes. LC. **5**, **6**. On siliceous rocks, churchyard memorials and stones, occasional but often overlooked. SS 74 nr Pinkery Fm 2000 ABC (E), 82, 84, 93, 94; ST 03, 13, 24, 31, 42, 45, 46, 55, 66, 67.

Porpidia tuberculosa. LC. **5**, **6**. On acidic rocks and on sandstone and granite memorials, occasionally on iron railings; common. SS 73, 74, 82–84, 92, 94; ST 02–04, 11–14, 20–24, 30–37, 41, *42*, 43–47, 51, 52, 54–57, 61–67, 72–76, 85.

[***Porpidinia tumidula*** (*Toninia tumidula*). Extinct. **6**. On limestone rocks. ST 46 Yatton 1881 WJ (BM).]

Pronectria oligospora [LF]. NE NR. **5**, **6**. Parasitic on *Punctelia subrudecta*; uncommon. SS 94; ST 03, 45, 54.

***Pronectria* sp.** [LF]. NE NR. **6**. Parasitic on *Physcia caesia*; rare or overlooked. ST 55 Ubley Warren 2018 NB. An undescribed species known from several English counties.

Protoblastenia calva. LC. **6**. On hard limestone including memorials; occasional. ST 24, 25, [26], 35, 36, 41, 45, 46, 51, 54, 55, 62, 63, 66, 67, 74, 76. Records may include *P. lilacina* (*q.v.*).

Protoblastenia cyclospora. DD NR. **6**. On slightly shaded or N-facing Carboniferous limestone in the Mendips; rare and local. ST 45 Dolebury Warren 1984 BJC (E), Burrington Combe 1987 BJC (E), Cheddar Gorge 2001 ABC (E), Wavering Down (Fore Cliff) 2002 ABC (E), 46 Goblin Combe 2010 DJH.

Protoblastenia incrustans. LC. **5**, **6**. On hard limestone; sometimes on calcareous stonework;

common on the Mendip limestone. ST 25, 35, 36, 41, 45, 46, 54, 55, 64, 74, 76.

Protoblastenia lilacina. LC NS. **5**, **6**. On hard limestone and calcareous stonework; rare, but overlooked as not until recently distinguished from *P. calva*. ST 36, 41, 45, 46, 55,

Protoblastenia rupestris. LC. **5**, **6**. On both natural limestone and on stonework; common throughout. Unrecorded only in SS 82.

Protopannaria pezizoides. LC. **5**. On *Salix* in wet oceanic upland woodlands; very rare. SS 73 Ashcombe Plantation, 1994 ABC (E), 74 Ashcombe Bottom, 1988 FR & PW.

Protoparmelia oleagina. LC NS. **5**. On old fence rails, rare, but probably overlooked. ST 03 Nettlecombe 2000 ABC & PW.

Pseudevernia furfuracea var. ***furfuracea***. LC. **5**. On acidic bark, especially twigs and branches, sometimes on slate or tile roofs. SS 82–84, 92; ST 03, 13, 21.

Pseudevernia furfuracea var. ***ceratea***. LC. **5**, **6**. As the last. SS 92, 94; ST 21, 55, 74.

Pseudevernia furfuracea s. lat. LC. **5**, **6**. The two varieties (chemical races) are often not distinguished, as in the following squares: SS 73, *93*. ST *11*, 12, 31, 73.

Pseudocyphellaria crocata. LC IR. **5**. On trees in damp sheltered ancient woodland in the Barle valley; very rare and possibly extinct; elsewhere in S Britain known only in Cornwall (The Dizzard). SS 83 Lea Wood, above Tarr Steps, on *Fraxinus*, 1983 FR, 1996 PW, and Park Wood, on *Corylus*, 1987 FR & PW, 1988 AC & PW, but not refound here in 1996 (Wolseley 1996). Not found at either site on subsequent visits since 1996.

Psilolechia clavulifera. LC NS. **5**. On acid substrata, roots, consolidated soil and stones, in banks and upended root balls; rare. SS 82, 84 Hawkcombe, Parson Wood, AC (E), 92. The record in Watson (1930, p. 50) is for *Micarea myriocarpa*.

Psilolechia leprosa. LC. **5**, **6**. On copper-rich substrata, especially beside lightning conductors on churches; rare, or overlooked. SS 94; ST 03, 32, 33, 45–47, 55, 64, 72, 74 Mells Ch 1990 TC, 75.

Psilolechia lucida. LC. **5**, **6**. On usually shaded acidic rocks, stonework and memorials, and sometimes on wood or bark; very common. Unrecorded only in ST 11, 40, 50.

Psora decipiens. LC NS. **6**. In very dry, open, calcareous, often sandy grassland; rare and local. ST 25 Brean Down 1933 (WW),and 1974–1986, various recorders, 35 Compton Hill 2002 ABC, 45 Shute Shelve Hill 1986 VG & OLG, Fry's Hill 2002 & 2009 ABC, Wavering Down 2016 NAS, [63 Bruton, on old wall. 1908 WW (BM)].

Psoroglaena abscondita (*Macentina abscondita*). LC NR. **6**. On soft basic bark of *Sambucus*; very rare, but easily overlooked. ST 36 Sand Point, 1991 BJC (E).

Psoroglaena stigonemoides (*Macentina stigonemoides*). LC. **5**, **6**. On soft basic bark, especially of *Sambucus*, in sheltered situations; rare or overlooked. SS 83 Mill Ham Wood 1997 ABC, 92; ST 03, 12, 14, 23, 30, 31, 43, 45, 46, 54, 57.

Psorotichia schaereri. LC NE. **5**, **6**. On limestone and sandstone, especially on scree, in Mendips and also on old stonework; rare. ST [22 Henlade 1916 WW], 23 Barford House, on ha-ha, 2012 BJC & MP (E), 31 Combe St Nicholas, on sandstone in hedgebank, 1926 & 1927, WW (BM, TTN), 45 Cheddar Gorge 2001 ABC, Wavering Down 2002 ABC (E), 55 Ubley Warren 1984 BJC (E), [74 Babington nr Frome WJ (BM), 76 Bathampton 1866 WJ (BM)]. The Combe St Nicholas collections were called *Psoroticha diffundens* (a synonym of *Poroscyphus coccodes*) by Watson, and are discussed by Ellis (1981, p. 135).

Pterygiopsis lacustris. NT NR. **5**. Rocks by stream; very rare. SS 83 by Landacre Bridge 1984 VG.

Ptychographa xylographoides. NT NS. **5**. On lignum in old woodland; very rare. SS 84 Cloutsham Ball, on large, fallen decorticated *Quercus*, 1991 BJC (E).

Punctelia borreri. LC. **5**, **6**. On well-lit trees with bark of high pH; occasional. SS 83; ST 03, 11, 13, 23, 31, 33, 40, 41, 45, 51, 54, 55, 56, 62, *64*, 66.

Punctelia jeckeri. LC. **5**, **6**. On trunks and boughs of broad-leaved trees, also on siliceous gravestones and beach pebbles; common but overlooked, being a recently recognised species. SS 84, 94; ST 03 Nettlecombe 2003 AA & LS, 04 Blue Anchor, on beach pebble, 2011 DJH, 11, 13 Nether Stowey 2003 AA & LS, 14 nr Holford 2002 ABC (E), 21–23, 26, 30, 31, 41, 42, 44, 45 Cheddar Gorge 2001 ABC (E), 46, 51, 54–57, 66, 67, 75, 76.

Punctelia reddenda. LC. **5**, **6**. In ancient woodlands and old parkland on mature trees; locally frequent. SS 83 Barle Valley woods, 84

Horner Combe 1969–1977 FR, 92–94; ST 03 Nettlecombe Park, 12 Langford Heath, *14*, 21 Neroche Forest, 23 Barford Wood, 30 Cricket St Thomas Park, 31 Chaffcombe Wood, 40 Haselbury Plucknett woods, 41 Montacute Park, 45, 51, 62 Hazelgrove Park, 73 Stourton Woods, 74 Mells Park, 75 Orchardleigh Park.

Punctelia subrudecta s. lat. (incl. *P. jeckeri* and *P. subrudecta* s. str.). See component species for habitats. Unrecorded only in SS 73, 74, 93; ST 37, 85. Squares where only *P. subrudecta* s. lat. is recorded are: ST 32–34, 40, 43, 50, 52, 62, 64, 73, 74.

Punctelia subrudecta s. str. LC. **5**, **6**. On broad-leaved trees, especially on ± enriched bark, occasionally on sandstone memorials, also rare on beach pebbles and overgrowing mosses on limestone outcrop; very common. SS 83, 84, 92, 94; ST 02–04, 12, 14, 21, 23, 24, 30, 31, 35, 41, 42, 44–46, 51, 53–55, 57, 65, 66, 72, 75, 76.

Pycnothelia papillaria. LC. **5**. In wet heathland (H4d); very rare. SS 84 Wilmersham Common 1999 NAS, 94 Luccombe Hill 1999 NS.

Pyrenocarpon thelestomum. DD NR. **5**. On acid rocks and boulders in the R. Barle; very rare; only known sites in SW England. SS 73 1999 VG, 83 1992 VG.

Pyrenula chlorospila. LC. **5**, **6**. On smooth areas of bark on (usually mature) trees in old or established woodland; frequent in western and some central areas, rarer in the north-east. SS 82–84, 92–94; ST 02–04, 11–14, 21, 23, 31, 33, 34, 40–46, 50, 51, 53, 54, 57, 63, 74.

Pyrenula coryli [F]. VU NR. **6**. On smooth bark of *Corylus*; rare or overlooked. ST 45 The Perch 2013 BJC (E).

Pyrenula macrospora. LC. **5**, **6**. Habitats as the last species, but less common, east of Exmoor woods. In far east of the county, only at Mells Park, where not seen since the mid-1980s. SS 73, 82–84, 92–94; ST 12, 13, *14*, 21, [22], *23*, 26, 31, *32*, 40, 43, 45, 46, 51, *53*, 54, 74 Mells Park FR.

Pyrrhospora quernea. LC. **5**, **6**. On rough somewhat basic bark in woodlands and parks, more rarely on worked timber or sandstone gravestones; common. Unrecorded in ST 25, 30, 42.

Racodium rupestre. LC. **5**. On vertical siliceous rocks in very humid situations; very local. SS 83 rocks by R. Barle, 84 Hawkcombe and Hawkcombe woods, Embelle Wood and Weir Wood, 93 Lype Brake; ST 03 Clatworthy woods.

Ramalina calicaris. LC. **5**, **6**. On well-lit trees, especially on ± nutrient-enriched twigs and branches; rare, and absent now from both the Somerset Levels and areas in the NE that have had significant air pollution. Last reliably recorded in the county in 1987. SS 83 Barle Valley woods, on *Fraxinus*, 1986 FR *et al*., 92 Pixton Park 1987 FR *et al*., [93 top of Blagdon Hill, on *Fagus*, 1930 WW (TTN), 94 Minehead 1915 "H.G.B" (HDD)]; ST *03*, [13 Cothelstone 1939 WW (TTN)], 26 Steep Holm 1980 OLG, 51 East Coker Park, on *Acer pseudoplatanus*, 1985 FR, 74 Mells Park 1972 FR.

Ramalina canariensis. LC. **5**, **6**. On basic bark, and on church walls; rather frequent in much of Somerset. SS 83, 84, 92, 93, 94; ST [*02*], 03, 04, 11, [12, *13*], 14, 21, [22 Poundisford Park, on *Populus*, 1923 & 1929 WW (TTN) and Upper Cheddon, on wall, 1929 WW (TTN)], 23, *24*, 25, 31, 32, 34, 41, 42, *43*, 44, 51–53, *54*, 63, 72–75.

Ramalina cuspidata. LC. **5**. On sea-cliffs; rare. SS 94 Hurlstone Point cliffs 1985 FR, 1993 ABC.

Ramalina farinacea. LC. **5**, **6**. On trees and branches, also on walls, siliceous gravestones or coastal pebbles; very common. Unrecorded only in SS 74.

Ramalina fastigiata. LC. **5**, **6**. On trunks and twigs in well-lit situations, on basic bark; rarely on old walls; common. Unrecorded in SS 73, 74; ST 02, 36, 37.

Ramalina fraxinea. LC. **5**, **6**. On nutrient-rich bark in well-lit, windy sites, once on a chapel wall; locally frequent. SS 83, 84, 92–94; ST [*02*], 03, 11 Chelmsine Chapel, on chapel wall, 1985, FR *et al*., [12 Norton Fitzwarren, on *Ulmus*, 1915 WW (TTN)], 21, 22, *24*, 31, 32, 33, *34*, *35*, 43, 45, 52, 55, 62, [*63*], 66, 72, 74, 75.

Ramalina lacera. LC. **5**, **6**. On ancient well-lit stonework and old trees; now very rare and local. ST [*04*], 12 Bishops Lydeard Ch, on tower wall, 2009 VG, 13 Nether Stowey, on church wall, 2003 AA, [22 Hope Corner, Taunton, wall of brick outhouse, 1930, WW, as *R. pollinaria* (TTN)], 23 Barford Park, on *Quercus*, 2012 MP *et al*., *31*, [*32*], 42 Huish Episcopi Ch (fine here) 1986 FR, and Kingsbury Episcopi Ch, on church tower, 1994 BJC & KS, and 2003 AA & LS, 53 Glastonbury Tor tower, 2003, DJH.

Ramalina siliquosa. LC. **5**, **6**. On coastal cliffs and rocks, also on standing stones and churchyard memorials inland; local. SS 84 Porlock Beach, 94 Hurlstone Point cliffs 1985 FR; ST *04*, 14 Kilve Ch, on sandstone cross, 2005, MA & BH, 26 Steep Holm OLG, 35 Badgworth Ch, on sandstone headstone, 2017 ABC, 37 Clevedon St

Andrew's Ch 2016 DJH, 46, Nailsea, on roadside wall, 2010 DHB *et al*., 47 Clevedon Cliffs DHB and Portishead DJH, 54 Lynchcombe, on chert boulder, 2016 ABC, 56 & 66 Stanton Drew stone circle.

Ramalina subfarinacea. LC. **5**, **6**. On siliceous coastal cliffs, and inland on churchyard memorials; very local. SS 84; *93*, 94 cliffs E of Porlock; ST 26 Steep Holm OLG, *30*, 45 Cheddar Ch 2012 DJH, 46, Nailsea, on roadside wall, 2010 DHB *et al*., 54 Pilton, on sandstone headstone, 2001 JM & MA, 62 North Cadbury Ch, on sandstone cross, 2001 MA.

Ramonia chrysophaea. NT NS IR. **5**. On mature oaks in woodlands; rare. SS 82 Hawkridge Ridge Wood 1994 ABC (E) and Ashwick Wood 1997 ABC (E), 84 Horner woods, several records by ABC and NAS; ST 21 Ruttersleigh SSSI, 2010 NAS.

Ramonia interjecta. LC NS. **6**. On soft bark of *Sambucus*; rare or overlooked. ST 36 Sand Point 1991 BJC.

Ramonia nigra. CR NR IR. **5**. On old tree; very rare, SS 84 Ten Acre Cleeve, on post-mature *Quercus*, 2016 NAS.

Rhaphidicyrtis trichosporella. LC NS. **5**. On acid bark (mainly *Alnus*, *Betula*, *Ilex* and *Quercus*); rare on Exmoor, but may prove more frequent. SS 73 Ashcombe Plantation, on *Fraxinus*, 1994 ABC, 82 Barle Valley woods; ST 03 Clatworthy, on *Quercus*, 1996 ABC (E).

Rhizocarpon distinctum. LC. **5**, **6**. On acid stones, graveyard memorials and beach pebbles; uncommon. SS 84 Bossington Beach 2103 BLS, SS 93 Selworthy Ch 2011 DJH; ST 03 Nettlecombe Ch 2015 BJC & MP, 23 Barford House, on roof slates, 2012 BJC & MP, 44 Rodney Stoke Ch 2013 BJC & DJH, 55 Chewton Mendip Ch 1974, FR, 66 Stanton Drew AC, 76 Bath Abbey Cemetery 1994 PWJ.

Rhizocarpon geographicum. LC. **5**, **6**. On well-lit hard acidic rocks, slate and tile roofs, granite memorials; quite frequent, especially in the Exmoor area, but widespread on roofs elsewhere. SS 73, 74, 84, 92–94; ST *03*, 04, [*11*], 12, [*13*], 20, *21*, 23–24, 31–33, 35, 37, 45, 46, *47*, 50, 51, 53, 55, 56, 61, 64, 76. The records by Knight (1921) from Selworthy (SS94) and nr Minehead (SS94) of *R. viridiatrum* are considered to belong here.

Rhizocarpon infernulum f. ***sylvaticum***. LC NS. **5**. On siliceous rocks, mainly in old woodland; occasional on Exmoor. SS 82–84.

Rhizocarpon lavatum. LC. **5**. On sandstone rocks in flood-zone of streams on Exmoor; rare. SS 73, 83–84; most VG 1992 & 1999.

Rhizocarpon lecanorinum. LC. **6**. On acid stones in old lead mine workings; rare. ST 45 Velvet Bottom 1963 Nancy Wallace, 55 Ubley Warren 2016 DJH and 2018 NB.

Rhizocarpon oederi. LC. **5**, **6**. On siliceous, iron-rich rocks and stones; uncommon and local. SS 73 Wheal Eliza 1994 ABC, 74 Pinkery area, *83*, 84; ST *03*, 45 Velvet Bottom 1963 Nancy Wallace, , 55 Ubley Warren BJC *et al*.

Rhizocarpon petraeum. LC. **5**, **6**. On ± basic rocks and stonework; rather rare. SS 73, 83, 94; ST *03*, *04*, 37, 42, 44–46, 54 Ebbor, 55 Ubley Warren, 57, 65, 75, 76.

Rhizocarpon reductum. LC. **5**, **6**. On hard acidic rocks and pebbles, and on churchyard memorials, especially ones of granite, rarely on iron railings; common. Unrecorded for SS 82; ST 25, 26, 36, 52.

Rhizocarpon richardii. LC. **5**, **6**. On siliceous rocks and beach pebbles by the sea; rare. SS 84 Porlock and Bossington beaches, 94 Hurlstone Point; ST 03, 24 Steart, 47 Clevedon DHB. Unsupported post-1960 records for SS83, ST03 and ST42 are all inland and considered to be errors.

Rhizocarpon umbilicatum. LC. **6**. On calcareous rocks and on a limestone memorial; very rare. ST 42 Pitney Ch JC det. BJC, 45, 55 Ubley Warren BJC *et al*.

Rhymbocarpus pubescens [LF]. NE NR. **6**. Parasitic on *Lepraria finkii*; rare. ST 55 Harptree Combe 2016 DJH.

Rimularia intercedens. LC NS. **5**. On beach pebbles, very rare. SS 84 Porlock Beach 1986 AC.

Rinodina aspersa. NT NR. **5**. On beach pebbles and on a granite memorial; very rare. SS 84 Porlock Beach 1986 AC, 94 Hurlstone Point beach ABC; ST 13 Crowcombe Ch 2011 DJH.

Rinodina atrocinerea. LC. **6**. On standing stones and exposed boulders inland, and one possible old record on maritime rocks; very rare and local; not coastal in Somerset. ST [47 Clevedon 1924 WW, as *R. milvina*, but specimen not traced], 55 stone field at top of Harptree Combe 2012 DJH, 56 & 66 Stanton Drew stone circle BJC, DJH *et al*.

Rinodina biloculata. DD NR. **6**. On twigs. ST 45 top of hill on N side of Burrington Combe, 2016 DJH, 55 Compton Martin 2008 DJH.

Rinodina bischoffii. LC NS. **5**, **6**. On limestone rocks and stones, and occasionally on stonework;

common on the Mendip limestone, but local elsewhere, and mainly in VC 6. ST *22*, 24, 25 Brean Down, 26 Steep Holm, 35, 43, 45, 54, 55, 63, 76.

Rinodina calcarea. LC NR. **6**. On Carboniferous limestone rocks; rare. ST 35 Rackley Spur 2002 ABC (E), 45 Cheddar Gorge 2001 ABC (E) and above Rodney Stoke 2015 DJH.

Rinodina efflorescens. LC NS. **5**, **6**. On acid bark, especially branches; rare or overlooked. SS 83 Tarr Steps car park, on *Betula*, 2013 BLS; ST 45 Fry's Hill, on *Quercus* branch, 1992 BJC.

Rinodina fimbriata. LC NE. **5**. On periodically inundated siliceous rocks by rivers and streams on Exmoor; rare. SS 73 S of Simonsbath VG, 82 Ashwick Wood 1997 ABC (E), 84 Horner woods 1991 BJC (E) and Chalk Water 1992 VG.

Rinodina flavosoralifera. NT NR. **5**. On trunks of old *Quercus*; very rare. SS 82 Hawkridge Ridge Wood 1994 ABC (E), and on large oak pollard at Castlemeadow Linhay 1997 ABC (E).

Rinodina griseosoralifera. LC NS. **5**. On old trees, especially *Quercus*; rare. SS 82 Castlemeadow Linhay, on large oak pollard, 1997 ABC and 2009 NAS, Hawkridge Ridge Wood 1994 ABC (E), 92 Pixton Park 1987 AC; ST 03 Nettlecombe, on *Populus*, 2003 AA, 21 Neroche Forest 1991 ABC (E).

Rinodina immersa. DD NR. **6**. On Carboniferous limestone rocks; rare. ST 45 Dolebury Warren, 1984-87, BJC (E), The Perch 2012 BJC, Cheddar Gorge 2001 ABC (E).

Rinodina isidioides. NT NS IR. **5**. In ancient woodland and parkland, usually on *Quercus*; very rare. SS 82 Castlemeadow Linhay, on large *Quercus* pollard in meadow 1982 FR, re-found 1997 ABC, 83 Pitt Wood 1996 PW.

Rinodina oleae (*R. exigua* auct. brit., *Rinodina gennarii*). LC. **5**, **6**. On calcareous or base-rich rocks and stonework, especially in churchyards, also beach pebbles, enriched bark and worked timber; common. SS 84, 94; ST 03, 04, 11–14, 22–26, 32, 33, *34*, *35*, 36, 41–46, 52, 54–57, 61, 64–66, 72, 75, 76.

[***Rinodina oxydata***. LC NS. **5**. On siliceous rock; ?extinct or overlooked. ST 20 Howley, on flint wall, 1921 WW (TTN, as *Buellia spuria*).]

Rinodina roboris. LC. **5**, **6**. On mature trees, mostly *Quercus*, in parkland and old woodland; frequent except in far west. SS 82 & 83 Barle Valley woods, 92 Pixton Park, 94 Dunster Park; ST 03 Nettlecombe Park, 04, 11, 14, 21 Neroche Forest, 22, 23, 31–34, *35*, 41, 43, *44*, *45*, 47, 51, 52, 54, 57 Long Ashton Park 1973 & 1974 FR *et al*, *62*, 63, [*72*], 73 Redlynch Park, 74 Mells Park.

Rinodina sophodes. LC. **5**, **6**. On twigs in parkland situations; rare or overlooked, a species that is expanding in some parts of the UK. SS 84, 94; ST 03 Nettlecombe Park, 04 PWJ, 23, 55, 66.

Rinodina teichophila. LC. **5**, **6**. On calcareous stonework in churchyards, very rare on natural outcrops; occasional. SS [*92*]; ST 03, 04 Williton Ch, *11*, 12, 24, 25 Brean Down, 31, 42, 44, 45 Cheddar, Cross Plain (below Fore Cliff), on dolomitised boulders, 2002 ABC, 46, 55, *56*, 57, 61, 63, 76, 85.

Roccella phycopsis. NT NS. **6**. Not known on coastal rocks in Somerset, but occurs at two sites on walls 4–5 km from the sea. ST 35 Brent Knoll Ch, *c*. 100 thalli on N and E walls of church, 2017 ABC, 47 Nailsea, on roadside wall, 2010 DHB *et al*. (Fig. 29)

Roccellographa circumscripta (*Peterjamesia circumscripta*, *Sclerophyton circumscriptum*). LC. **5**. On maritime rocks; rare. SS 84 Hurlstone Point (W) 1993 ABC.

Romjularia lurida. LC. **6**. On open limestone rocks or on calcareous soil on rock crevices; very local. ST 25 Brean Down, 35 Compton Hill and below Crook Peak, 45 Burrington Combe 1987 BJC, Dolebury Warren 1984 BJC, Cheddar Gorge 2001 ABC, Wavering Down 2002 ABC, Fry's Hill 2011 DJH, 46 Goblin Combe BJC, 54 Ebbor Gorge 1984 BLS, 55 Ubley Warren, 57, [76 Bathford Hill *c*. 1866 HBH (BM)].

Ropalospora viridis. LC NS. **5**. On acid bark in ancient woodlands; rare, but locally frequent in Exmoor woods. SS 82–84, 92 Haddeo woods, on *Sorbus*, 2002 ABC; ST 03 Clatworthy, Northern Wood, on *Betula*, 1996 ABC (E), 21 Ruttersleigh SSSI 2010 NAS.

Roselliniella cladoniae [LF]. NE NR. **5**. Parasitic on *Cladonia coniocraea*; rare. SS 82 Hawkridge Ridge Wood 1994 ABC.

Roselliniella microthelia [LF]. NE NR. **6**. Parasitic on *Trapelia glebulosa* on chert boulder; rare. ST 45 Cross Plain 2009 ABC (E).

Roselliniopsis tartaricola [LF]. LC NS. **5**. Parasitic on *Pertusaria albescens* on *Quercus*; rare. SS 84 Hawk Combe 1992 ABC.

Sarcogyne regularis. LC. **5**, **6**. On limestone, calcareous stonework, and other basic substrata; frequent. SS 74, 92, 94; ST 02–04, 12–14, 20, 22–26, 30, 31, 34–36, 40–46, 52, 54, 55, 57, 63, 66, 67, 74–76, 85.

Sarcopyrenia gibba var. ***geisleri***. LC. **5**, **6**.

Mostly on flat tops of calcareous chest tombs in churchyards; rare or overlooked. ST 03 13 Nether Stowey 2003 AA & LS, 42, 45 Shipham Ch CJBH, 55, 62, 63 Castle Cary Ch 1995 FR, 74, 76.

Sarcosagium campestre var. ***campestre***. LC NS. **6**. On calcareous soil; rare. ST 55 Ubley Warren 1992 BJC.

Schaereria fuscocinerea. LC. **5**. On sandstone rocks by the sea; very rare. SS 94 Hurlstone Point 1993 ABC.

Schismatomma graphidioides [*Schismatomma ricasolii*]. VU NS IR. **5**. On *Fraxinus, Fagus* and *Quercus* in ancient woodland and parklands; rare. SS 84: one *Fraxinus* in valley floor, Horner Combe (N part), 1985 FR, Horner Wood, on four *Fraxinus* and one *Quercus*, 1998 ABC (Coppins and Coppins 1998), Horner Side, on *Quercus*, 2016 NAS, 94 Dunster Park, on *Fraxinus*, 2013 BLS (E); ST 03 Nettlecombe Park, on *Quercus*, 2003 AA & LS, 23 Barford Park, on *Fagus*, 2012 & 2015 BJC *et al*. (E).

Schismatomma quercicola. LC IR. **5**. On dry acid bark of old *Quercus* in ancient woodlands; rare, mainly Exmoor and Quantocks woodlands. SS 82, 83 Barle Valley woods, 92 Pixton Park, 93 Sale Wood; ST 03, 13, 14 Quantock woods, 21 Higher Shute's Copse 2010 NAS.

Schismatomma umbrinum. LC NS IR. **5**. On vertical siliceous rocks in woodland; very rare. SS 84, Horner, Rowbarrow Wood 1998 ABC, Cloutsham Ball 2016 NAS.

Sclerococcum tephromelarum [LF]. NE NR. **5**. Parasitic on *Tephromela atra*; rare or overlooked. ST 23 Barford House 2012 & 2015 BJC & MP (E).

Sclerophora peronella. NT NS. **5**. On lignum inside split trunk of *Fraxinus*; very rare. SS 84 Aller Combe 1998 ABC (E).

Scoliciosporum chlorococcum. LC. **5**, **6**. On bark, especially twigs and branches, occasionally on worked timber; probably frequent but little recorded. SS 82, 84, 92, [94 Minehead, above Greenaleigh Farm, on *Pinus*, 1929 WW (BM)]; ST [11 Leigh Hill, on *Sambucus*, 1930 WW (BM)], 21, 23, 25, 41, 43, 45, 51, 54–57, 67, 74, 75.

Scoliciosporum pruinosum. LC. **5**, **6**. On dry bark, mostly on young *Quercus*, but also on *Acer pseudoplatanus, Betula, Fagus* and *Ilex*; rare. SS 82–84, 92 Hawkcombe, Weir Cleeve and Haddeo woods; ST 03, 04, 14, 45 Cheddar, Long Wood 1992 BJC.

Scoliciosporum umbrinum. LC. **5**, **6**. On basic and siliceous rocks, especially on churchyard memorials; also occasionally on bark, old metalwork and worked timber; frequent. SS 73, 83, 84, 92–94; ST [02], 03, 04, 13, 20, 21, 31, 33–35, 41–47, 51, 52, 54–57, 62, 61–67, 72, 74–76, 85.

Skyttea nitschkei. LC. **5**, **6**. Parasitic on *Thelotrema lepadinum* in old woodlands; frequent in Exmoor, but rare elsewhere. SS 82–84, 92; ST 14 Alfoxton Park, 46 Goblin Combe 1988 BJC.

Snippocia nivea (*Schismatomma niveum*). LC IR. **5**, **6**. On the dry sides of old trees in ancient woodlands; frequent in the old Exmoor woods, rare or absent elsewhere. SS 83 Barle Valley woods, 84 Horner woods, 92 Pixton Park, 93 Old Stowey Wood, 94 Dunster Park; ST 13 Somerton Combe, 14 Holford Glen, 21 Newhaven Wood, Whitestaunton, on *Fraxinus*, 2003 NAS, 43 Great Breach Wood, on *Quercus*, 1998 FR & JC, 74 Mells Park 1969 FR.

Solenopsora candicans. LC. **5**, **6**. On limestone in well-lit places, including both natural exposures and churchyard memorials; very common in the county except in the far west. Unrecorded in SS 73, 74, 82, 84, 92.

Solenopsora vulturiensis. LC. **5**, **6**. On maritime cliffs and an old wall; very locally abundant. SS 84 & 94 Hurlstone Point, cliffs to east, 1985 FR, 1993 ABC, also Selworthy Ch, on boundary wall, 2011 DJH; ST 47 Portishead, abundant on coastal rocks, 2002 DJH.

Solorina saccata. LC. **6**. On partially shaded mossy limestone in the Mendips; very local and rare. ST 45 Cheddar Gorge, Turner and Dillwyn (1805), still there in four locations on both sides of the gorge, 2001 & 2009 ABC, 54 Ebbor Gorge 2014 DJH, [57 Avon Gorge, opposite Clifton 1872 C. Babington (BM), 64 Nettlebridge 1881 HP (TTN)]. (Fig. 24)

Sphaerellothecium parietinarium [LF]. NE NR. **6**. Parasitic on *Xanthoria parietina*. Rare, but probably much under-recorded. ST 33 Moorlinch Ch 2017 ABC, 36 Sand Point 2010 BJC (E), 44 Stoke Moor 1981 Elizabeth McDonnell (K).

Sphaerophorus globosus. LC. **5**. On acid bark of *Quercus* in damp upland woods on Exmoor, also on sheltered acid rocks; local, and only in the west. SS 83 Barle Valley woods, and Shircombe Rocks, on *Quercus*, 2002 ABC, 84 Horner woods, on *Quercus* in upper parts, 94 Hurlstone Point.

Sphinctrina turbinata [LF]. LC NS. **5**, **6**. Parasitic

on *Pertusaria hymenea and P. pertusa* on old trees; rare. SS 92 Pixton Park; ST [30 Winsham 1914 WW (TTN)], *31*, 51, 66, 73 Moulton's Park Wood 1983 FR.

Spiloma auratum [LF]. LC NS. **5**, **6**. Parasitic on *Dirina massiliensis* f. *sorediata* on church walls; occasional. ST 35 Brent Knoll Ch 2017 ABC, 41 Hinton St George Ch 2015 DJH, 42 Kingsbury Episcopi Ch 2003 AA & LS, and Muchelney Ch 2017 ABC, 44 Rodney Stoke Ch 2013 BJC & DJH.

Sporodophoron cretaceum (*Schismatomma cretaceum*). LC IR, **5**, **6**. On dry shaded bark of ancient *Quercus*, also on *Acer campestre* and *Fraxinus*; occasional in woodland and parklands. SS 83, 84, 92, 94; ST 03, 11–14, 21, 23, 31, 40, 43, 51, 74.

Squamarina cartilaginea. LC. **6**. On dry, horizontal well-lit limestone rocks, and on calcareous soil associated with rocks; very local in the Mendips. ST 25 Brean Down, 35 Purn Hill 2008 BJC, Crook Peak, Compton Hill, Barton Rocks and above Rackley 2002 ABC, 36 Sand Point, 45 Cheddar Gorge 2001 ABC, Wavering Down to Fry's Hill 2002 ABC, 46 Wrington Warren 1917 WW (BM), Goblin Combe 1988 & 2012, [*55*, *56*], 57 Leigh Woods NNR 1971 DHB. All specimens examined belong to the psoromic acid (PD+ yellow) race. (Fig. 25)

[***Squamarina lentigera***. CR NR. **6**. Formerly on calcareous soil; extinct. ST 25 Brean Down 1933 WW (BM), but not seen there recently.] Watson's record from ST 46 Wrington Down is *S. cartilaginea*.

Staurothele caesia. LC. **6**. On limestone rocks and stable screes in the Mendips; rare. ST 35 above Rackley 2002 ABC, 36 Sand Point, 45 Dolebury Warren and Fry's Hill, Wavering Down and Shute Shelve 2002 ABC, 46 Goblin Combe, 54 Ebbor Gorge 1917 WW (BM – type of *Staurothele ebborensis* Walt. Watson) and 1990 AC, 55 Ubley Warren 1981 PWJ, 57 Leigh Woods NNR 1971 DHB, 76 Bath Abbey Cemetery 1994 PWJ. Some of the pre-2000 records may refer to *S. guestphalica* (*q.v.*).

Staurothele fissa. LC. **5**. On siliceous rocks in Exmoor streams and rivers; very local. SS 73 Pickedstones, by R. Barle 1999 VG, 74 Hoccombe Combe and Badgworthy Water 1992 VG, 83 R. Barle, nr Ashway Hat Cottages 1999 VG, 84 Chalk Water 1992 VG; 92 R. Barle, nr Newbridge, 1999 VG.

Staurothele guestphalica. DD NR. **6**. On exposed to slightly shaded Carboniferous limestone; rare, but some records of *S. caesia* may belong here. ST 35 Crook Peak, Barton Rocks and above Rackley 2002 ABC, 45 Cheddar Gorge, 2001 ABC (E), Wavering Down to Fry's Hill 2002 ABC (E), Draycott Sleights 2014 DJH, 46 Goblin Combe 2014 BJC *et al*., 55 S of Bristol Plain Farm 2013 BJC & DJH.

[***Staurothele hymenogonia*.** LC NS. **5**. On soft limestone rocks and mortar; no recent records, but perhaps overlooked. ST 12 Oake, on mortar, 1927 WW (BM, TTN), 22 Thurlbear, on white lias wall, 1917 WW (BM).]

[***Staurothele rugulosa***. NT NR. **5**. On mortared brick walls; extinct? ST 22 Blinkhorn and Staplegrove, several collections dated 1927 and 1937 (BM, TTN), including type material of *S. innata* Walt. Watson. See Swinscow (1963).]

Staurothele rupifraga. LC NS. **6**. On hard limestone; rare. ST 35 Uphill 1934 WW (BM, TTN), 45 Cheddar 1917 WW (BM) & 1933 WW (TTN), Burrington Combe 2009 BJC, [46 Goblin Combe 1924 WW (BM) 1933, Purn Hill WW (BM)], 55 Ubley Warren 1984 BJC.

Stenocybe nitida (*Stenocybe bryophila*). LC NS. **5**. On liverworts on *Fraxinus* in pasture woodland in N-facing ravine; very rare. SS 93 Lype Brake 2001 NAS.

Stenocybe pullatula [F]. LC. **5**, **6**. On finger-thick *Alnus* twigs over water or marshland; frequent locally on Exmoor and the Quantocks; rare eastward. SS 82–84, 92–94; ST 02, 13, 21, 40, 64, 74.

Stenocybe septata [F]. LC. **5**, **6**. On *Ilex* in ancient woodland; common in Exmoor and Quantock Valleys. SS 82–84, 92–94; ST 03, 13, 14, 21 Long Lye 2003 NAS, 31 Chaffcombe Wood, 40, 45 Cheddar Gorge 1991 BJC, 64, 73, 74 Mells Park.

Stereocaulon dactylophyllum. LC. **5**, **6**. On acidic, metal-rich rocks; rare. SS 73 spoil heaps by Upper Barle 1994 ABC, 74 nr Pinkery Fm 2000 ABC; ST 45 Velvet Bottom BJC, 55 Ubley Warren.

Stereocaulon leucophaeopsis. LC NS. **5**, **6**. On iron-rich, slate outcrop; very rare. SS 74 nr Pinkery Fm 2000 ABC; ST 55 Ubley Warren 2016 DJH.

Stereocaulon nanodes. LC NS. **5**, **6**. On acidic, mineral-rich rubbly ground mines spoil heaps; very local. SS 73 Wheal Eliza; ST 45 Velvet Bottom, 55 Ubley Warren and Priddy Pools.

Stereocaulon pileatum. LC. **5**, **6**. As the last, but also on slate outcrops and old railway tracks;

rare. SS 73 Wheal Eliza, 74 nr Pinkery Fm ABC, 83 Blackland Iron Mine, 1987 AC; ST 45 Velvet Bottom BJC, 55 Ubley Warren and Priddy Pools, 57 Avon Gorge, on rails of disused railway, 1993 BJC *et al*.

Stereocaulon vesuvianum var. ***vesuvianum***. LC. **5**, **6**. As the last, but more frequent locally on siliceous rocks; local. SS 73, 74, 83, [84 Dunkery Beacon WW]; ST [*04*, *11*], 45 Velvet Bottom BJC, 55 Ubley Warren.

Stereocaulon vesuvianum var. ***symphycheileoides*.** NE NS. **6**. On disused railway tracks; very rare. ST 57 Avon Gorge, on rails of disused railway, 1993 BJC.

Sticta ciliata. LC IR. **5**. On mossy trees (so far *Corylus*, *Fraxinus* and *Salix*) in ancient Woodland; probably locally frequent – many of the records of *S. fuliginosa* s. lat. will belong here. SS 73 Ashcombe Plantation, fertile on *Fraxinus*, 1994 ABC, 82 Ashwick Wood 2009 NAS, 83 Great Wood and Lea Wood 2016 NAS, 84 Horner woods 2016 NAS, 92 Pixton Park 2017 NAS.

Sticta fuliginoides. NE NR. **5**. On mossy trees in valley bottom; rare, but only recently distinguished from *S. fuliginosa* and *S. ciliata*. SS 84, Ten Acre Cleeve, on *Corylus*, 2016 NAS (Fig. 3).

Sticta fuliginosa s. lat. LC. **5**. On mossy *Quercus*, *Fraxinus*, *Corylus* and *Salix*, in the ancient woodlands of Exmoor; locally frequent. SS 73, 82 & 83 Barle Valley woods, 84 Hawkcombe and Horner woods, 92 Haddeo woods, Looseall Wood and Pixton Park 1987 FR, 93 Little Broford Wood 1987 AC. In the UK, *Sticta fuliginosa* has recently been split into three species. Initial study by NAS shows that most records probably belong to *S. ciliata*. However, NAS has confirmed *S. fuliginosa* s. str. from several of the Horner woods (SS84).

Sticta limbata. LC IR. **5**. Habitats as last, but also in the Quantocks; locally frequent in the ancient woodlands of Exmoor. SS 82 & 83 Barle Valley woods, frequent, 84 Horner woods, 92 Haddeo woods, Looseall Wood, and Pixton Park 93 Exe Valley, Sale Wood 1974 FR, Horner Combe; ST 14 Quantocks, Holford Glen, on *Quercus*, 1971–1982 FR.

Sticta sylvatica. LC IR. **5**. Habitats and distribution mostly as for *S. fuliginosa* s. lat.; locally frequent in the ancient woodlands of Exmoor. SS 73 Simonsbath, Ashcombe Bottom 1988 FR & PW, 82 & 83 frequent in the Barle Valley woods, 84 Horner woods, 92 Haddeo woods, Looseall Wood and Pixton Park, 93 Exe Valley, Sale Wood; 94 Horner Combe; ST 02 nr Washbattle Bridge, on *Fraxinus*, 1985 FR & BLS.

Stigmidium eucline [LF]. LC NS. **5**. Parasitic on *Varicellaria lactea*; rare. SS 84 Hawk Combe, 1992 ABC.

[***Stigmidium marinum*** (*Arthopyenia leptotera*). LC NR. **6**. On maritime rocks; probably still present in the county, but not looked for! ST 47 Clevedon 1877 WJ (BM).]

Stigmidium microspilum [LF]. LC. **5**, **6**. Parasitic and forming black patches on the thallus of *Graphis scripta* especially on *Corylus*; locally frequent. SS 82–84, 92; ST 03, 11, 14, 21, 45, 46, 54.

Stigmidium peltideae [LF]. LC NS. **5**. Parasitic on *Peltigera membranacea*; rare or overlooked. SS 73 Ashcombe Plantation 1994 ABC; 92 Weir Cleeve 1994 ABC (E).

Stigmidium rivulorum [LF]. NE NR. **6**. Parasitic on *Verrucaria elaeomelaena*; rare. ST 55 Harptree Combe 2016 DJH.

Stigmidium tabacinae [LF]. NE NR. **6**. Parasitic on *Toninia sedifolia*; rare. ST 35 Compton Hill 2002 ABC (E).

Stigmidium tetrasporum Etayo [LF]. NE NR. **6**. Parasitic on *Verrucaria muralis*. Not yet on British list as awaiting confirmation. ST 64 Harridge Woods 2016 DJH.

[***Strangospora moriformis***. LC NS. **5**. On hard conifer or oak lignum; no recent records. ST 20 Wortheal nr Whitestaunton, on old stump, 1921 WW.]

Strangophora pinicola. LC NS. **6**. On lignum; rare, possibly overlooked. ST 36 Sand Point 1991 BJC (E).

Strigula calcarea. NE NR. **6**. On limestone; very rare, or overlooked. ST 26 Steep Holm 2014 DJH, 54 Ebbor Gorge 2014 DJH (BM), det. A. Orange.

Strigula jamesii. LC NS. **5**, **6**. On basic bark or over mosses on limestone; rare. SS 83 East Hollowcombe, on mature *Quercus*, 2002 ABC (E); ST 03 Nettlecombe, on *Quercus*, 2003 AA, 21, 45 Cheddar Wood, on *Corylus*, 1997 BJC (E), Cheddar Gorge, on mosses nr base of limestone cliff, 2001 ABC (E), 46 Goblin Combe, on *Sambucus*, 2014 BLS 54 Ebbor Gorge, on *Fraxinus* by stream, 1994 BJC (E).

Strigula taylorii. LC NS IR. **5**, **6**. On bark; occasional and apparently expanding. SS 84 Hawkcombe and Horner woods, 92, 94; ST 14,

21–23, 36 Sand Point, in scrub on *Sambucus*, 1991 BJC (E), 41, 43–46, 54, 57, 63, 75, 76.

Synalissa ramulosa (*Synalissa symphorea*). VU NR. **6**. In crevices on moist limestone in the Mendips, often associated with *Romjularia lurida*; very rare. ST 25 Brean Down 2013 DJH, 35 Compton Hill & above Rackley 2002 ABC (E), 45 Wavering Down (below Fore Cliff) 2002 ABC (E), 46 Goblin Combe 1988 BJC (E).

Syncesia myrticola (*Enterographa sorediata*). NT NS. **5**. On dry bark of old oaks; very rare. SS 84 Yenworthy Wood 2001 NAS, and Ten Acre Cleeve 2016 NAS; ST 03 Nettlecombe 2003 AA & LS, 21 Piddle Wood 2011 NAS. Known only as the sterile, sorediate morph, although the fertile morph is known further west in N Devon (Ertz *et al*. 2018a).

Taeniolella phaeophysciae [LF]. LC. **6**. Parasitic on *Phaeophyscia orbicularis*; probably under-recorded. ST 45 Bradley Cross Farm 2016 BJC, 74 Nunney Castle 2011 ABC.

Taeniolella toruloides [LF]. LC. **5**. Parasitic on *Thelotrema*; probably under-recorded. SS 92 Pixton Park 2017 NAS.

Telogalla olivieri [LF]. **6**. Parasitic on *Xanthoria calcicola* and *X. parietina*; rare or overlooked. ST 35, 45.

Teloschistes chrysophthalmus. CR NR. **6.** On twigs; rare. ST 45 Bradley Cross Farm 2017 A. Ormond (conf. from photo by DJH). A species that seems to have been expanding in S England in the last decade, and more records can be expected.

Teloschistes flavicans. VU NS. **5**, [**6**]. On cliff-top heathland, but formerly on trees; very rare or extinct. SS 94 Hurlstone Point, in cliff-top heathland, 1985–88 VG, FR, *et al*.; ST [21 Northay, on *Ulmus*, 1921 WW (TTN), *54*, 63 (or 73) Redlynch Park 1868 HP (Watson 1930, p. 21), 74 Mells Park 1868 HP (Watson 1930, p. 21)].

Tephromela atra. LC. **5**, **6**. On basic sandstone rocks, walls, and churchyard memorials; very common throughout. Unrecorded in SS 73, 74, 82; ST 20, 50.

Thelenella muscorum var. ***muscorum*** (*Chromatochlamys muscorum*). LC. **5**, **6**. On mosses on old trees or over limestone; rare. SS 84 Hawkcombe, Buckethole Wood, on *Fraxinus*, 2000 VG; ST 35 above Rackley and Compton Hill 2002 ABC, 45 Burrington Combe 1987 BJC, Wavering Down to Fry's Hill 2002 ABC, 46 Goblin Combe 1988 BJC & BLS.

Thelidium decipiens. LC. **5**, **6**. On limestone and limestone stonework; occasional, probably overlooked on gravestones etc. SS 94; ST 03 Nettlecombe, [14 Lilstock, on shingle, 1929 WW (TTN)], 24, 31, 35, 45, 51, 55, 57, 66, 74, 76.

Thelidium impressum. LC NS. **6**. On exposed Carboniferous limestone outcrops; rare, only in the Mendips. ST 45 Cheddar Gorge 1962 PWJ (BM), 2001 ABC (E), 54 Ebbor Gorge 2014 DJH.

Thelidium incavatum. LC. **5**, **6**. On limestone, including stonework; locally common. ST 03, 04, 25, 26, 35, 36, 41, 45, [46 Goblin Combe 1924 WW (BM)], 54, 75, 76.

Thelidium minutulum. LC. **5**, **6**. On small stones and consolidated soil in calcareous habitats; rare, or overlooked. ST [13 Cushuish, on bank, 1928 WW (TTN), 22 Cheddon Fitzpaine, on soil of hedgebank, 1915 WW (BM)], 30 Touchstone Lane quarry 2013 BB, 45 Cheddar Gorge 2001 ABC (E), 57 Avon Gorge 1994 BJC.

Thelidium papulare. LC. **5**, **6**. On calcareous stones and shaded rock faces, also limestone stonework; rare. ST 26, 31, 35, 41, 44, 45, 54, 55, 64, 75.

Thelidium pyrenophorum. LC NS. **5**, **6**. On limestone memorials church walls and roof tiles; occasional, probably overlooked; curiously not yet found on natural outcrops. ST 03, 23, 55, 57, 74, 76.

Thelidium zwackhii (*T. microcarpum*). LC NS. **5**. On consolidated soil of floor of limestone quarry; very rare. ST 41 Ham Hill 1994 BJC & KS (E).

Thelocarpon intermediellum. LC NR. **5**. On lignum of crumbling *Fraxinus* pollard; very rare. ST 21 Neroche Forest, Higher Shute's Copse 1991 BJC *at al.* (E).

Thelocarpon magnussonii. DD NR IR. **5**. SS 93 – record received 1994 by MRDS for the BLS Mapping Scheme, but deteils of site name, recorder or date not traced.

Thelocarpon opertum. NT NR IR. **5**, **6**. On calcareous soil; very rare. ST 35 Compton Hill 2002 ABC (E), 41 Ham Hill 1991 KS.

Thelopsis rubella. LC. **5**, **6**. On mossy damp bark of old trees (especially *Quercus*) in ancient woodlands and parklands; scattered in the county, but not as common in Exmoor as other *Lobarion* species are. SS 82 Castlemeadow Linhay, large *Quercus* pollard, 1997 ABC and 2009 NAS, 83 East Hollowcombe and Nine Acre Copse, 84 Horner woods, 92 Pixton Park;

ST 03 Nettlecombe Park, on old *Quercus*, 50 Whitevine Farm Woods 1988 FR, 51 Montacute Park, on *Tilia*, 2012 BLS, 74 Mells Park, on *Quercus*, 1989.

Thelotrema lepadinum. LC. **5**, **6**. On both smooth and rough bark, in ancient woodlands, on *Alnus, Corylus, Fagus, Fraxinus, Ilex, Quercus, Salix* and *Sorbus*, on Exmoor, Quantocks, etc.; locally very common in such locations, absent in more recent woodlands. SS 73, 82–84, 92–94; ST 02, 03, 11–13, 21 Neroche Forest, 23, 31, 46, [*47*], 52, [57], 64, 73 Stourton Woods, 74 Mells Park. (Fig. 15)

Thrombium epigaeum. LC NS. **5**. On acid soil; very rare. SS 92 Burridge Wood 1994 ABC (E).

Tomasellia gelatinosa. LC. **5**. On *Corylus*, less often *Alnus*, in old woodland; mostly on Exmoor; very local. SS 82–84, 92, 93; ST *03*, 21 Neroche Forest.

Toninia aromatica. LC NS. **5**, **6**. On calcareous well-lit rocks, both natural exposures and stonework, especially churchyard memorials; very common except in far west. On the Mendip limestone it often grows on the thallus of *Verrucaria nigrescens*. Unrecorded only in SS 74, 82.

Toninia episema [LF]. LC. **5**, **6**. Parasitic on *Aspicilia calcarea* on limestone, including memorials; local, but common on the Mendip limestone. ST 14, 23, 25, 33, 35, 36, 41–45, 53–55, 74, 75.

[***Toninia mesoidea***. LC NS. **6**. On basic coastal rocks; ? extinct or overlooked. ST 25 Brean Down 1933 WW (BM), 26 Steep Holm 1924 R.C. McLean (BM); both det. E. Timdal.]

[***Toninia opuntioides***. Conservation status uncertain. Calcareous soil; extinct, but easily confused with *T. sedifolia* in the field. ST 46 Cleeve Hill 1879 WJ (M), det. E. Timdal.]

Toninia sedifolia. LC. **5**, **6**. On open, calcareous ± sandy soil in short turf; very local. ST 24 Bridgwater Bay 1965–7 PWJ, 25 Brean Down, 35 below Crook Peak BJC *et al*., Barton Rocks and Compton Hill 2002 ABC, 36 Sand Point, 45 Wavering Down to Fry's Hill 2002 ABC, 46 Goblin Combe, 54 Ebbor Gorge.

Toninia subfuscae [LF]. DD NR. **5**. **6**. Parasitic on *Lecanora campestris*; rare or overlooked. ST 23 Barford House, on ha-ha, 2012 BJC & MP (E), 44 Rodney Stoke Ch 2013 BJC & DJH.

Toninia verrucarioides. LC NS. **5**, **6**. Overgrowing cyanophilous lichens (especially *Placynthium nigrum*) on Carboniferous limestone, sometimes in churchyards; local. ST 21 Pitminster Ch 2010 DJH, 23 Broomfield Ch 2010 DJH, 25 Brean Down, 31 Combe St Nicholas Ch 2013 DJH, 35 Compton Hill and above Rackley 2002 ABC, 36 Sand Point BJC, 37 Clevedon 2011 DJH, 44 Wedmore Ch 2010 DJH, 45 Cheddar Gorge 2001 ABC, Wavering Down, Shute Shelve and Axbridge Hill 2002 ABC, 46 Backwell Ch 2010 DJH, 51 Brympton 2006, 54 Ebbor Gorge.

Trapelia coarctata agg. (incl. *T. coarctata* s. str. and *T. elachista*). LC. **5**, **6**. On acidic rocks, stones, brick walls, monuments, etc; common on Exmoor, but more local elsewhere. SS 73 74, 82–84, 94; ST 03, 04, [*13*, *22*], 23, *31*, 41, 45 *54*, 55 Ubley Warren, *57*, 62, 66, 74. *Trapelia elachista* was until recently considered a synonym, but Orange (2017) has proved otherwise. Somerset records require a re-evaluation, but both species are certain to occur in the county.

Trapelia corticola. LC. **5**, **6**. On acidic, moist bark and lignum in woodland, mainly on *Alnus*, *Betula* and *Quercus*; frequent in ancient woodlands of Exmoor, but rare elsewhere. SS 73, 82–84, 92, 93; ST 03 Clatworthy woods, 45 Cheddar, Long Wood, on stump, 1992 BJC (E).

Trapelia glebulosa agg. (incl. *T. glebulosa* s. str. and *T. involuta*). LC. **5**, **6**. On acid rocks, stones and stonework, worked timber, etc.; common in Exmoor, scarcer elsewhere. SS 73, 74, 82–84, 94; ST 04, 45, 55, 56. Recently shown to comprise two species (Orange 2017), which have not been distinguished here, though both species are expected to occur in the county.

Trapelia obtegens. LC. **5**, **6**. On siliceous rocks, stones and stonework; rare or overlooked. SS 74 nr Pinkery Fm 2000 ABC; ST 03, *04*, 13, 46, 55 Ubley Warren 1992 BJC, 56, 76.

Trapelia placodioides. LC. **5**, **6**. On siliceous rocks, stones, and stonework; uncommon or overlooked. SS 73, 74, 82–84, 94; ST 03, 13, 23, 42, 44 Wedmore Ch DJH, 55, 76.

Trapeliopsis flexuosa. LC. **5**, **6**. On acid lignum, more rarely bark and sandstone headstones; common, but under-recorded. SS 82–84, 92–94; ST 03, *04*, 13, 14, 21–24, 31, 34, 36, 37, 44–46, 51, 54, 55, 57, 62, 66, 73–76.

Trapeliopsis gelatinosa. LC. **5**. On soil among acid rocks; rare. SS 73 Wheal Eliza 1994 ABC, 82 Hawkridge Ridge Wood 1994 ABC (E); ST 03 Clatworthy, Northern Wood 1996 ABC.

Trapeliopsis granulosa. LC. **5**, **6**. On acid banks, plant debris, rotting lignum, etc.; common on Exmoor, but less so elsewhere. SS 73, 82–84,

92–94; ST 02, 03, *04*, [21 Staple Hill 1927 WW (TTN)], 31, 35 Crook Peak, on moss, FR, det. BJC, 41, 54, 55, 57, 65, 66, 73, 74. Some pre-1990 records on lignum will probably be for *T. flexuosa*.

Trapeliopsis percrenata. LC NS. **5**. On moist wood of fallen trunks and old fencing; uncommon, and so far known only from Exmoor. SS 82 Hawkridge Ridge Wood, 83 Blacklands Wood by Pennycombe Water 1987 AC, 84 Eastwater Valley, fence rails, 1988 BJC & RGW.

Trapeliopsis pseudogranulosa. LC NS. **5**. On acid substrata, plant debris, etc.; common on Exmoor, but less so elsewhere. SS 73, 74, 82–84, 92–94; ST 03, 21 Neroche Forest, 45 Long Wood, 46 Goblin Combe 1988 BJC, 57 Leigh Woods, on fallen decorticated *Quercus*, 2003 BJC.

Trapeliopsis wallrothii. LC. **5**. On soil on cliff; very rare. SS 94 Hurlstone Point 2003 BLS.

Tremella caloplacae. [LF]. NE NR. **5**. Parasitic in the apothecia of *Caloplaca arnoldii*. SS 84 Porlock Bay 1986 AC (E).

Tremella coppinsii. [LF]. LC NS. **5**. Parasitic on *Platismatia glauca*. SS 73 Ashcombe Plantation 1994 ABC (E).

Tremella pertusariae. [LF]. NE NR. **5**. Parasitic on *Pertusaria hymenea*; occasional. SS 73 Dibble Wood 1987 ABC (K), Hawkridge Ridge Wood 1994 ABC, 83 SW of Liscombe 1988 AC (E), Slade Wood 1997 (K), 92 Pixton Park 2017 NAS; ST 21 Mount Fancy 1985 PD (Hb Diederich), Ruttersleigh SSSI 2010 NAS.

[***Tremella ramalinae***. [LF]. NE NR. **5**. Parasitic on *Ramalina fraxinea*; ?extinct. ST 22 Poundisford Park 1923 WW (TTN).]

Tremolecia atrata. LC. **5**. On acid rocks; rare. [SS 84 Horner Wood 1913 WW (BM)]; ST *03*.

Tuckermannopsis chlorophylla [*Nephromopsis chlorophylla*]. LC. **5**, **6**. On acid bark, especially twigs; occasional. SS 82–84, 94; ST 02, *03*, 20. 21, 45, 55, *64*, 65, 66, 74.

Tylothallia biformigera. LC. **5**. On dry sheltered acid rocks, especially underhangs, probably local in Exmoor. SS 83 Slade Wood 1997 ABC (E), 84 Hawk Combe, Colescombe Rocks 1992 ABC (E).

Unguicularia thallophila [LF]. LC. **5**, **6**. Parasitic on *Lecanora chlarotera*; rare but probably overlooked. SS 94. ST 23, 55.

Usnea articulata. NT IR. **5**, **6**. The iconic 'String of Sausages' lichen. Mostly in the upper branches of trees, in areas with very clean air; common in Exmoor woods and in the Blackdown Hills, rare to the east. SS 73, 74, 82–84, 92, 93; ST *02*, 03 Clatworthy woods, 11 Neroche Forest, 21 Neroche Forest, 30 Chard Reservoir 1997 D. Lester, 31 Chaffcombe Wood, 43 Hatch Hill, Butleigh Ridge 1998 GB, 45 Draycott Sleights 2012 DJH, 46 Goblin Combe 2014 JS, 53 Great Breach Wood 1993 DL, *54*, 74 Mells Park 1989 FR.

Usnea ceratina. LC. **5**, **6**. Pendant on tree trunks in old woodlands, usually occurring high up on the bole; still widespread though rarer in central Somerset. SS 73, 82–84, 92, 93; ST 02, 03, 11, 12, [*13*], 14, 21, [*22*], *23*, 30, 31, [*32*], [*41*, *43*], 45, 51, 53, [68], 73, 74.

Usnea cornuta. LC. **5**, **6**. Tree trunks of mature trees in woodland; locally frequent. SS 73, 82–84, 92–94; ST 02, 03, *04*, 11–14, *20*, 21, *23*, *30*, 31, 40, 45, 46, 50–53, 55, 66, 73–75.

Usnea dasopoga. (*Usnea filipendula*). LC. **5**, **6**. On trees in woodland; local in Exmoor and Quantock woods, very rare elsewhere. SS 82–84, 92, 93; ST 13, [*63*], 73 Moulton's Park Wood 1983 FR.

Usnea esperantiana. NT NR IR. **5**. On twigs of shrubs in gladed situations; very rare. SS 83 Shircombe Brake, on *Prunus spinosa*, 2002 ABC (E); ST 21 Ruttersleigh SSSI, on *Salix cinerea*, 2010 NAS.

Usnea flammea. LC. **5**. On trunks of *Betula*, *Quercus* and *Sorbus*; local in Exmoor woods, very rare elsewhere. SS 73, 83 Shircombe Brake, on *Betula*, 2002 ABC, 84 Hawkcombe Rocks FR 1984, 92 Haddeo woods 2002 ABC; ST 03, *04*, 53 Great Breach Wood, on *Salix*, 1988 FR, 62.

Usnea flavocardia. DD NR. **5**. On twigs of *Prunus spinosa* in sheltered glade; very rare. SS 83 Shircombe Brake 2002 ABC (E).

Usnea florida. LC. **5**, **6**. On twigs and branches in moist old woodlands; locally common, but apparently declining in abundance. SS 73, 74, 83–84, 92–94; ST 02–04, 11, *12*, 13, 14, [*20*], 21, *22*, *23*, 33, [*34*, *35*, *42*], 45, 46, [*51*, *52*], 55, *64*, 73, 74. (Fig. 9)

Usnea fragilescens. LC. **5**. On twigs of *Prunus spinosa* in sheltered glade and on *Alnus* in valley woodland; very rare. SS 83 Shircombe Brake 2002 ABC (E), 82 Haddeo Valley, on *Alnus*, 1974 FR.

Usnea hirta. LC. **5**. On acidic bark; very rare. ST Neroche Forest, on veteran *Quercus*, 2012 DJH. There is also an unverified record from SS84, Horner.

Usnea rubicunda. LC. **5**, **6**. On mature trees,

especially *Quercus*, in west Somerset; locally frequent. SS 73 Birchcleave, 82–84, 92–94; ST 02, 03, *12*, 13, 14 Alfoxton Park, 21 Neroche Forest, [*23*], 31, 53, 73.

Usnea subfloridana. LC. **5**, **6**. On trees and shrubs; common. SS 73, 74, 82–84, 92–94; ST 02–04, 11–14, 21–23, *24*, 30–31, *32*, 34, *35*, 36, 40, 41, *42–44*, 45. 46, *47*, 52–55, *56*, 57, 62, 64–66, *67*, *72*, 73–76, *84*, 85.

Usnea wasmuthii. LC. **5**. On trees, especially on branches; rare, but probably much under-recorded owing to confusion with *U. subfloridana*. SS 83 Barle Valley woods ABC, 84 Hawkcombe and Horner woods ABC & NAS; ST *12*, [*22*].

Varicellaria hemisphaerica (*Pertusaria hemisphaerica*). LC. **5**, **6**. On *Quercus* and *Fraxinus* in mature woodland and old parkland; rather common in most parts. SS 73 Ashcombe Plantation, 82–84, 92–94; ST *02*, 03, 11, 13, 14, 21, 22, 31, 40, 45, *51*, 53, *56*, 57, 62, 64, 73, 74.

Varicellaria lactea (*Pertusaria lactea*). LC. **5**. On acidic rock outcrops; local, on Exmoor only. SS 73 Upper Barle ABC, 83, 84 Hawkcombe ABC, 94 Hurlstone Point 1987 VG, and 1993 ABC.

Verrucaria aethiobola. LC NS. **5**. On siliceous rocks by rivers. SS 73 R. Barle at Cornham Ford 1992 VG, 74 Hoccombe Combe and Badgworthy Water 1992 VG, 84 Rowbarrow 1998 BJC (E); ST *03*, *04*, *13*, *14*. These records need reappraisal in the light of recent and ongoing studies of this group.

Verrucaria aquatilis. LC. **5**, **6**. Rocks in streams; local and probably under-recorded. SS 73, *83*, 84, 92, [94 Dunster 1920 HK]; ST 13, 14, 45, 55.

Verrucaria bulgarica. LC NR. **5**. On stone in grassland; rare or overlooked. ST 22 outside Thurlbear Wood, on stone, 2010 DJH.

Verrucaria caerulea. LC. ?**5**, **6**. On limestone rocks; rare. ST *03*, *24*, 35, 36, 44–46, 54, 55, 64, 66, 75. Records from VC 5 require confirmation.

Verrucaria cyanea [*Parabagliettoa cyanea*]**.** DD NR. **6**. On exposed Carboniferous limestone scree; very rare. ST 35 Compton Hill and above Rackley 2002 ABC, 45 Cross Plain 2002 ABC (E).

Verrucaria ditmarsica. LC NS. **6**. On sea-shore rocks; very rare. ST 25 Brean Down 1974 BLS, 26 Steep Holm OLG.

Verrucaria dolosa. LC. **5**, **6**. On shaded siliceous and limestone pebbles, stones and shale; occasional. SS 82, 83 VG, 84 VG, [94 Periton Combe 1923 WW (BM)]; ST 04 Blue Anchor 2006 ABC & PW, [21 Staple Hill 1927 WW (BM, TTN), 23 North Petherton 1941 WW (BM), 31 Whitelackington WW (BM)], 45 Winscombe railway cutting 1993 BJC, Cheddar Gorge 2001 ABC. Watson's records of '*V. mutabilis*' belong here (McCarthy 1988).

Verrucaria dufourii [*Parabagliettoa dufourii*]. LC. **6**. On exposed Carboniferous limestone outcrops; local, mainly in the Mendips. ST 23 Broomfield Ch 2010 DJH, 25 Brean Down, 36 Sand Point, 45, 46, 55, 56, 66.

Verrucaria elaeina. LC. **5**, **6**. On shaded calcareous rock faces and stones; frequent, but under-recorded. SS 84 W of Porlock 1993 AO (NMW); ST 03, 04, 22–24, 33, 35, 44–46, 51, 54, 55, 57, 64, 66, 67, 72.

Verrucaria elaeomelaena s. lat. LC NS. **5**, **6**. On inundated stones in and by streams; rare. SS 84 1993 AO; ST 55 Harptree Combe 2016 DJH, 64 Harridge Woods 2016 DJH.

Verrucaria funckii. LC NS. **5**. On siliceous rocks in streams and rivers. SS 73, *83*, 84 VG; ST [13 Aisholt 1913 WW (BM (det. AO 2008) and TTN), 14].

Verrucaria fusconigrescens. LC. **5**, **6**. On acid rocks and siliceous gravestones, especially nr the coast; uncommon. SS 73, 74, 84, 94; ST 03, [22 Staplegrove 1922 WW (TTN)] 23, 35, 46.

Verrucaria hochstetteri. LC. **5**, **6**. On limestone rocks, walls and memorials, sometimes on mortar; common in the Mendips, but rarer in the west where suitable substrata are rare. Not recorded for SS 73, 74, 82.

Verrucaria hydrophila (*Verrucaria hydrela* auct.). LC. **5**. On rocks by streams; frequent in Exmoor, but rare elsewhere. SS 73, 83, 84, 93; ST *11*, 13 & 14 the Quantocks, 21 Ruttersleigh SSSI.

Verrucaria internigrescens. LC NS. **6**. On coastal cliff; rare. ST 47 Portishead 2011 DJH.

Verrucaria latericola [*Verrucula latericola*]. DD NR. **6**. On and amongst *Caloplaca flavescens* and *C. maritima* on limestone; very rare. ST 26 Steep Holm, with *Caloplaca flavescens*, 2014 DJH, 36 Sand Bay WW & DAJ (TTN), and 'near Weston' WW (BM), as '*Dermatocarpon insulare*', more recently at Sand Point, on *C. maritima*, 2011 DJH. See McCarthy (1988, p. 250, as *V. granulosaria*). Watson's specimens, both on *C. flavescens*, may also be from Sand Point. More than one species may be involved here, including perhaps *Verrucula maritimaria*, but critical study is required.

Verrucaria macrostoma f. ***macrostoma***. LC. **5**, **6**. On old stonework and natural limestone; local. SS 94; ST 03, 04, 12–14, 21–26, 30–33, 35, 36, [37 Clevedon 1924 WW (BM)], 41–43, 45, 46, 51–57, 61, 63, 67, 72, 74–76.

Verrucaria macrostoma f. ***furfuracea***. LC. **5**, **6**. On old stonework and shaded limestone outcrops; very local, but probably overlooked. SS; ST 03, 04, 12–14, 20, 23, 25, 26, 30, 33, 35, 40–47, 51, 54–57, 62–66, 72, 74–76.

Verrucaria margacea. LC. **5**, **6**. On rocks in acidic streams; local, mainly in the west. SS 73, 83, 84 Hawkcombe VG; ST *03*, *11*, 13, 45 Burrington Combe 2015 DJH.

Verrucaria mucosa [*Wahlenbergiella mucosa*]. LC. **5**, **6**. Coastal rocks; frequent in littoral zone on exposed shores. SS 94; ST 04 PWJ, 25, 26, 36, [46, 47 Watchet 1922 WW (TTN)], Clevedon 1924 WW (BM, TTN) At least some of Watson's *Verrucaria microspora* belongs here.

Verrucaria muralis. LC. **5**, **6**. On limestone pebbles, rocks and stonework; common. Unrecorded only in SS 73, 74, 82, 83, 93.

Verrucaria murina. LC. **5**, **6**. On shaded limestone outcrops and stones; probably common but overlooked. SS 93; ST [02 Wiveliscombe 1927 WW (TTN)], 25 Brean Down 1986 OLG (det. McCarthy), 41 Ham Hill, 45 Cheddar Gorge 2001 ABC, [46 Cleeve Combe 1923 WW (TTN)], 55. Several similar species may be involved here.

Verrucaria nigrescens f. ***nigrescens***. LC. **5**, **6**. On calcareous or basic rocks and stonework; very common. Unrecorded only in SS 74, 82.

Verrucaria nigrescens f. ***tectorum***. LC. **5**, **6**. On calcareous or basic rocks and stonework; common but under-recorded. The blastidiate morph of *V. nigrescens*, which usually occurs in damper or shadier situations. ST03, 04, 13, 23, 24, 31, 35, 45, 46, 55, 76.

Verrucaria obfuscans. NE NR. **5**, **6**. On church walls, especially on and below the sills of lead-lined windows; rare or overlooked. ST 23 Spaxton Ch 2015 MP, 45 Winscombe Ch 2017 ABC. A recently recognised species, so probably under-recorded.

Verrucaria phaeosperma [LF]. NE NR. **6**. Parasitic on *Hymenelia prevostii*; rare or overlooked. ST 55 Rodney Stoke 2013 BJC.

Verrucaria polysticta (*Verrucaria fuscella* auct. brit. p.p.). LC NS. **5**, **6**. On exposed Carboniferous limestone outcrops and walls; occasional. ST 12 Bishops Lydeard 2009 VG, 14 East Quantoxhead 2011 DJH, 23 Spaxton Ch 2015 BJC & MP, 35 above Rackley 2002 ABC, 36 Sand Point 1991 BJC, 45 above Draycott Sleight 1993 ABC, Cheddar Gorge 2001 ABC, Shute Shelve 2002 BJC, [47 Clevedon 1924 WW (BM) det AO], 55 Compton Martin Ch 2013 DJH, 74 Nunney Castle 2011 ABC, Hinton Charterhouse Ch 2014 DJH.

Verrucaria praetermissa. LC. **5**, **6**. On rocks in and by water; local and probably overlooked. SS 73, 82–84, 92; ST 03 Nettlecombe in shaded spring 2009 Thüs (BM), 45 Burrington Combe 2015 DJH.

[***Verrucaria sandstedei***. DD NR. **6**. On eulittoral rocks; rare or overlooked. ST 47 Clevedon 1924 WW (BM, TTN, as *V. lorrain-smithii*)]. This material may be a poorly developed *V. mucosa*.

Verrucaria sphaerospora. NE NR. **5**. On roof slates; very rare. ST 23 Barford House 2014 MP (BM).

Verrucaria squamulosa. NE NR. **5**. On brickwork of gutter at base of church wall; rare, but probably overlooked. ST 03 Nettlecombe Ch, 2015 MP.

Verrucaria striatula [*Wahlenbergiella striatula*]. LC. [**5**], **6**. Coastal rocks, rare. SS [*94*]; ST [*04*, *14*], 25 Brean Down 1974 BLS, *36*, [47 Clevedon 1924 WW (BM)].

Verrucaria viridula. LC. **5**, **6**. On limestone rocks and calcareous stonework and stones; common. Unrecorded in SS 73, 74, 82, 93; ST 22, 36.

Verrucocladosporium dirinae [LF]. NE NR. **5**. Parasitic on *Dirina massiliensis* f. *sorediata*. ST 42 Kingsbury Episcopi Ch 2003 AA & LS and 2015 DJH.

Vezdaea aestivalis. LC. **5**, **6**. On moribund mosses on calcareous or metal-rich substrata; rare or overlooked. SS 73 Wheal Eliza 1994 BJC; ST 03 Nettlecombe Ch 2015 BJC & MP, 45 Velvet Bottom 1992 BJC (E), Winscombe 1993 BJC, 55 Ubley Warren 1987 VG.

Vezdaea leprosa. LC. [**5**], **6**. On moribund mosses and plant debris; rare. [SS 84, Horner, soil cap of wall, 1932 WW (BM), as '*Biatora prasina*']; ST 55 Ubley Warren.

Vezdaea retigera. LC NS. **6**. Terricolous amongst slag in old mine workings; rare. ST 55 Ubley Warren 1992 BJC.

Vezdaea rheocarpa. LC NS. **6**. Terricolous amongst slag in old mine workings; rare. ST 55 Ubley Warren 1983, Lambley (NWH) 1992 BJC.

Violella fucata (*Mycoblastus fucatus*). LC. **5**, **6**. On acid bark and lignum; common in Exmoor,

occasional elsewhere. SS 73, 82–84, 92, 93; ST 03, 12, 21, 43, 45, 51, 53, 54, 57.

Vouauxiella lichenicola [LF]. LC. **5**, **6**. On *Lecanora chlarotera*; common but under-recorded. SS 83, 84, 94; ST 23, 33, 35, 45, 46, 54, 55, 57, 67.

Vouauxiella verrucosa [LF]. LC. **5**, **6**. On *Lecanora campestris*; probably common but under-recorded. ST 03, 23, 33.

[***Vulpicida pinastri***. NT NR. **5**. On conifers; extinct. SS 94 hills S of Dunster 1942 WW (BM), not seen since, and still the only record for SW England.]

Wadeana dendrographa. NT NS IR. **5**, **6**. On ancient *Fraxinus* and *Quercus* in old woodlands; rare. SS 83 Nine Acre Copse, on ancient *Quercus*, 2009 NAS, 84 Horner, on *Fraxinus* and *Quercus* in valley floor, 1984, only on a single *Fraxinus* in 1998 ABC, 94 Cloutsham on *Fraxinus*, 1974 FR, 53 Washingstones Gully, on *Fraxinus*, 1985, 54 Ebbor Gorge, on large *Fraxinus*, first recorded in 1970 by FR, but in 2008 tree found to be fallen by ABC, with *W. dendrographa* still present but in poor condition.

Wadeana minuta. NT NS IR. **5**. On mature *Quercus* in ancient woodland; very rare. SS 84 Horner Wood, on a single mature *Quercus* (also with *Lobaria amplissima*), 1998 ABC (E) and E of Goss's Rocks 2016 NAS.

Weddellomyces epicallopisma [LF]. LC NS. **5**, **6.** Parasitic on *Caloplaca flavescens*, both on natural outcrops and in churchyards; occasional. ST03, 13, 35, 43, 45, 46, 55, 72.

Xanthoparmelia conspersa. LC. **5**, **6**. On hard acid rocks and roof slates; rare and local. SS 73 Upper Barle, 74 Hoccombe, rocks by stream, 1992 VG, [83, 84], 94 Hurlstone Point and Piles Mill; ST 03 Nettlecombe Ch and Monksilver Ch, 04 Blue Anchor, on beach pebbles, 12, 61, 66, 76.

Xanthoparmelia loxodes. LC. **5**. On acid stonework and roof slates; very rare. SS 73 Simonsbath Ch wall; ST 03 Nettlecombe, 23 Barford House, 41 Norton sub Hamdon Ch.

Xanthoparmelia mougeotii. LC. **5**, **6**. On acid stonework, roof slates and stabilised shingle; increasing but still less common than in SE England. SS 84 Porlock Beach, on shingle, 1986 AC, 93 Winsford Ch, 94 Piles Mill 2006 ABC; ST *02*, *04*, 11, *12*, 13, 14, 22–24, 31, 32, 41, 42, 47, 51, 55, 61, 62, 66, 76, 85.

Xanthoparmelia pulla. LC. **5**. On slate roof; rare. SS 94 Piles Mill 2006 ABC (E).

Xanthoparmelia tinctina. VU NR. **5.** On a slate roof; very rare. ST 12 Norton Fitzwarren Ch, on slate roof, WW (as *Parmelia conspersa*); refound on slate roof of house nr church, 1996 JG.

Xanthoparmelia verruculifera. LC. **5**, **6**. On acid rocks, including sandstone and granite churchyard memorials, and roof slates; occasional. SS 94; ST 03, 11, 13, 22, 23, 41, 42, 45, 46, 61, 62, 72, 76.

Xanthoria aureola. LC. **6**. On coastal sandstone cliff; rare. ST 47 Portishead 2011 DJH.

***Xanthoria calcicola*.** LC. **5**, **6**. On nutrient-enriched limestone rocks and memorials, and roof tiles; very common. SS 74, 84, 94; ST 03, 04, 11–14, 21–26, 30–37, 40–47, 51, *52*, 54, 55, *56*, 57, 61–63, 65, 66, 72, *73*, 74, 75, *76*, 85.

Xanthoria candelaria s. lat. (incl. *X. candelaria* s. str. and *X. ucrainica*). LC. **5**, **6**. On nutrient-enriched stonework and trees; frequent. SS 93, 94; ST 02–04, 12, [13], 22, 24, 30, 33, 34, 41, [42], 46, 52, 54, 62, 63, 65, 66, 72, 75, 76. Thalli with broad lobes have been recorded as *X. ucrainica*, but many apparent intermediates occur.

Xanthoria elegans [*Rusavskia elegans*]. LC. **5**, **6**. Rare on nutrient-enriched stonework, especially on sandstones. SS [*84*], 92, 94; ST 03 Nettlecombe Ch 1982, 04, 11 Chelmsine Chapel, 22–24, 31, 42, 44, 57, 62, 64.

Xanthoria parietina. LC. **5**, **6**. On nutrient-enriched trees, rocks, walls and roof tiles; abundant. In all squares.

Xanthoria polycarpa [*Polycauliona polycarpa*]. LC. **5**, **6**. On nutrient-enriched twigs and worked timber; very common. SS 82, 84, 92–94; ST 03, *04*, 11, 12, 14, 21–26, 30–36, 40–46, 50–55, 57, 61, 62, 64–67, 72, 74–76, 85.

Xylographa vitiligo. LC. **5**. On lignum in old woodlands; very rare. SS 82 Barle, 83 Westwater Copse, on old oak fence post, 2002 ABC, 84 Horner woods at Cloutsham Ball, on fallen *Quercus*, 1991 BJC (E) and Hollow Combe 1988 BJC (E). A 2001 record from ST 62 – a wooden bench at North Cadbury Ch – is considered a probable error.

Xylopsora caradocensis (*Hypocenomyce caradocensis*). LC. **5**. On acid bark and lignum; rare and only on Exmoor. SS 83 Blacklands Wood, N of Withypool, on conifers, 1987 AC, 84 Horner and Hawkcombe woods.

Zwackhiomyces lecanorae [LF]. NE NR. **6.** Parasitic on *Lecanora albescens*; rare. ST 63 Castle Cary Ch 2016 DJH.

Zwackhiomyces sp. [LF], NE NR. **6**. Parasitic on *Dermatocarpon miniatum*; very rare. ST 64 Harridge Woods 2016 DJH (E). An apparently undescribed species forming shallow galls on the host's thallus. Perithecia immersed, 150–200 µm diam.; spores 4/ascus, 1-septate, hyaline, 16–22 × 8–9 µm, with enlarged upper cell.

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FURTHER ADDITIONS TO THE DANDELION (*TARAXACUM*) FLORA OF SOMERSET

S. J. LEACH and A. J. RICHARDS

Continued collecting of dandelions in Somerset has resulted in further additions to the county's *Taraxacum* flora. Listed below, in alphabetical order, are taxa for which we can now report first county and/or vice-county records. These records were made chiefly in 2017, although we also include notes on two taxa for which material was originally collected in April 2016 during the Dandelion Workshop organised by the Botanical Society of Britain and Ireland (BSBI) and Somerset Rare Plants Group (SRPG), but which, for reasons stated, were not included in last year's report (Leach *et al*. 2017).

The species records listed below are based on material examined and determined/confirmed by AJR in his capacity as national referee for *Taraxacum*; in almost all cases, voucher specimens for these records – including those illustrated here

Fig. 1 Taraxacum subericinum, *specimen held at SANHS/Taunton herbarium (**TTN**) (Photo: Simon Leach)*

Fig. 2 Taraxacum litorale, *specimen held at SANHS/Taunton herbarium (**TTN**) (Photo: Simon Leach)*

– have been added to the reference collection of dandelions held in the SANHS/Taunton herbarium (**TTN**) held at the Somerset Heritage Centre. Dates refer to 2017 unless otherwise stated, while collectors are denoted by their initials: GEL, Graham Lavender; SJL, Simon Leach; EJMcD, Liz McDonnell; RDR, Rob Randall; JW, Jeanne Webb; SRPG, Somerset Rare Plants Group.

County 'firsts' in 2017 included some really interesting records. For example, *T. landmarkii* is a mainly northern and western species in Britain with very few records from southern England; *T. pachylobum* and *T. subhuelphersianum* are two rarely collected species, each currently with less than a dozen British records on the national database; and *T. subericinum* (Fig. 1), only recognised as occurring in Britain, in N. Devon, within the last decade (Rich and Richards 2011), was found in 2017 for the first time away from its Devonian stronghold.

Perhaps the most surprising find of the year, though, was *T. litorale* (Fig. 2), a rare and threatened species of wet meadows in north-eastern Europe, discovered on a lane verge on the edge of Taunton – the first confirmed record of this species in the British Isles (Leach and Richards 2018).

In summary, 27 species are now added to the list for S. Somerset (VC5), while six are added to the list for N. Somerset (VC6); of these, 24 were also 'firsts' for the county as a whole. As at 20 January 2018, the *Taraxacum* flora of Somerset stands at 141 species, 117 in VC5 and 90 in VC6.

Taraxacum adiantifrons – Golsoncott (ST02863940), 22 Mar, on roadside grassy bank, JW, conf. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum aequisectum – Blue Anchor (ST01554359), 12 Apr, on rough ground, JW, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum 'atrocollinum' – Staple Hill, Higher Buckland (ST247157), 15 Apr 2016, on broad grassy lane verge, Les Tucker, det. AJR [and a year later, 13 Apr, at same locality, SJL, conf. AJR, **TTN**]. Staple Hill (ST24681597), 17 Apr 2016, dry grassy bank on W. side of entrance to Forestry Commission car park, BSBI/SRPG Dandelion Workshop, det. AJR, **TTN**. Prior's Park (ST22511645), 13 Apr, on grassy verge of forest track, abundant, SJL, conf. AJR, **TTN**. Britty Common (ST26141553), 15 May, on edge of woodland ride and forest track, SJL, conf. AJR, **TTN**. Monksilver (ST07563745), 13 Mar, on bank beside village hall car park, JW, det. AJR, **TTN.** First records for VC5 and Somerset. This is a characterful but as yet undescribed species within *Taraxacum* Section *Celtica*, probably a British endemic with a mainly western distribution. The working name of *T. atrocollinum* means 'dandelion of the dark hill', in recognition of its having first been found and recognised as a distinct taxon at sites in the Blackdown Hills. In view of its considerable national interest we have given a full list of Somerset records here, although we suspect it will prove to be more widely distributed in the county than these suggest.

Taraxacum celticum – Dunster (SS97744277), 27 Apr, in wood-border with abundant dandelions, JW, det. AJR, **TTN**; first record for VC5 and Somerset. A British endemic with a predominantly western distribution, particularly frequent in Wales.

Taraxacum chrysophaenum – Doniford, Watchet (ST08854269), 20 Apr, on waste ground, JW, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum exacutum – road to Watchet (ST05294296), 6 Apr, in grassy border to roadside wasteland, JW, conf. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum exsertiforme – Bilbrook Lane (ST03614120), 1 Apr, in field border, JW, conf. AJR, **TTN**; first record for VC5, second for Somerset.

Taraxacum fusciflorum – Bilbrook Lane (ST03614120), 31 Mar, field gateway in grass and rubble, JW, conf. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum hepaticum – Taunton (ST22602417), 31 Mar, road verge under trees opposite Temple Methodist Church, by side entrance to Vivary Park, SJL, det. AJR, **TTN**; first record for VC5 and Somerset. [Plus two further records, elsewhere in Taunton, 4 Apr and 20 Apr, both SJL, det. AJR, **TTN**.]

Taraxacum huelphersianum – Dunster (SS97744277), 27 Apr, in grassy wasteland, JW, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum incisum – Monksilver, Combe Lane (ST07983700), 3 Apr, in grass verge, JW, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum interveniens – Taunton, Bindon Road (ST20752591), 9 Mar, in mown grass verge, SJL, det. AJR, **TTN**; first record for VC5, third for Somerset. [Plus a second record, on another

mown road verge, at Holway Hill, Taunton (ST24502357), 18 Mar, SJL, det. AJR, **TTN**.]

Taraxacum intumescens – Monksilver, Combe Lane (ST07983700), 3 Apr, in grass verge, JW, det. AJR, **TTN**; first record for VC5, second for Somerset.

Taraxacum lancidens – Willett Hill (ST09883395), 13 Mar, in woodland, JW, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum landmarkii – Bilbrook Lane (ST03724160), 1 Apr, grassy area nr stream, JW, conf. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum latissimum – Hawkcombe (SS87754571), 28 Mar, on edge of bridleway, GEL, det. AJR, **TTN**; first record for VC5, second for Somerset.

Taraxacum lepidum – Lynch Bridge (SS90064761), 19 Mar, on road verge, GEL, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum litorale – Taunton, Sherford Road (ST22482326), 1 May, two plants on road verge and in flower border, SJL, det. AJR, **TTN**; first record for VC5 and Somerset. The first confirmed British record for this highly distinctive but rare and threatened species of wet grassland in north-east Europe (Sweden, Denmark, Germany, Latvia, Lithuania, Estonia, Finland). The few previous claims to *T. litorale* being a British species (e.g. Richards 1972) were based on specimens now recognised as belonging to *T. anglicum*. Sherford Road serves as an access route to a large edge-of-town mixed arable/livestock farm which, particularly around harvest times, employs casual workers, many of them from Eastern Europe. A business buying and selling new and used agricultural machinery, including trade with mainland Europe, is also based there. Could *T. litorale* have arrived on the clothing, or footwear, of an agricultural worker, or in the tyre treads of a farm vehicle? For further details and discussion of this record, see Leach and Richards (2018). [Fig. 2]

Taraxacum macrolobum – Bossington (SS89034693), 25 Mar, on road verge, GEL, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum margettsii – Staple Hill (ST24661597), 17 Apr 2016, damp grassland in Forestry Commission car park, BSBI/SRPG Dandelion Workshop, det. AJR from cultivated material, **TTN**; first record for VC5 and Somerset. Plants were provisionally identified as *T. margettsii* in the field, and subsequently confirmed by AJR after examining specimens grown in cultivation by Tim Webb from root fragments collected 17 Apr 2016, harvested and pressed by JW, 2 Apr 2017. A scarce British endemic with a concentration of records in W. Cornwall (Lizard peninsula) and a thin scatter elsewhere.

Taraxacum multicolorans – Thurlbear (ST26572055), 5 Apr, abundant in sloping field next to woodland, in semi-improved grassland, SJL, det. AJR, **TTN**; first record for VC5, fifth for Somerset.

Taraxacum pachylobum – Taunton, Bindon Road (ST20752590), 9 Mar, in mown grass verge on edge of trading estate, SJL, det. AJR, **TTN**; first record for VC5 and Somerset, fourth for England, sixth for Britain.

Taraxacum pallidipes – Bath, Royal Avenue (ST746651), 10 Apr, RDR, det. AJR; first record for VC6, fifth for Somerset.

Taraxacum pannucium – Williton, Aller Farm (ST07813959), 26 Apr, in cobbles in farmyard at edge of scrub, JW, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum parnassicum – Watchet, Cleeve Hill SSSI (ST05194287), 22 Mar, in short calcareous grassland, JW, conf. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum planum – Robbers Bridge (SS82284646), 28 Mar, on road verge, GEL, conf. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum pulchrifolium – Wedmore (ST44014784), 1 Apr and 9 Apr, in allotments, EJMcD & SRPG, conf. AJR, **TTN**; first records for VC6, fourth or fifth for Somerset.

Taraxacum richardsianum – Charmy Down (ST755706 & ST758706), 6 May, and Black Down, Rowberrow Warren (ST468571), 13 May, both records RDR, det. AJR; first records for VC6 and Somerset.

Taraxacum sinuatum – Bilbrook Lane (ST03724160), 31 Mar, roadside bank, JW, conf. AJR, **TTN**; an atypical plant with quite sharply-pointed leaf lobes. Taunton (ST23522441), 17 Apr, front garden of 15 Trinity Street in tarmac, SJL, det. AJR, **TTN**; a more typical plant with mainly blunt-tipped leaf lobes. First and second records for VC5 and Somerset.

Taraxacum subericinum – Old Cleeve (ST041064178), 6 Mar, garden weed, JW, det. AJR, **TTN**; first record for VC5 and Somerset, and the first for Britain outside its stronghold

in N. Devon (VC4). It is unclear whether *T. subericinum* is native or alien in Britain: its occurrences in N. Devon are chiefly in hedge-banks where it has every appearance of being a native, although it has a markedly eastern distribution in mainland Europe (Rich and Richards 2011). [Fig. 1]

Taraxacum subhuelphersianum – Kelston (ST702670), 29 Apr, RDR, det. AJR; first record for VC6 and Somerset.

Taraxacum sublongisquamum – Taunton (ST23492439), 30 Mar, in seldom-cut lawn in back garden of 15 Trinity Street, SJL, det. AJR, **TTN**; first record for VC5 and Somerset.

Taraxacum subxanthostigma – Wedmore (ST44014784), 1 Apr, in allotment, EJMcD & SRPG, det. AJR, **TTN**; first record for VC6, second for Somerset.

Taraxacum trilobatum – Wedmore (ST44014784), 1 Apr, in allotment, EJMcD & SRPG, conf. AJR, **TTN**; first record for VC6, fourth for Somerset.

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NATURAL HISTORY REPORTS

VASCULAR PLANT REPORT 2017

In Somerset the level of plant recording activity intensified in 2017, with over 101,000 records made and submitted to the Recorders. These records will all contribute towards the new atlas of the British and Irish flora, to be produced after 2020 by the Botanical Society of Britain and Ireland, whilst records for our rarer or threatened species will also be included in the Somerset Rare Plant Register (RPR) being prepared by Somerset Rare Plants Group (SRPG). This project aims to deliver a statement, records and map of the distribution of each of (currently) 563 extant rare or threatened plants in Somerset. In addition there are to be accounts of the historical distribution of (currently) 91 taxa believed to be locally extinct: most of these are already written. Lists of qualifying 'extant' and 'extinct' taxa are constantly updated and can be viewed on the SRPG website, together with all accounts written to date (www.somersetrareplantsgroup.org.uk/new-rare-plant-register/).

Species, hybrids or infraspecific taxa are considered to be locally extinct for the Somerset RPR if they have not been recorded since 1987, or later in some cases where it is certain that they have disappeared from their known site/s. Taking this boldly pessimistic approach can result in occasional botanical excitement in Somerset, see for example Crouch (2017), where *Fallopia dumetorum* (Copse Bindweed) and *Chenopodium glaucum* (Oak-leaved Goosefoot) were reported as being rediscovered in Somerset having been considered lost to the county for 180 and 78 years respectively. As a result, these two species moved from the extinct list to the extant list. In 2017, it is a great pleasure to report that four further taxa have been removed from the extinct list, having been re-found or discovered at new sites in Somerset.

A species may appear to be locally extinct for several reasons: the recently rediscovered taxa illustrate some of these. One example is *Zostera marina* (Eelgrass), a marine perennial vascular plant which grows on coastal or estuarine fine gravel, sand or mud in the intertidal or subtidal zone. It is a difficult plant to survey, often growing in treacherous conditions, sometimes obscured by turbid water, and the timing of surveys is totally dependent on the tide. It is an important food plant of many species and thus may be grazed to the ground; colonies are also often damaged by human operations such as dredging and trawling. In Somerset this species has rarely been found actually growing: occasionally strands are washed up on beaches, but their origin may be far away. The last record for Eelgrass growing in the county was in 1969, at Stolford, sufficiently long ago for this species to be considered locally extinct; however it was recently revealed that it had been spotted during a survey carried out for Natural England in 2013, growing in almost the same location as the last record. It has probably persisted at that spot, yet gone unnoticed due to difficulties of survey. Perhaps more than most other species, this one requires the right surveyor to be in the right place at the perfect moment in order to be detected.

Another reason why a species may appear to be locally extinct is that a considerable degree of expertise is required to identify it, and thus it may escape the notice of most botanists for years. As previously reported (Crouch, 2017; Leach, Webb and Richards, 2017) there is increasing interest amongst SRPG members in a number of 'critical' genera, for example *Hieracium* (Hawkweeds), *Taraxacum* (Dandelions) and *Euphrasia* (Eyebrights). In 2017, *H. aviicola* (Many-toothed Hawkweed) was found new to VC5 (South Somerset), the last record for Somerset having been in 1916 at Somerton in VC6 (North Somerset). Although this Hawkweed must still be considered extinct in VC6, there are now no longer any *Hieracium* species on the extinct list for Somerset as a whole, whereas when that list was first drawn up there were three species with no recent records. This change is due to the efforts of a few members of SRPG who have collected and pressed specimens and sent these away for expert determination, all of which takes time and effort but is obviously rewarding and worthwhile.

Following publication of the new *Hybrid Flora of the British Isles* (Stace *et al*., 2015) there has been greater awareness amongst recorders of the possibility of finding hybrids; like so many 'critical' species, these may appear to be locally extinct because they are overlooked by many botanists, or indeed may genuinely disappear periodically from a local flora because they are only rarely produced.

In 2017, during a survey for *Rorippa amphibia* (Great Yellow-cress) along the River Avon, a tall plant exhibiting obvious 'hybrid vigour' was found, with only a few seed capsules properly developed. This was confirmed by the relevant expert as the hybrid *R.* x *anceps* (*R. sylvestris* x *amphibia*), last recorded in Somerset in 1920. Only hybrids with a parent on the Somerset RPR are themselves included in the RPR: in this case *R. amphibia* is locally scarce, so *R.* x *anceps* is included and has now been moved to the 'extant' list. Many other hybrids are either rarely formed or rarely recorded: the hybrid between two common grasses, *Holcus lanatus* (Yorkshire Fog) and *H. mollis* (Creeping Soft-grass) was recorded in Somerset in 2017 for the first time since 1925. It may well be overlooked!

Historically the distribution of some species has been unclear as locations were kept secret to protect the plants, with good reason. *Orchis anthropophora* (Man Orchid) was first found in Somerset in 1892 in the parish of Weston-in-Gordano: the finder instructed his gardener to collect the roots and remove them to his garden in Clifton and the species thus became extinct in Somerset almost as soon as it was discovered. In 1933 Man Orchids were found near Southstoke, south of Bath, by Miss A.E. White. To protect the plants from a similar fate she never revealed the exact locality; and the lack of any more recent records has led to it being presumed extinct in the county. In 2017, however, seven Man Orchid plants were discovered at a new site in Somerset. The finder has, understandably, asked for their location to be kept secret and his wishes must be honoured; thus, the record is omitted from the list below. While it is now generally agreed that plants are better conserved when their locations are known, it is sadly the case that orchids still face the threat of being trampled by photographers, if less so of being uprooted by collectors, but it is good to be able to report here that *Orchis anthrophorora* is no longer extinct in Somerset.

The most interesting records for 2017 (unless year is otherwise stated) are summarised below, falling into one of the following categories:

- A taxon recorded for the first time in the wild in Somerset (Watsonian vice-counties 5 (South Somerset) and 6 (North Somerset)), ie *a new county record*
- A taxon recorded for the first time in the wild in one of the Somerset vice-counties, either VC5 or VC6, ie *a new vice-county record*
- Other records of particular interest, for example second or third vice-county record, species re-found after a long absence, or newly discovered populations of Nationally Rare, Scarce or threatened species. These records are divided into two sections – native and alien – to give prominence to records of *native* taxa. (A Nationally Rare species is one found in 15 or fewer hectads in GB; a Nationally Scarce species is one found in 16-100 hectads in GB.)

Within each category, records are listed alphabetically by 'taxon', which may be a species, microspecies, subspecies, variety or cultivar. Both native and introduced taxa are included, with those more recently introduced ('neophytes') being distinguished by an asterisk before the name. Nomenclature follows Stace (2010) for all taxa included in that work. The vice-county is given for each record; the boundary between VC5 and VC6 follows the River Parrett/River Yeo/A303. As last year, new county/vice-county records of *Taraxacum* (Dandelion) species are reported separately (pp. 313-15).

Recorders and referees whose names appear more than once have been abbreviated as follows: Somerset Archaeological & Natural History Society (SANHS); Somerset Rare Plants Group (SRPG); Wild Flower Society (WFS); Patrick Acock (PA); Helena Crouch (HJC); Ro FitzGerald (RFitzG); Caroline Giddens (CJG); Dave Green (DEG); Ian Green (IPG); Rupert Higgins (RJH); Graham Lavender (GEL); Simon Leach (SJL); Clive Lovatt (CML); David McCosh (DJMcC); Liz McDonnell (EJMcD); Chris Metherell (CM); Stephen Parker (SJP); John Poingdestre (JP); Rob Randall (RDR); Gill Read (GHR); Tim Rich (TGCR); Andrew Robinson (APR); Fred Rumsey (FJR); Ian Salmon (ITS); Margaret Webster (MAW); Michael Wilcox (MPW).

Where mentioned in the following list, *The Atlas Flora of Somerset* (Green, Green and Crouch 1997) is abbreviated as *AFS*.

New county records

Artemisia verlotiorum (Chinese Mugwort) – Dundon (ST47893230), 6 Aug, a 2m patch on N verge of Emblett Lane, at E end of track near farm, SRPG, VC6.

Cornus sanguinea subsp. ***australis*** (Dogwood) – Cheddar, Strawberry Line (ST4454), 29 Oct, probably originally planted on edge of old railway line, EJMcD & CML, VC6.

Euphrasia arctica x ***pseudokerneri*** – Bannerdown (ST78956827), 11 Aug, several plants in species-rich turf at SW end of Banner Down, HJC & FJR, det. CM, VC6. A previously unknown hybrid, likely to be of restricted distribution as the ranges of the parent species scarcely overlap.

Euphrasia confusa x ***scottica*** **–** Chalk Water (SS81964523), 1 Aug, GEL, det. CM; Chalk Water (SS81944482), 4 Aug, GEL, conf. CM, VC5.

Euphrasia nemorosa x ***pseudokerneri*** – Bannerdown (ST78956827), 11 Aug, several plants in species-rich turf at SW end of Banner Down, HJC & FJR, det. CM VC6.

Euphrasia nemorosa x ***tetraquetra*** – Charterhouse Warren Farm (ST49975526), 8 Aug, few plants in grassland above small quarry, near bottom of N-facing field N of farm, HJC & MAW, det. CM, VC6.

****Gnaphalium luteoalbum*** (Jersey Cudweed) – Weston in Gordano (ST44497424), 12 Aug, two small flowering plants and one seedling nearby, between kerb stones on pavement outside cottage garden on N side of the road E of church, CML, VC6.

****Hedera algeriensis*** (Algerian Ivy) – Street (ST48623625), 22 Jan, in hedge of playing field, probably planted, EJMcD & CML, VC6.

Hieracium lortetiae (Lortet's Hawkweed) – Cloutsham Farm (SS89184300), 28 Jun, >100 plants on wall N of farm, GEL, det. DJMcC, VC5.

****Hieracium neosparsum*** (Bank Hawkweed) – Stogumber (ST09883778), 9 Jun, both sides of road on wall on verge, GEL & RFitzG, det. DJMcC, VC5.

****Pleioblastus humilis*** (Dwarf Bamboo) – Barrington (ST392172), 13 Apr, one small plant on road verge, N side of lane in MG1 grassland, other non-native plants close by so probably dumped in past, SJP, VC5.

****Salvia hispanica*** (Chia) – Chew Valley Lake (ST55445937), 29 Oct, two large plants and four tiny ones on bank of reservoir at Heron's Green, MAW, det. HJC, VC6.

New vice-county records

****Erodium manescavii*** (Garden Stork's-bill) – Combwich (ST25674235), 3 Aug, an established clump in verge outside house in School Lane, EJMcD & RFitzG, VC5.

Hieracium aviicola (Many-toothed Hawkweed) – North Quarme (SS91773625), 9 Jul, over 50 plants on sparsely vegetated earthy road bank under trees, GEL, det. DJMcC, VC5.

****Jasminum nudiflorum*** (Winter Jasmine) – High Littleton, N of (ST64595960), 19 Oct, one plant in flower in hedge on E side of A39, just S of crossroads, no other obviously planted species in hedge and not very near any house, HJC, VC6.

****Oenothera rosea*** (Rosy Evening-primrose) – Bossington (SS89684802), 24 Jun, several flowering plants, self-sown with *Oenothera stricta* (Fragrant Evening-primrose) in tile and stone cracks in doorway of cottage in Bossington Lane, SRPG, VC5.

Pilosella officinarum subsp. ***euronota*** – Yeovil Cemetery (ST551166), 20 Jun, IPG, VC5. Subsequently recorded in 6 further sites in VC5 in 2017.

Pilosella officinarum subsp. ***officinarum*** – Weir Water Valley (SS826462), 25 Jun, frequent in short grass by stream, SRPG & WFS, det. Steve Clarkson, VC5.

Rubus rossensis – Chiltons (SS88052790), 28 Jul, GEL, ITS & RDR, det. RDR, VC5.

****Vicia tenuifolia*** (Fine-leaved Vetch) – Kilton Hill (ST16164286), 27 Oct, in a sown pollinator headland on the edge of an arable field, RFitzG, VC5.

****Vinca difformis*** (Intermediate Periwinkle) – Sandford (ST42075930, ST42755952), 8 Apr, established in two places along a green lane, SRPG, VC6.

Other interesting records – native taxa

Alopecurus aequalis (Orange Foxtail) – Westhay, Burtle Road (ST42004232, ST42044233, ST42014230), 19 Aug, many clumps on disturbed soil on S side of partially filled peat void, SRPG, VC6. Fourth site for VC6.

Asplenium obovatum (Lanceolate Spleenwort) – Halse Combe (SS88324634), 27 Jan, 32 plants on mid to bottom of S-facing but heavily shaded dry stone wall; Hawkcombe (SS88304602, SS88314603, SS88404617), 4 Feb, 300+ plants on 40ft S-facing section of stone wall and isolated single plants on slope below; Hawkcombe (SS88194598), 7 Feb, 11 plants in wall just below and perhaps 50 yards from large colony in next monad; Halse Combe (SS88284624), 8 Mar, two plants on stone wall, a continuation of wall

100m further on from large colony, GEL, conf. FJR, VC5. New sites for this fern which is Rare in VC5.

Atriplex longipes (Long-stalked Orache) – Steart (ST27774656), 28 Oct, in saltmarsh dominated by *Phragmites australis* (Common Reed) and *Elytrigia atherica* (Sea Couch), EJMcD & CML, VC5; Towpath N of Leigh Woods (ST54847533), 6 Oct, in upper marsh near river light; Towpath by Leigh Woods (ST55197489), 9 Oct, in mid to upper saltmarsh; Towpath by Leigh Woods (ST56317321), 13 Oct, one plant, CML, VC6. First record for VC5 since *AFS* and second, third and fourth post-2000 records for VC6.

Atriplex x ***gustaffsoniana*** (*A. longipes* x *prostrata*) – Bridgwater Bay (ST26254540), 15 Oct, 2 yellowing plants on edge of brackish inlet, EJMcD & CML, VC5; Towpath by Leigh Woods (ST55197489), 9 Oct, in mid to upper saltmarsh, probably an extensive population, CML; Uphill (ST31405823), 10 Nov, in saltmarsh by marina, EJMcD & CML; Sand Bay (ST32966592), 10 Nov, in saltmarsh just below scrubby cliffs below Sand Point, EJMcD & CML; Weston-super-Mare (ST31535988), 19 Nov, at back of beach immediately S of Marine Parade, where beach is used as a car park, on banked-up sand under a high wall separating a few houses from the beach, CML, VC6. Second record for VC5 and second and subsequent records for VC6.

Carex x ***pseudoaxillaris*** (*C. otrubae* x *remota*) – Southwood (ST55743382), 24 Jun, one plant with 1m stems and branched lower spikelets on E side of track in dry ditch, JP, det. Mike Porter, VC6. First post-2000 record for VC6.

Centunculus minimus (Chaffweed) – Weacombe (ST11384045), 18 Aug, *c.*50 plants where flush crosses path, GEL, ITS & RFitzG, VC5. First record for VC5 since *AFS*.

Dryopteris cambrensis (Narrow Male-fern) – Ashwick (ST63854866), 19 Dec, three crowns in Brown's Wood, just S of stream along N edge, HJC & FJR, VC6. Fifth site for VC6.

Equisetum hyemale (Rough Horsetail) – Wincanton (ST70742845), 26 Oct, 11 shoots on N verge of footpath leading along N edge of cemetery, outside a garden fence yet no sign of it in garden, HJC & FJR, conf. PA, VC6. Second site for VC6 and first record for VC6 and Somerset since 1933.

Euphrasia arctica x ***confusa*** – Pitt Plantation (SS84124648), 4 Aug, GEL, det. CM; Oare Post (SS83634644), 17 Aug, GEL, conf. CM; Long Chains Combe (SS74084223), 22 Aug, GEL, conf. CM, VC5; GB Gruffy (ST47625628), 31 Jul, few plants in short grass by path in N part of reserve, HJC, conf. CM; Velvet Bottom (ST49525519), 3 Aug, MAW, det. CM, VC6. Third, fourth and fifth sites for VC5 and fourth and fifth sites for VC6.

Euphrasia arctica x ***nemorosa*** – Smalla Combe (SS84064713), 8 Jul, GEL, det. CM, VC5. Fifth site for VC5.

Euphrasia officinalis subsp. ***anglica*** x ***arctica*** – Aclands (SS73313976), 18 Jul, Max Brown, HJC & GEL, det. CM, VC5. Second site and new hectad for this hybrid in VC5.

Euphrasia officinalis subsp. ***anglica*** x ***confusa*** – Aclands (SS74033921), 16 Jul, GEL, conf. CM, VC5. First record for Somerset since 1987.

Galium parisiense (Wall Bedstraw) – Taunton, Priorswood Estate (ST24322602), 15 Jul, 12 plants on grassy bank outside Crown Close Units 1-6, SJL, VC5. Third site for VC5.

Groenlandia densa (Opposite-leaved Pondweed) – Muchelney Ham (ST43892312), 14 Apr, two plants in recently cleared Horsey Rhyne, with abundant *Potamogeton crispus* (Curled Pondweed), JP, VC5. First post-2000 record for VC5.

Helianthemum x ***sulphureum*** (*H. apenninum* x *nummularium*) – Sand Point (ST32846593), 15 Jun 2016, two plants on steep rocky S-facing cliff, 3-5m up from cliff base, SJP, SJL & SANHS, VC6; Brean Down (ST28565897), 6 May, three plants in flower on anthills to S of main path along ridge, with *H. apenninum* (White Rock-rose), SRPG & SANHS, VC6. Fourth site for VC6 (Sand Point) and first post-2000 record for known site (Brean Down).

Hieracium consociatum (Sociable Hawkweed) – Combeshead (SS91063942), 9 Jul, 20+ plants on shady grass verge passing place in narrow country lane; Cutcombe (SS93323980), 9 Jul, 10+ plants on side of road, steep earthy slope with canopy of trees, both records GEL, det. DJMcC, VC5. First records for VC5 since 1908.

Holcus x ***hybridus*** (*H. lanatus* x *mollis*) – Emborough (ST61905134), 10 Aug, large patch on W verge of Old Gore Lane, HJC, conf. Tom Cope, VC6. Third record for VC6 and first for VC6 and Somerset since 1925.

Juncus bulbosus subsp. ***kochii*** (Bulbous Rush) – Dunkery Hill (SS90844222), 30 Jun, GEL, ITS & MPW; Elsworthy (SS8141), 9 Oct, GEL, det. MPW; Beverton Farm (ST0233), 13 Oct, GEL &

ITS, det. MPW, VC5. First records for VC5 since 1956 and first for Somerset since 1975.

Juncus compressus (Round-fruited Rush) – Ford Common (ST30335380), 31 Mar, abundant vegetative plants in cart track in south eastern quadrat of common, EJMcD & CML, VC6. New hectad for species which is Vulnerable on the GB and England Red Lists.

Juncus x ***kern-reichgeltii*** (*J. conglomeratus* x *effusus*) – Dunkery Bridge (SS89624066), 30 Jun, GEL, ITS & MPW, conf. MPW, VC5. Second record for VC5 and Somerset.

Fig. 1 Lotus tenuis, *on verge of A358 at junction with Stewley Lane (Photo: Simon Leach)*

Lotus tenuis (Narrow-leaved Bird's-foot-trefoil) – Stewley (ST313181), 31 May, one large plant on road verge, at junction of Stewley Lane and A358, with *Lathyrus nissolia* (Grass Vetchling) and *Lotus corniculatus* (Common Bird's-foot-trefoil), SJL, VC5. First record for VC5 since *AFS*. [Fig. 1]

Orobanche hederae (Ivy Broomrape) – Quantock Lodge (ST18793760), 8 Jul, 100+ spikes around yew trees, ivy spread over old building stones, RFitzG, VC5. New hectad record for species which is Scarce in VC5.

Pilosella officinarum subsp. ***euronota*** – Bruton, St Mary's Church (ST684347); Bruton, Cuckoo Hill (ST6936), 22 Jun, HJC, GHR & IPG, det. IPG, VC6. Second and third records for VC6.

Polycarpon tetraphyllum (Four-leaved Allseed) – Weston-super-Mare, Uphill Railway Overbridge (ST32595784), 10 Nov, two small clumps of several fruiting plants and one young non-fruiting plant in cracks at edge of pavement on the west side of the A370, where road crosses railway, EJMcD & CML, VC6. Second site for VC6 and first post-2000 record for VC6 and Somerset.

Polypodium x ***mantoniae*** (*P. interjectum* x *vulgare*) – Croscombe (ST59084403), 17 Mar, few patches on S bank of Jack's Lane; Ashwick (ST63704869), 19 Dec, large patch on bank on S side of Blackey Lane, HJC & FJR, conf. FJR, VC6. Fourth and fifth records for VC6.

Polystichum x ***bicknellii*** (*P. aculeatum* x *setiferum*) – Lopen (ST424111436), 31 May, one plant along footpath, JP, VC5. Fourth record for VC5.

Potentilla tabernaemontani (Spring Cinquefoil) – Glastonbury (ST50633925), 13 Jan, many plants on N verge of Windmill Hill Road, presumably self-sown from a garden, HJC & FJR, VC6. New hectad for GB Scarce species yet probably a garden escape.

Rorippa islandica (Northern Yellow-cress) – Barrow Gurney (ST54116776), 29 Jun, one plant on the drawdown zone of Bristol Water Treatment Works Reservoir 3 (north side of A38), EJMcD & CML, VC6. Fifth record for VC6. Also found by HJC & GHR on the same day at many locations in Asham Quarry (ST7045), and subsequently found at two other reservoirs at Barrow Gurney by EJMcD & CML.

Rorippa x ***anceps*** (*R. amphibia* x *sylvestris*) – Claverton (ST79106454), 14 Jul, one large plant in fruit at SW side of River Avon, where tree has fallen into river, at N end of the island E of Claverton Pumping Station. Growing near *Rorippa amphibia* (Great Yellow-cress). HJC & DEG, conf. TCGR, VC6. Fourth site for VC6 and first record for VC6 and Somerset since 1920.

Ulex x ***breoganii*** (*U. europaeus* x *gallii*) – Langford Heathfield (ST100234), 30 Dec, one large bush, SJP, VC5. Fifth record for VC5.

Vicia parviflora (Slender Tare) – Allerton Moor (ST39195077), 24 Jun, dense clump at side of track, APR, conf. EJMcD, VC6. New hectad for species which is GB Scarce and Vulnerable on the GB and England Red Lists.

Viola x ***bavarica*** (*V. reichenbachiana* x *riviniana*) – Sandford (ST4259), 8 Apr, by path in Sandford Wood, SRPG, VC6. Fifth record for VC6.

Zostera marina (Eelgrass) – Stolford (ST240457), Sept 2013, a few individual plants rooted in the muddy substrate, reported to Natural England, VC5. First record for VC5 and Somerset since 1969, when it was recorded in almost exactly this spot.

Other interesting records – alien taxa

**Ailanthus altissima* (Tree of Heaven) – Merriott/ Bow Mill area (ST45411321), 21 Aug, suckering over a 20m radius beneath a mature tree in overgrown game-rearing area, JP, VC5. Third record for VC5.

****Allium neapolitanum*** (Neapolitan Garlic) – Ford Common (ST30185357), 14 May, small patch by car pull-in, a garden throw-out, EJMcD & CML, VC6. Fifth site for VC6.

****Anthemis austriaca*** (Austrian Chamomile) – Bruton (ST6834), 6 Jul, one fruiting plant in car park of Hauser & Wirth, probably introduced with seed, EJMcD, VC6. Fifth site for VC6.

****Artemisia biennis*** (Slender Mugwort) – South Petherton / Pinsome Hill (ST42671760), 15 Sep, *c.*14 plants scattered along edge of Maize crop with *Setaria pumila* (Yellow Bristle-grass) and *Echinochloa crus-galli* (Cockspur), JP, VC5. Fifth record for VC5.

****Avena barbata*** (Slender Oat) – Catcott (ST39883983), 14 Jul, several fruiting plants in gateway in Little Leaze Lane, EJMcD & Anne Dockerty, VC6. Fourth record for VC6 and Somerset.

****Bergenia crassifolia*** (Elephant-ears) – Ford Common (ST3053), 3 Sep, one clump, a garden throw-out at edge of drove, EJMcD & CML; Abbots Leigh, SW of (ST5372), 29 Sep, David Hawkins, VC6. Fourth and fifth records for VC6.

****Bergenia*** x ***schmidtii*** (*B. crassifolia* x *ciliata*) – Cheddar (ST46335366), 2 Sep, small patch by footpath from Lynch Lane to Jacob's Tower, presumably a garden throw-out but now established by path, SRPG; Pensford, High Street (ST62096354), 5 Oct, few plants on bank on W side of road, HJC & DEG, VC6. Second and third records for VC6.

****Campanula rapunculoides*** (Creeping Bellflower) – West Lydford (ST56383189), 30 Jun, a colony on the N side of the River Brue, just above the water level, near the footbridge at the W end of churchyard, a probable garden escape which must have washed downstream and become caught in stone and roots beneath the alders, JP, VC6. First post-2000 record for VC6 and Somerset.

****Chiastophyllum oppositifolium*** (Lamb's-tail) – Winford, SW of (ST5364), 20 Sep, one plant in wall outside Laburnum Cottage, Parsonage Lane, MAW, VC6. Second site for VC6.

****Cotoneaster lacteus*** (Late Cotoneaster) – Hawkcombe (SS88304622), 20 Jan, single 3m shrub between paths, GEL, VC5. Fifth site for VC5.

****Cucurbita pepo*** (Marrow) – Avill Farm area (SS9743), 8 Oct 2016, in hedgerow by lane, CJG, VC5; Lower Langford (ST46766056), 16 Sep, a large rambling fruiting plant with large marrow, on side of rough track – unlikely to have been planted at this location, but gardens nearby, EJMcD & CML, VC6. Third record for VC5 and first post-2000 records for Somerset.

****Cyclamen repandum*** (Spring Sowbread) – Brockley Court churchyard (ST46596695), 17 Apr, one clump established in crevices of tombstone, with *Soleirola soleiroli* (Mind-your-own-business), EJMcD & CML, VC6. Fifth record for VC6.

****Digitalis lutea*** (Straw Foxglove) – Hengrove Park (ST590683), 22 May, on disturbed soil where path built, origin unknown, RJH, VC6. Third record for VC6.

****Echinochloa esculenta*** (White Millet) – Marksbury (ST66696219), 15 Nov, one plant in gutter on NE side of lane, outside a garden wall, HJC & FJR, VC6. Second record for VC6 since pre-1987.

****Echium pininana*** (Giant Viper's-bugloss) – Aller Farm (ST07903972), 21 Apr, two self-sown by edge of footpath, GEL & RFitzG, VC5; Stock, Churchill (ST45886112), 16 Sep, a huge rosette on spoil heap, EJMcD & CML; Bath (ST74406503), 17 Oct, three plants at base of planted street tree on N side of Upper Bristol Road, 17 Oct, HJC & David Leadbetter, VC6. Fifth record for VC5 and third and fourth records for VC6.

****Euphorbia dulcis*** (Sweet Spurge) – Cannington/ Bradley Green area (ST25283832), 25 Apr, casual on spoil heap by old farm buildings at Ashdown Farm, EJMcD & RFitzG, VC5. Third record for VC5.

****Euphorbia maculata*** (Spotted Spurge) – Bath, Hillier Garden Centre (ST72236328), 28 Jul, 1x1m patch growing as a naturalised weed on slate laid over a flower bed to the R of the main entrance to garden centre, DEG, VC6. Second record for VC6 and Somerset.

****Hedera colchica*** (Persian Ivy) – Bath, Gainsborough Gardens Woodlands (ST73246581), 27 Mar, at N end of woodland, HJC & DEG, VC6. Second record for VC6.

****Helleborus argutifolius*** (Corsican Hellebore) – Winford (ST5464), 27 Sep, pavement weed

in Lye Mead, MAW & CML, det. CML, VC6. Second record for VC6.

****Kniphofia uvaria*** (Red-hot-poker) – Keinton Mandeville (ST5430), 22 Jun, in disused quarry which is about to be built on, with many other garden escapes, JP; Burnham-on-Sea (ST30755053), 20 Jul, on edge of rhyne, APR; Pathe Bridge (ST381303), 30 Oct, one plant in Environment Agency car park, SJP, VC6. First records for VC6 and Somerset since *AFS*.

****Leucojum aestivum*** subsp. ***aestivum*** (Summer Snowflake) – Sandford (ST43315935), 18 Apr, several established clumps by the tarmac access track in Lyncombe Wood, the more unusual form of Summer Snowflake, EJMcD & RFitzG, VC6. Second record for VC6 and Somerset.

Fig. 2 Lysichiton americanus, *in ditch beside Pitten Street, Leigh upon Mendip (Photo: Helena Crouch)*

****Lysichiton americanus*** (American Skunk-cabbage) – Leigh upon Mendip, Pitten Street (ST68144721), 19 Apr, 11 plants alongside stream, under trees on W side of lane, just N of road junction, Rose Martin; (ST68144729), 20 Apr, one plant in flower in ditch on E side of lane, N of green box, HJC; (ST68154733), 23 Apr, one vegetative plant in damp fenced area on E side of lane, downstream from single plant in ditch, HJC & Jim Crouch, VC6. Second site for VC6. [Fig. 2]

****Malva*** x ***clementii*** (Garden Tree-mallow) – Yeovil/Preston (ST53921603), 17 Sep, one shrub flowering/fruiting, a garden throw-out on stream-side near houses, EJMcD & CML, VC5. Third record for VC5.

****Oxalis debilis*** (Large-flowered Pink-sorrel) – Filwood Park (ST5969), 30 May, RJH, VC6. Second record for VC6.

****Oxalis tetraphylla*** (Four-leaved Pink-sorrel) – Bossington (SS8947), 23 Jul 2016, Sea Lane near turning to Porlock, an escape or weed from cottage garden, CJG, VC5. Third site for VC5 and Somerset.

****Philadelphus* 'Virginalis Group'** (Hairy Mock-orange) – Kingsbury Episcopi (ST43202266), 8 Jun, one multi-stemmed bush established on N side of disused railway line, EJMcD, VC5. Fourth record for VC5.

****Physalis alkekengi*** (Japanese-lantern) – Higher Holton (ST68872708), 22 May, several shoots along verge of lane, HJC & FJR; Chelvey Treatment Works (ST4767), 22 Jun, RJH, VC6. First post-2000 records for VC6.

****Portulaca oleracea*** (Common Purslane) – Cannington (ST26134033), 5 Nov 2016, *c.*10 spreading plants in hardcore, EJMcD & RFitzG, det. RFitzG, VC5. Second record for VC5 and first for Somerset since 1978.

****Potentilla recta*** (Sulphur Cinquefoil) – Yatton (ST43786522), 28 Aug, two fruiting stems in cricket club car park, EJMcD & CML, VC6. Second post-2000 record for VC6.

****Rubus cockburnianus*** (White-stemmed Bramble) – Lower Failand (ST51647329), 22 Apr, large clump on W verge of Oxhouse Lane, HJC, MAW & Jean Oliver, VC6. Third record for VC6 and Somerset.

****Salpichroa origanifolia*** (Cock's-eggs) – Haselbury Plucknett (ST47111093), 10 May, small clump in churchyard, in shade amongst *Parieteria judaica* (Pellitory-of-the-wall) against western perimeter wall, JP, VC5. Third record for VC5 and Somerset.

****Salvia pratensis*** (Meadow Clary) – Hawk Combe (SS88344587), 15 Sep 2016, one large patch on side of path past Glen Lodge, perhaps a garden escape, GEL, VC5. Fourth record for VC5.

****Salvia verticillata*** (Whorled Clary) – Lovington (ST59683130), 3 Jul, a huge colony in flower on S-facing railway embankment, appearing thoroughly naturalised, JP, VC6. First record for VC6 since 1967.

****Sasaella ramosa*** (Hairy Bamboo) – Bath, Gainsborough Gardens Woodlands (ST732657), 27 Mar, abundant in woodland, HJC & DEG, VC6. Second record for VC6 and Somerset.

****Scutellaria altissima*** (Somerset Skullcap) – Bath, Locksbrook Cemetery (ST73216528),

27 Mar, one clump under trees immediately N of chapel, no other plants seen in cemetery so origin unknown, HJC & DEG; Claverton (ST79066420), 14 Jul, one plant on stonework of canal, HJC & DEG, VC6. Second and third sites for VC6 and Somerset.

***Sedum hispanicum** (Spanish Stonecrop) – Kingsbury Episcopi (ST434421370), 8 Jun, several plants in established patch in gateway of house in Thorney Road. Has been there for several years and was not planted by the current owner, EJMcD, det. Ray Stephenson, VC5. Third record for VC5 and Somerset.

Fig. 3 Sedum sexangulare, *on pavement at corner of Chinnock Road and Old Wells Road, Glastonbury (Photo: Helena Crouch)*

**Sedum sexangulare* (Tasteless Stonecrop) – Smallcombe Cemetery (ST7664), 4 May 2015, on four graves in cemetery, RDR; Glastonbury (ST50673935), 13 Jan, on gravel outside electricity sub-station and on pavement at corner of Chinnock Road and Old Wells Road, HJC & FJR, VC6. First records for VC6 since pre-2000. [Fig. 3]

**Sedum stoloniferum* (Lesser Caucasian-stonecrop) – Yeovil (ST54941452), 7 Sep, large patch rooted on roadside bank, probably thrown out over fence, JP, VC5. Third record for VC5.

**Selaginella kraussiana* (Krauss's Clubmoss) – Dunster (SS99084369), 7 Jul, 7x1m patch in grass by wall, Jeanne Webb & RFitzG, VC5; Lower Failand churchyard (ST51467353), 22 Apr, small patch 1x1.5m at base of grass bank on shaded N side of church, HJC & MAW, VC6. Fifth site for VC5 and third site for VC6.

**Sorbaria sorbifolia* (Sorbaria) – Doulting, Farm Road (ST64674256), 12 Oct, several suckering plants on verge outside garden wall, HJC & GHR, VC6. Second record for VC6 and Somerset.

**Sorbus decipiens* (Sharp-toothed Whitebeam) – Leigh Woods (ST56217379), 18 May, a young plant 30cm high, bird-sown under railings by towpath, presumably from plants in Great Quarry opposite, TCGR & Libby Houston, VC6. Third record for VC6, but status of first unknown, and second was for a planted tree, so may be first record for this species naturalised in VC6.

**Sorghum bicolor* (Great Millet) – Cheddar Reservoir (ST43895427), 17 Oct, on the stone banks of the reservoir, RJH, VC6. Second record for VC6 and Somerset.

**Trifolium incarnatum* subsp. *incarnatum* (Crimson Clover) – Keeper's Quarry Plantation, Dinnington (ST40511206), 4 May, in sown game cover crop, JP; Washford Cross (ST05274070), 23 May, three flowering spikes at edge of cut ley, Naomi Cudmore, det. RFitzG; Stoneage Barton Farm (ST17653112), 10 Nov, 100+ plants in flower in old game cover field, GEL & ITS, VC5. Second, third and fourth records for VC5.

**Trigonella foenum-graecum* (Fenugreek) – Porlock Marsh (SS8847), 8 May 2016, small patch, Alastair Stevenson, VC5. Fourth site for VC5 and Somerset.

**Weigela florida* (Weigelia) – Bath, Gainsborough Gardens Woodlands (ST73256569), 27 Mar, one plant on E edge of woodland, beside road, HJC & DEG, VC6. Third record for VC6.

The BSBI vice-county recorders in Somerset are: Stephen Parker and Simon Leach in VC5, and Helena Crouch and Liz McDonnell in VC6. There is also an active recording group, the Somerset Rare Plants Group (SRPG), which holds an annual programme of field meetings, winter talks and identification workshops. Further information on the SRPG and the list of taxa included in the Somerset Rare Plant Register can be found at www.somersetrareplantsgroup.org.uk.

We would be delighted to receive records for possible inclusion in future reports; these should be submitted to one of the 'receiving recorders', as follows:

VC5 Stephen Parker, The Old Coach House, Newton Road, North Petherton, Bridgwater, Somerset, TA6 6SN
VC6 Helena Crouch, Bronwen, Farrington Road, Paulton, Bristol, BS39 7LP

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HELENA J. CROUCH

FIRST FLOWERING DATES 2017

In 2017 I again recorded first flowering dates (FFDs) for 339 vascular plant species, the final year of a decade-long study comparing FFDs today with those recorded in Somerset by Walter Watson in the first half of the last century (Watson 1949; Leach 2011 *et seq.*). Recording methods were the same as in previous years.

A summary is given here of FFDs recorded, along with features of the weather in winter (December-February), spring (March-May) and summer (June-August), based on my own observations and regional (S.W. England and Wales) values available on the Met Office website (http://metoffice.gov.uk/climate/uk). Records of snowfall, snow lying and air and ground frosts were from my back garden in Taunton.

The weather

It was yet another mild winter and spring, especially so in February and March which both had daily mean temperatures more than 2°C above the long-term (1961–1990) average. Even January, despite a 10-day period of mainly sunny weather and overnight frosts, was 0.7°C above average.

The winter period was much drier (and less windy) than in 2015–16, with December being especially dry (just 40% of the long-term average rainfall for that month). Intense depressions were inclined to take a more northerly track across the UK, and in any case there were markedly fewer storms in 2016-17 than in 2015-16. Of the four named storms, only 'Angus' (in November) involved heavy enough downpours to cause localised flooding in the county. 'Barbara' and 'Conor' only really affected northern Britain, while 'Doris' was windy, certainly, but produced little rain. Spring rainfall was variable, March being wet (128%), April dry (38%), and May close to the long-term average (86%).

As to be expected, the driest months were also the sunniest, with January and April being particularly sunny. In contrast, the summer period was (once again) a little underwhelming: sunshine levels were generally below the long-term average, while rainfall was consistently above average – it was a particularly wet July (167%). Summer temperatures were close to, or a little above, the long-term average.

Sleet or 'wet snow' was observed falling, but not settling, on two days (11th and 27th February). Air or ground frosts were recorded on 33 days – nine in December, 14 in January, seven in February, one in March and two in April.

First flowering dates

FFDs recorded in 2017 are compared with Watson's FFDs in Fig. 1, and with both Watson's dates and those recorded by me between 2008 and 2016 in Table 1. Species making up the monthly groups in Table 1 are determined by Watson's dates; so, for example, the 'April' group comprises 55 species for which Watson's FFDs fell in the month of April, i.e. between days 92 and 122.

For the seventh year in a row, all monthly groups showed earlier average FFDs than those reported by Watson; overall, 2017 had the third-

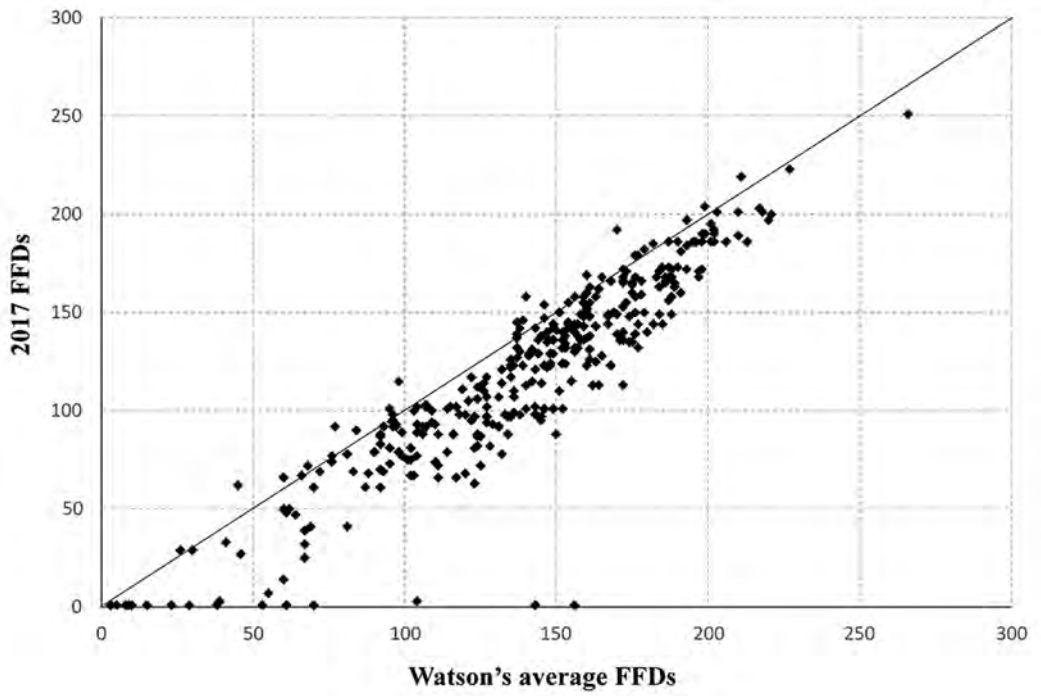

Fig. 1 First flowering dates (FFDs) for 339 species in 2017, plotted against 'average first flowering times' given by Watson. Dates are shown as day numbers (day 1 = 1st January). The diagonal line marks the line along which data-points would lie if 2017 FFDs were identical to those given by Watson; above the line the 2016 date is later than Watson's date, below the line is earlier

TABLE 1 – DEVIATION (IN DAYS) BETWEEN MONTHLY AVERAGE FFDs 2008-2017 AND THOSE CALCULATED FROM WATSON'S DATES. NEGATIVE VALUES INDICATE EARLIER FLOWERING THAN WATSON'S DATES, POSITIVE VALUES LATER FLOWERING. n = NO. OF SPECIES IN EACH MONTHLY GROUP

Month / Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008-17	n
Jan	-10.5	0.1	7.5	-1.7	-12.5	-12.4	-8.6	-11.6	-13.2	-8.5	**-7.1**	12
Feb	-17.9	-17.6	1.7	-18.4	-32.3	-35.6	-18.6	-44.7	-39.1	-26.1	**-24.9**	7
Mar	-14.8	-8.0	14.8	-10.1	-27.2	-12.9	-22.5	-16.0	-38.7	-16.9	**-15.2**	27
Apr	-21.4	-10.8	3.3	-13.3	-24.5	-8.4	-28.6	-14.5	-27.9	-18.6	**-16.5**	55
May	-11.4	-16.5	-3.7	-28.1	-18.7	-3.3	-29.8	-17.8	-16.2	-23.9	**-16.9**	89
Jun	-9.6	-13.5	-7.0	-23.1	-13.5	-3.6	-22.9	-11.9	-8.5	-19.7	**-13.3**	93
Jul	-6.9	-13.7	-11.2	-20.1	-5.3	-6.6	-18.4	-11.2	-8.0	-15.7	**-11.7**	49
Aug*	-8.0	-10.3	-11.3	-21.9	-6.1	-7.1	-20.4	-16.0	-8.4	-17.3	**-12.7**	7
Overall	**-12.2**	**-12.9**	**-2.7**	**-20.3**	**-16.8**	**-6.5**	**-24.2**	**-14.8**	**-16.8**	**-19.5**	**-14.7**	339

*The August group includes one species, Ivy (*Hedera helix*), for which the 'Watsonian' FFD lies in September

*Fig. 2 Hoary Ragwort (*Senecio erucifolius*), a late-flowerer for the tenth year in a row, coming into bloom in 2017 four weeks later than the average FFD recorded by Watson*

earliest set of FFDs in the last ten years, only 2011 and 2014 being earlier (Table 1). FFDs for winter (January-February) and early-spring (March-April) flowerers were noticeably later than in 2016 – hardly surprising, given that spring 2016 followed an extraordinarily mild December (*SANH*, 160, 223-6) – and were generally within a couple of days of the 2008-17 average FFDs for those months. However, FFDs for late spring and summer (May-August) groups were, on average, more than a week earlier than in 2016 and two to three weeks earlier than in Watson's day.

As ever, these averages mask considerable variation in the response of individual species. Thirty-two of the 339 species recorded had FFDs later than Watson's dates, of which six – Wild Strawberry (*Fragaria vesca*), Wood Avens (*Geum urbanum*), Water Forget-me-not (*Myosotis scorpioides*), Wild Parsnip (*Pastinaca sativa*), Barren Strawberry (*Potentilla sterilis*) and Hoary Ragwort (*Senecio erucifolius*) (Fig. 2) – were more than two weeks late. In contrast, many common spring- and summer-flowering grassland and 'wayside' species had remarkably early FFDs: Meadow Foxtail (*Alopecurus pratensis*), Black Knapweed (*Centaurea nigra*), Ribwort Plantain (*Plantago lanceolata*) and Red Clover (*Trifolium pratense*), for example, were all 5-8 weeks earlier than Watson's dates. Several tree species also followed this trend toward extreme earliness: for example, Field Maple (*Acer campestre*), Ash (*Fraxinus excelsior*) and Rowan (*Sorbus aucuparia*) had their earliest FFDs of the last ten years, and were 4-6 weeks earlier than the FFDs recorded by Watson.

Perhaps the most remarkable case of early-flowering in 2017, however, was Common Twayblade (*Neottia ovata*). The first flowering plants at Thurlbear Wood were recorded on 12th April – 12 days earlier than my own previous earliest FFD, and a staggering 41 days earlier than Watson's average FFD.

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BRYOPHYTES IN SOMERSET – NEW VICE-COUNTY RECORDS, 2016–17

As a result of a resurgence of bryological recording efforts in Somerset in recent years, the distribution patterns of many species of moss, liverwort and hornwort are now much better known. In addition, some species have been recorded in VC 5 and/or 6 either for the first time, or for the first time since 1960 or earlier. A summary of these for the period January 2016 to December 2017 is given below.

As is normal in bryological circles, all new vice-county records have been formally verified by the British Bryological Society (BBS) Recorders for Mosses or Hepatics. In the list below, species are presented in alphabetical order, with hornworts first, followed by liverworts and then mosses.

Hornworts

Phaeoceros laevis (L.) Prosk. (Smooth Hornwort) – Higher Alham (ST68064027), Dec 2016, on steep, scraped lane bank nr Higher Alham Farm, S. Pilkington; first recent record for VC6. A dioecious species, frequent on damp or flushed acid ground in SW England and W Wales, but thought to have gone from VC6 since last recorded, at Gasper, in 1966.

Liverworts

Bazzania trilobata (L.) Gray (Greater Whipwort) – East Harptree Wood (ST5554), Nov 2016, P. Bowyer; first record for VC6. A strongly oceanic liverwort typical of humid and sheltered places in the far west and north of the British Isles. It was collected during a Wessex Bryology Group field meeting to East Harptree; its exact location and habitat were not noted, but the population is likely to be very small.

Gymnocolea inflata (Huds.) Dumort. (Inflated Notchwort) – Midsomer Norton (ST67065440), extensive population on scrubby, N-facing slope of colliery tip, Dec 2017, A. Branson & S. Pilkington; first recent record for VC6. A relatively common species of heathland, but not recorded from VC6 since 1849 at Shapwick Heath, where it may still be present. [See also entries for *Lophocolea semiteres* and *Ptilidium ciliare*, below.]

Lophocolea semiteres (Lehm.) Mitt. (Southern Crestwort) – Midsomer Norton (ST67075436), numerous plants on N-facing slopes of colliery tip, sporophytes not found, Dec 2017, A. Branson & S. Pilkington; first record for VC6. [A second population was found on another coal tip nearby, Mar 2018, S. Pilkington.] A liverwort from the Southern Hemisphere, first recorded in Britain in 1995, on the Isles of Scilly. Since 2000 *L. semiteres* has spread into eastern England and the Midlands but it remains relatively rare in SW England. [Fig. 1]

Fig. 1 Lophocolea semiteres *(Photo: Sharon Pilkington)*

Ptilidium ciliare (L.) Hampe (Ciliated Fringewort) – Midsomer Norton (ST67075436), small population amongst saplings and scrub on N-facing slope of colliery tip, Dec 2017, A.

Fig. 2 Ptilidium ciliare, *forming a yellowish hepatic 'carpet' amongst* Polytrichastrum formosum *(Photo: Sharon Pilkington)*

Branson & S. Pilkington; first record for VC6. A common upland liverwort of moorland, crags and screes, much scarcer in the lowlands and lost from some former heathland sites in SE England. [Fig. 2]

Mosses

Brachythecium mildeanum (Schimp.) Schimp. (Sand Feather-moss) – nr Horsington (ST727247), Mar 2017, A. Branson; first record for VC5. Found growing on a gravel farm track over a stream. Often a plant of scruffy man-made habitats, it is sometimes confused with the ubiquitous *B. rutabulum* (Rough-stalked Feather-moss).

Dialytrichia saxicola (Lamy) M.J. Cano [= *D. fragilifolia* Bizot & Cl. Roux] (a Lattice-moss) – Warleigh, R Avon (ST7673066491), Sep 2016, S. Pilkington; first record for VC6. A Nationally Rare species known mainly from the middle reaches of the River Thames. Discovered new to the Bristol Avon in 2016 (in Bradford-on-Avon, North Wiltshire VC7), subsequently found downriver as far as Bath, and upriver to Melksham. Locally frequent on tree trunks, roots and bridge masonry in upper flood zone of the river, often growing in the same habitats as the common *D. mucronata* (Pointed Lattice-moss). In 2017, also recorded from the By Brook (a tributary of the Avon) at Bathford, and from floodplain willows nr Langport.

Hygroamblystegium humile (P. Beauv.) Vanderp. *et al*. (Constricted Feather-moss) – nr Horsington (ST727246), Mar 2017, A. Branson; first record for VC5. A probably under-recorded species growing in improved but wet pasture.

Microbryum floerkeanum (F.Weber & D.Mohr) Schimp. (Floerke's Phascum) – Clevedon (ST420712), in trampled ground in new rye-grass ley, Oct 2016, S. Pilkington; first record for VC6. A tiny ephemeral moss of stubble fields and other disturbed calcareous places. Uncommon and mainly restricted to the chalk of S England. Since this first record, it has been found at two further sites in VC6: at Westbury-sub-Mendip (disturbed ground below a rebuilt limestone wall), and on an ant-hill at Brent Knoll.

Schistidium apocarpum (Hedw.) Bruch & Schimp. (Sessile Grimmia) – Hallatrow (ST63815788), plentiful on rocks around waterfall in Stephen's Vale Nature Reserve, sporophytes present, Apr 2016, S. Pilkington; first record for VC6. A common enough species of boulders beside rivers and other humid places in the north and west, but rare in S England where replaced by *S. crassipilum*. The first confirmed record of *S. apocarpum* for Somerset was in VC5, at Worthy Combe, Porlock Weir, in Dec 2015.

Sematophyllum substrumulosum (Hampe) E. Britton (Bark Signal-moss) – East Harptree Wood (ST55435445), Nov 2016, S. Pilkington; first record for VC6 and Somerset. Ramscombe, nr Over Stowey (ST162380), growing on shaded, decaying fallen and cut branches of *Picea abies* in plantation, Dec 2017, A. Branson; first record for VC5. A Nationally Scarce species first found in Britain in 1996, on the Isles of Scilly. Spreading eastwards and now locally frequent in some inland districts. A specialist of decorticated conifer trees, in which habitat it occurs at East Harptree. In VC6 it has since been located in a further 11 1-km squares, especially in woodlands on the Stourhead Greensand ridge and the Polden Hills. Many more populations are likely to be found in both vice-counties. [Fig. 3]

Fig. 3 Sematophyllum substrumulosum *(Photo: Sharon Pilkington)*

Tortula schimperi M.J. Cano *et al*. (a Screw-moss) – Corton Hill, Corton Denham (ST631234), Feb 2016, A. Branson; first record for VC5 and Somerset. Several patches growing on an eroded, acid, clay, semi-sheltered bank in sheep-grazed pasture at the base of Corton Hill. This appears to be a scarce eastern species, but was treated as *T. subulata* var. *angustata* until

recently, so may have been under-recorded. It is less base-demanding than *T. subulata*.

Ulota calvescens Wilson (Balding Pincushion) – Horner Wood (SS903439), single clump growing on a low horizontal branch of a young oak by the car park at Webber's Post, Mar 2016, A. Branson; first record for VC5 and Somerset. [Also found on branch of Ash (*Fraxinus excelsior*) at Dunster Park, Mar 2017; second record for VC5.] Bath University (ST769646), Apr 2016, A. Rayner & M. Rayner; first record for VC6. Until recently this Nationally Scarce epiphyte was known only from the far west of Britain, especially in Ireland and NW Scotland. However, it has been spreading eastwards in recent years. Since its discovery in Bath, other VC6 populations have also been confirmed at Downhead (nr Shepton Mallet), Charterhouse (Blackmoor Reserve) and at Avon Wildlife Trust's Folly Farm reserve.

SHARON PILKINGTON and
ANDREW BRANSON
British Bryological Society,
Recorders for VC6 and VC5

SOMERSET BUTTERFLIES IN 2017

The 2017 butterfly season was something of a long roller-coaster ride. It got off to a good, early start, with temperatures slightly higher and rainfall slightly lower than average for the first 4 months (April, in particular, was very dry). A Peacock (*Inachis io*) was reported on 1st January, Red Admiral *(Vanessa atalanta*) on 24th January, Brimstone (*Gonepteryx rhamni*) on 18th February, and Small Tortoiseshell (*Aglais urticae*) on 24th February. Other spring species also made an early appearance and it looked as if all was set for a good year. But sadly it was not to be; rainfall in May and July was far in excess of the long-term average for those months, and our butterflies suffered accordingly. Thereafter, conditions, and butterfly numbers, improved and some species were still on the wing well into autumn: on 1st November, eight species were recorded at one site including, most unusually, third-brood Brown Argus (*Aricia agestis*) (Fig. 1) and Common Blue (*Polyommatus icarus*). A female Common Blue and another Brown Argus were recorded at the same site on a chilly but sunny 6th November, an extraordinarily late date for these species to be on the wing – previous latest reported sightings in Somerset for Brown Argus and Common Blue had been 19th and 21st October respectively.

Overall, our butterflies fared better in 2017 than in 2016. On the long-term monitoring transects the average number of butterflies counted per transect walk was up from 71 to 88 but, partly due to the vagaries of the weather, the number of walks in 2017 (928) was lower than in previous years. Happily, in 2017 fewer species declined compared with previous years but the common

*Fig. 1 Brown Argus (*Aricia agestis*)*
(Photo: Julian Rawlins)

White butterflies – Large White (*Pieris brassicae*), Small White (*Pieris rapae*) and Green-veined White (*Pieris napi*) – showed declines of between 38% and 54%, reflecting a national trend seen in the 'Big Butterfly Count' organised by Butterfly Conservation (BC). Amongst the less common species, no Duke of Burgundy (*Hamearis lucina*) were recorded on transects in 2017, while Green Hairstreak (*Callophrys rubi*) records have fallen 70% in the last four years.

On the other hand, a good number of species showed an increase over the previous year but, although at first glance some of these increases looked substantial, they in fact really only made good the declines in earlier years. The biggest

increase (155%) was in Silver-washed Fritillary (*Argynnis paphia*), followed by Comma (*Polygonia c-album*), Small Copper (*Lycaena phlaeas*) (Fig. 2) and Red Admiral. These last two had their best years since 2015 and 2011, increasing by 81% and 76% respectively and, in the case of Red Admiral, this was a third successive substantial increase. After a slow start in 2017, Small Tortoiseshell – which suffered a massive decline in 2015 and about which there has been concern for a number of years – had a good second brood and increased by 60%; nevertheless, overall numbers are still far short of those a few years ago. The Blues, including Somerset's iconic Large Blue (*Maculinea arion*), all more than held their own, although Common Blue (*Polyommatus icarus*) has shown a steady decline over the last four years. Glanville Fritillary (*Melitaea cinxia)* and Marsh Fritillary (*Euphydryas aurinia*) were both recorded on transects this year but it is believed that these were deliberate releases rather than wild-bred specimens.

*Fig. 2 Small Copper (*Lycaena phlaeas*) (Photo: Keith Gould)*

Annual immigrant species were scarce in 2017 with only eight Clouded Yellows (*Colias croceus*) recorded on transect, although numbers of Painted Lady (*Vanessa cardui)* were around the average.

The Somerset and Bristol Branch of BC has continued to grow its membership, and has been involved in supporting two important projects. The 'Munching Caterpillar comes to Bristol' project followed on from the success of the 2016 'Munching Caterpillar' project, and aims to introduce children in primary education in inner-city areas of Bristol – many of whom may never before have seen butterflies, moths and caterpillars – to the natural history of Lepidoptera, as well as reaching out to the wider communities. After another successful year the project will continue into 2018.

The Branch also supports the 'All the Moor Butterflies' project, which aims to conserve the rare fritillaries and Narrow-bordered Bee Hawkmoth (*Hemaris tityus*) found on Exmoor, Dartmoor and Bodmin Moor. The part of Exmoor lying within Devon holds important populations of the 'Critically Endangered' High Brown Fritillary (*Argynnis adippe*), while, within the Somerset part, the 'Endangered' Heath Fritillary (*Melitaea athalia*) and 'Near Threatened' Small Pearl-bordered Fritillary (*Bolorea selene*) also occur. In addition to monitoring these butterfly populations, the project team provides advice to landowners on various aspects of habitat management including scrub control, grazing, burning and the management of bracken.

Readers are invited to visit our website http://www.somersetbutterflies.org.uk/ for further information about butterflies in Somerset, or follow us on Facebook (https://www.facebook.com/BCSomerset) or Twitter (@BCSomerset).

J. R. S. RAWLINS
Butterfly Conservation

SOMERSET DRAGONFLIES 2017

2017 was a fairly good year for Somerset's dragonflies. There were reasonable numbers on the wing and, although not especially an outstanding year, there was at least one notable occurrence – the possible colonisation of Priddy Mineries by Keeled Skimmer (*Orthetrum coerulescens*); there were several records of multiple individuals, including ovipositing (egg-laying) females. These sightings follow on from a single record of the species at this well-watched site in 2014. Although known from elsewhere in Mendip in the 1990s, Keeled Skimmers have not been recorded in this area for some years, and it remains a mystery as to where the newly established population at Priddy Mineries has come

from. Is there, perhaps, an undetected 'parent' population somewhere else in the Mendip district? Keeled Skimmer seemed to have a good year in Somerset in 2017. It is a scarce and local species, both in Somerset and more widely, but we received reports of it from a number of sites elsewhere in the county, including the Quantocks and Exmoor.

Another species that did well in 2017 was the White-legged Damselfly (*Platycnemis pennipes*). Wherever it was reported, its numbers seemed to be considerably higher than in recent years. There were an encouraging number of sightings by Barry Watts of Golden-ringed Dragonfly (*Cordulegaster boltonii*) in the east Somerset woods. Also of particular interest were reports by Will Langdon of good numbers of both Emerald Damselfly (*Lestes sponsa*) and Black Darter (*Sympetrum danae*) on Exmoor.

Two areas very much under-recorded at present are the North Somerset Levels, between Bristol and Weston-super-Mare, and the Yeovil/Wincanton area. The former in particular holds some fine dragonfly sites in the Gordano valley and just inland from the coast that must be well worth a visit. Records from these or indeed any other areas would be most welcome.

CHRISTOPHER ILES
British Dragonfly Society

SOMERSET SPIDERS – THE STORY SO FAR …

A superb new photographic guide, *Britain's Spiders*, was published last year as part of the WILDGuides series. Authored by three leading members of the British Arachnological Society (www.britishspiders.org.uk), it builds on the pioneering photographic guide by Dick Jones which is sadly out of print. The new guide illustrates many of our 650 species and points the reader to what can be identified without specialist equipment. Most spiders can still only be reliably identified at species level when they are adult, and this requires a close examination of their complex reproductive structures using a stereo-microscope. Until the 1950s there was no comprehensive guide to our spider fauna, but with the publication of *British Spiders* by G. H. Locket and A. F. Millidge arachnologists had, for the first time, access to detailed drawings that allowed identification of all the British species. More recently, Michael Roberts has added his own superbly illustrated multi-volume work, *The Spiders of Great Britain and Ireland*, along with *Spiders of Britain and Northern Europe* in the Collins series of field guides.

With internet resources as well, there has never been an easier time to begin the study of spiders. Knowing what you are looking at is important, but so is finding out what makes it tick. So much waits to be discovered about ecological requirements and behaviour. Just watching spiders and seeing what they do can be fascinating and you may see something that has never been noted before. As an introduction to spider behaviour there is probably still nothing better than *The World of Spiders* by W.S. Bristowe in the New Naturalist series; some of the spider names have changed, of course – it was first published in 1958 – but it is still immensely readable, and now can even be purchased on Kindle!

Spiders have never been a popular subject of study amongst naturalists, but they have fascinated me from an early age. Two common species that I found in my childhood garden particularly sparked my interest. The first was the garden spider *Araneus diadematus* (Fig. 1) with its wonderfully geometric web. Outside our back door they regularly made webs between the dustbin and the fence. I used to give them freshly swatted flies and watched as

Fig. 1 Garden spider, Araneus diadematus
(Photo: Francis Farr-Cox)

the spiders wrapped them in swathes of silk. The second species that really caught my attention was the woodlouse spider *Dysdera crocata* (Fig. 2). Its distinctive appearance makes some people assume it must be an alien species. With its armour-piercing fangs it hunts and feeds exclusively on woodlice. In my part of Somerset its ideal habitat is the twenty-hole brick: one hole with a *Dysdera* and nineteen full of woodlice!

Fig. 2 Woodlouse spider, Dysdera crocata *(Photo: John Bebbington)*

When the Spider Recording Scheme (www.srs.britishspiders.org.uk) took off in earnest a few years ago I found myself the county recorder. One of my tasks was to collate all the old records for the county so they could be added to the national database. To my surprise, there seemed to be a hardly any records, other than from a few rather unique and well-recorded locations like Steep Holm. This contrasted with neighbouring Dorset where in the 1890s the splendidly named Rev. Octavius Pickard-Cambridge wrote one of the most comprehensive early spider books, *The Spiders of Dorset*. Victorian Somerset naturalists were clearly not inspired.

At the present time, with contributions from various fellow enthusiasts, there are now at least 390 spider species recorded from the two Somerset vice-counties, of which 333 are in VC5 (S. Somerset) and 327 in VC6 (N. Somerset). These should be regarded very much as provisional totals, but it is clear that there are at least 250 species on the British list not (yet?) recorded – given the wide diversity of habitats in Somerset, there are still surely many spider species awaiting discovery. With arachnologists so thin on the ground, recording in the county is inevitably patchy. Projects like the biodiversity surveys organised by District Councils some years ago did help to smooth things out a little, but there is still a paucity of information from some areas, especially in the east of the county.

Somerset does hold some rarities, but the rarest of these, the wolf spider *Aulonia albimana*, was lost from what was then thought to be its only site in the UK, near Dunster. No-one had told the owners, who unwittingly destroyed the spider's habitat; made aware of the loss, they readily admitted that they would have been happy to leave things as they were – a salutary tale. Happily, the species was subsequently found at one site on the Isle of Wight.

In VC6, the Brue Valley peat moors still hold populations of one of our largest and most impressive species, the raft spider *Dolomedes fimbriatus*. Although the adults are normally found next to water where they hunt, the juveniles often live some distance away in young trees and scrub. Another scarce wolf spider, *Pardosa paludicola*, also occurs on these peat moors, as well as at an outlying site in VC5. I have never seen a specimen myself, but one of the few Somerset sightings was from Mr G.H. (Ted) Locket, the co-author of *British Spiders*. Locket, a founder of what is now the British Arachnological Society, had moved to Stone Allerton in his latter years, and it was a great privilege to meet and get to know him. In his late eighties he was still observing spider behaviour and recording the species to be found in his local patch.

Spiders occur in virtually all terrestrial habitats. Many do not make webs at all, but those that do need some structure as a basis. In a woodland different species occupy different layers, from the canopy to the woodland floor. Some of the best spider sites in the county are those holding semi-natural habitats, including ancient woodlands, the rockier parts of Mendip, and the sand dunes at Berrow. Sand dunes generally hold a number of rare spiders, including some with very effective cryptic colouring. Berrow is home to several of the latter, such as the wolf spider *Arctosa perita* (Fig. 3) and the crab spider *Philodromax fallax*, both of which look like sand until they move! Just one spider species is truly aquatic, the water spider *Argyroneta aquatica*, which lives in still water and occurs in many rhynes on the Levels and Moors and in some established ponds elsewhere in the county.

In autumn anyone can look out for the large and striking black-and-yellow wasp spider *Argiope*

Fig. 3 A wolf spider, Arctosa perita
(Photo: John Bebbington)

bruennichi (Fig. 4), which makes a web like a garden spider but often with a zigzag band of thick silk running vertically through the middle of it. This species was once confined to the south coast but is spreading northwards. In Somerset it has only regularly occurred at Carymoor, near Castle Cary, but isolated specimens have been found elsewhere. It likes grassland of varying height with plenty of grasshoppers which are a major food item. Distributional changes like this may be attributable to climate change but it may not be that simple. For example, *Segestria florentina* – claimed to be our largest species by body length – used to be confined to very few places in the west of England such as Bristol and Exeter. It also occurred in London, and the widely held belief was that it was probably a species introduced to Britain via ports. Thirty years ago I failed to find it in the old port of Bridgwater,

Fig. 4 Wasp spider, Argiope bruennichi
(Photo: Simon Leach)

but it is now common there and in many other Somerset towns. Its favoured habitat is holes in walls but it appears to have no preference for aspect and is seldom found indoors. Temperature does not seem to be a factor in its spread. One of my fellow spider enthusiasts thinks the species may have been unwittingly distributed by a well-known brick manufacturer. So perhaps *Dysdera* is not alone in having a relationship with bricks!

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PLANT GALLS IN SOMERSET 2017

We summarise below records of plant galls that, for the most part, appear to be 'firsts' for VC5 and/or VC6 on the British Plant Gall Society's (BPGS) database. Species are arranged in alphabetical order with brief details of each record's significance, notes on host plants, location, date, recorder, etc. As in previous reports, for those galls featured in Michael Chinery's photographic guide (Chinery 2011) we give page numbers on which they are illustrated.

We are pleased to report a further increase in numbers of both records and recorders: observing plant galls is now a routine part of SANHS and Somerset Rare Plants Group (SRPG) field meetings. Particular thanks to Helena Crouch, David Hawkins, Liz McDonnell, James McGill and Ian Salmon for their records in 2017; and thanks also to Keith Harris for his help in determining several midge galls.

In the list below, records made by us are denoted by initials SJL and/or SJP. Names of other recorders are given in full. Dates refer to 2017 unless otherwise stated. Species names follow Redfern and Shirley (2011).

Aceria fraxinicola (gall mite causing tiny blister/pit galls on leaves of ASH, *Fraxinus excelsior*) – Yeovil (ST5717), 17 Sep, SJL, J.A. McGill

& SRPG; possibly first record for VC5 and Somerset.

Aceria galiobia (gall mite causing swollen conical-shaped flower buds of BEDSTRAWS *Galium* spp) – on *G. verum*, Brean Down (ST2958), abundant on one plant on S-facing slope, by the steps, 19 Jul, SJL & V.J. Fairfax-Ross; possibly first record for VC6, second record for Somerset. [Chinery, p. 71.]

Acericecis campestre (gall midge inducing small blister/pit galls on leaves of FIELD MAPLE, *Acer campestre*) – Frog Street (ST3119), on laneside trees, 31 May, SJL, det. K.M. Harris; Broomfield Hill/Fyne Court (ST2132), 2 Jun, SJL, det. K.M. Harris; Thurlbear Wood (ST2721, ST2720), 3 Jun, SJL; Bickenhall (ST2818), hedgerow beside Neroche village hall, 8 Jun, SJL & V.J. Fairfax-Ross; first and subsequent records for VC5 and Somerset of this recently described species (Harris 2004). [Figs 1 and 2.]

Fig. 1 Galls of Acericecis campestre *on Field Maple – upperside of leaf (Photo: Simon Leach)*

Fig. 2 Galls of Acericecis campestre *on Field Maple – underside of leaf, showing 'pits' containing the gall midges (Photo: Simon Leach)*

Aculops fuchsiae (gall mite on FUCHSIA spp and cultivars, causing leaves and flowers to become grossly distorted and thickened) – Taunton, Victoria Park (ST2324), on Fuchsia bush planted beside Victoria Gate car park, 26 Aug, SJL; seemingly a first record for VC5 and Somerset on the BPGS database, although Salisbury *et al*. (2014), in their detailed account of the biology and spread of this species, list the first record for VC5 as being in 2010, in SS94 (Minehead hectad). Known to be a pest of garden Fuchsias in some other parts of S.W. England, e.g. coastal districts of S. Devon, and likely to spread in Somerset too.

Aculus hippocastani (gall mite on HORSE-CHESTNUT, *Aesculus hipposcastani*) – Yeovil (ST5717), on roadside tree, 17 Sep, J.A. McGill; first record for VC5 and fourth for Somerset on the BPGS database, doubtless overlooked and under-recorded.

Aculus magnirostris (gall mite inducing leaf-roll galls on narrow-leaved WILLOWS, *Salix* spp) – probably this species, rather than *A. craspedobius*, on Crack Willow (*Salix fragilis*), Taunton (ST2223), Vivary Park, Wilton, 15 Jul, SJL; possibly first record for VC5 and Somerset.

Adaina microdactyla (plume moth causing swellings in stems of HEMP AGRIMONY, *Eupatorium cannabinum*) – Thurlbear (ST2720), stream bank beside entrance to Church Farm, 26 Jul, SJL; possibly first record for VC5 on BPGS database, but Somerset Moth Group have records of the moth from at least nine VC5 tetrads since 1990 (distribution map on SMG website, accessed 25 Feb 2018).

Andricus grossulariae (gall wasp inducing 'hedgehog' and 'currant' galls on oaks, especially TURKEY OAK, *Quercus cerris* and its hybrids) – Westhay (ST4242), 'currant' galls on *Q. cerris*, 19 Aug, SJP, SJL, J.A. McGill & SRPG; possibly first record for VC6. Discovered in Britain in Berkshire in 2000, and now spreading rapidly across southern England. First record for Somerset (VC5) was in 2011. [Chinery, p. 20.]

Blastomyia origani (gall midge causing shoot-tip galls on MARJORAM, *Originum vulgare*) – Rodney Stoke (ST4950), 13 Jun, SJP; possibly first record for VC6 and Somerset.

Colomerus vitis (gall mite distorting leaves of GRAPE-VINE *Vitis vinifera*) – Tintinhull (ST502197), on cultivated vine in National Trust gardens at Tintinhull House, 14 May, SJP;

possibly first record for VC5 and Somerset on BPGS database.

Contarinia acrocecis (gall midge inducing inflorescence galls on BEDSTRAWS, *Galium* spp) – three tentative records as follows: West Hatch (ST2719), 15 Jun, SJL, det. K.M. Harris; Thurlbear Quarrylands (ST2720), 17 Jun, SJL; Orchard Wood (ST2519), at S end of wood in calcareous grassland, 19 Jun, SJL, det. K.M. Harris; first and subsequent records for VC5 and Somerset. All records were from Lady's Bedstraw (*Galium verum*), although the few previous (and equally tentative) records of this species in Britain were from Hedge Bedstraw (*G. album*) (Harris 2014). Specimens and photos were sent to Keith Harris for determination: "Your excellent specimens … arrived in good condition and I retrieved 15 larvae. They are certainly a *Contarinia*, early third instars ... I have checked the manuscript of Buhr's keys, revised by Hans Roskam, and see that *C. acrocecis* is recorded there from both *Galium mollugo* [= *album*] and *G. verum* … so it does seem quite likely that you have found *C. acrocecis* on *G. verum*. Positive identification would involve a lot more work, ideally including DNA sequencing. Meanwhile, I think your records should be given as *Contarinia* ?*acrocecis* Stelter" (K.M. Harris, email dated 22 Jun 2017). [Figs 3 and 4.]

Dasineura cerastii (gall midge on COMMON MOUSE-EAR, *Cerastium fontanum*, causing leaves at shoot tip to bunch together and turn purplish) – Nailsea (ST4569), 30 Apr, E.J. McDonnell, conf. SJL; possibly first record for VC6 and Somerset.

Fig. 3 Inflorescence gall on Lady's Bedstraw probably caused by the gall midge Contarinia acrocecis *(Photo: Simon Leach)*

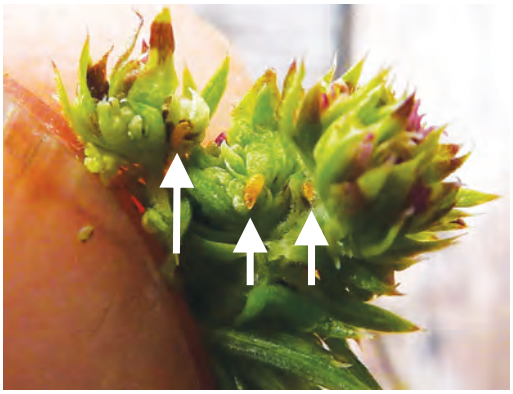

Fig. 4 Interior of probable Contarinia acrocecis *gall, revealing bright orange midge larvae (Photo: Simon Leach)*

Dasineura lathyri (gall midge causing leaflets of MEADOW VETCHLING, *Lathyrus pratensis*, to swell and become pod-like) – Yeovil (ST577173), in rough grassland, 17 Sep, SJL, J.A. McGill & SRPG; possibly first record for VC5 and Somerset.

Dasineura odoratae (gall midge causing leaf-roll galls on SWEET VIOLET, *Viola odorata*) – Ebbor Gorge (ST5248), 8 Apr, SJL & SJP during SANHS field meeting; Hellenge Hill (ST3457), 9 Jul, SJL & SRPG; certainly the first and second records for VC6. [Chinery, p. 89.]

Dasineura pyri (gall midge causing leaf-roll galls on PEAR, *Pyrus communis*, and related cultivated species and cultivars) – Staplegrove (ST215269), 21 Aug, J.A. McGill; possibly first record for VC5 and Somerset.

Dysaphis crataegi (aphid inducing crimson leaf bulges and blisters on HAWTHORN, *Crataegus monogyna*) – Pitminster (ST2219), in hedge-bank in Poundisford Lane, to W of Barton Grange, 20 Apr, SJL; Yeovil (ST5816), 17 Sep, SJL, J.A. McGill & SRPG; possibly first and second records for VC5 and Somerset. A brightly coloured and conspicuous gall, so probably rare rather than overlooked in the county. [Chinery, p. 45.]

Eriophyes arianus (gall mite on WHITEBEAMS, *Sorbus* spp) – Cheddar Gorge (ST466538), on Cheddar Whitebeam (*S. cheddarensis*), 2 Sep, J.A. McGill & SRPG; possibly first record for VC6, and certainly the first record of it galling *S. cheddarensis.*

Geocrypta galii (gall midge inducing globular stem-galls on LADY'S BEDSTRAW, *Galium verum*, and HEDGE BEDSTRAW, *G. album*) – Thurlbear Quarrylands (ST2721), on *G. album* in tall grassland nr travellers' site, 17 Jun, SJL; also on *G. album* at S end of Orchard Wood (ST2419), 18 Jun, SJL; two more records, again on *G. album*, nr Monksilver (ST0837), 22 Jul, SJL & SRPG, and on trackside in Pridley plantation (ST2519), 22 Aug, SJL; seemingly first and subsequent records for VC5.

Gymnosporangium clavariiforme/confusum (a rust causing miniature 'barnacle' galls on HAWTHORN, *Crataegus monogyna*) – one or other of these species, Hellenge Hill (ST3457), 9 Jul, SJL & SRPG; possibly first record for VC6.

Melampsora euphorbiae (gall-causing rust fungus on SUN SPURGE, *Euphorbia helioscopia* and PETTY SPURGE, *E. peplus*) – Bleadon (ST3456), on *E. peplus*, in garden flower-bed and driveway, SJL & SRPG; first record for VC6 on BPGS database, but doubtless grossly under-recorded. First recorded in VC5 in 2015 (*SANH* 159, p. 286), and now known from ten 1-km squares in that vice-county.

Melampsora populnea (gall-causing rust fungus on DOG'S-MERCURY, *Mercurialis perennis*) – Ebbor Gorge (ST5248), 8 Apr, SJL, SJP & SANHS; first record for VC6 on BPGS database. [Chinery, p. 74.]

Mompha divisella (micro-moth causing stem galls on WILLOWHERBS, *Epilobium* spp) – Staplegrove (ST2126), on *Epilobium obscurum*, 5 Sep, J.A. McGill; first record for VC5 and Somerset on BPGS database. The Somerset Moth Group have recorded the moth from just four tetrads since 1990 (distribution map on SMG website, accessed 25 Feb 2018), suggesting it is either rare or under-recorded in the county.

Puccinia albescens (gall-causing rust fungus on MOSCHATEL, *Adoxa moschatellina*) – Ebbor Gorge (ST5248), locally common, 8 Apr, SJL, SJP & SANHS; possibly first record for VC6.

Puccinia angelicae (rust fungus on various umbellifers including MILK-PARSLEY, *Peucedanum palustre*, WILD ANGELICA, *Angelica sylvestris*, and PEPPER-SAXIFRAGE, *Silaum silaus*) – Bickenhall (ST285182), chocolate-brown rust causing swellings on stems and petioles of *Silaum silaus*, 8 Jun, SJL; possibly first record for VC5 and Somerset.

Fig. 5 Puccinia recondita *f. sp.* persistens *galling Common Meadow-rue (Photo: Simon Leach)*

Puccinia recondita* f. sp. *persistens (rust fungus galling MEADOW-RUE, *Thalictrum* spp) – West Sedgemoor (ST3524), ditch bank, forming bright orange blotches and blisters on Common Meadow-rue (*Thalictrum flavum*), 23 Apr, SJL & SRPG; possibly first record for VC5 and Somerset. [Fig. 5.]

Schizomyia galiorum (gall midge inducing swollen green or dark purple flower-buds on LADY'S BEDSTRAW, *Galium verum*, and HEDGE BEDSTRAW, *G. album*) – a gall midge with just two records on BPGS database prior to 2017, one each from VC5 (in 2009) and VC6 (in 2006). We recorded it in eight 1-km squares in VC5 and three in VC6, all on *Galium album*, so clearly a good year for it and quite possibly more widespread/frequent than previously thought. Apparently a much-overlooked and under-recorded species nationally, not helped by the fact that it is visible for a relatively short time, the galls soon detaching and falling to the ground (K.M. Harris pers. comm.).

Smicronyx reichi (a weevil associated with GENTIANS, *Gentianella* spp, CENTAURY, *Centaurium erythraea* and YELLOW-WORT, *Blackstonia perfoliata*) – possibly this species causing stem/root-collar 'spindle' galls on Autumn Gentian (*Gentianella amarella*), Thurlbear Quarrylands (ST2720), 26 Jul, SJL, and (ST2721), 4 Aug, SJL & J.A. McGill. Galls were collected in effort to rear adult weevils to confirm identity, but adults had already exited or galls aborted. Suction sampling also drew a blank, although another rare and closely related species known to gall Dodder,

Smicronyx coecus, *was* recorded! Redfern and Shirley (2011) refers to *S. reichi* inducing galls in *Gentianella* inflorescences, but Buhr (1964-65), in mainland Europe, described it as causing swellings in stems and root collars, evidently similar to those observed at Thurlbear. *S. reichi* is a Red Data Book species, the only recent British records being from Sussex and Surrey; there is one old record from Somerset, at Brean Down (VC6). If confirmed, these would be the first records of *S. reichi* for VC5, and possibly the first time in Britain that stem/root-collar galls have been observed. [Fig 6.]

Fig. 6 Stem galls on Autumn Gentian, possibly caused by the weevil Smicronyx reichi *(Photo: Simon Leach)*

Taphrina ulmi (fungal gall on ELMS, *Ulmus* spp) – Redhill (ST4963), on *Ulmus procera*, 5 Aug, SJL; possibly first record for VC6.

Trioza centranthi (psyllid bug causing leaf-roll galls on RED VALERIAN, *Centranthus ruber*) – following our report last year (*SANH* 160, p. 233), it was recorded in 2017 from a further 13 1-km squares in VC5 and four in VC6. Clearly spreading rapidly in Somerset – as it is nationally – and remarkably abundant in some places. [Illustrated in *SANH* 160, p. 237.]

Trioza vitreoradiata (psyllid bug causing blister/pit galls on cultivated PITTOSPORUM species and cultivars) – Taunton (ST2324), Mount Street, in garden beside junction with access road to Vivary Park, 20 Sep, SJL; Staplegrove (ST2126), on garden *Pittosporum*, 21 Oct, J.A. McGill; first and second records for VC5 and Somerset on BPGS database. First recorded in Britain in 1993, in Cornwall; now well established in SW England and spreading eastwards and northwards (Redfern and Shirley 2011).

Uromyces trifolii-repentis (fungal gall on CLOVERS, *Trifolium* spp) – Barford Park (ST2335), on *Trifolium repens*, 24 Sep, SJP, SJL & J.A. McGill; first record for VC5 and Somerset on BPGS database.

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SIMON J. LEACH and STEPHEN J. PARKER

SOMERSET BIRDS 2016

Perhaps the most unexpected rarity of the year was an immature White-tailed Eagle (*Haliaeetus albicilla*) on Black Down in the Mendip Hills. It roosted there overnight on 28 October and left early the following morning. The first since 1945, it was the fourteenth Somerset record, although as the Scottish population increases we may, perhaps, expect others. The other major rarity, a Collared Pratincole (*Glareola pratincola*) at Ham Wall in July, was a county first, and may have been the same bird seen earlier in Devon. Other *British Birds Rarity Committee* species included Little Bitterns (*Ixobrychus minutus*), Black-winged Stilts (*Himantopus himantopus*),

Gull-billed (*Gelochelidon nilotica*) and Whiskered Terns (*Chlidonias hybrida*), and a Pallid Harrier (*Circus macrourus*) (Fig. 1), the last of these being a third county record following sightings in 2011 and 2014. There were also three records of Savi's Warblers (*Locustella lusciniodes*), two of them involving singing birds, leaving some wondering if the species could be close to making a breeding attempt in the county.

Fig. 1 Pallid Harrier (Photo: Brian Gibbs)

Interesting breeding records included Garganey (*Anas querquedula*) at Greylake RSPB reserve, with possibly another pair present. A female Goosander (*Mergus merganser*) was seen with ducklings at Marsh Bridge and a confirmed pair of Mandarin Duck (*Aix galericulata*) was present at Sutton Bingham Reservoir. Quail (*Coturnix coturnix*) numbers fluctuate enormously from year to year, and 2016 was particularly poor with only one singing bird on West Sedge Moor.

The Avalon Marshes remain the best site in Britain for rare herons. Great White Egrets (*Ardea alba*) continue to consolidate and had a record breeding season with six nesting attempts, five of these successful. Little Egrets (*Egretta garzeta*) are now commonplace, and 47 booming Bitterns (*Botaurus stellaris*) were counted in the spring census. Two male Little Bitterns were reported but unfortunately no females. Night-heron (*Nycticorax nycticorax*) and Glossy Ibis (*Plegadis falcinellus*) were also present through the breeding season and will surely breed soon. Night-herons have been recorded annually since 2013.

Also on the Avalon Marshes, Marsh Harriers (*Circus aeruginosus*) had an excellent year, with six nests producing fifteen young; while at a site away from the reserves, a seventh pair also bred successfully. Goshawks (*Accipiter gentilis*) continue to increase and are now present at a number of suitable sites. On the downside, there were few records of Peregrine (*Falco peregrinus*), Hobby (*Falco subbuteo*) and Kestrel (*Falco tinnunculus*).

Wintering Avocet (*Recurvirostra avosetta*) in the Parrett Estuary/Bridgwater Bay peaked at 550 in November; at the nearby Steart Marshes reserve (Wildfowl and Wetlands Trust), four pairs of Avocets raised nine young. Four pairs of Little Ringed Plover (*Charadrius dubius*) attempted to breed at Steart Marshes, from which at least three young fledged.

Barn Owls (*Tyto alba*) had another good year but Little Owls (*Athene noctua*) continued to decrease, and there were no reports at all of breeding Long-eared Owls (*Asio otus*). The Exmoor Nighjar (*Caprimulgus europeaus*) survey located 49 'churring' males in July, a similar total to that recorded in 2015. Lesser Spotted Woodpeckers (*Dendrocopus minor*) are difficult birds to locate, but all the indications are of a continued steep decline away from known sites on the Quantocks. Cetti's Warblers (*Cettia cetti*) were located in a number of new areas, while Dartford Warblers (*Sylvia undata*), our only other resident warbler species, were noted on both Mendip and Quantock hills.

Interesting spring passage birds included several Red Kites (*Milvus milvus*), no longer unusual, and five Ospreys (*Pandion haliaetus*). Twenty-five Common Sandpipers (*Actitis hypoleucos*) were seen at Sutton Bingham Reservoir in late April, an excellent count. Other scarce passage waders included Curlew Sandpiper (*Calidris ferruginea*), Wood Sandpiper (*Tringa glareola*) and Little Stint (*Calidris minuta*). Higher than usual numbers of Greenshank (*Tringa totanus*) were recorded, including ten together at Huntspill Sluice. There was a good spring movement of terns (*Sterna* spp) and Little Gulls (*Hydrocoloeus minutus*) at both inland and coastal sites.

A summer-plumaged Spotted Sandpiper (*Actitis macularius*) spent a week at Sutton Bingham Reservoir in September, but other than that and several records of Lesser Yellowlegs (*Tringa flavipes*) (Fig. 2) – probably all involving the same bird – autumn wader passage was unexceptional; Whimbrel (*Numenius phaeopus*) numbers were particularly low. Autumn gales were few but those experienced blew in Manx Shearwaters (*Puffinus puffinus*), a single Balearic Shearwater

(*Puffinus mauretanicus*) – the first since 2012 – Storm Petrels (*Hydrobates pelagicus*), and at least four Grey Phalaropes (*Phalaropus lobatus*), with some of these inland. Early autumn saw a good skua (*Stercoraridae*) passage, with Pomarine (*Stercorarius pomarinus*), Long-tailed (*Stercorarius longicaudus*) Great (*Stercorarius skua*) and Arctic Skuas (*Stercorarius parasiticus*) all seen at coastal sites – especially noteworthy, 34 Arctic Skuas were observed at Minehead, heading in a westerly direction, on 17 September.

Fig. 2 Lesser Yellowlegs (Photo: Brian Gibbs)

Among passerines, it was an excellent autumn for Yellow-browed Warblers (*Phylloscopus inornatus*), with at least 40 seen in widely-scattered sites. Rather unusual was a Black Redstart (*Phoenicurus ochrurus*) found inside Wells Cathedral. It is not known whether it managed to find an exit.

Comprehensive analysis of 2016 records can be found in the annual report, *Somerset Birds*. Visit www.somersetbirding.co.uk for details or contact the Recorder, Brian Gibbs on 01823 274887.

Readers should be aware that, unlike other natural history reports which cover the whole of vice-counties 5 and 6 (more or less equivalent to the old historical county of Somerset), in this report – as in previous recent bird reports – the terms 'Somerset' and 'county' refer to the modern administrative county of Somerset only.

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