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Minority Taxa, Marginalised Collections: A focus on Fungi

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Abstract

Minority taxa, such as fungi, algae, lichens, ferns, and mosses, are taxa that receive a disproportionately small amount of public and curatorial interest. Whilst present in museums, they often form only a small part of an overall collection and possess characteristics that present barriers to engagement and, as such, are more likely than others to be neglected and suffer marginalisation. This paper explores how we can best handle minority taxa collections, using fungi as an example, in light of limited funding. It provides definitions for 'minority taxa' and 'marginalised collections' and gives a brief history of mycological collection within the UK before going on to make a case for the importance of these collections, both scientific and historical, showing practical examples for each. It assesses the likely impact of several potential pathways for management of these collections, given both limited staff and funding levels as well as the need to find a balance between a collection's utility and its durability, and gives resources to enable curators and collection managers to make the most of their fungal collections. This is done with the ultimate aim of increasing curator's confidence in working with unfamiliar material within an unfamiliar scientific landscape.

Keywords: mushrooms, fungi, mycology, volunteers, local authority museums, British Mycological Society

Introduction

How do we curate collections that we are not specialists in? Most museums possess such a diversity of specimens that no individual, or small group, can be expected to have sufficient knowledge or interest to maximise the potential of all of them. Furthermore, time and resource commitments are limited, often severely, and as such collections have to be prioritised. However, this prioritisation often disproportionately marginalises collections belonging to 'minority taxa'.

Minority taxa, such as fungi, algae, lichens, ferns, and mosses, usually form only a small part of an overall collection. They are likely to spend the majority of their existence in storage and often share practical characteristics that impede curation and create barriers to exhibition. They may be aesthetically unassuming and often presented in uncommon preparations (such as packets or slides). They often require microscopic or chemical work for accurate identification, particularly to species level, and their associated disciplines are usually extremely young, particularly relative to zoology and botany: both the British Mycological Society and British Bryological Society will celebrate its 125th anniversary in 2021 and the British Lichen Society and British Phycological Society were both only founded in the 1950's. The expert group associated with the taxa is more likely than not to be amateur rather than professional. Biologically, they are often phylogenetically basal and their lifecycles may differ

substantially from the perceived norm associated with mammalian and angiosperm reproduction, for example. These practical characteristics, combined with understaffed and overworked curators with little to no personal experience in any minority taxa, lead to these collections being marginalised, ignored and, in the worst-case scenarios, falling into disrepair.

This paper, through focusing on non-lichenised fungi and fungal-like organisms (hereafter referred to as fungi unless stated otherwise as lichens have historically been treated as a separate group from fungi with a different cultural history and taxonomic practice), explores how curators can begin to manage minority taxa in their collections to get the best out of them without becoming specialists overnight. It aims to do this through providing a terminology that both helps us understand the problem and realise solutions. It provides a brief history on mycological collection within Great Britain and in doing so attempts to demystify collections and highlight potential narratives through which curators and visitors can connect to the collections. It discusses the practical values of fungal collections, both for curators and researchers. Finally, it takes a realistic approach to how fungal collections can be effectively and efficiently curated to maximise utility whilst minimising losses.

A Note on Terminology

Here, I introduce and adapt respectively the terms minority taxa and marginalised collections for use in natural history collections. The former has been used on occasion (Field Studies Council, 2011), though with no clear definition or assessable #characteristics, whilst the latter has seen some use in museum studies focused on collections #outside of natural history (Rohde, 2010). In this paper, minority taxa are defined here as 'taxa that consistently receive a disproportionately small amount of public and curatorial interest on a #national or international scale relative to their species abundance and diversity.' and marginalised collections defined here similarly as 'collections likely to suffer curatorial neglect'. These terms are beneficial for several reasons. As previously detailed, many unrelated taxa can be seen to share numerous practical characteristics and, importantly, face many of the same problems in museum representation. By grouping these taxa together under a single banner, they form a larger group and are thus more capable and deserving of attracting attention and resources.

The second, more fundamental, reason is that the language we use informs our understanding of the problem and guides us to certain conclusions regarding potential solutions. A negative example of this can be seen in the term "Forgotten Kingdom" being applied to fungi. Having been used for a number of decades, with the earliest reference to the term being 'Fungi - the forgotten kingdom of life in the deep sea' (Lorenz and Molitoris, 1993), the term informs the reader that the principal problem facing mycology is simply a lack of awareness. The solution it suggests is to simply raise awareness. Whilst this should be beneficial, this has led to a proliferation of "and fungi" sentences, where fungi are briefly mentioned, often as part of a list of higher taxa, but not addressed in a meaningful capacity. This can, for example, be seen in the UK Government's 25 Year Plan to Improve the Environment, where fungi are mentioned only twice; once in an "and fungi" sentence and the second in a reference to plant diseases (HM Government, 2018). This shows a tacit disregard for fungi as organisms both beneficial to the environment and as components of the environment in their own right. The use of 'minority taxa' and 'marginalised collections', in contrast, informs us that the problem is systematic in its origin and any solutions with the capacity for meaningful impact are likely to be more complex than an afterthought at the end of a sentence.

Finally, whilst it is acknowledged that these definitions are broad enough to be applied to a wide range of taxonomic groups. With the spectrums of interest and neglect being both broad and relative, it is important in applying these terms to note the magnitude of the differences between marginalised collections of prominent taxa and of less prominent taxa. Whilst insects may be underserved in comparison to vertebrates, fungi are much more substantially underserved than either.

A Brief History of Fungal Collecting

As this paper focuses on fungi, it is beneficial to give a brief history of British mycology and mycological collecting, highlighting trends that help explain the distribution of historical collections and the contemporary organisation of mycology in the United Kingdom, as well as to focus on some of the more unique aspects in mycological history that are potentially useful in construction of engaging narratives with modern audiences. It also aims to familiarise museum and collections professionals with the names of some of the more notable mycologists whose specimens may form part of their collection. Those interested in a more in-depth history should consult the works of G. C. Ainsworth (Ainsworth, 1976; Ainsworth, 1981). Papers by Ramsbottom (Ramsbottom, 1948a; Ramsbottom, 1948b), and Webster

Webster, 1997) should also be consulted, with the former also writing a history of Scottish Mycology (Ramsbottom, 1963). Local mycological histories have also been written for several regions including Essex (Ramsbottom, 1934a; Ramsbottom, 1934b; Ramsbottom, 1935), Norfolk (Cooke, 1937) and Yorkshire (Blackwell, 1961; Watling, 1982).

Within Great Britain, mycology as a formal discipline can largely be seen as starting with the work of Reverend Miles Berkeley (1803-1889), widely seen as the 'founding father of British mycology' (Ainsworth, 1987), whose work in compiling the first serious list of British fungi (Berkeley, 1836) brought both himself mycology to attention. Before this, study and collection of fungi was of course still practiced, though largely by isolated individuals (the most prominent example being James Bolton (Watling and Seaward, 1981)), and only a small percentage of their collections survive. Before mycology had established an identity independent of botany, we see fungal collections treated much the same as botanical collections and much of the surviving material consists of thinly sectioned fruit bodies pressed in much the same way as herbaria specimens.

Through Berkeley's work establishing mycology as a discipline, we see a gradual shift away from pressed-sections towards dried-fruitbodies stored in packets (the exception being rusts and smuts, which continue to be pressed with their host plant). His published works, alongside his collaborator Christopher Edmund Broome (1812-1886), created a foundation on which others could build upon and germinated an interest in mycology as a general interest in nature study seized the emerging middle-classes (Allen, 1987). This fledgling interest was extended upon by the deliberately populist works of Mordecai Cubitt Cooke (1825-1914), who also went on to found the first cryptogam-focused (lower plants and fungi) journal in Grevillea in 1872. The Gardener's Chronicle, established 1874, was also a popular outlet for mycological publications during this period.

This period of emergence for mycology is also concurrent with a period of intense civic pride. Described as an era of 'city states' (Hill, 1999), it saw naturalists of different regions compete to have the most impressive natural history output. Mycology being relatively new and of the time, was very much shaped by this outlook and today mycology is one of the few taxonomic disciplines that has a well-established network of independent local groups.

The donation by Berkeley of his mycological collection to Kew in 1879 marks a milestone in that it was the first substantial institutional mycological collection in Great Britain. Cooke, one of the few mycologists at the time, was brought in as the curator for Kew's fungi. This late establishment combined with an intently regional outlook meant that local museums were often the recipients of important mycological material, such as the Tolson Memorial Museum receiving Soppitt's collection, which in other disciplines was more likely to find its way to centralised national institutions. Cooke was hired on a specific contract for his individual talents and not for a prescribed role. Upon his acrimonious retirement in 1892, a permanent position was created and filled by George Edward Massee (1845-1917). Massee's reign at Kew saw increased specialisation within mycology, alongside the gradual beginnings of professionalisation (for a contemporary mycologist's view on professionalisation, see Grove, 1892). He was the last head of mycology at Kew to not hold a university degree.

Massee's period at Kew also saw the formation of the British Mycological Society in 1896 (Figure1). Finding its origin partially in the Woolhope Club but perhaps more importantly in the forays of the Yorkshire Naturalists Union (YNU), it was the second national mycological society formed behind only the Société mycologique de France in 1884. However, the regional tensions inherent within Mycology, combined with an ever-growing pool of expertise, let to Massee resigning the society and the Presidency and instead taking up the role of Chairman of the YNU's Mycological Committee with many Yorkshire mycologists following (Ramsbottom, 1917a; Ramsbottom, 1917b; Ramsbottom, 1948b). Both continued to work relatively independently, with the YNU favouring depositing its samples at Kew with Massee and the BMS instead favouring the British Museum. The collections were reconciled in 1961 which saw the Natural History Museum and RBG, Kew sign the Morton Agreement where all non-lichenised fungal collections were transferred to Kew, and all lichens and bryophytes went to the NHM.

Massee's death in 1917 marked the end of the 'Yorkshire rebellion' and the subsequent rallying around the British Mycological Society as the representative British mycological institution (Ramsbottom, 1926). This was further cemented in 1918, when a soft coup led to the transition of power in the BMS from Carleton Rea (1861-1946) (who simultaneously held the roles of Editor, Treasurer, and Secretary) to the up and coming John Ramsbottom (1885-1974) (General Secretary

Figure 1: Photograph taken in Huddersfield following the agreement to form the British Mycological Society. Top: George Edward Massee, Rev. William Fowler, James Needham. Bottom: Charles Crossland, Mordecai Cubitt Cooke, Carleton Rea. Photographer: Alfred Clarke. (Reproduced with permission of Tolson Memorial Museum Huddersfield)

And Co-Editor with Rea), Elsie Wakefield (1886-1972) (Secretary), and Arthur Anselm Pearson (1874-1954) (Treasurer). They held their respective roles for several decades, as well as occupying the top mycological positions in the country, and their period is marked as one of accord between professional and non-professional mycologists. This active collaboration also saw an increase in collections deposited in Kew over local herbaria, likely due to the ease of accession.

During the Second World War, rationing and the presence of "more-knowledgeable refugees led to an increased interest in foraging and thus to fungal identification" (Phillips, 2000; Smith, 1946). The BMS saw an uptake in membership and local groups were also revitalised by this renewed interest. The deaths of Rea and Pearson in 1946 and 1954, respectively, along with the professional retirement of Ramsbottom and Wakefield in 1950 and 1951 resulted in a complete and rapid overhaul of British mycological leadership. Those taking up the mantle, such as EJH Corner (1906-1996) at Cambridge and RWG Dennis (1910-2003) at Kew, generally showed a greater interest in international mycology authoring authoritative texts on a number of regions and actively travelling in pursuit of collection. The British Mycological Society also held joint meetings with the Societe Mycologique de France, conducted in both English and French (Orton, 1954). Finally, post-war Britain embraced a biology that was increasingly institutionalised and technical in its outlook (de Chadarevian, 2002; Strasser, 2002) and, as a result, professional mycologists became increasingly disconnected from amateur mycology as the professional discipline became more and more detached from the field.

Field mycology saw another boom in interest in the late 1970s and early 1980s, which saw the development of mushroom foraging as a recreational hobby and of foragers as a distinct, often counter-cultural, community (Mabey, 2006; Steinhardt, 2018; Svanber and Lindh, 2019). Both meeting the demands of this community and helping its formation, books such as "Food For Free" (Mabey, 1972), "Mushrooms and Other Fungi of Great Britain and Europe" (Phillips and Shearer, 1981) and "Mushrooms and Toadstools: A Field Guide" (Kibby, 1979) provided entry-level access to the discipline (Palmer, 2003), which had become increasingly complex over the past hundred years. The genetic revolution, set loose in large part by the development of PCR in 1980s (Bartlett and Stirling, 2003), saw mycology raised in greater profile (in 1996, Saccharomyces cerevisiae became the first eukaryote to have its genome sequenced; Goffeau *et al.*, 1996) but facilitated a greater gap between professionals and

amateurs, the former now having access to a tool more accurate in its identification than morphological qualities. The Association of British Fungal Groups, now the Fungal Conservation Trust, formed in 1996, in part as an attempt to better meet the needs of amateur mycologists.

Whilst it is perhaps too early to say, we are likely entering into a new era in British mycology. Certainly, interest in mycology has increased substantially in the past few years. Much of this interest has again been centred around foraging which, to speculate, has likely seen an increase in interest due to the increase in climate awareness and the mainstreaming of "green" living. To what extent this renewed interest in foraging will transfer to a more academic amateur mycology remains to be seen, though, historically, the trend is promising. The Lost and Found Fungi Project (http://fungi.myspecies.info/content/lost-and-found-fungi-project), a volunteer/citizen-science based project co-ordinated from RBG, Kew, has proved successful in bringing attention to neglected fungal species and also shown a wider public interest in recording and conserving fungi for their own intrinsic biodiversity value. Furthermore, the decreasing cost of genetic research has increasingly allowed amateurs to partake in experimental genetic work with promising results (e.g. Pembrokeshire Fungus Recording Network, 2017).

Finally, it is important to note and highlight the relative youth of mycology as a discipline and of its societies, alongside the low prestige associated in exploring the lower taxa, arguably made it more accessible to women and those of a lower class. Nor was it a token accessibility but one that was largely allowed, encouraged, and centred their participation as both experts and leaders (Maroske and May, 2018). Between 1900 and 1950, the BMS had nine years with female presidents, remarkably high for the time, and Elsie Wakefield, alongside being head of mycology at Kew, also served as secretary of the society between 1918 and 1936. Furthermore, Annie Lorrain Smith (1854-1937) and Gulielma Lister (1860-1949) were amongst the first group of women admitted as Fellows to the Linnaean Society (Linnaean Society of London, 1905) and were recognised international authorities in lichens and myxomycetes respectively.

Amongst the general middle class contingent apparent in most natural history societies, working class figures such as James Needham (1849-1913) and Henry Thomas Soppitt (1858-1899) stand out and were robustly celebrated by their contemporaries (Blackwell, 1961). Whilst this is argued to be because of their class status (Alberti, 2001), working-class mycologists produced concrete additions to their field and their obituaries emphasise their quality of work over their class. The collections of James Needham have previously been characterised in this journal (Baker, 2016). Even many of the most prominent figures in British mycology were often defined primarily by their money troubles, such as Mordecai Cubitt Cooke (English, 1987) and Harry Marshall Ward (1854-1906) (Ayres, 2005). Importantly, this trend can also be seen in many other minority taxa (Blockeel, 1981; Secord, 1994) and is a narrative that helps distinguish minority taxa from the histories of zoology and botany, so often filled with monied expeditions and gentleman practitioners. These narratives can be used by museums today to craft compelling stories that are able to reach a wide audience often underrepresented in the history of natural history.

The Value of Fungal Collections

As one final preliminary point, it is perhaps prudent to talk through many ways that collection can be valuable for research. This has been extensively explored for a range of natural history collections (Pettitt, 1997; Suarez and Tsutsui, 2004) and in general these applications also hold true to fungal collections. However, mycological collections have several unique properties that influence their value to curators, researchers, and members of the public.

Fungal collections, like all biological collections, can be sampled for DNA. This has seen particular success in dried fungal samples (Brock, Döring, and Bidartondo, 2009; Bruns, Fogel, and Taylor, 1990; Dentinger *et al*., 2016). Spirit collections have shown less success in DNA extraction. In assessing recent Boletus edulis Bull, 1782 collections for whole genome sequencing, spirit collections were found to have on average a DNA concentration <25% that of equivalent dried collections. However, the concentration was suitable for majority of spirt samples for sequencing to be carried out (unpublished data, see Smith, 2016). In mycology, the ITS region is widely recognised as the primary barcode marker for mycological taxonomy, though it is not without issues (Hofstetter, *et al.,* 2019), and alternative genetic regions have been put forward and used (Molitor, *et al*., 2010).

Minority taxa are substantially underrepresented amongst sequence databases. Currently just over 10,000 fungal species are represented in the NCBI Reference Sequence Database (NCBI, n.d.), falling far short of the over 120,000 known species described and estimated millions in existence

(Mueller and Schmit, 2007). Additionally, fungal species sequences on GenBank are often misidentified or lacking in voucher specimens (Nilsson *et al.*, 2006). Here, museum fungal collections can be immensely useful in providing barcode sequences which relate back to voucher species with verified and authoritative species determinations. Even if a species already have verified sequences online, additional sequences are still of use in research (e.g. in population genetics) through providing geographic or temporal range. Many fungi have noted functions as bioaccumulators and thus bioindicators of their surrounding environment at their time of growth (Moore, Duncan, and Burgess, 2008), chemical analysis of historic collections may also be of interest to researchers and ecologists. Chemical analysis of herbaria specimens has been productively carried out in pursuit of a range of research questions and is increasingly designed to minimise damage to collections (Kao, *et al.*,, 2018; van der Ent, *et al.,* 2019).

The associated collection label information is also important, finding value in assisting conservation assessments as well as modelling the future distributions of species given climate change (Wollan, *et al.,* 2008). Within the UK, the online Fungal Records Database of Britain and Ireland (FRDBI), available at http://frdbi.info/, provides an easy format for records to be uploaded and combined with other historic and contemporary records. This centralises records and increases the accessibility of collections, facilitating both big-data approaches to research as well as enabling studies that require samples with specific characteristics.

Fungal collections also have a substantial social, historic, and cultural value (Pettitt, 1997). Packets detail the location of individuals and some collections also provide additional contextual information, such as events surrounding the collection. The method of collection is also important and, whilst anachronistic collection methods such as snuff boxes provide unique curatorial challenges, they also provide valuable information on the material practice of science and the social practices of collection.

A proposed solution

Despite the immense value of mycological collections, both scientifically and historically, they remain at substantial risk, particularly given their extensively provincial distribution. Austerity and government cutbacks have caused increasing loss of funds to museums, which are disproportionately likely to affect museums owned, or formerly owned by local authorities (Museums Association, 2018). This can lead to museum closure, which again disproportionately affects local authority museums (Larkin, 2018), with the effect that remaining regional museums often hold conglomerate collections of multiple closed museums. Furthermore, loss of funding can lead to loss of storage and, as a result, a more aggressive rationalisation strategy. This is likely to disproportionately affect minority taxa, such as fungi, where their cultural, historical, and scientific value is often unable to be accurately appraised by individuals involved, such as curatorial staff, and their documentation is more likely to be scarce and outdated.

In such a situation, how then do we best curate marginalised collections? Assuming similar to present levels of funding and staffing, we are primarily left with three potential options: keep things as they are, surrender the collection to a specialist or larger organisation, or engage with taxa-specific societies. Here the latter option is favoured but it is perhaps beneficial to explore the likely consequences of the other two options.

Regarding the first and, at present, most popular option, the opinion of many curators is that leaving the collections untouched minimises loss and ensures their availability for a future curator or volunteer to work on. However, this assessment ignores that degradation is constantly taking place. Particularly, if DNA is to be successfully extracted and sequenced then there is already a time limit for specimen assessment. Whilst future technology is likely to be able to extend this time limit, this cannot be taken for granted. Furthermore, leaving collections untouched means that they do not get redetermined and can reduce accessibility, with specimens arranged and filed under outdated synonyms and taxonomies.

The second option, of donating collections to a larger or more specialist collection, is also found wanting. Besides the obvious criticism of not fixing the problem but merely passing it on, it also denies the pointedly local characteristic of British mycology. Important for more than just sentimental reasons, this can reduce curators' and researchers' ability to contextualise their collections and thus reduce their utility.

The third option is to engage with taxa-specific societies in order to access expertise, which is currently not available and, in doing so, increase the utility of collections. Taxa-specific societies exist for most if not all minority taxa (Table 1), though some represent multiple taxa (slime moulds and oomycetes are both considered the domain of mycology due to historic classification

Taxa	Taxa Specific Societies	Websites
Fungi (incl. Slime Moulds and Oomycets)	British Mycological Society	www.britmycolsoc.org.uk/
Algae	British Phycological Society	www.brphycsoc.org/
Bryophytes	British Bryological Society	www.britishbryologicalsociety.org.uk
Lichen	British Lichen Society	www.britishlichensociety.org.uk/
Ferns	British Pteridological Society	www.ebps.org.uk

Table 1: Examples of Taxa Specific Societies within the UK.

(Money, 1998)). They produce their own publications and organise both academic and field meetings. Members are often highly active and possess both broad and specialist knowledge, including the history of their discipline, which is important both in understanding the taxonomy and also the reliability of the historic determination. This can be accessed by curators in order to help find the most compelling narrative interpretation of the collections with which to engage the general public or potential funders, or to improve the documentation and update the identification of specimens.

In mycology, due to its previously detailed history, taxa-specific societies exist at a local level. Currently, forty local and regional groups are affiliated with the British Mycological Society (a list of these groups can be found at https://www.britmycolsoc.org.uk/mycology/recording-network/groups) with new groups still being formed and some other groups choosing not to affiliate. Local groups function independently from each other and the British Mycological Society, with different aims and focuses governed by their members' interests, however, most have the general purpose of recording fungi present within the region which is usually achieved through a mixture of individual and group forays.

Importantly, mycologists, as with other amateur naturalists focused on minority taxa, have at least a rudimentary understanding of collections care. The difficulty in field identification often necessitates collection for further study and maintenance of a reference collection for later work. Whilst specific training is a necessity, the collections-orientated mind-set of minority-taxa specialist volunteers should help alleviate the concern of deliberate or accidental damage to collections that is associated with handling of museum specimens by non-staff members.

Engagement with taxa-specific societies is not without precedent. Collaboration has primarily been focused in the area of public engagement. UK Fungus Day, which is every year at the beginning of October, has proved a good opportunity to facilitate collaboration between museums and fungal groups, with noted successes across the country (Cullington, 2019; Harries, 2014; Maddy, 2016).

Other events have been held independent from the banner of UK Fungus Day; Whitby Museum, in collaboration with the Whitby Naturalists' Club and supported by the British Mycological Society, organised an exhibition focused on fungi to celebrate the club's centenary that ran through the second part of 2013 (Harries, 2014; "Have a funghi day out at Whitby Museum's latest exhibition," 2013). Outside of engagement, there has principally been collaboration on the individual level with mycologists working with museums to produce indexes to specific collections (i.e. Seaward, 1971, and, to a lesser extent, Seaward, 1983), which are particularly useful in reorienting museum and collections professionals after there has been a break in curation. Additionally, an active collaboration has recently started between the Norfolk Fungus Study Group and Castle Museum seeking to catalogue the collections. Outside of mycology, museums have formally housed the collections of taxa-specific societies such as with the British Bryological Society housing its collection within the National Museum Wales. Members of the British Bryological Society have also assisted in the curation of historic collections into modern herbarium folders (Preston, Fisk, Tregaskes, and Gardiner, 2018). Other projects have sought to collate data on minority collections across a range of regional and national museums, including Mollusca Types in Great Britain (https://gbmolluscatypes.ac.uk; Rowson *et al.*, 2018) and Seaweed Collections Online (http://

seaweeds.myspecies.info/), often with input from non-professional taxonomic specialists.

There is also a substantial benefit to volunteers. It gives them access to a wider reference collection on which to base their own studies. It also connects them to their natural societal heritage and can help revitalise the study of minority taxa in the region, providing a focal point for the community to gather and share resources and knowledge. Finally, the social aspects and benefits of societies (Orr, 2006) are often under-utilised and, through collaborating with taxa-specific networks, museums can increase engagement with the local community and serve as cultural hubs.

Conclusions

Minority taxa are, at present, often neglected by both curators and the general public. This is likely tied to their traits that make them difficult to research and unattractive. However, they have powerful narratives, both in their often-inclusive histories and in their capacity for discovery. Though these narratives are present, there is often a skill-gap that prevents curators and other museum and collections staff from accessing them. Whilst we recognise the importance of naturalists in collections, there has been little focus on the fact that natural history is better described as a collection of sub-specialisms with distinct needs and processes as opposed to a single entity. Whilst restricted budgets limit our responses to this deficit in knowledge, it can be accessed through stronger partnerships with taxa-specific societies. For fungi, these societies are highly active and localised with many members understanding basic collections care by dint of keeping personal reference collections, thus reducing risk of unnecessary damage. Members are also able to add value to collections through updating taxonomies, providing engaging narratives, and being able to effectively advocate for collections to funders.

These societies can be easily contacted and can often help facilitate contact with local groups and individuals, or those that are specialists of certain groups. For those wanting to reach a wider audience, taxa-specific societies produce members journals and newsletters, such as Mycologist News, Field Mycology, Field Bryology, and the British Lichen Society Bulletin¸ which are good homes for articles on interesting marginalised collections that can do much to highlight the value of museum collections in developing the taxonomy, ecology, and history of minority taxa. Collaboration with taxa-specific societies provides an opportunity for museum and collections professionals to increase the utility of and engagement with their collections, particularly those which are oftentimes ignored. There is much to gain, little to lose, and thousands of untold stories in the nooks and crannies of museum stores.

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