was found near the caves and *P. striatulum* was abundant on old drystone walls and rocks. Best of all, a deep crevice in a cliff supported *Orthothecium intricatum*, a common enough species of northern and western limestone but one formerly thought to be extinct in N. Somerset.

So what’s the message here? A number of good things came out of involving Natural England in my voluntary efforts at Ebbor Gorge, not least of which was the dataset that I was able to give them. The results of the survey confirmed that under SSSI selection guidelines the bryophyte interest would be sufficient to make the site a SSSI (if it wasn’t already). A case was also presented for revising the notification of Ebbor Gorge SSSI to include bryophytes in the notified features. However, given the current squeeze on NE’s time and resources I am not sure if this will happen. Notwithstanding this, I was also able to highlight the exact locations of the ‘important’ species and make some specific habitat management recommendations.

As somebody who relies on paid botanical and bryological contracts to make a living, it may seem paradoxical that I would advocate giving up my own time to survey a site that should, in an ideal world, be surveyed by a professional. Many people think that SSSIs have lots of good quality biological data provided by species specialists but while this may be true for some, my own experience suggests that many have very few recent species records. With ever-deepening cuts to the budgets of our statutory conservation organisations they are likely to become more dependent on the voluntary sector to provide important information about species in SSSIs, especially those in the more difficult taxonomic groups. I am certainly not a fan of the government’s views that the work of highly skilled and experienced professional specialists can readily be undertaken by volunteers. However I do think that there is a danger that in some SSSIs important bryophytes will be lost unless skilled volunteers (such as BBS members) stick up for them, or at the very least make the site custodians aware of what they have. SSSI managers can also become very focussed on managing their sites solely for the benefit of the notified features, as this is what SSSI condition assessment is based on. If they do not know that they have notable bryophytes in a site then they cannot be expected to make any effort to conserve those species.

Do you know of a local SSSI that might support interesting bryophytes? If you express an interest in surveying such a site in a voluntary capacity and would be willing to share the results of your efforts, then your statutory nature conservation body will almost certainly be very willing to help you get access to the site and to provide maps and other help.

Sharon Pilkington works as a professional bryologist and botanist and is the BBS’s regional recorder for N. Somerset and N. Wiltshire.

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**Classification of sporophyte stages in *Buxbaumia viridis***

**Des Callaghan & Stewart Taylor** propose new standard terms for use in the recording of *Buxbaumia viridis* sporophytes.

**Introduction**

Generally rare in Europe and enjoying special legal protection, in recent years much attention has been spent on *Buxbaumia viridis* to better understand its distribution, status and ecology (e.g. Holá *et al.*, 2014; Taylor, 2010; Wölk, 2003). Despite there being an excellent study of the plants growth (Wolf, 2015), to date there has been no classification of sporophyte stages for use in field recording, though such is available for *B. aphylla* (Hancock & Brassard, 1974). The purpose of this note is to provide a classification for recording stages of sporophyte production in *B. viridis*, in order to encourage field recording and associated phenology studies.

**Classification**

Ten main stages of the sporophyte are recognised, illustrated and described in Figure 1. The first eight are sequential growth stages in the development of the sporophyte, the other two being miscellaneous conditions. Photographs that illustrate the classification are provided in Figure 2.
Application

Preliminary data on the temporal distribution of sporophyte stages from various sites in Scotland are provided in Table 1. The data suggest that, at least in Scotland, development from Stage 1 through to Stage 7 takes about 10 months, generally starting in September and ending with the start of spore liberation in about June. This is remarkably like the phenology reported for Buxbaumia aphylloides in Newfoundland, where it was found that capsules over-wintered in an immature state (Hancock & Brassard, 1974).

However, detailed studies have not been undertaken on B. viridis in Scotland and it is hoped that this note will encourage such studies. Long-term monitoring would be particularly valuable, with such basic data having many potential applications, such as plant-climate interactions. Capsule predation is also a matter worth research. ST has seen capsules predated from Stage 2 right through to Stage 6, and the predation rate can be very high in some instances, for example in February 2008 a population of 73 sporophytes had 66 (90%) capsules predated. The identity of the predators, which take only the capsules and not the setae, is unknown and their possible role as dispersal vectors is of significant interest.

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Table 1. Preliminary data on the temporal distribution of the stages of sporophytes (n=69) from various sites in Scotland. Data from field observations by D.A. Callaghan and dated photographs taken by S. Taylor.

Acknowledgements

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References


△Fig. 2. Photographs illustrating the stages of sporophyte development, as noted in Figure 1.