

SHORTER CONTRIBUTION

PLANT GALLS IN SOMERSET: AN INTRODUCTORY NOTE

A plant gall may be defined as any abnormal growth induced by an organism living in or on a host plant, involving the enlargement or multiplication of plant cells to form a structure (often a lump of some kind) used by the gall-causer for food and shelter. Despite such an unpromising definition, in recent years there has been a real resurgence of interest in *cecidology*, the study of plant galls. This has been aided by several new books on the subject. The guide to British plant galls published by the Field Studies Council has recently been thoroughly updated (Redfern *et al.* 2011), while a detailed and authoritative study of plant galls has appeared in the celebrated New Naturalist series (Redfern 2011). Hard on the heels of both of these, and suitable for any naturalist wishing to identify some of the more commonly encountered and conspicuous galls, is 'Britain's Plant Galls' (Chinery 2011) – a handy and attractively produced photographic guide aimed at "... stimulating the general naturalist to take a closer look at the bumps and lumps that make up the fascinating world of plant galls".

It is, indeed, a fascinating world, and one that, thanks to these guides, is now surprisingly accessible to the amateur naturalist. To the would-be gall enthusiast, one very fortunate aspect of plant galls is that the organisms that cause them – including gall wasps, sawflies, midges, mites, fungi and bacteria – tend to be highly specific in their choice of host plant. Many are restricted to a single host species: for example, the gall midge *Dasineura urticae* occurs almost exclusively on Stinging Nettle (*Urtica dioica*) (Fig. 1). Others may occur on a rather wider range of (usually still closely related) taxa, such as the rust fungus

Uromyces geranii which causes distinctive small swellings on the leaves of at least half a dozen species, all of them crane's-bills (*Geranium* species). This host specificity is a huge help when it comes to identifying a mystery gall, allowing one to produce a shortlist of likely gall-causers once the host has been named.



Fig. 1 Galls on Stinging Nettle (*Urtica dioica*) caused by the gall-midge *Dasineura urticae*

Deciding which one of the shortlist is the culprit can often be fairly straightforward too, since different gall-causers on a single plant species usually induce quite different-looking galls. Take for example the rich assemblage of galls associated with oak trees. Anyone even only vaguely aware of plant galls will be familiar with the various cola-nut, oak-apple, cherry, pea, knopper, artichoke and spangle galls found on oaks – a dizzying array of sometimes quite bizarre

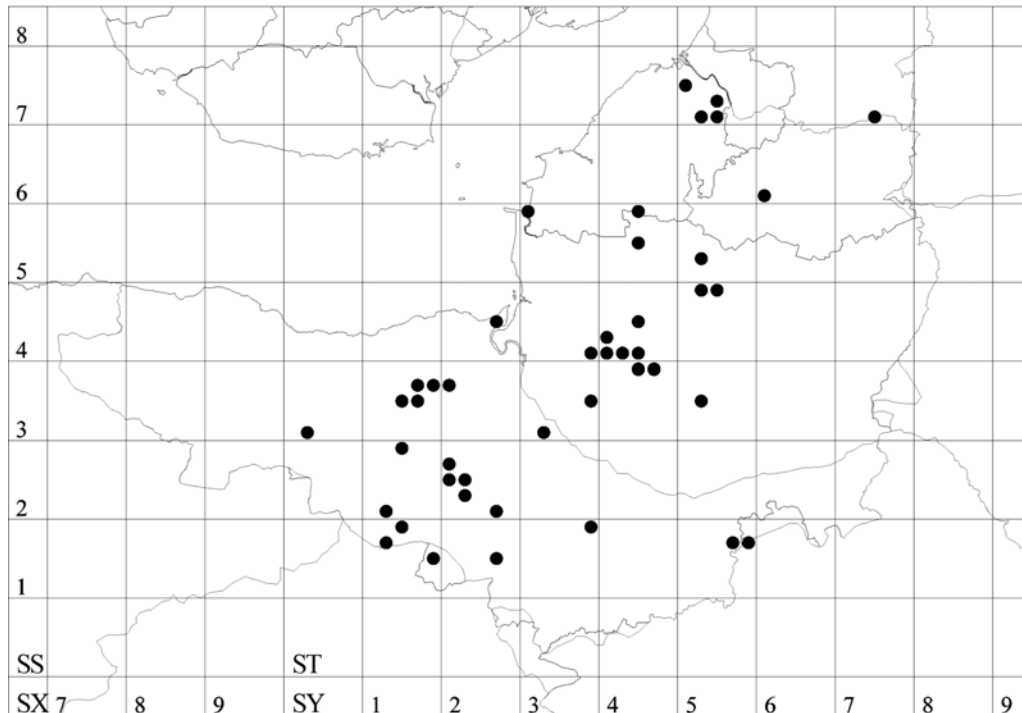


Fig. 2 2km square distribution in Somerset of records of galls of *Dasineura urticae*. Each dot refers to one or more records. Map generated from database of the British Plant Gall Society using MapMate

structures, but mostly quite distinctive and readily identifiable using any of the excellent guides or websites now available.

Our knowledge of the distribution of plant galls in Somerset, however, is generally poor. There are few active recorders; many naturalists, it has to be admitted, tend to ignore galls, thinking them either uninteresting or just too difficult to get to grips with. *Dasineura urticae*, referred to above, appears to be very thinly distributed in Somerset (Fig. 2), while its host plant *Urtica dioica* is almost ubiquitous. We suspect that Fig. 2 is not so much highlighting the scarcity of the gall, but rather the general lack of naturalists willing to record it! Yet it is easily recognised, comprising green or purple-tinged swellings often clustered together near the leaf base/petiole or along the midrib or lateral veins of the nettle leaf (Fig. 1), or more rarely on the stems. Nothing else on nettles could be confused with it, and if naturalists were to keep a note of whenever they came across this gall we

would quickly gain a much better understanding of its distribution in the county.

Some plant galls may be truly rare in Somerset, of course, while others have gall-causers that have until recently been rare in Britain (or have newly arrived), and which are now starting to turn up in the county and appear to be spreading. The Alder 'tongue gall' (Fig. 3) – a conspicuous greenish-red or purple gall on the female 'catkins' of Alder (*Alnus glutinosa*) caused by a fungus *Taphrina alni* – is a case in point. Recorded in Cornwall as far back as the 1940s, since 1999 it has been found in many parts of Britain and was first recorded in Somerset in 2011. We now have sightings of it from several parts of the county (Fig. 4a), but its host is widespread along our streams and on the low-lying floodplains of our major rivers (Fig. 4b), so there is clearly considerable scope for its further spread. This is certainly one to watch out for in the next few years.



Fig. 3 Alder 'tongue gall' caused by the fungus *Taphrinaalni*

Anyone who gets a thrill from filling in gaps on maps will therefore find plant galls a particularly rewarding field of study. And a stroll in the Somerset countryside at almost any time of year should produce a list of perhaps twenty to thirty

readily identifiable species, doubtless including new 1km or 10km (or maybe even new vice-county or county) records. For example, in February 2013 one of us (SJM) came across plants of *Smyrnium olusatrum* (Alexanders) on the edge of Milverton (Grid Ref: ST117263), their leaves and stems covered in yellow blisters caused by the rust fungus *Puccinia smyrnii* – the first inland record of it in Somerset according to the database of the British Plant Gall Society (BPGS). A few weeks later we found it in Taunton too, so it seems likely that this plant gall is spreading in the county – in tandem with its host plant – and that the current paucity of records is probably as much as anything due to it being overlooked and/or under-reported. As with the 'tongue gall', this one is well worth searching for elsewhere in Somerset.

Another gall worth keeping an eye out for is the green or reddish-tinged 'lighthouse' gall caused by the gall-midge *Rondaniola bursaria* which is found on the leaves of Ground-ivy (*Glechoma hederacea*) (Fig. 5). In March 2013 we discovered this gall on Adcombe Hill, near Pitminster (Grid Ref: ST226179). It is said to be widespread and common in Britain but, like *P. smyrnii*, is either rare or being overlooked in Somerset, with few previous records, all of them apparently in the north of the county; indeed, our record from Adcombe Hill seems to have been the first for VC5 (S. Somerset).

There is considerable scope for our Society to make a real difference here. Both of us are members of the BPGS, and SJP is the Regional

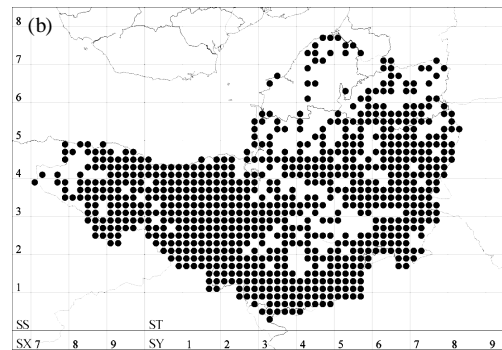
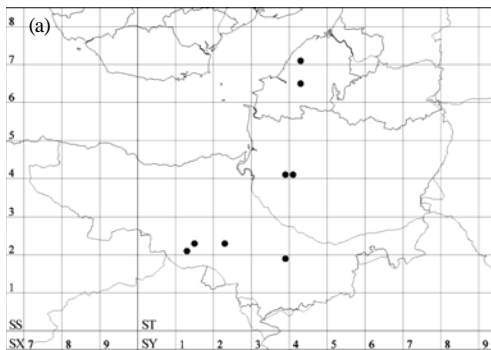


Fig. 4 (a) Distribution of records of galls caused by the Alder 'tongue gall' *Taphrinaalni* in Somerset;
 (b) Distribution of records of the host tree Alder (*Alnus glutinosa*) in Somerset.
 Each dot refers to one or more records. Maps generated from the databases of the British Plant Gall Society and the Botanical Society of the British Isles, using MapMate



Fig. 5 'Lighthouse' galls on Ground-ivy (*Glechoma hederacea*) caused by the gall-midge *Rondaniola bursaria*

Co-ordinator for plant galls in Somerset. We have been doing much to promote an interest in plant galls within SANHS. In the last two years, there have been joint field meetings in Somerset between SANHS and BPGS – at Shapwick Heath and Uphill – and we try to keep a record of plant galls encountered on all our summer excursions. Several locally rare (or under-recorded) plant galls have been found during SANHS meetings. For example, on the Society's visit to Priddy Pools (ST5451) members were delighted to see the distinctive large cigar-shaped galls of the gall-fly *Lipara lucens* on *Phragmites australis* (Common Reed).

We would be pleased to hear from any SANHS members interested in learning more about

plant galls and who might like to get involved in surveys of some of the more easily identified and conspicuous galls, such as those illustrated in Chinery (2011). If members were interested, we would be happy to run one or two workshops and field excursions devoted to plant galls as part of next year's SANHS summer programme. Do let us know if you would like further information on gall-related activities happening in the county.

In addition, you might wish to consider joining the BPGS, a society formed in 1985 and open to anyone interested in plant galls, whether beginner or expert. Members can get help from experts in determining difficult specimens, as well as having access to a national programme of field meetings and receiving the society's journal, *Cecidology*. Subscription is currently £10 a year.

References

- Chinery, M., 2011. *Britain's plant galls: a photographic guide*, Basing, Hampshire, WildGuides.
- Redfern, M., 2011. *Plant Galls*, New Naturalist No 117, London, HarperCollins.
- Redfern, M., Shirley, P., and Bloxham, M., 2011. *British Plant Galls*, Field Studies Council [a revised version of the 2002 keys first published in *Field Studies*, 10, 207-531].

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