

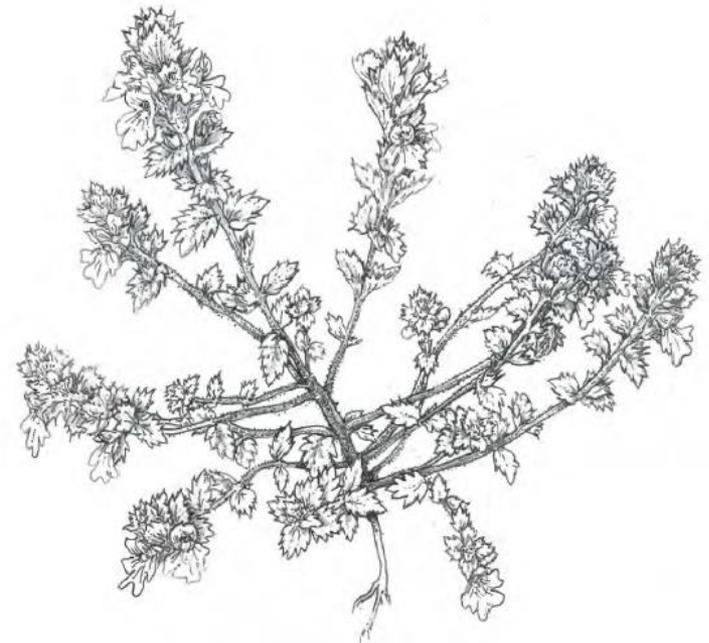
Atlas 2020 - Taxonomic issues

Andy Amphlett



BSBI Atlas 2020

**Notes on identification works and
difficult and under-recorded taxa**



P.A. Stroh, D.A. Pearman, F.J. Rumsey & K.J. Walker

 Botanical Society
of Britain & Ireland

 BRC | Biological
Records
Centre

Atlas 2020 - Taxonomic issues

Issues that I have come across while recording and while checking records:

- Where recent recording differs from Atlas 2000 decisions
- Where recent taxonomic changes have lead to miss-allocation of records to taxa
- Where new taxonomic knowledge needs to be considered both when recording in the future and when assessing old records

- Suggestions?

Epilobium tetragonum (Square-stalked Willowherb)

“Many records have been made in Scotland since the 1962 Atlas, but none have been verified by expert examination and all have been treated as probable errors for E. obscurum or other species”. Preston, Pearman & Dines (2002).

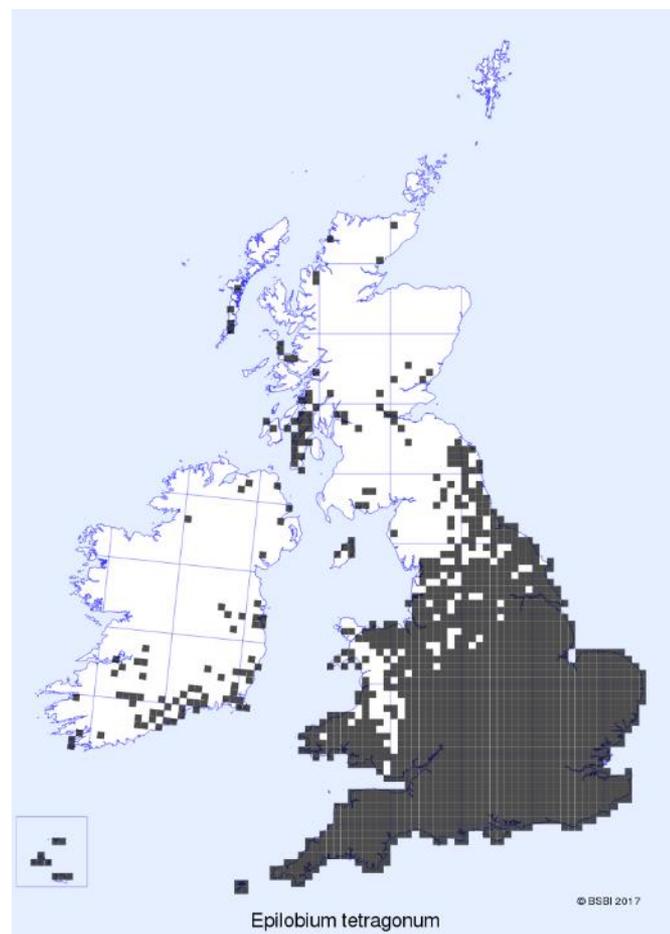
The DDb currently (21st Feb 2017) has un-checked records for *E. tetragonum* from the following Scottish vice-counties.

73, 78, 83, 84, 86, 87, 88, 89, 90, 97, 98, 99, 101, 102, 104, 105, 107, 108, 110

All but one of these vcs have other records on the DDb marked as Doubtful or Rejected.

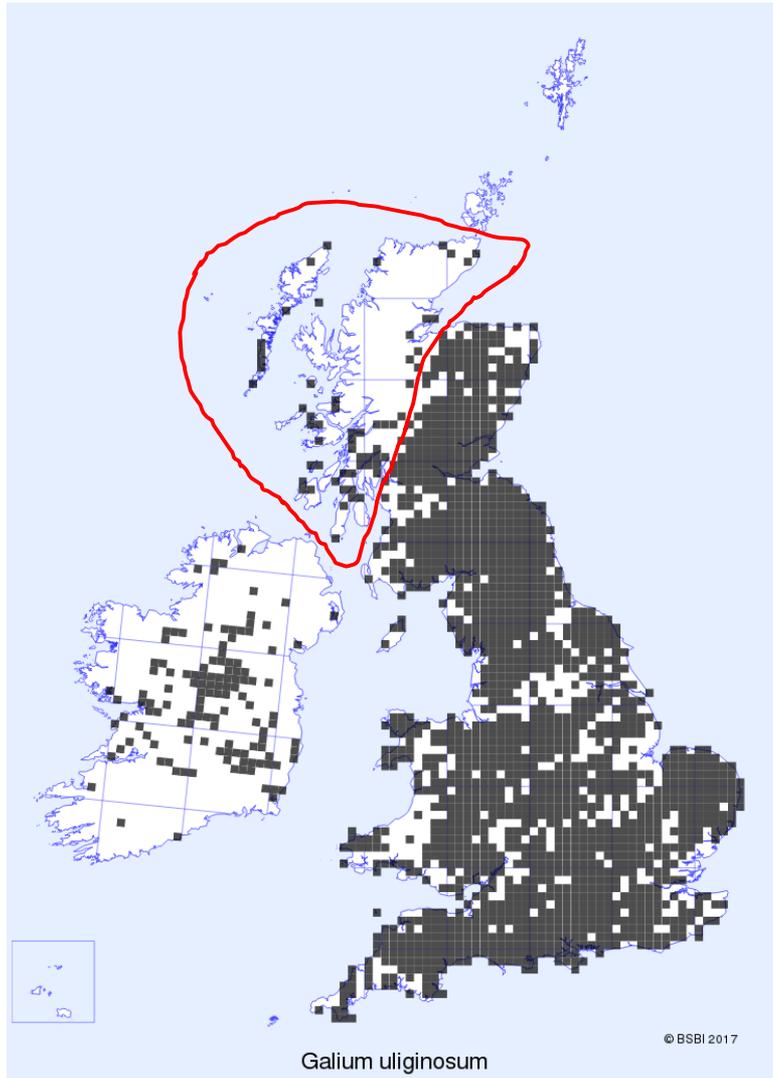
There are records confirmed by the VCR from vcs 87, 109 and 100. The vc87 record has been published as a new vc record; is that the only certain record from Scotland?

At least one of the vc110 records is correct, and other Scottish VCRs need to check these records carefully.



Galium uliginosum (Fen Bedstraw)

“... All records from NW Scotland are treated as doubtful and are not mapped”. Preston, Pearman & Dines (2002).



Records within red line require additional scrutiny. Some may be correct, but others are known to be doubtful.

Trichophorum **cespitosum** (Northern Deergrass):

cf. Trichophorum germanicum agg. (Deergrass) (= Trichophorum **cespitosum** s.l. on DDb)

- Records incorrectly assigned to Trichophorum cespitosum keep arriving at the DDb

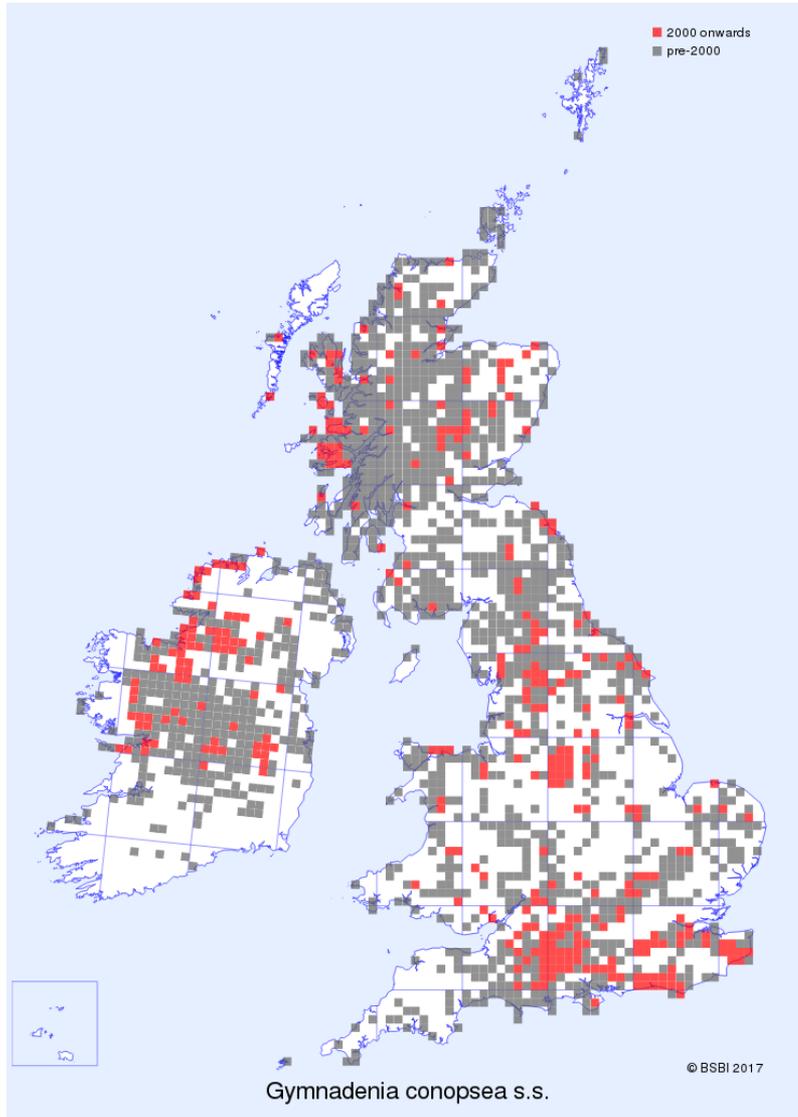
Current name	Former name	Mapmate name
Trichophorum cespitosum s.s.	Trichophorum cespitosum subsp. cespitosum	
Trichophorum cespitosum s.l.	Trichophorum cespitosum	Trichophorum germanicum agg. (Deergrass)
Trichophorum cespitosum x germanicum = T. x foersteri	Trichophorum cespitosum nothosubsp. foersteri	
Trichophorum germanicum	Trichophorum cespitosum subsp. germanicum	

Issues arise from:

- **Incorrect data entry**, using T. cespitosum instead of T. germanicum agg.
- **Incorrect record import** (via tab text files) using T. cespitosum instead of T. germanicum agg., which Mapmate recognises as T. cespitosum s.s.
- Importing from other databases to DDb, eg. from Recorder, where origin database uses Trichophorum cespitosum as an aggregate

Gymnadenia conopsea (Chalk Fragrant-orchid) cf:

Gymnadenia conopsea sens. lat. (Fragrant Orchid) cf. Gymnadenia borealis (Heath Fragrant-orchid) and Gymnadenia densiflora (Marsh Fragrant-orchid)



Gymnadenia conopsea is hugely over-recorded in Scotland (and perhaps elsewhere)

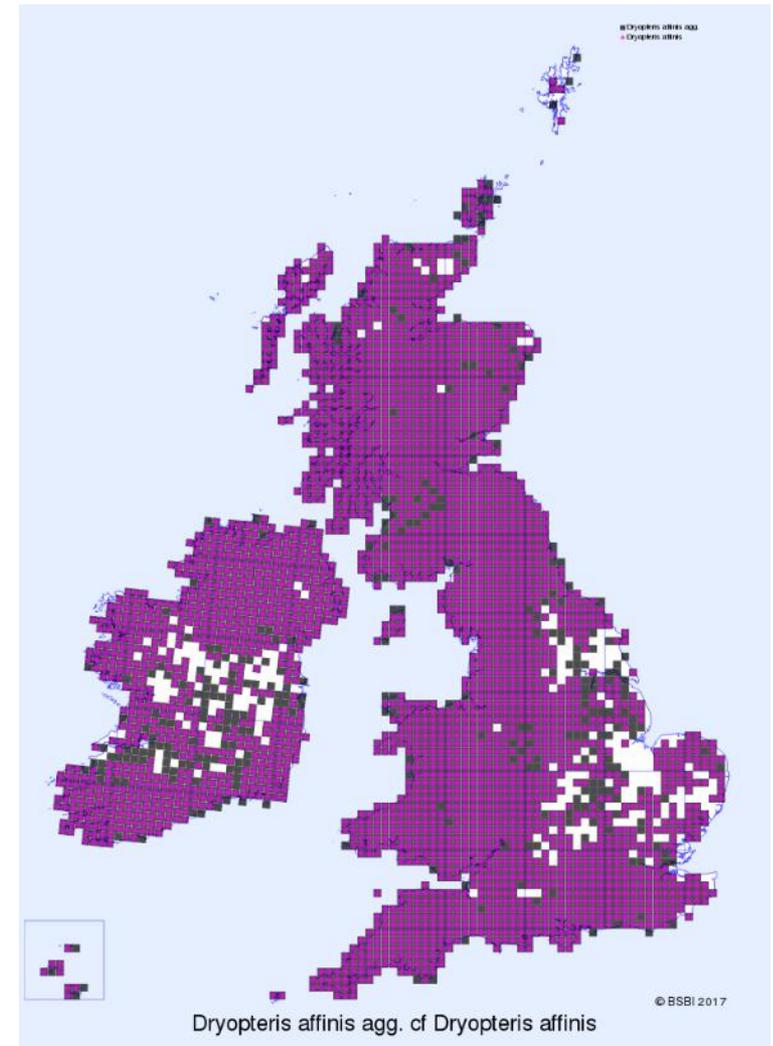
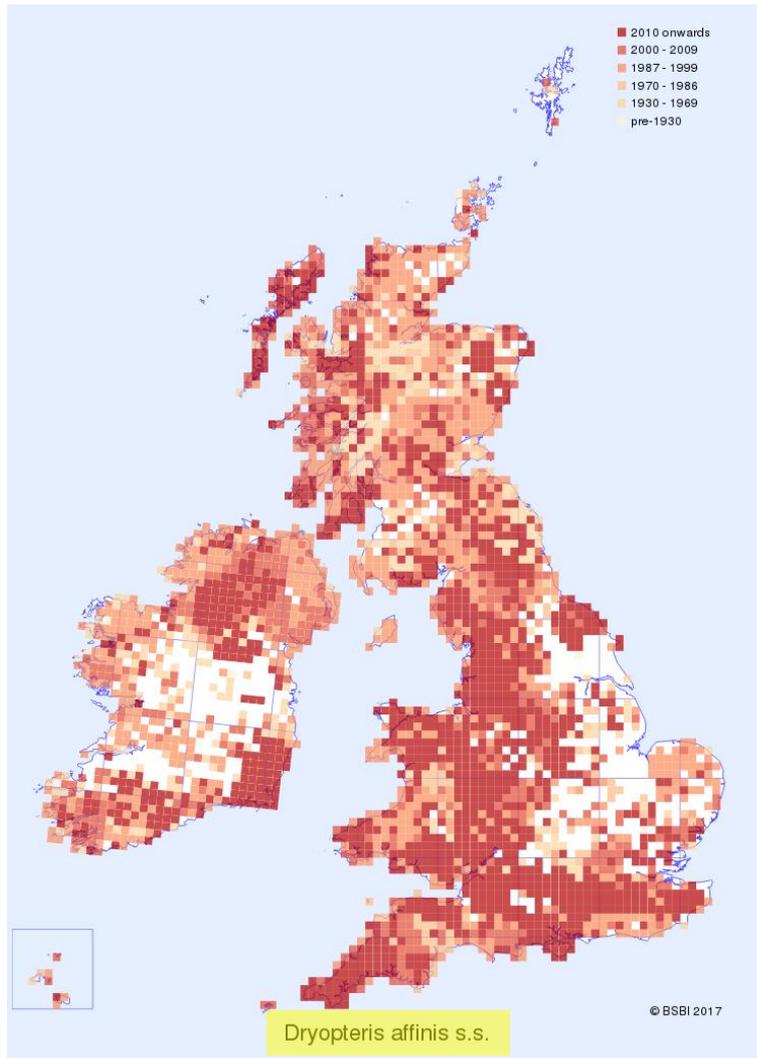
*"... c.2003, Doug McKean sent me all of RBGE's Scottish Gymnadenia herbarium specimens to attempt to identify ... it confirmed my own field observations that **Scottish Gymnadenias are about two-thirds borealis to one-third densiflora.***

*The only specimens that seemed closest morphologically to conopsea s.s. were from Durness. Now confirmed by a microsatellite study (Campbell et al. 2007) and my own DNA-based work... (so) **I'm ... reasonably confident that conopsea s.s. grows in Durness.***

None of the many identification requests that I've been sent over the years from elsewhere in Scotland has given me any hint of other localities for conopsea, but it seems unlikely that there wouldn't at least be a few more hidden away in dark corners."

Richard Bateman 12th August 2016 (email to Andy Amphlett)

Dryopteris affinis (Scaly Male-fern) cf. Dryopteris affinis agg. (Scaly Male-fern)



Many records of *Dryopteris affinis* agg. have been miss-allocated to *Dryopteris affinis* s.s.
(Right hand map shows *Dryopteris affinis* agg. (black) overlain by *Dryopteris affinis* s.s. (magenta) – suspiciously similar!

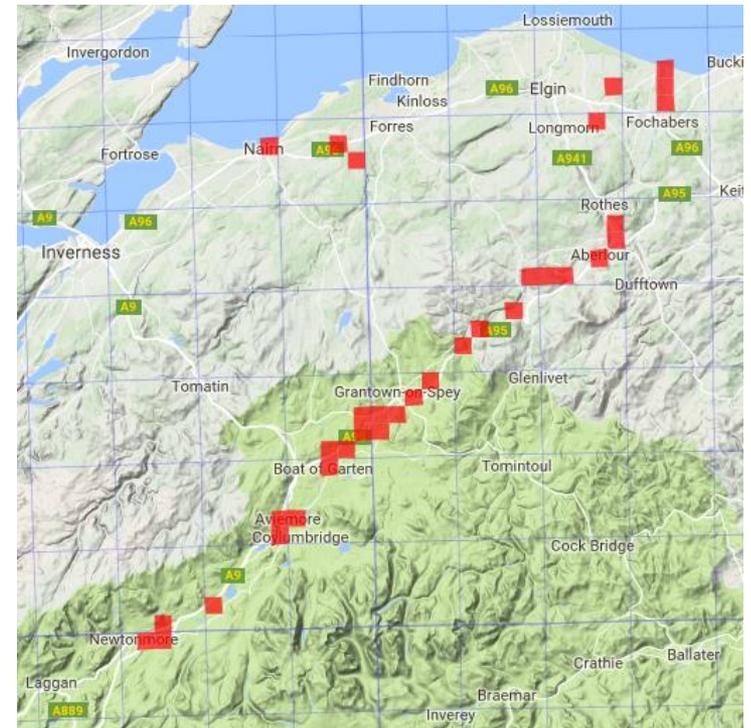
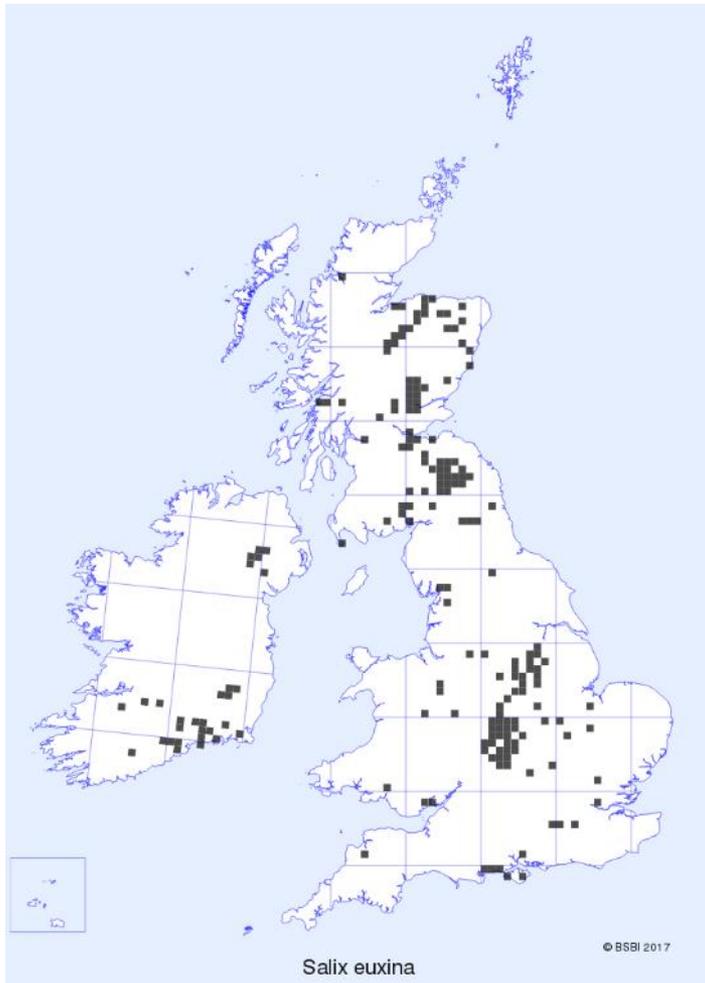
Carex x fulva (C. hostiana x lepidocarpa):

cf Carex hostiana x demissa (= Carex hostiana x viridula subsp. oedocarpa (in MapMate))

- Traditionally Carex x fulva was used to denote the hybrid between C. hostiana and **any** of the 3 widespread 'yellow sedges'.
- The 3rd edition of Stace changed the meaning of this hybrid to C. hostiana x lepidocarpa **only**.
- Therefore, and incorrectly, many old records of "Carex x fulva" were reassigned in MapMate to C. hostiana x lepidocarpa.
- In some (many?) areas Carex hostiana x demissa is the commoner taxon. NB in MapMate this is still referred to as Carex hostiana x viridula subsp. oedocarpa.
- There is no Carex x fulva agg. taxon available. That would be very useful.
- The situation is next to hopeless! But you may wish to try to resolve matters in your own vc.

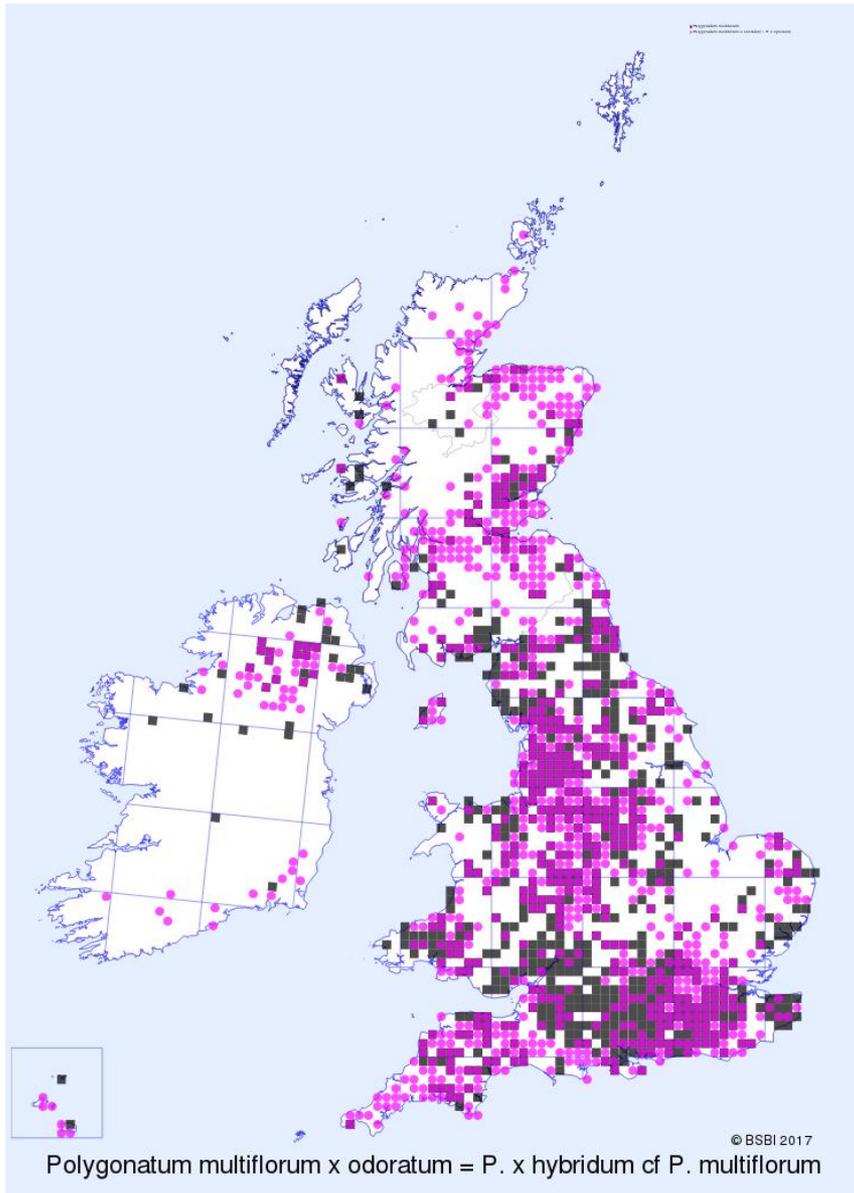
Salix fragilis var. decipiens:

- A synonym of *Salix alba* x *euxina* = *S. x fragilis*. (Irina Belyaeva in Taxon). Interpreted in DDb in this way.
- **BUT** the name *S. fragilis* var. *decipiens* was incorrectly used in GB & Ireland (eg. BSBI Handbook) and this usage of the name refers to *S. euxina*.



Salix euxina only occurs as vegetatively spreading clone(s) of the male plant, eg. dispersed by floods along River Spey.

Polygonatum x hybridum (Garden Solomon's-seal) cf. *Polygonatum multiflorum* (Solomon's-seal)

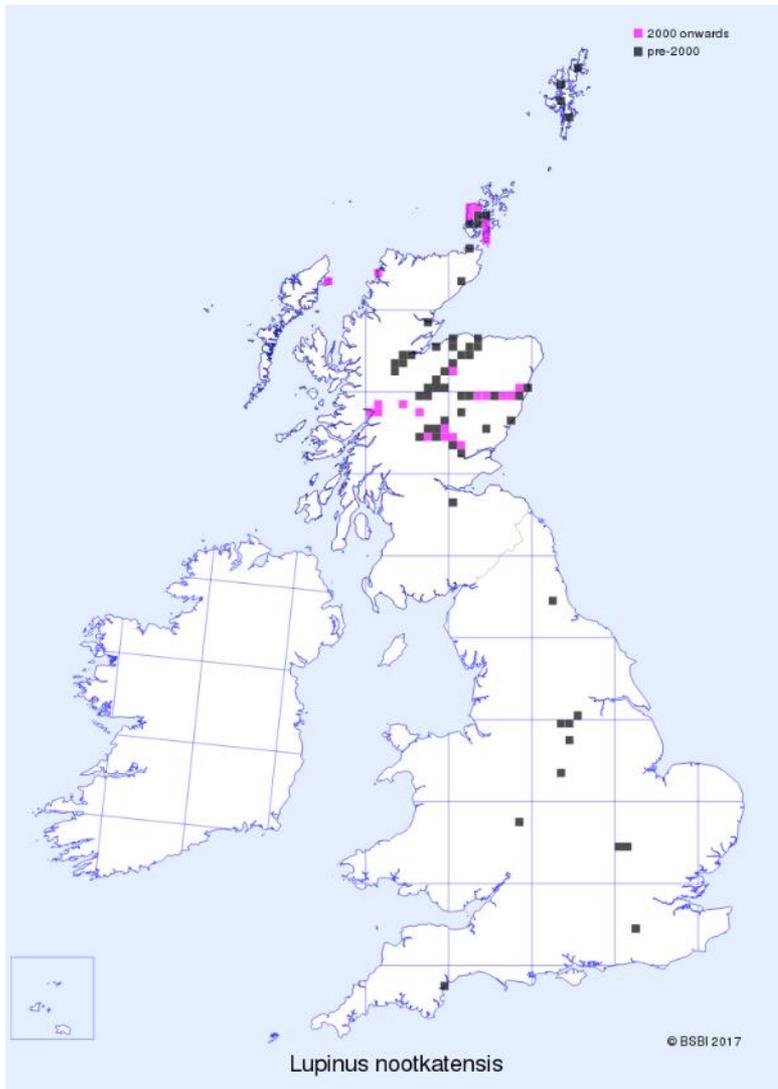


- ***Polygonatum x hybridum*** (Garden Solomon's-seal) was first referred to in CTM (1987) and included the 1st edition of Stace (1991).
- It is now known to a widespread garden escape (pink dots).
- ***Polygonatum multiflorum*** (Solomon's-seal) (black squares) may be over-recorded north of its native range.
- Old records (pre-1987) of *Polygonatum multiflorum* might be better re-assigned to *Polygonatum multiflorum* agg., or if balance of probability supports this, to *Polygonatum x hybridum* (with explanation of re-determination added to records, eg. below).

Record (field observation)	
taxon	Polygonatum multiflorum x odoratum = P. x hybridum Brügger "Garden Solomon's-seal"
date	1956
locality	Cairnfield House policies VC94 NJ416620
recorder	A.J. Souter
attributes	Mapmate.method: Field record / observation Mapmate.status: Not recorded
notes	Card 397. (Grounds of Cairnfield House - Distribution Map Card). On balance of probability the record refers to the garden hybrid.
validity	confirmed: 2015-04-17 by Andy Amphlett referring to version Record (observation or specimen) id 2cd4p9h.c10sh3
references	Centre 2dd 2003. Data Import by Centre 2dd on 12/01/2003 Andy Amphlett
source data set	MapMate centre 2dd (Andy Amphlett)
status	unknown
external id	MAPMATE:record:g68232dd
ddb row id	2cd4p9h.2s4d7f#2cd4p9h.cztvbh
data source	MapMate (via provider MapMate)
last modified	Fri, 09 Sep 16 21:44:01 +0100

Lupinus nootkatensis (Nootka Lupin):

cf. *Lupinus x regalis* (Russell Lupin (*L. arboreus* x *polyphyllus*)) and *Lupinus polyphyllus* (Garden Lupin)



Lupinus x regalis was introduced to gardens in 1937 and first reported as an escape in 1955. It was not included in any Floras until the 1st edition of Stace (1991). It is the commonest Lupin in most areas.

Lupinus nootkatensis and *Lupinus polyphyllus* may both have been over-recorded in the past. Until Atlas 2000 record cards were printed, *L. nootkatensis* was the only Lupin listed.

Along the River Spey, *L. nootkatensis* is now known to be restricted to a single small patch. All other hectad records are known or suspected to be errors. Has it been over-recorded elsewhere?

ID TIP: *L. nootkatensis* at its R. Spey site is early flowering (May); young plants are densely shaggy white hairy; it becomes swamped by other Lupin taxa as summer progresses and is then hard to find.

Hyacinthoides hispanica (Spanish Bluebell) cf *Hyacinthoides x massartiana* (Hybrid Bluebell)

For a guide to the 3 bluebell taxa (by Fred Rumsey), including genuine *Hyacinthoides hispanica* (from Spain) see this video - <https://youtu.be/MP40CmMijXQ?t=164>

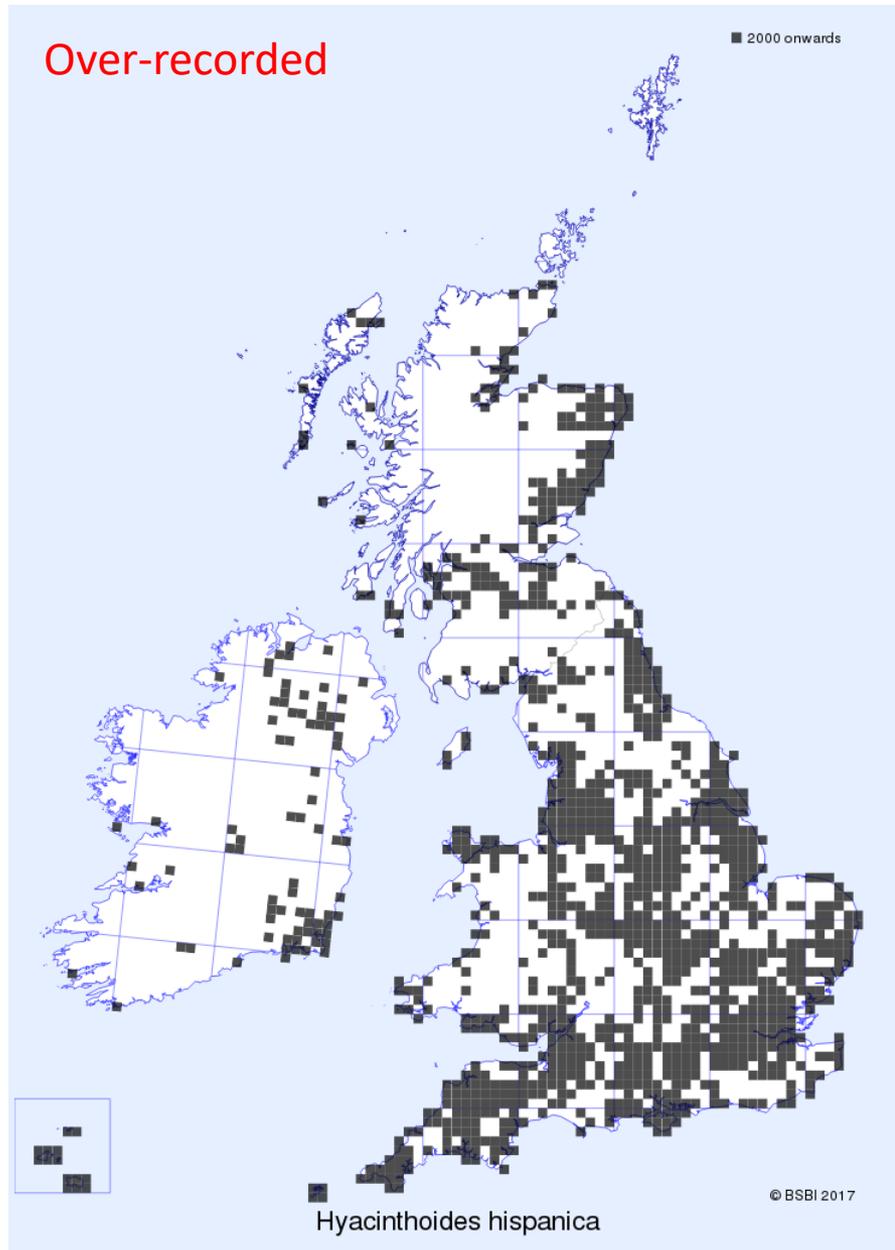
***Hyacinthoides hispanica* has been and continues to be much over-recorded**, most records being referable to *Hyacinthoides x massartiana*. The hybrid was not widely known before 1987 (BSBI News) and was included in the 1st edition of Stace (1991).

The two images below are of *Hyacinthoides hispanica* taken in Spain.



Hyacinthoides hispanica (Spanish Bluebell)

Over-recorded



“It’s a pretty variable plant...and more genetic variation between the hispanica in different Spanish mountain ranges than there is between hispanica and non-scripta!”

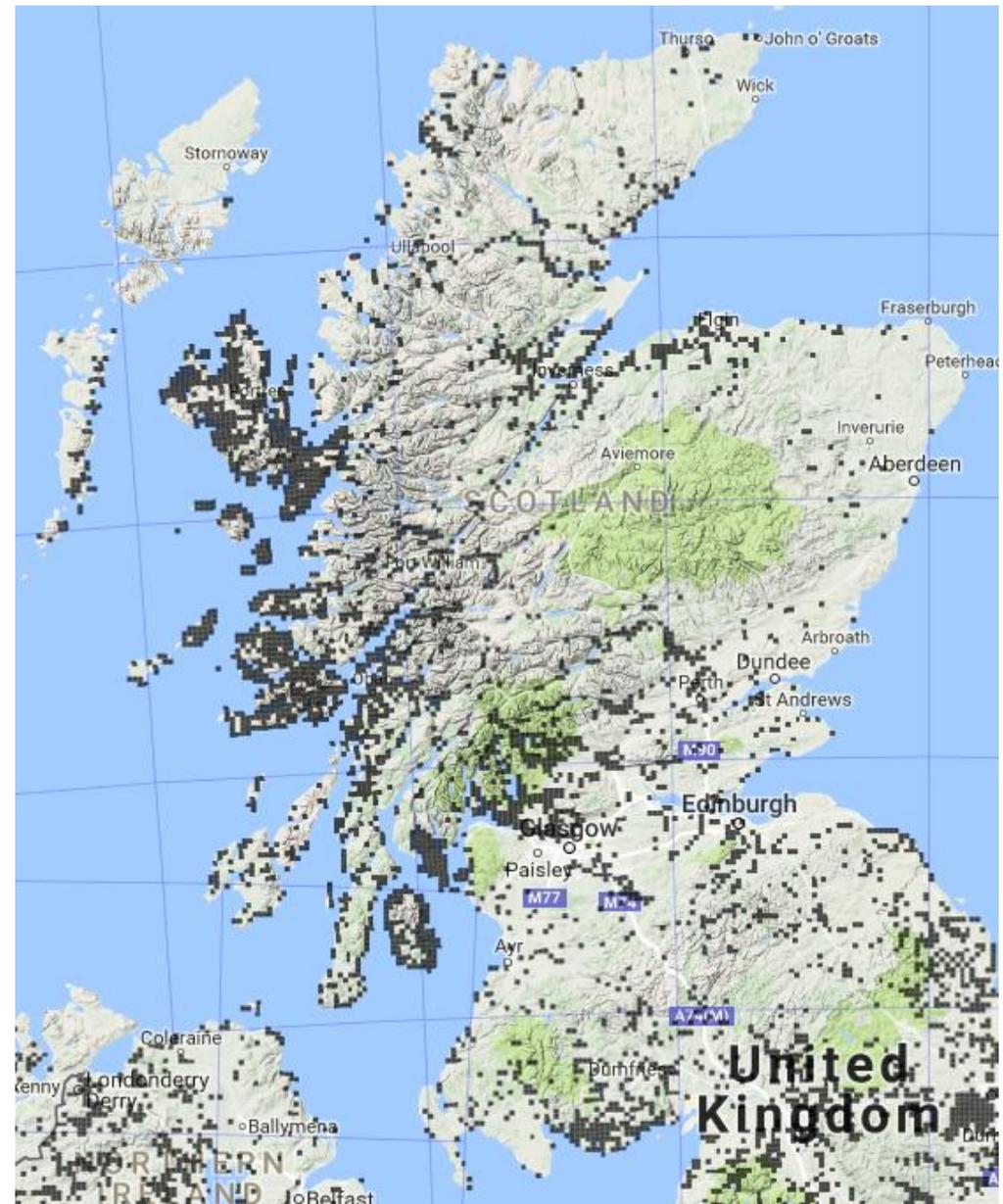
I have seen what I consider to be true wild-type hispanica in Britain but very rarely. It gets hybridised very rapidly and most stuff in gardens and around urban areas is hybrid.”

Fred Rumsey email to Andy Amphlett 21st February 2017.



Hyacinthoides non-scripta (Bluebell)

Care should be taken when recording *Hyacinthoides non-scripta* in areas you are unfamiliar with. It is (for example) rare or unknown in large parts of the eastern Highlands, only appearing as you move westwards or towards the coast.

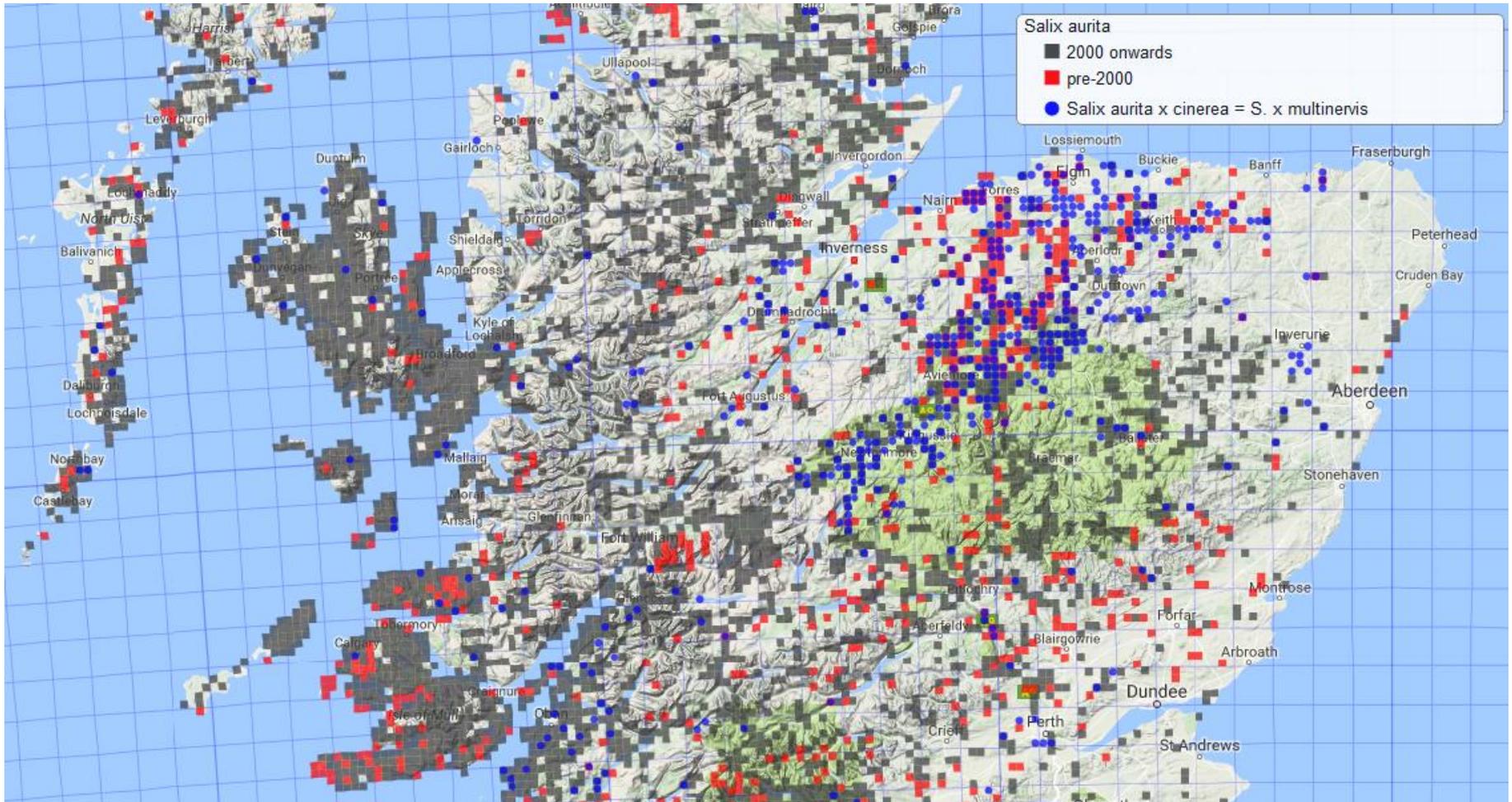


Hyacinthoides non-scripta tetrad records since 2000;
from DDB 21st February 2017

Salix aurita (Eared Willow) cf. **Salix x multinervis** (*S. aurita* x *cinerea*)

Interesting distributions, recorder bias or a bit of both?

Salix aurita agg. would be a useful taxon to be able to record



Salix x multinervis (*S. aurita* x *cinerea*) – specimens from Glen Beg, NJ0128 (vc95) - showing characteristic acute angled branching, leaves much wider than long, acute tipped (from *cinerea* parent), and leaves wrinkled with undulate margins (from *aurita* parent)



In this area, all *Salix cinerea* are subsp. *oleifolia* (Rusty Willow). Where subsp. *cinerea* occurs the hybrid with *S. aurita* may be less distinctive.

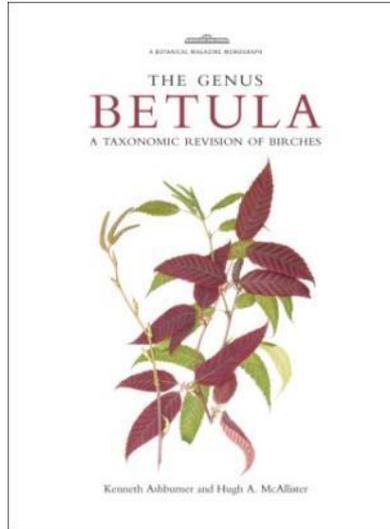
Betula pubescens* subsp. *tortuosa (in Stace)

Synonyms:

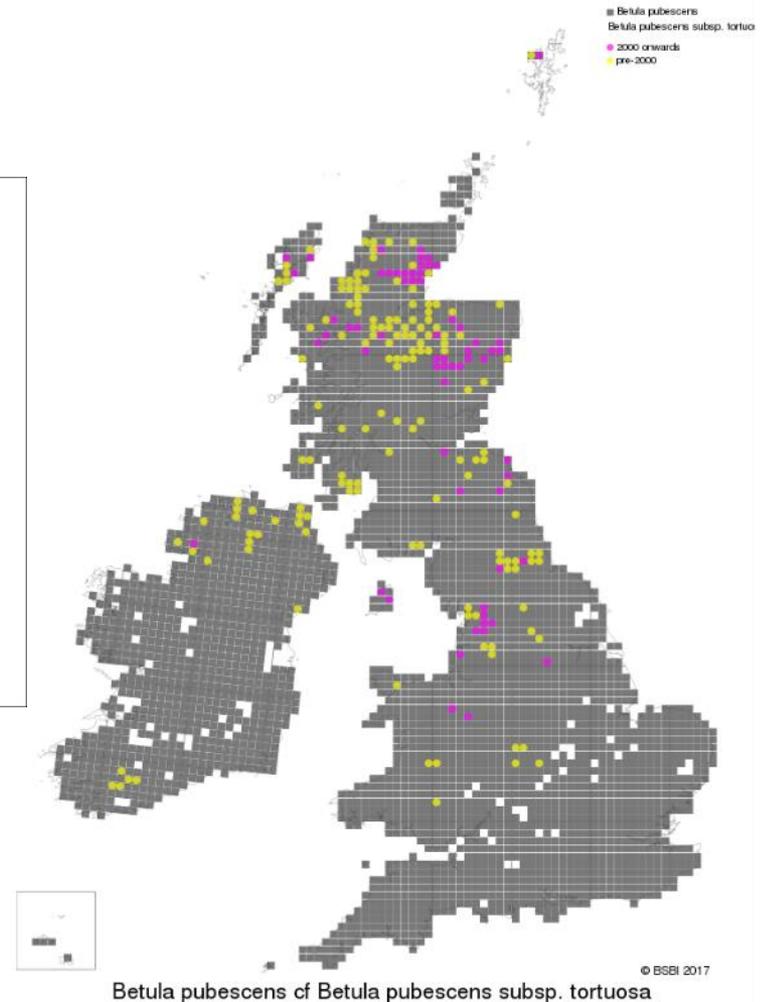
- *Betula pubescens* subsp. *odorata* (in CTW)
- *Betula pubescens* subsp. *carpatica* (in CTM)
- *Betula pubescens* var. *fragrans* (Ashburner & McAllister 2013)

Ashburner & McAllister consider their var. *fragrans* to be restricted to GB (and hence potentially Endemic to this area). They record it from Scotland, Wales (Bala) and Northumberland.

Other northern European populations eg in Scandinavia are named var. *pumila*.



- More pre-2000 (yellow) than post 2000 records (pink), reflects lack or recording of subsp. / var.
- Most populations in upland areas of Scottish Highlands are likely to be referable to subsp. '*tortuosa*'. In vcs 94 – 96, *Betula pubescens* subsp. *pubescens* is restricted to low altitude sites nearer to the coast and looks completely different to the upland trees.
- Are southern England and Ireland records correct? No '*tortuosa*' in Orkney?



Betula pubescens of *Betula pubescens* subsp. *tortuosa*