

Digitising collections in the UK's South West region

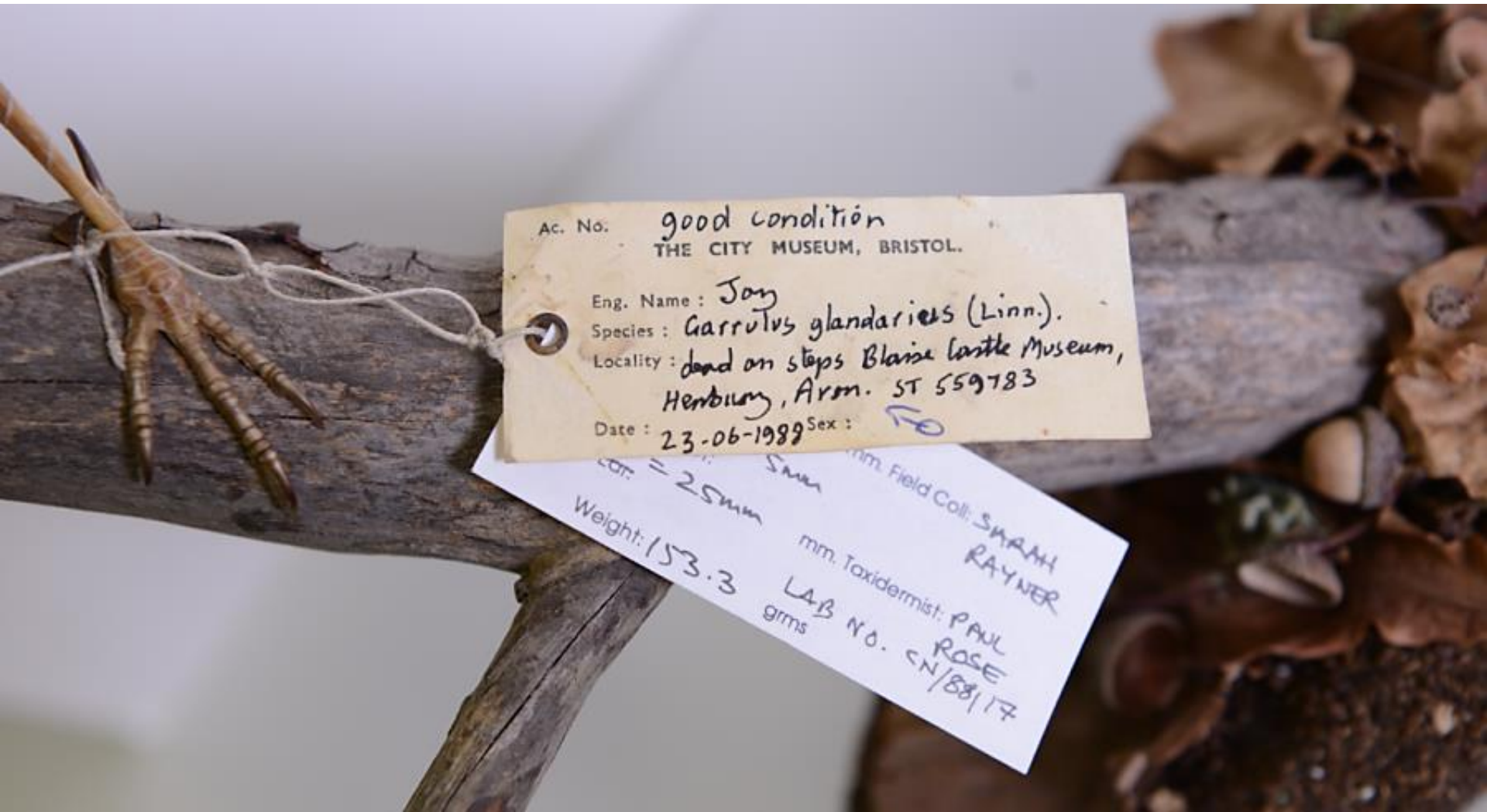
Isla Gladstone
Senior Curator (Natural Sciences)
Bristol Museum & Art Gallery
@isla_gladstone



John Ellerman
Foundation



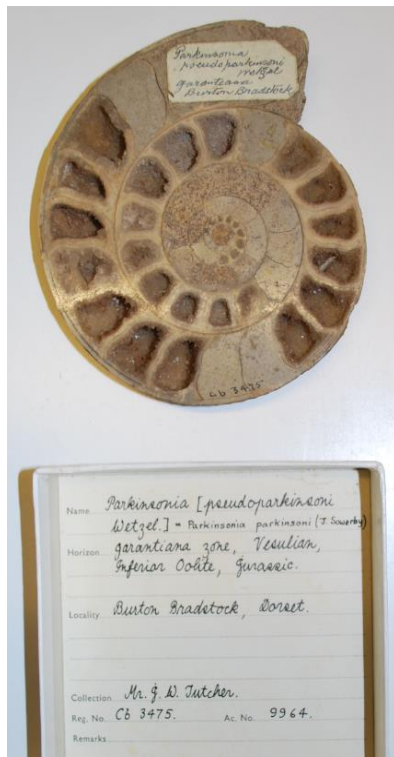
‘Specimen biodiversity data’ =
what, when, where, who collected



Ac. No. good condition
THE CITY MUSEUM, BRISTOL.

Eng. Name: Jay
Species: *Garrulus glandarius* (Linn.)
Locality: dead on steps Blaize castle Museum,
Henbury, Avon. ST 559783
Date: 23-06-1989 Sex: ♂

Weight: 153.3 gms
LAB NO. CN/88/17
mm. Taxidermist: PAUL ROSE
mm. Field Coll: SARA H RAYNER



What:

Orchid, *Broughtonia*

When:

1786-1790

Where:

Jamaica

Who:

Dr Arthur Broughton





- Research: past environment; endemic species
- Engagement: culture and history (remedies, recipes, folklore); modern context
- Collaboration!



**NATURAL
HISTORY
MUSEUM
OF
JAMAICA**



THE UNIVERSITY
OF THE
WEST INDIES



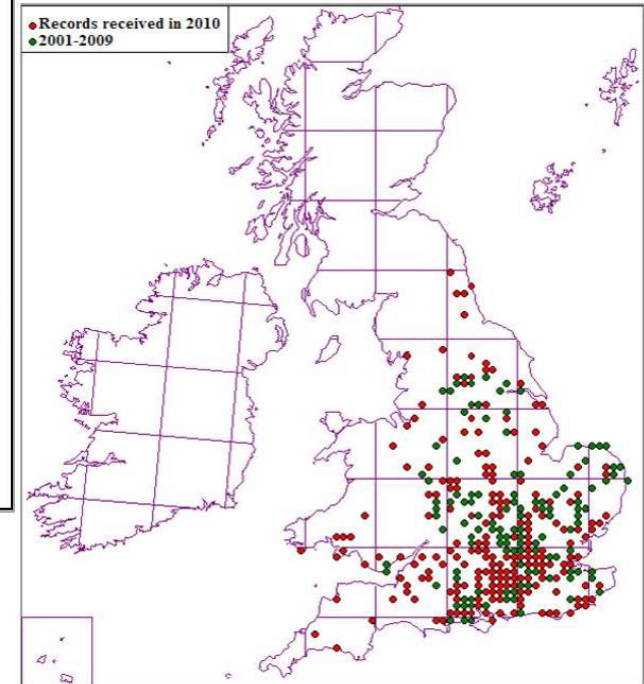
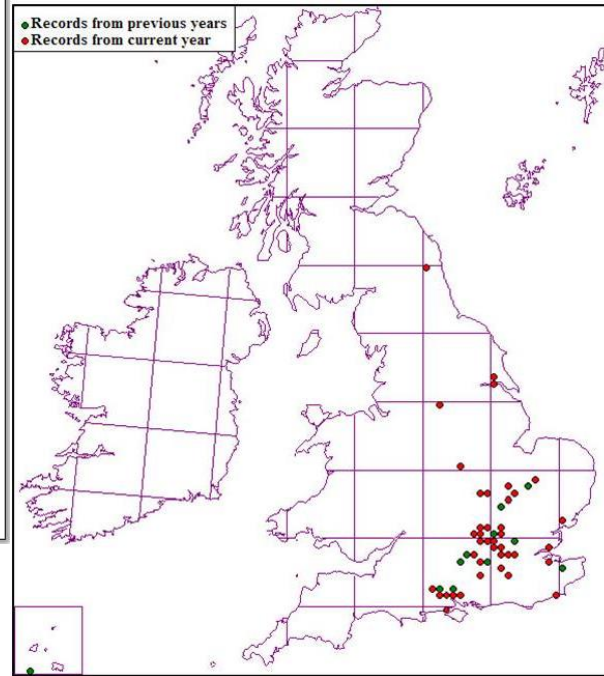
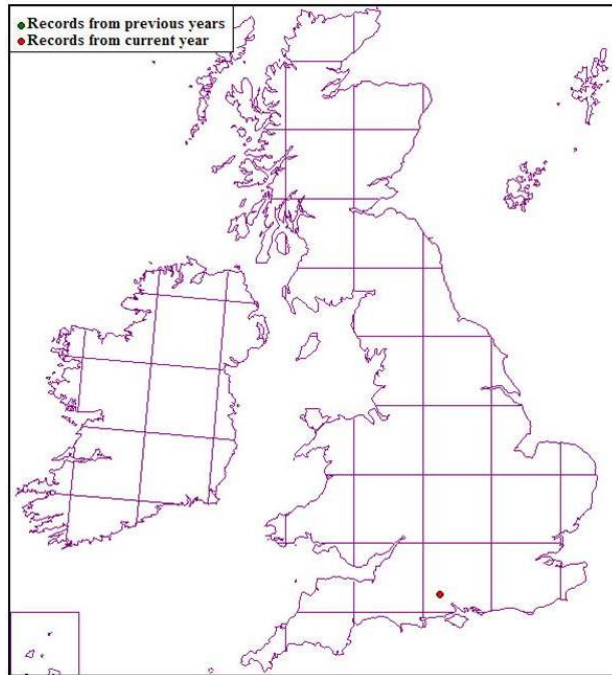
NATIONAL LIBRARY OF JAMAICA
explore. discover. connect.

Art Fund_

ARTS COUNCIL
ENGLAND

One specimen = one point in time & space

Multiple specimens = a story of change through time, told by time capsules of the natural world



Introduction of the Tree Bumblebee to the UK (to 2010)

Big data

The screenshot displays the iDigBio search portal. The browser address bar shows the URL <https://www.idigbio.org/portal/search>. The iDigBio logo is visible in the top left, and navigation links for 'About iDigBio', 'Research', 'Technical Information', and 'Education' are in the top right. A green navigation bar contains links for 'iDigBio Home', 'Portal Home', 'Search Records', 'Tutorial', 'Data', 'Research Tools', and 'Feedback'. The 'Search Records' section is active, showing a search box with 'apidae' and various filters. A world map on the right visualizes record density with a color scale from 1 (yellow) to 5,000 (dark red). A legend for 'Record Density' is provided below the map. At the bottom, there are buttons for 'List', 'Labels', and 'Media'.

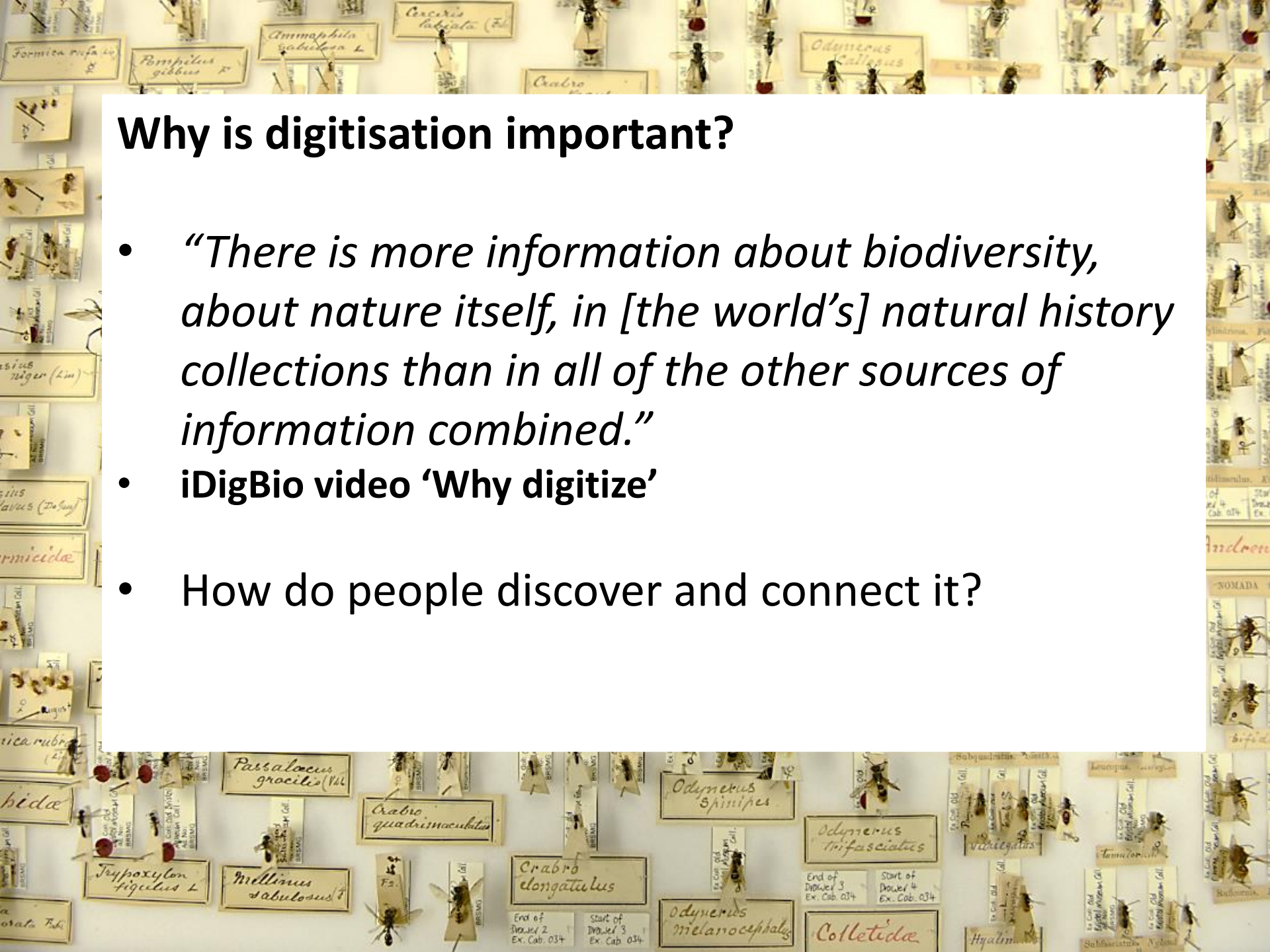
Research Spotlight: August 2016

Preserving historic bee specimens to protect future bee biodiversity

-- Contributed by Joan Meiners, PhD Student, Ernest Lab, School of Natural Resources and Environment, University of Florida

Why is digitisation important?

- “There is more information about biodiversity, about nature itself, in [the world’s] natural history collections than in all of the other sources of information combined.”
- iDigBio video ‘Why digitize’
- How do people discover and connect it?

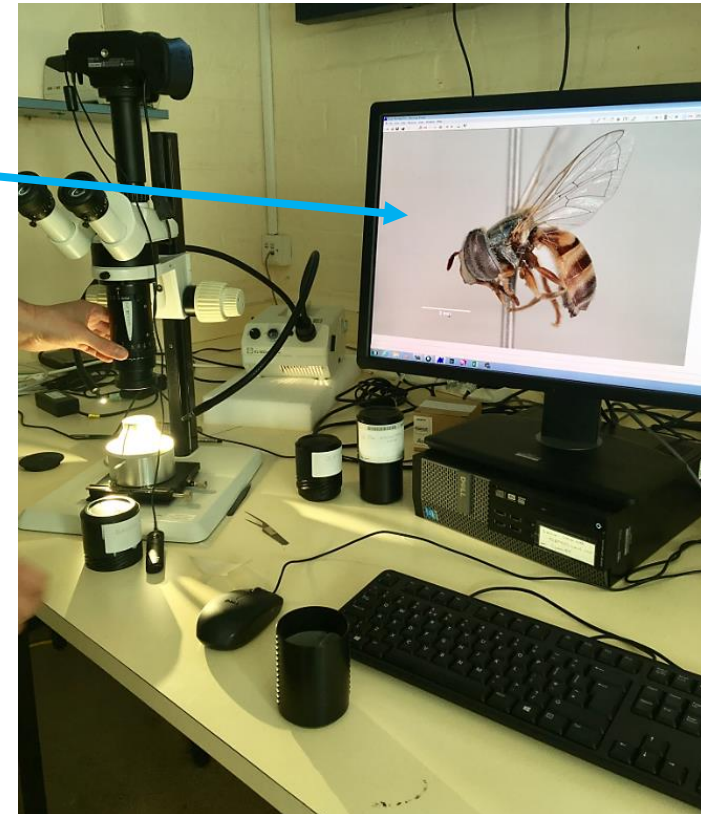


Digitise: capture text and images about a specimen in a digital format



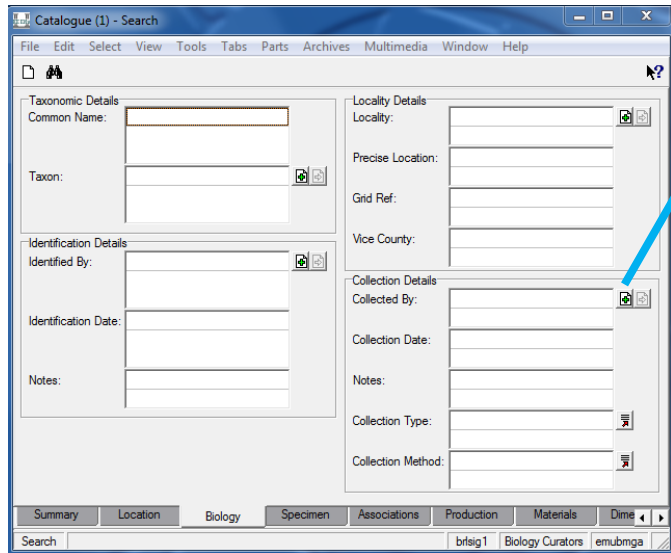
2) Digital data and images

Collected By: (Coll...	Collection Date: (...	Precise Location: ...
Broughton, Doctor...		Liguanea
Broughton, Doctor...		
Charbonnier, H. J.		Stoke
Payne, Mr R N	31/Jul/1963	Felsted
White, Mr Kingsle...	26/Jul/1994	Crask, near Bettyh...
Broughton, Doctor...		
Osborne, Mr	21/Jul/1893	Hursley Brow, Hur...
Watkins, Mr C J.	08/Jun/1889	[Gloucestershire]
Watkins, Mr C J.	04/May/1894	Island, K. Mill, [Glo...
Watkins, Mr C J.		[Gloucestershire]
Watkins, Mr C J.	06/Jun/1892	Haresfield Rd, [Gl...
Watkins, Mr C J.	06/Jun/1892	Haresfield Rd, [Gl...
Watkins, Mr C J.	26/May/1892	near Mount, [Glo...
Watkins, Mr C J.		[Gloucestershire]
Charbonnier, H. J.		
Levy, Mr D A.	25/Jun/1983	Shapwick Heath ...
Payne, Mr R N	21/May/1969	hedge, Dinas Pow...
Payne, Mr R N	29/May/1965	beech trunk, Win...
Watkins, Mr C J.	03/Jul/1897	B. Valley, Gower, [...
Watkins, Mr C J.	/Sep/1893	illeg.
Watkins, Mr C J.	06/Aug/1896	on plantain flower,...
Watkins, Mr C J.		[Gloucestershire]



1) Specimen

Mobilise:



1) Museum collections management databases

2) Research databases:

Local:



UK:



Global:



JSTOR | *Global Plants*



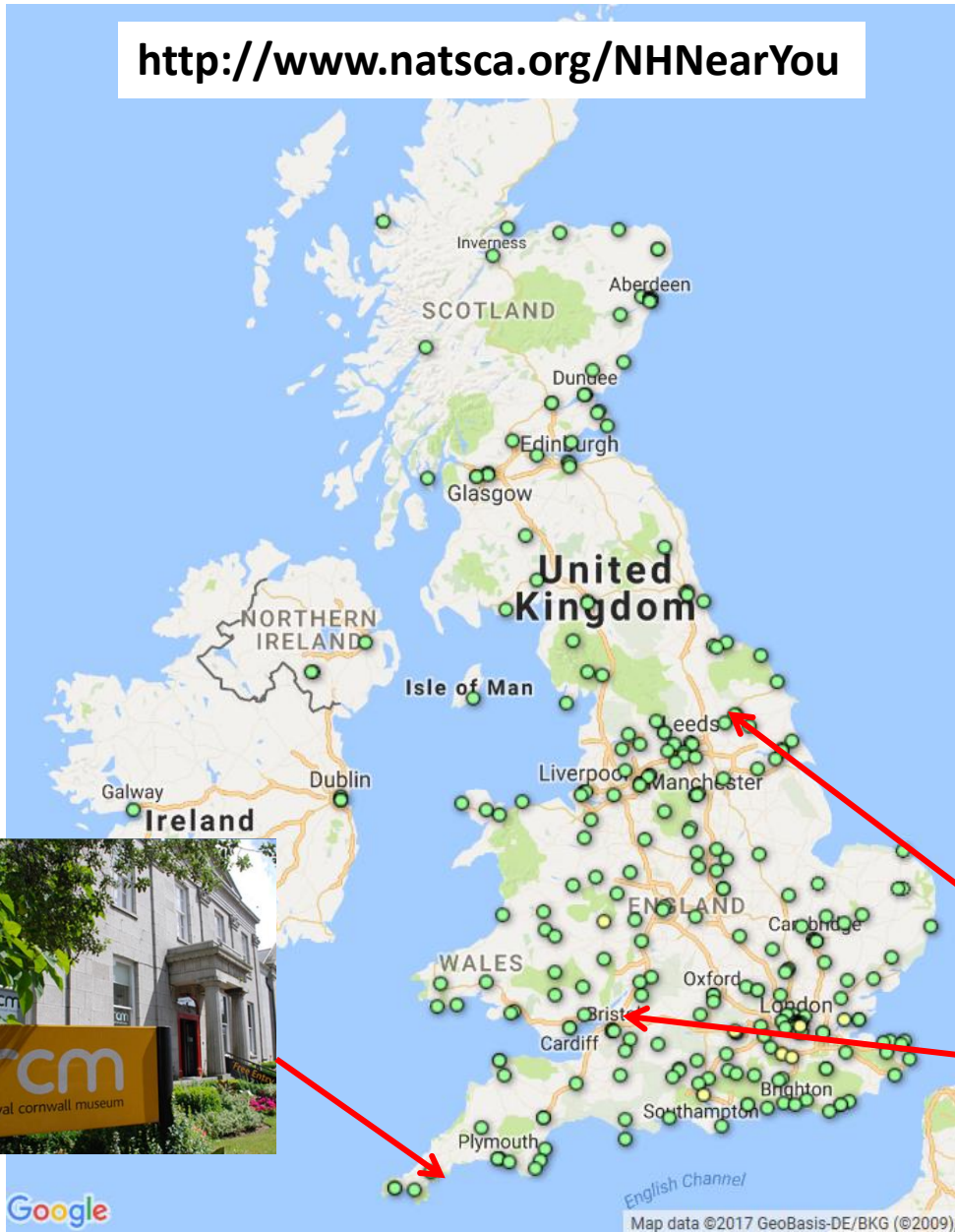
What is the UK picture?

<http://www.natsca.org/NHNearYou>

> 350 collections? (Natural History Near You, NatSCA)

> 130 million specimens? (NHM estimate)

Zero systematic sharing of data outside major institutions & projects?



South West Area Natural Sciences collections (SWANS) project



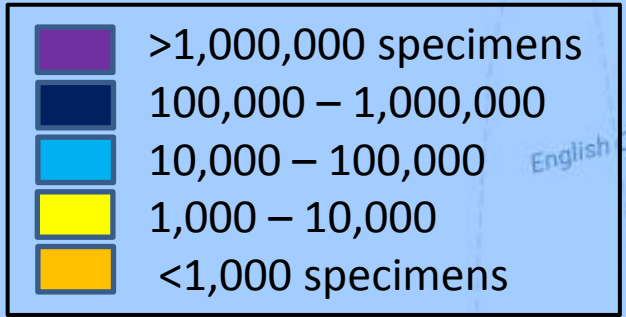
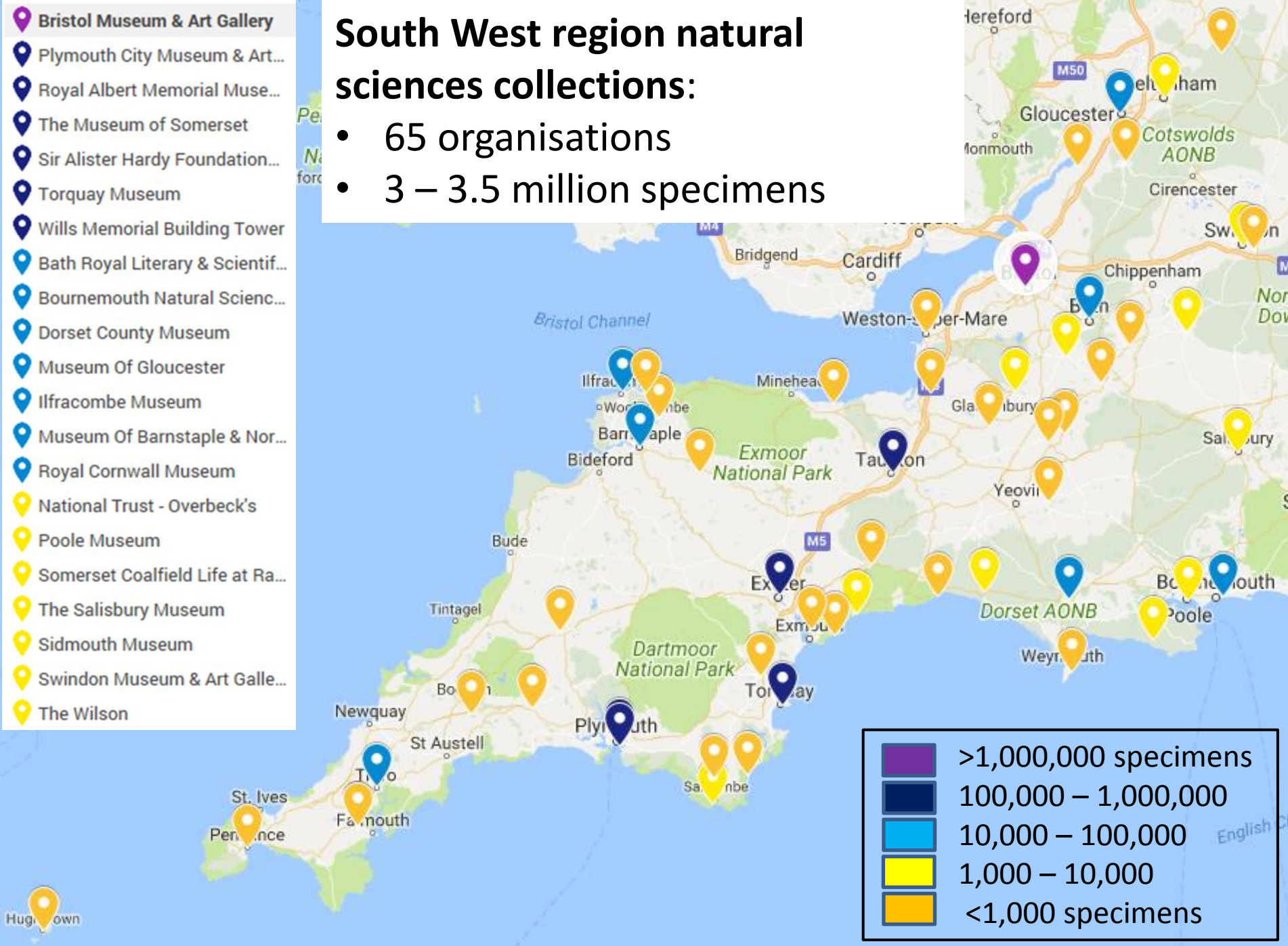
- Funded by the John Ellerman Foundation, 2015-2018
- Led by Bristol Culture
 - in partnership with collections with a natural sciences specialist & South West Museums Development (SWMD)
- Geographic regional focus
 - provides access / support to smaller collections and those with no in house specialist; a regional picture for the UK
- Model:
 - 1) Specialists: maps skills, provides new network, training
 - 2) Cascades skills to wider sector museums - based on established SWMD networks, methods & user survey



South West region natural sciences collections:

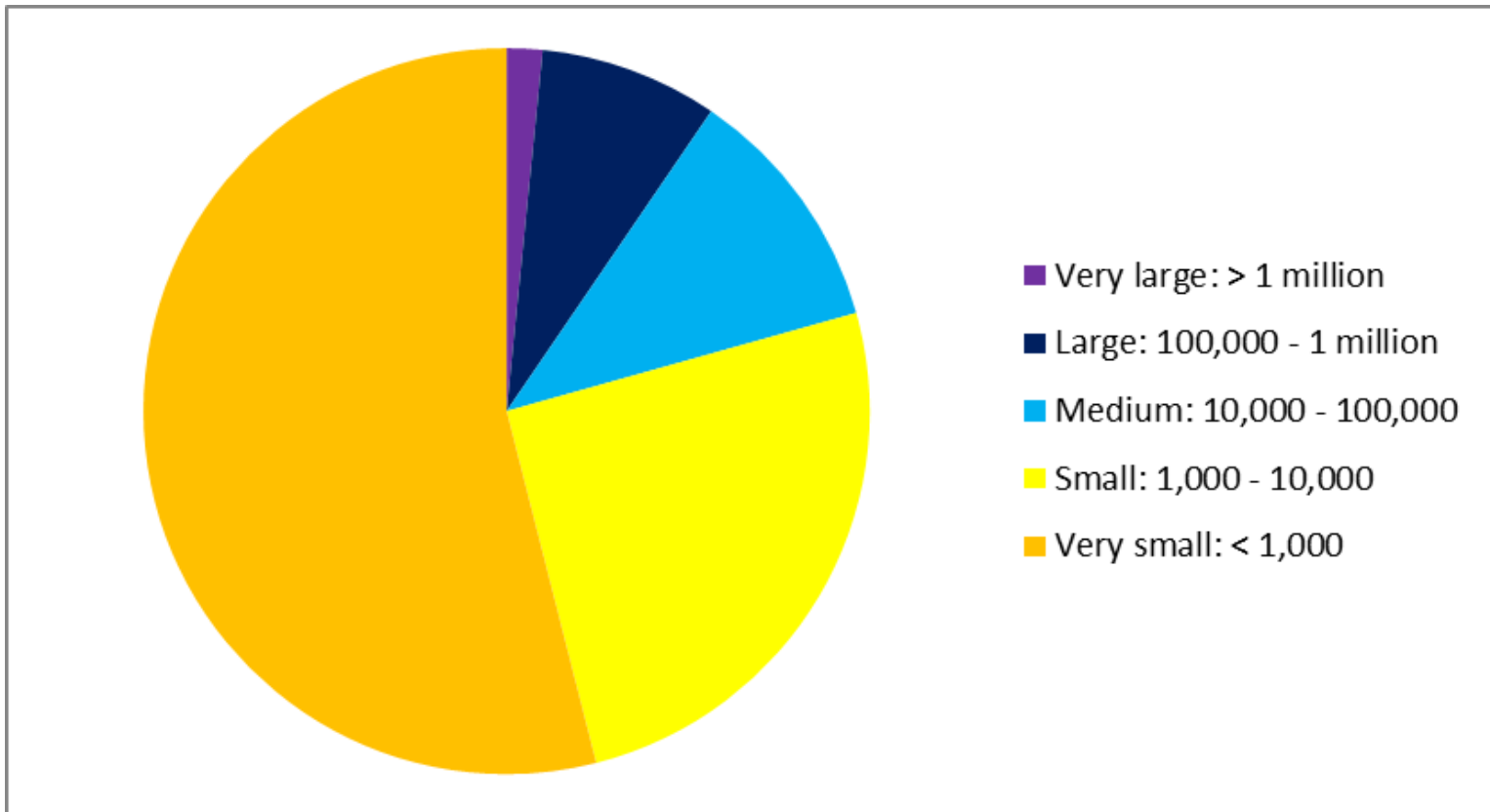
- 65 organisations
- 3 – 3.5 million specimens

- Bristol Museum & Art Gallery
- Plymouth City Museum & Art...
- Royal Albert Memorial Muse...
- The Museum of Somerset
- Sir Alister Hardy Foundatio...
- Torquay Museum
- Wills Memorial Building Tower
- Bath Royal Literary & Scientif...
- Bournemouth Natural Scienc...
- Dorset County Museum
- Museum Of Gloucester
- Ilfracombe Museum
- Museum Of Barnstaple & Nor...
- Royal Cornwall Museum
- National Trust - Overbeck's
- Poole Museum
- Somerset Coalfield Life at Ra...
- The Salisbury Museum
- Sidmouth Museum
- Swindon Museum & Art Galle...
- The Wilson



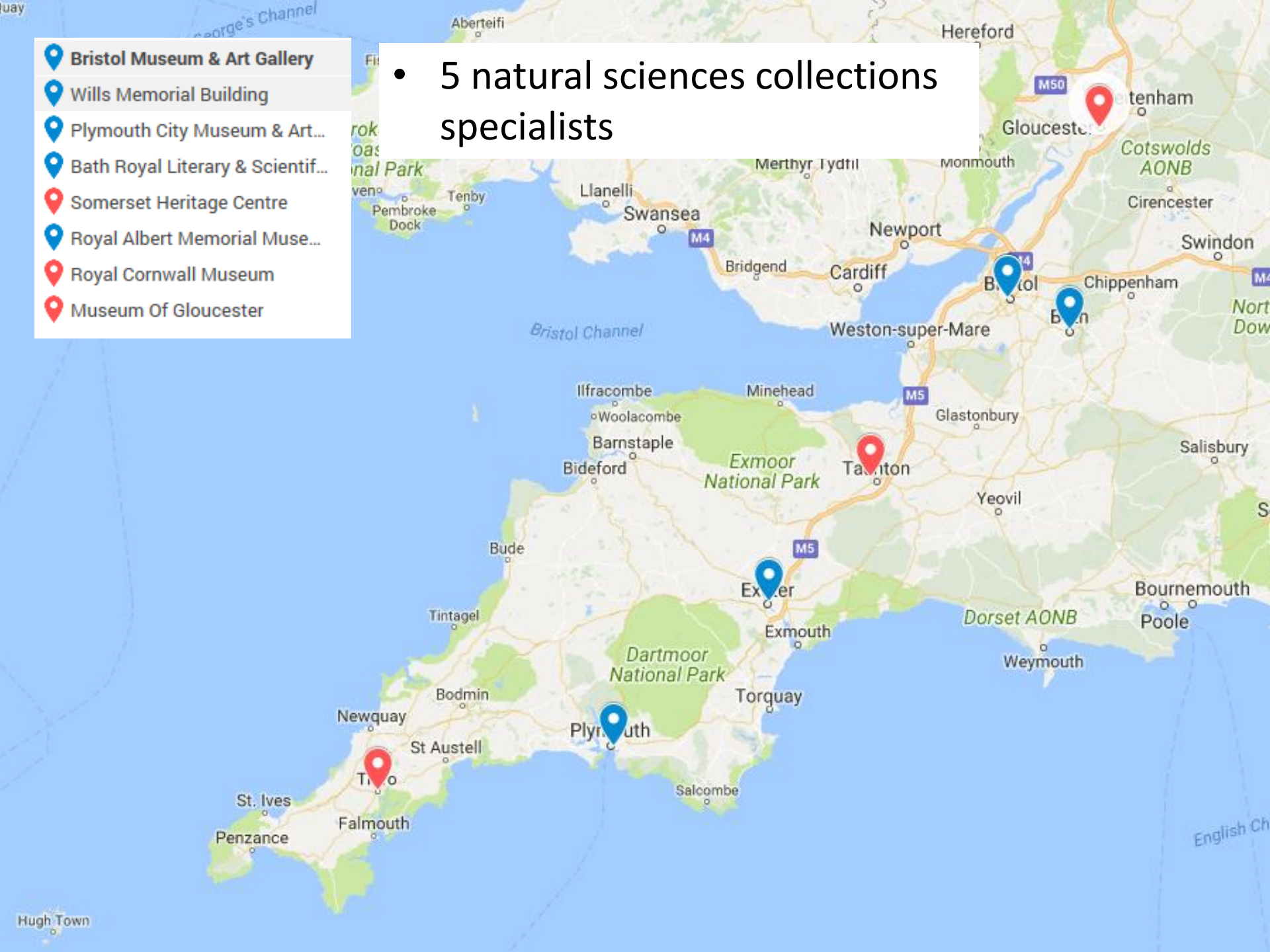
South West Region natural sciences collections:

- a predominance of organisations with small or very small collections (1 – 10,000 specimens)
- wide geographic spread
- high proportion of volunteer-led organisations

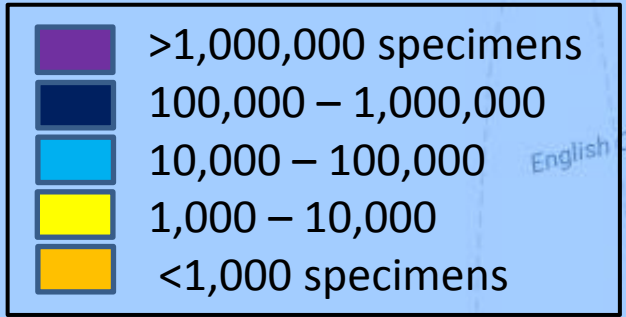
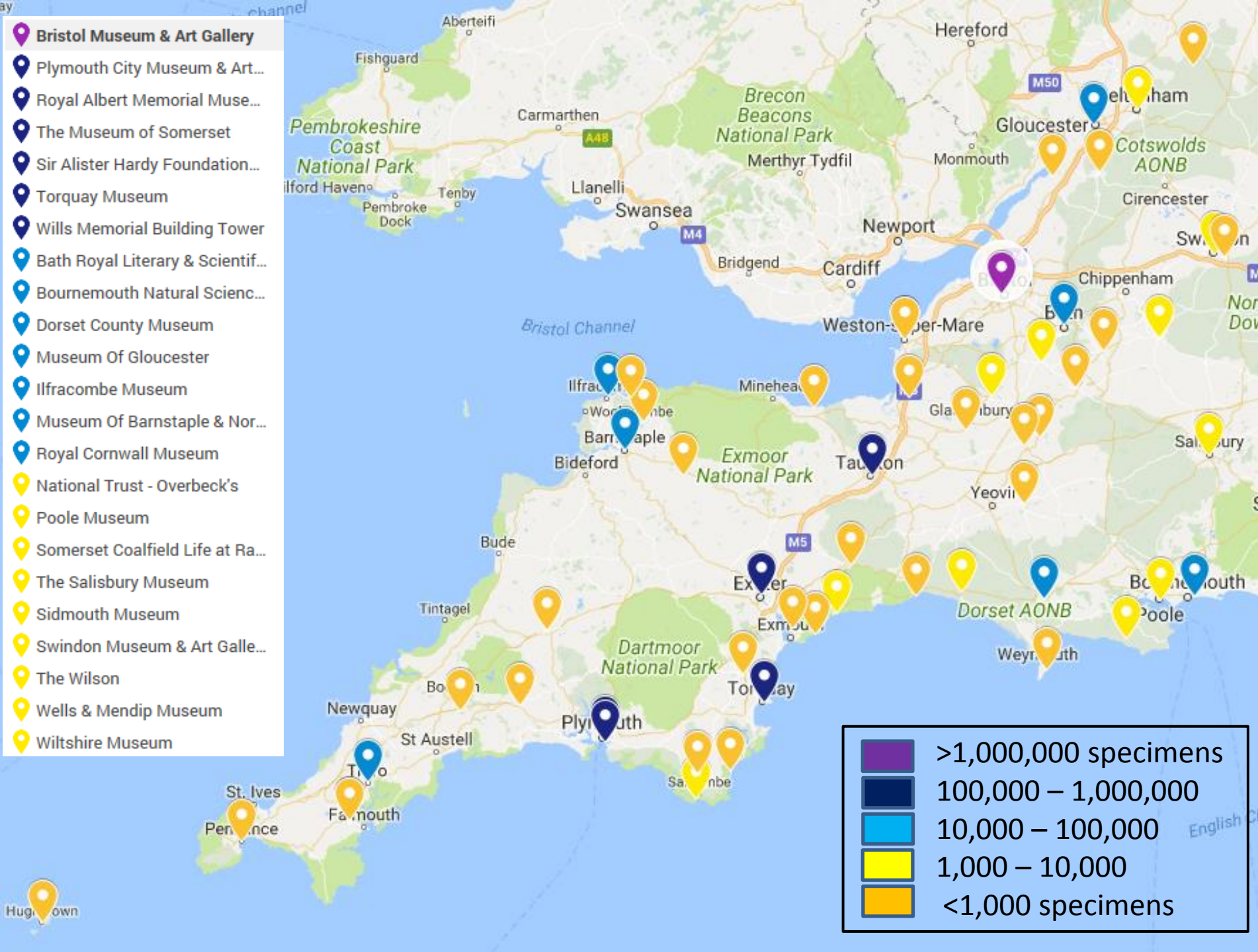


- 5 natural sciences collections specialists

- Bristol Museum & Art Gallery
- Wills Memorial Building
- Plymouth City Museum & Art...
- Bath Royal Literary & Scientif...
- Somerset Heritage Centre
- Royal Albert Memorial Muse...
- Royal Cornwall Museum
- Museum Of Gloucester

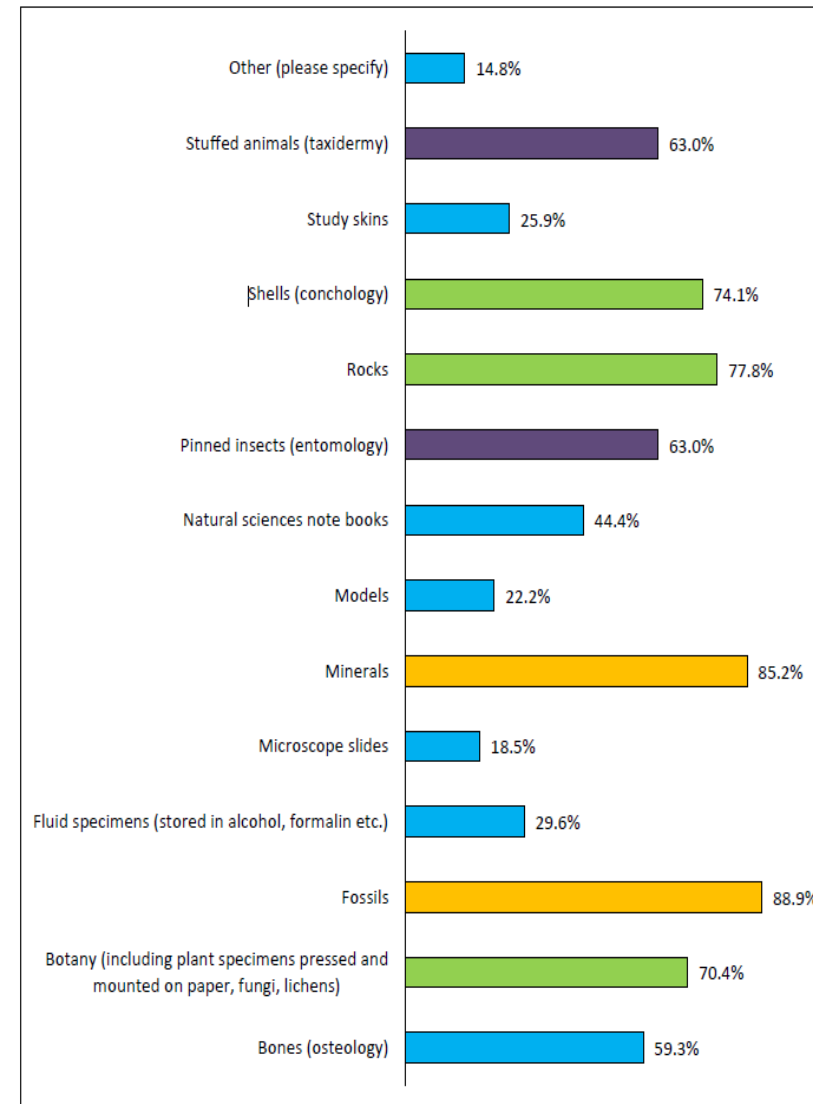


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- Poole Museum
- Somerset Coalfield Life at Ra...
- The Salisbury Museum
- Sidmouth Museum
- Swindon Museum & Art Galle...
- The Wilson
- Wells & Mendip Museum
- Wiltshire Museum



SW wider sector: 2015/16 survey

- 27 institutions
- NS collection not used: **44%**
- NS collection at risk: **26%**
- *“It is probably the most under used part of our collection”*
- **Wider sector museum**
- *“Natural sciences collections in wider sector museums are neglected above other collection types, due to lack of skills”*
- **South West Museums Development**



South West Area Natural Sciences collections (SWANS) project



- A new model based on collaboration and networks
- Within this model, digitisation, or mobilising our biodiversity data, provides real opportunities for:
 - **Collaboration:** future co-working
 - **Value:** joining in with a UK / global narrative
 - **Audiences:** local reach; museum staff and volunteers
 - **Skills**
 - **Collections management:** documentation, care



SWANS digitisation model

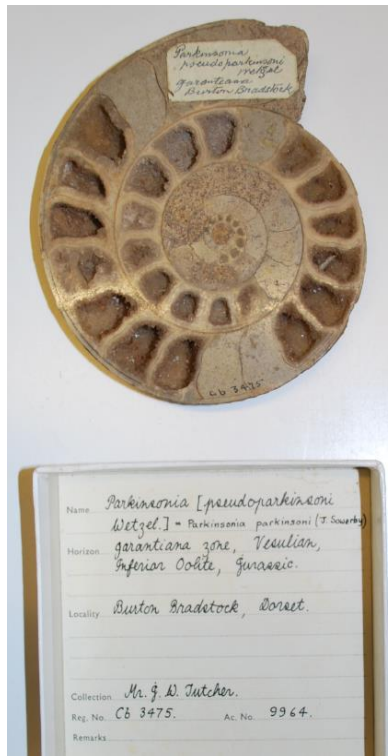


- **Upskill** regional natural sciences collections specialists:
 - seek training & expertise
 - translate to regional resource & need
- **Export** 'legacy' data - ?
- **Purchase digitisation equipment:**
 - for future collaborative projects
 - to be based at key institutions
- In depth **surveys** with wider sector museums
- **Future:** small projects, one umbrella; explore crowdsourcing expertise; a UK bigger picture?



South West specimen data

- **Project partners:** 1.8 million natural sciences specimens
- Estimated 325,000 on collections management system: 16.25% (range: 4% - 65%)
- Estimated 16,000 exported (RCM beetles project): 0.8%
- **Zero systematic export**



Test export:

Bristol data to Local Environmental Records Centre

- Bristol's collection: 1,200,000 specimens
- ↓
- 28,000 biology specimen database records
- ↓
- 6,500 West of England records
- ↓
- 1,879 of a quality to export post-processing
- ↓
- = **29%**



	Object Number: (Registration...	Simple Name: (Collection Det...	Common Name...	Taxon: (Content Details)/T...	Name: (Geological...	Sites: (Subject Details)/Loca
7885	Bb1108	Larkspur	Larkspur	Consolida ajacis Linnaeus : ...		United Kingdom of Great Brit
7886	Ba					Great Brit
7887	Bb					Great Brit
7888	Bb					Great Brit
7889	Bb					Great Brit
7890	Ba					Great Brit
7891	Bb					Great Brit
7892	Bb					Great Brit
7893	Bb					Great Brit
7894	Ba					Great Brit
7895	Bb					Great Brit
7896	Ba					Great Brit
7897	Ba					Great Brit
7898	Ba					Great Brit
7899	Ba					Great Brit
7900	Ba					Great Brit
7901	Ba					Great Brit
7902	Ba					Great Brit
7903	Ba					Great Brit
7904	Bb					Great Brit
7905	Bb					Great Brit
7906	Bb					Great Brit
7907	Bb					Great Brit
7908	Bb					Great Brit
7909	Ba					Great Brit
7910	Ba					Great Brit
7911	Ba					Great Brit
7912	Bb1066	Bell Heather	Bell Heather	Erica cinerea Linnaeus : En...		United Kingdom of Great Brit
7913	Bb1070	Bilberry	Bilberry	Vaccinium myrtillus Linnaeu...		United Kingdom of Great Brit
7914	Bb1068	Ling	Ling	Calluna vulgaris Linnaeus : ...		United Kingdom of Great Brit

Issues:

- *“Although this information can be interrogated by others it has routinely been used for internal purposes and had not been digitised to the standards required for easy migration to local or national data custodians.”*
- Bristol Regional Environmental Data Centre
- Key issues:
 - Distinguishing original data
 - Data input quality
 - Geo-referencing
 - Feedback of data updates to Bristol database



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7886	Bb					Great Brit
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7890	Bb					Great Brit
7891	Bb					Great Brit
7892	Bb					Great Brit
7893	Bb					Great Brit
7894	Bb					Great Brit
7895	Bb					Great Brit
7896	Bb					Great Brit
7897	Bb					Great Brit
7898	Bb					Great Brit
7899	Bb					Great Brit
7900	Bb					Great Brit
7901	Bb					Great Brit
7902	Bb					Great Brit
7903	Bb					Great Brit
7904	Bb					Great Brit
7905	Bb					Great Brit
7906	Bb					Great Brit
7907	Bb					Great Brit
7908	Bb					Great Brit
7909	Bb					Great Brit
7910	Bb					Great Brit
7911	Bb					Great Brit
7912	Bb1066	Bell Heather	Bell Heather	Erica cinerea Linnaeus : Eri...		United Kingdom of Great Brit
7913	Bb1070	Bilberry	Bilberry	Vaccinium myrtillus Linnaeu...		United Kingdom of Great Brit
7914	Bb1068	Ling	Ling	Calluna vulgaris Linnaeus : ...		United Kingdom of Great Brit

Significance:



- *“An initial analysis of the dataset has shown many of the records to be of great interest and significance”*
- 294 species not previously recorded in West of England; >1 species new to the UK; 368 records of Notable species
- New local publications
- New stories for engagement
- 1,879 records to the National Biodiversity Network and Global Biodiversity Information Facility

South West specimen data: wider sector museums

Ilfracombe Museum:



South West specimen data: wider sector museums

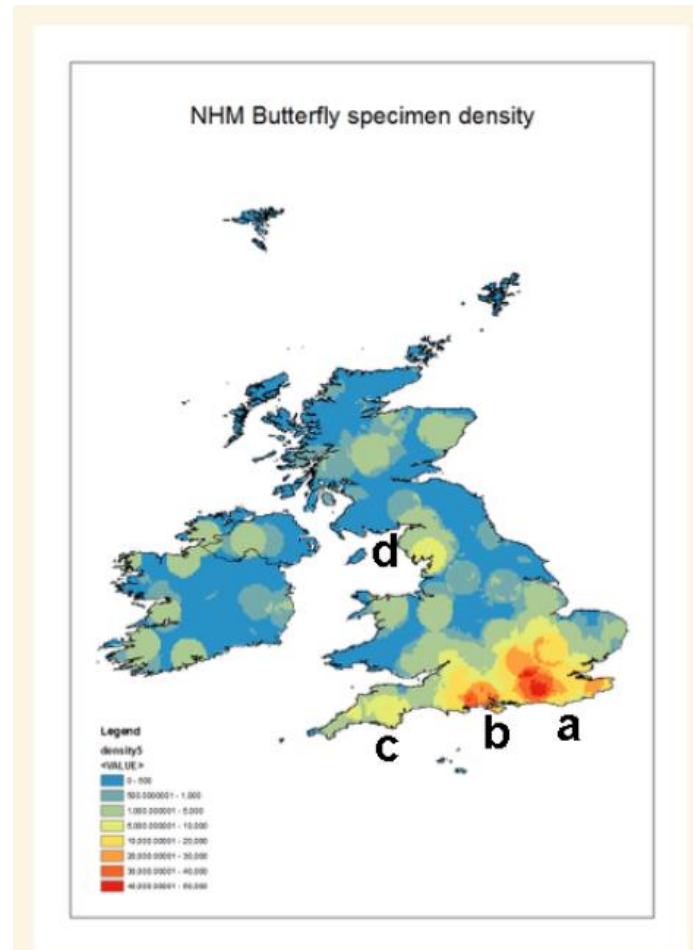
Bournemouth Natural Sciences Society:



South West specimen data: wider sector museums

National Trust Arlington Court:





Map giving the specimen distribution within the collections. a- Home Counties around London; b - New Forest; c - Torbay region and d) Lake District. The latter two localities became popular holiday destinations during the late 1800s and early 1900s.

Part of: Paterson G, Albuquerque S, Blagoderov V, Brooks S, Cafferty S, Cane E, Carter V, Chainey J, Crowther R, Douglas L, Durant J, Duffell L, Hine A, Honey M, Huertas B, Howard T, Huxley R, Kitching I, Ledger S, McLaughlin C, Martin G, Mazzetta G, Penn M, Perera J, Sadka M, Scialabba E, Self A, Siebert D, Sleep C, Toloni F, Wing P (2016) iCollections – Digitising the British and Irish Butterflies in the Natural History Museum, London. Biodiversity Data Journal 4: e9559. <https://doi.org/10.3897/BDJ.4.e9559>

Why collaborate?

- *“We are at a unique stage in our history. Never before have we had such an awareness of what we are doing to the planet, and never before have we had the power to do something about it.”*
Sir David Attenborough, Blue Planet II
- Opportunity for a unique UK contribution to global issues
 - research and engagement; local to global; a shared narrative and value
- Together we are stronger
 - shared skills; individual approaches; increased reach
- Big challenges
 - the time is now...