Motivating volunteers: learning, belonging & recognition

Examples from iSpot: a citizen science platform for nature

Janice Ansine
Senior Manager Citizen Science
Faculty of STEM, and
Professional Doctorate in Education (EdD) Researcher,
Faculty of WELS,
The Open University
Email: janice.ansine1@open.ac.uk
iSpot : iSpot@open.ac.uk

Science Us Info Day , February 17, 2026

Citizen science in practice: connections

The OU

- Leader in higher education - global reach;
- Accessible , new & emerging technologies including online citizen science
- Citizen science practice connections with:

Research

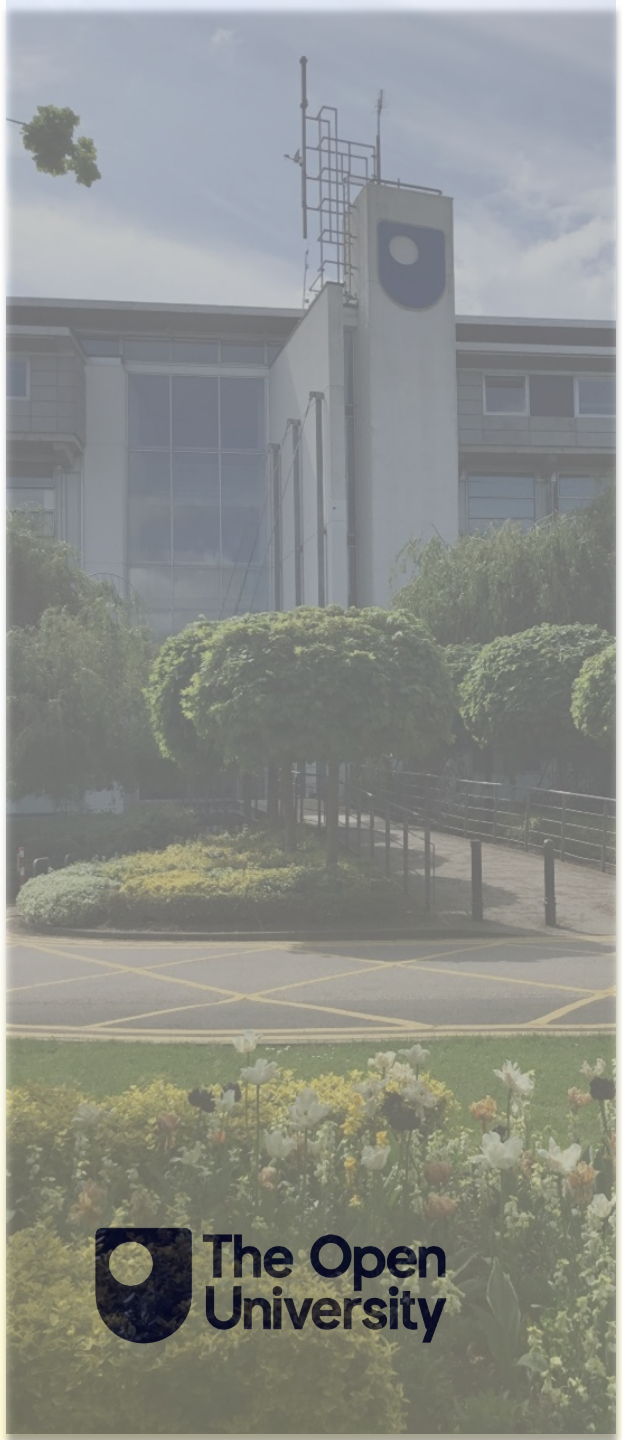
- Biological recording
- Monitoring, classifying, collecting & analysing data
- Technologies for citizen observatories
- Citizen inquiry

Teaching and learning

- Formal & informal teaching & learning opportunities i.e. modules, OpenLearn etc
- Practical science online i.e. OpenScience Laboratory
- Contributes to science field work

Engagement, participation & outreach

- Participation on web-based platforms
- Face-to-face and online events and activities
- TV and radio OU/BBC collaborations, resources, media & comms



OU citizen science student ‘volunteers’: 1970s - The early days…

Sulphur dioxide—a UK snapshot view

Open University students have completed a unique survey of air pollution in Britain, designed to map the concentration of sulphur dioxide throughout the country at one moment in time

Professor Steven Rose
is professor of biology at the Open University, Bletchley, Bucks, and
Les Pearce
is chief technician in the Open University biology department

The students of the Open University Science Foundation Course are a unique group. Widely scattered across Britain, equipped with a basic experiment kit which makes possible a wide range of manipulations, and in contact with one another by way of the university, they form a large population of enthusiastic scientific observers. Working together, they can collect and make available for analysis data which cannot easily be assembled any other way. In the experiments associated with the course, we have tried to develop this potential for scientific mass-observation. Of the several collective experiments we have performed, one of the most interesting was an air pollution survey.

We chose to try this experiment for a number of reasons—the intrinsic educational value of learning to handle and manipulate the equipment and chemicals; the demonstration of the way in which many individual and sometimes aberrant readings combine to give a statistically significant global picture; the fact that the measurement of pollution levels is one way of demonstrating some of the interactions of science with society, a relationship which is central to the Foundation Course; and, finally, the hope that the data we obtained might be useful to a wider public in indicating the levels of air pollution over the country as a whole.

The British government maintains an extensive network of continuous monitoring devices for SO_2; these give, for each of more than 1200 sites, an average 24 hour reading of SO_2 levels. We could not duplicate this; by contrast, our students, by making a series of “instant” readings, all at the same time and at many different parts of the country would obtain a set of “snapshots”—profiles of SO_2 levels at a series of separate times. The government sites are, of course, at fixed places — generally public buildings. Our students would each make their readings in the micro-environment of their own garden or yard.

Our biggest disadvantages included that of date. For operational reasons we had to fix the dates of the readings in early October, too early in the winter to get really high values, perhaps. Another problem was of how to code the results we got geographically. We obviously couldn’t handle each of several thousand cases separately. We solved this by grouping results by Study Centre. The Open University maintain a network of some 250 Study Centres across the country, and each student “fixed” his result geographically in terms of the nearest Study Centre—reasonable perhaps for the big towns where the Centres are close together and the students also fairly close to them; less so in the remote

Citizen science platforms and projects snapshot

2007 – 2026 – ongoing

iSpot ispotnature.org — Your place to share nature: www.iSpotnature.org

Cos4Cloud — Co-designing Citizen Observatories Services for the European Open Science Cloud: a European project to boost citizen science technologies: https://cos4cloud-eosc.eu/

DECIDE Recording nature where it matters — DECIDE: Recording nature where it matters: www.ceh.ac.uk/our-science/projects/decide

X-POLLI:NATION — Cross pollinating ideas, methods and technologies for pollinator citizen science: https://xpollination.org

SENSE — Sensory Explorations of Nature in School Environments: https://sensescience.org

Treezilla The monster map of trees — The monster map of trees: www.Treezilla.org

Engaging Environments: UK-wide initiative - equitable co-inquiry between diverse communities & environmental scientists: https://linktr.ee/NERC_ENGAGING_ENVIRONMENTS

Walking the Walk: making environmental science more diverse, equitable and inclusive https://bit.ly/Walking_the_walk

FUTURE OF UK Treescapes — BRANCHING OUT New ways of mapping, predicting, and communicating social & cultural values of trees supporting management of UK Treescapes: https://www.valueoftrees.co.uk/ and www.uktreescapes.org/projects/branching-out/

CITIZEN SCIENCE & ARTIFICIAL INTELLIGENCE — Citizen Science & Artificial Intelligence Research Group: https://citsci.kmi.open.ac.uk/

About citizen science and volunteers

Citizen science …

…means the participation of the public in science and research. It is an open and inclusive approach, with key characteristics including: (1) citizens are actively involved in research; and (2) there is a genuine science outcome, such as new scientific knowledge, conservation action or policy change.

The term ‘citizen science’, however, is broad and always changing….

European Citizen Science Association (ECSA) FAQs
https://www.ecsa.ngo/faqs/)

Volunteers in citizen science…

- Are crucial and can play different roles giving their time in a range of ways contributing to scientific research, data collection, monitoring or analysis.
- Can be involved in a wide range of projects in subjects such as biodiversity, astronomy, medicine, climate change, invasive species, conservation, ecological restoration, monitoring water quality and studying population ecology, to name just a few!

The Open University

What motivates volunteers in citizen science?

Possible factors that might motivate participation and involvement in citizen science*:

Motivating Factor	% of Responses
Helping wildlife	52%
Contributing to scientific knowledge	29%
Helping at a specific place, site or area	6%
Learning new things	3%
Being with others who wanted to do it (family, friends, teacher, etc.	3%
Spending time outdoors	2%
Sharing my knowledge or expertise	2%
Other reasons	2%
Furthering my career	1%
Getting exercise	1%
Meeting people or for fun	0
Developing new skills	0

The Open University

- Think about your own interest in and experience of science, what would you say motivates your interest?
- What do you think motivates the volunteers in your project?

*Adapted from.: Geoghegan, H., et al. (2016) Understanding motivations for citizen science, UKEOF.

Motivation can simply be curiosity or helping others!

The story of Katie, a moth and iSpot

In October 2009, six-year-old Katie Dobbins who lives just outside London, England, saw an unusual furry moth on her windowsill. Curious to find out what it was, she showed it to her dad, who helped her to take a photo and posted the observation on the then-new citizen science platform **www.iSpotnature.org**.

Within 24 hours, the iSpot online community confirmed it to be the *euonymous leaf notcher*, a species never previously seen in the UK.

This example of citizen science demonstrates its power. It enables anyone to participate, make discoveries and contribute to scientific knowledge, while at the same time being able to engage with and learn about science.

Citizen science and global biodiversity, free Badged Open Course (BoC) OpenLearn, The Open University, www.open.ac.uk/citizen-science-and-global-biodiversity .

iSpot
ispotnature.org

©Get Reading

The Open University

iSpot citizen science: learning, belonging & recognition

- iSpotnature.org - your place to share nature
- Scale: UK / Global
- Timeline: launched 2009 – ongoing
- History: part of OPAL UK-wide project(2007-2019) enabled public to explore nature
- Aims:
  - Lower barriers to ID – build ID skills
  - Make nature accessible / open to all
  - Support new generation of naturalists
  - Biological data recording
- Free, easy to use; integrated features and tools
- Online community; novices, experts etc
- Upload a wildlife photo and the community helps to identify it

The Open University

DOMINIC LAWSON: T

THE INDEPENDENT NATURE

TWITTER Follow The Independent on Twitter

News | Opinion | Environment | Sport | Life & Style | Arts & Entertainment | Trav

Climate Change | Green Living | Nature | Sound & Vision

Home > Environment > Nature

Six-year-old girl discovers Asian moth in UK

By Lauren Turner, Press Association

Tuesday, 13 October 2009

SHARE | PRINT | EMAIL | AAA TEXT SIZE

A shrub-eating moth has been discovered in the UK for the first time - thanks to the keen eye of a six-year-old girl.

Katie Dobbins' father Julian took a photograph of the furry moth after she found its body at their home in Upper Bucklebury, Berkshire.

He uploaded it onto a wildlife website run by the Open University with the message: "My daughter found this strange moth on our windowsill. Very keen to find out what it is... and why it is so furry."

To everyone's surprise, an Open University nature expert quickly identified the creature as an Euonymus Leaf Notcher, native to Asia.

An Open University spokeswoman said: "The UK moth fauna is very well-studied so it's unusual for brand new species to be found.

A photograph issued by Open University of an Euonymus Leaf Notcher - a rare shrub-eating moth never before seen in the UK. The moth was found by Katie Dobbins, 6, whose father Julian took a photograph of the furry moth after she found its body at their home in Upper Bucklebury, Berkshire.

ENLARGE

Discoveries: Euonymus Leaf Notcher, October 2009

"The winner takes maximum advantage of what the internet uniquely affords users - being both participatory and collaborative. The judges loved the user generated content - and the fact that users are able to take an active role in the curation and validation of the content... ."

ARKive New Panda Award, Wldscreen , October 2010

"Learning the names of animals and plants can be great fun… All great naturalists, Charles Darwin included, started off this way…

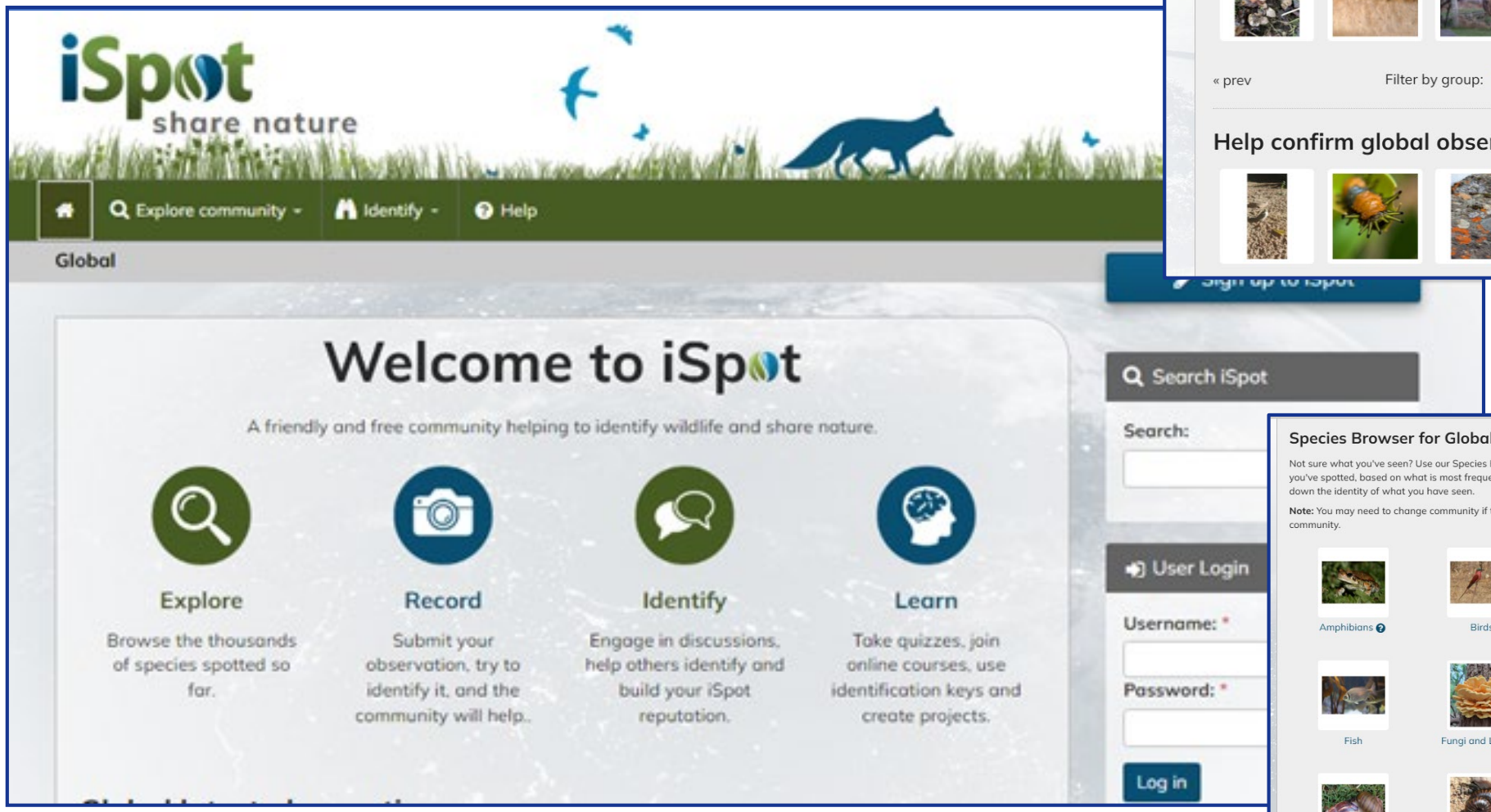
iSpot has already had a great success in encouraging people of all ages and all backgrounds, to take this first step… I believe this remarkable project… deserves all the help it can get.."

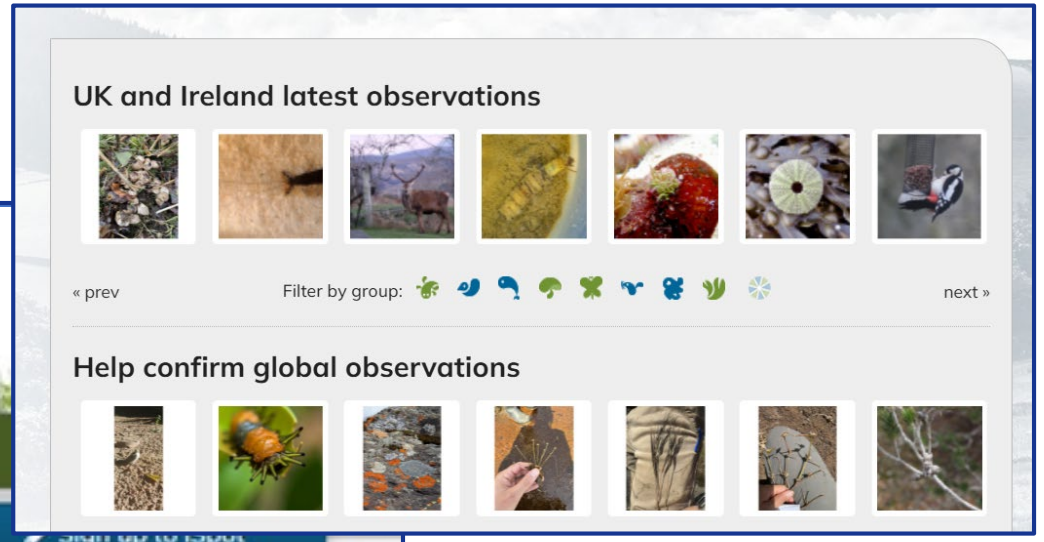
Sir David Attenborough

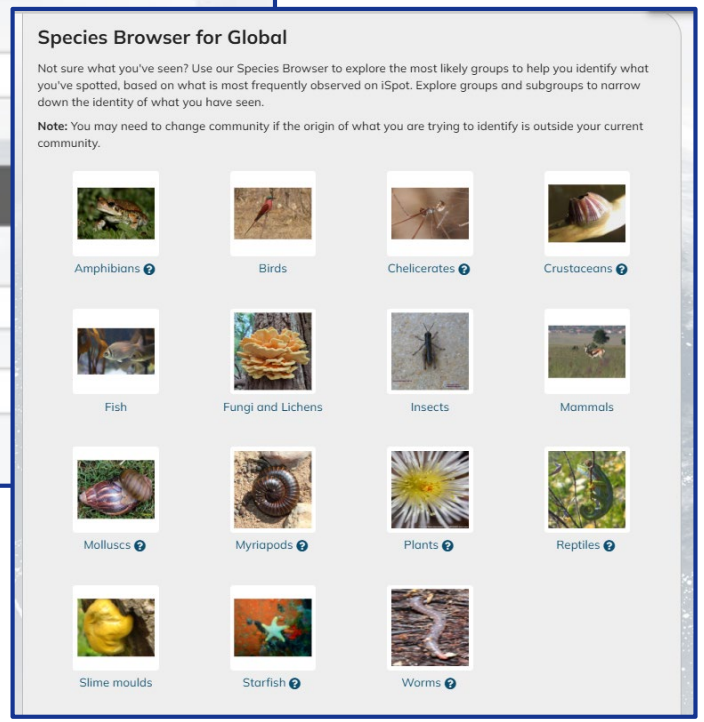
Letter of support: September, 2011

iSpot: your place share nature

www.iSpotnature.org







The Open University

Participation and learning

Add observations, get help or ID others

Brown Damselfly

next »

Observed by **Solipsist** on 28th June 2009

(Added to iSpot on 11th May 2010)

The brown colour is throwing me. Might be a rather muted coloured female Common Blue damselfly, or maybe a female Azure damselfly.

Location: West Stow Heath

Identification

Azure Damselfly (*Coenagrion puella*) by Solipsist at 10:45 am 11/05/10

Confidence: It might be this.

I agree!

Search Encyclopedia of Life for Coenagrion puella

View NBN map for Coenagrion puella

Enallagma cyathigerum by John Bratton at 4:15 pm 11/05/10 *likely ID*

Confidence: I'm as sure as I can be.

Notes: Based on the broad pale stripe on the thorax.

Remove your agreement

ID agreements ( ): 3 people agree with this identification.

Search Encyclopedia of Life for Enallagma cyathigerum

View NBN map for Enallagma cyathigerum

Other observations of *Enallagma cyathigerum*

« more

more »

Comments

Identification features

12 May 2010 – RoyW

This recently emerged female damselfly can be identified using a combination of the following features (it can be sexed as a female because the ovipositor is visible under the 10th abdomenal segment at the tip of the abdomen);

1). The broad antehumeral stripes (the broad pale stripe mentioned by John in his identification above).

2). There is only one partial black stripe, or 'spur', on the side of the thorax (all similar *Coenagrion* species, including Azure, have two spurs).

3). There is a spine visible under the 8th abdomen segment (all dragonflies & damselflies have 10 segments to the abdomen - count back from the abdomen tip, ignoring the projections at the end of the 10th segment).

The first two points also apply to males.

delete | edit | reply | Report content as inappropriate

features

13 May 2010 – kitenet

Thanks for that detailed guide Roy, very helpful.

Martin Harvey
Open University - Biodiversity Observatory

iSpot
ispotnature.org

iSpot community supported learning

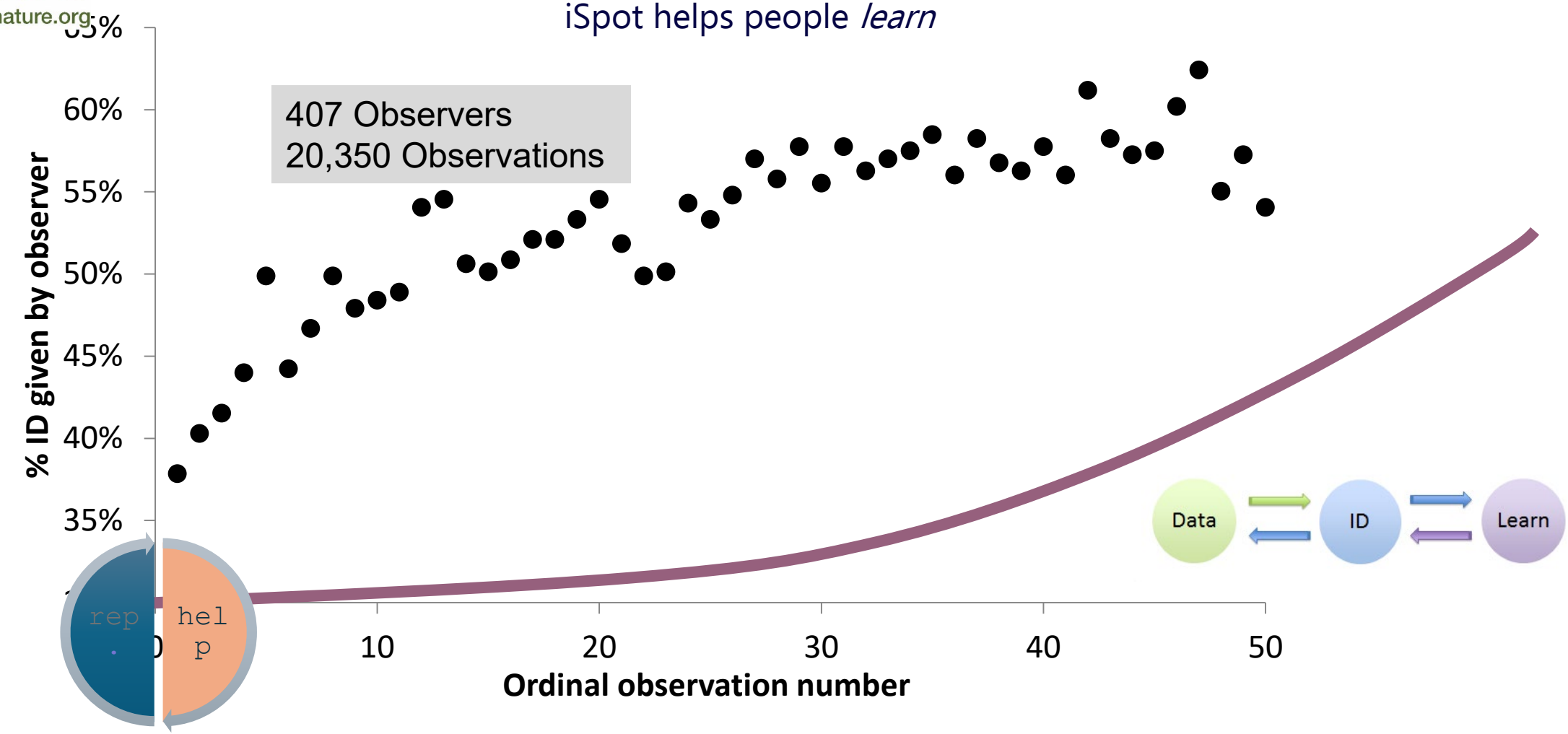
‘Expert’ support from Recording schemes and societies

- Amateur Entomologists' Society
- Amphibian and Reptile Groups of the UK
- Bedfordshire Moth Group
- Bees, Wasps and Ants Recording Society
- Belfast Hills Partnership
- Berks, Bucks and Oxon Wildlife Trust
- Berkshire Moth Group
- Biological Recording In Scotland
- Biological Records Centre
- Black Country Biodiversity Group
- Botanical Society of the British Isles
- Bristol Regional Environmental Records Centre
- British Bryological Society
- British Dragonfly Society
- British Dragonfly Society - Sussex Group
- British Entomological and Natural History Society
- The British Herpetological Society
- British Lichen Society
- British Mycological Society
- British Plant Gall Society
- British Pteridological Society
- British Trust for Ornithology
- BTO Garden BirdWatch
- BrumBats - Birmingham and Black
- Lincolnshire Naturalists' Union
- London Natural History Society
- The Mammal Society
- The Marine Biological Association
- Merseyside BioBank
- National Museum Wales
- Natural History Museum
- Natural Shropshire - Shropshire Biodiversity Partnership
- New Flora of the Isle of Man
- Norfolk and Norwich Naturalists' Society
- Opiliones Recording Scheme
- Orthoptera Recording Scheme
- Oxford University Museum of Natural History
- Pembrokeshire Coast National Park
- People's Trust for Endangered Species
- Porcupine Marine Natural History Society
- rECOrd - the Biological Records Centre for the Cheshire region
- Royal Botanic Gardens, Kew
- Royal Society for the Protection of Birds
- Scottish Fungi
- Selborne Society
- Shark Trust
- Shieldbugs & Allied Species Recording

The Open University

Engagement, participation and learning curve

iSpot helps people *learn*



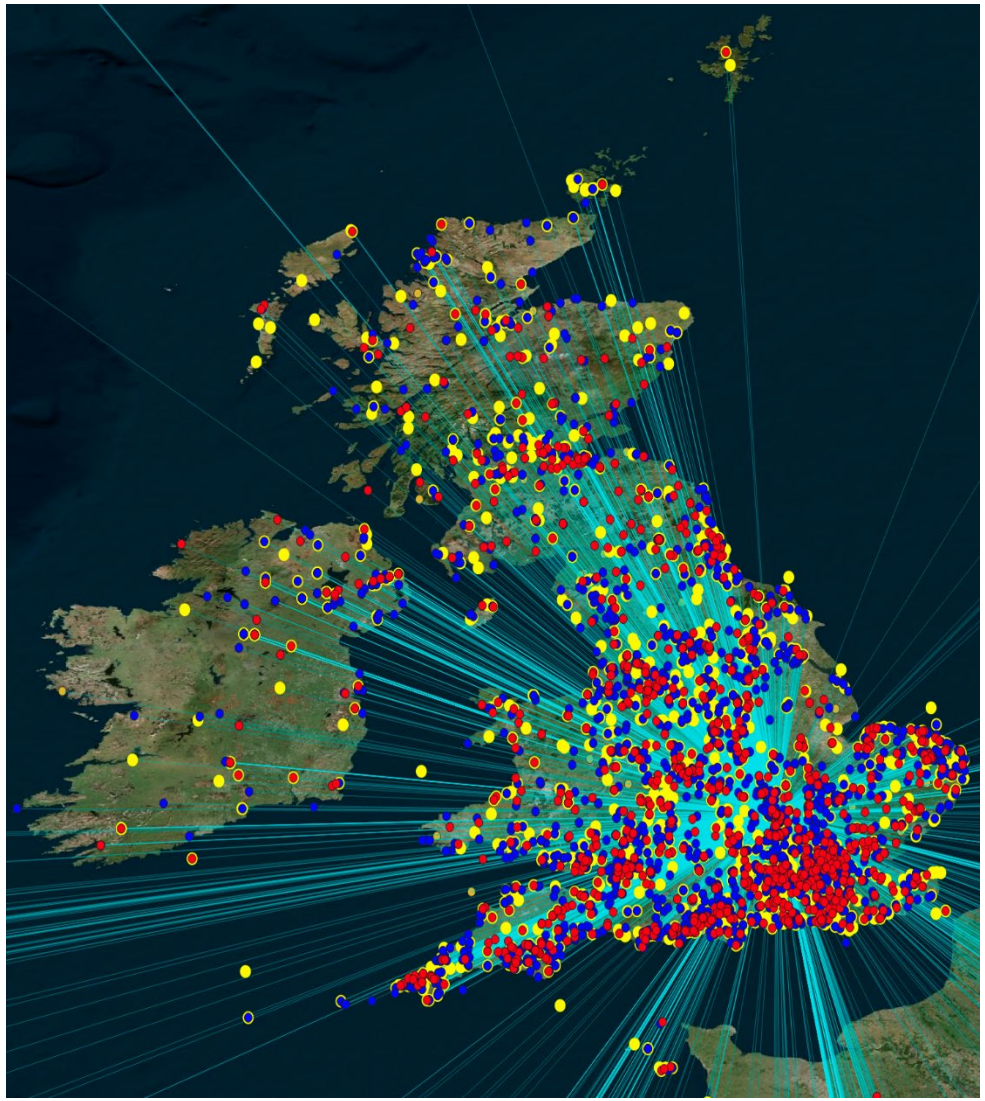
"By focusing on learning, iSpot not only helps participants generate valid scientific observations, but it also trains them to become the biological recorders on whom future data collection will depend."

Silvertown, J., Harvey, M., Greenwood, R., Dodd, M., Rosewell, J., Rebelo, T., Ansine, J., McConway, K. (2015). ***Crowdsourcing the identification of organisms: A case-study of iSpot***. ZooKeys, (480), 125 (https://zookeys.pensoft.net/article/4633/).

Belonging through personalised experiences

Comments, Identifications and Agreements

- A social network for biodiversity: one UK participant
- Connections between the locations of the hundreds of comments, agreements and likely IDs given
- Demonstrates how iSpot works: making connections, sharing knowledge and expertise to identify species



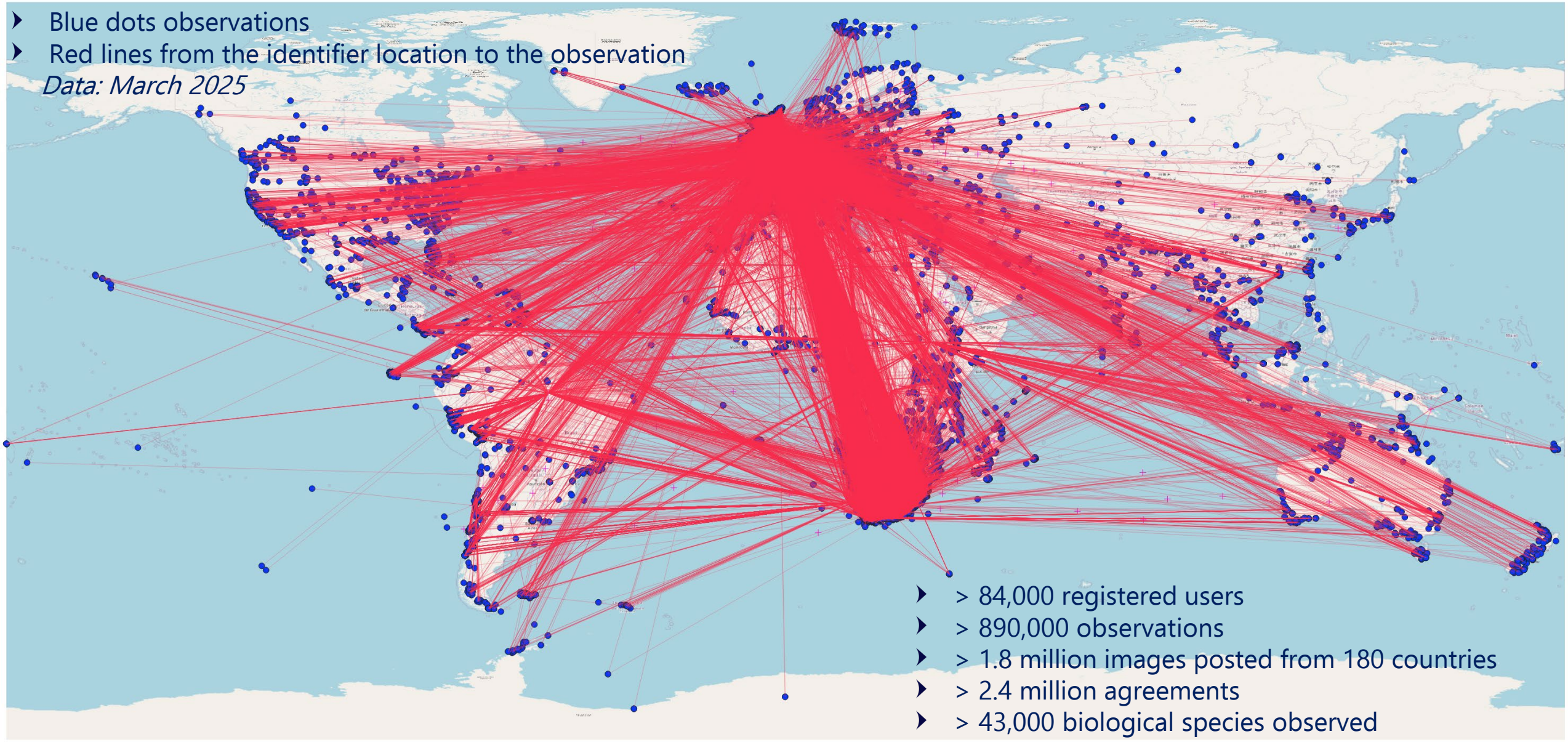
Key:
Comments (yellow)
Agreements (blue)
Likely IDs (red)

*Excludes the user's own observations

Belonging as part of a global social network

- Blue dots observations
- Red lines from the identifier location to the observation

Data: March 2025



- > 84,000 registered users
- > 890,000 observations
- > 1.8 million images posted from 180 countries
- > 2.4 million agreements
- > 43,000 biological species observed

Belonging through engagement and outreach

Citizens, groups and communities

- Participatory tools and features: iSpot quizzes, projects, showcases
- Biological recording groups & societies (<200 on iSpot)
- UK-wide face to face public engagement
- Hundreds of universities, primary and secondary schools, community groups etc
- Comms / media and OU/BBC collaborations i.e. Savng Species, Wild Isles, Spring Watch

Publications, studies, reports, papers, etc

- Partner: UK State of Nature Reports
- iSpot in policy documents i.e. Houses of Parliament POSTNote Environmental Citizen Science (2014); Defra Environment White Paper *The Natural Choice: Securing the Value of Nature* (2011)
- iSpot in the UKRI public engagement strategy.
- Papers referencing iSpot, the team has published others

©OPAL Explore Nature

Recognition through participation rewards

User ‘reputation’

Reputation in groups

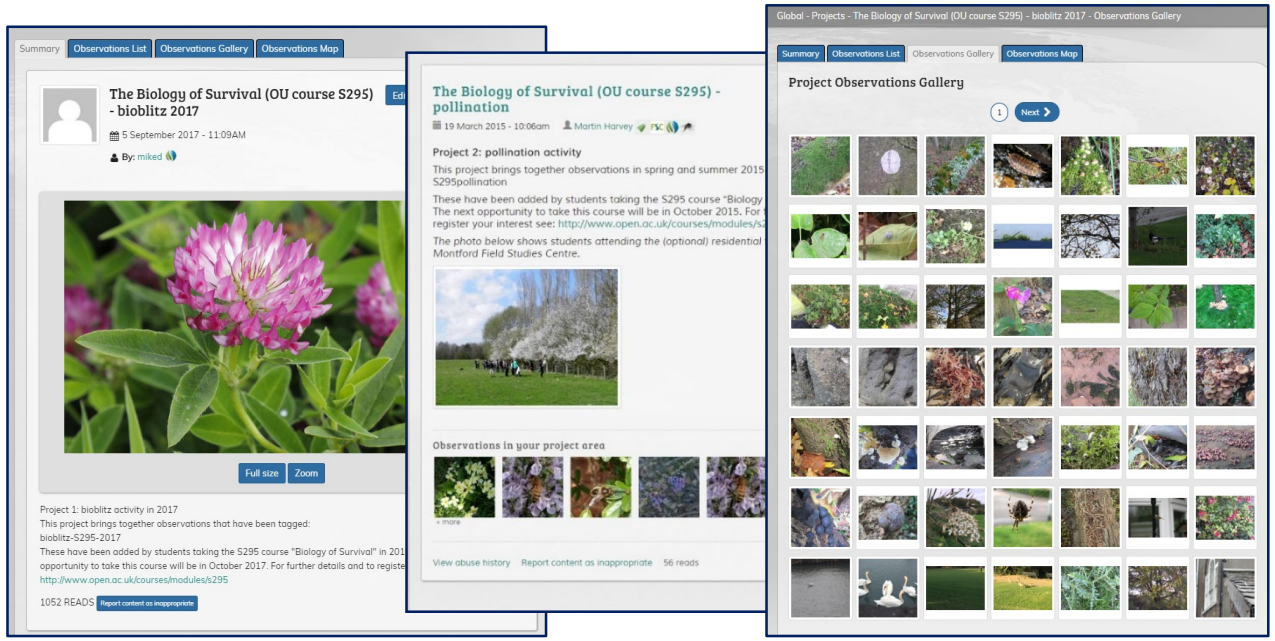
Group	Reputation	Observations	Identifications	Received	Given
Amphibians and Reptiles		35	35	107	63
Birds		354	327	1447	331
Fish		10	4	22	0
Fungi and Lichens		957	1424	1726	1542
Invertebrates		1044	552	884	205
Mammals		73	75	203	59
Other organisms		18	10	38	15
Plants		1811	1610	3597	749
	totals	**4302**	**4037**	**8024**	**2964**

Recognition through formal & informal learning

Biology of Survival (S295): 2014 - 2025

Two student activities using iSpot (features project tool):

- Bioblitz activity (October)
- Pollination study (March – April)

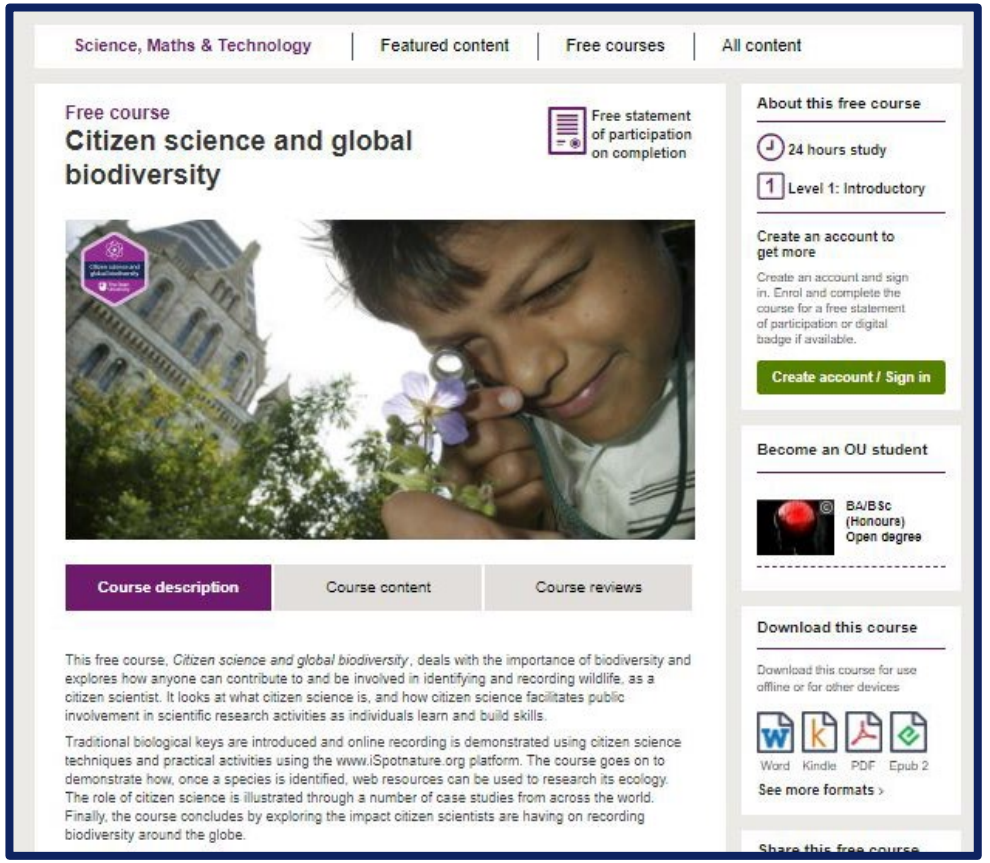


"There are some areas that are worthy of commendation. The iSpot activity is an innovative part of the curriculum enabling students to have interaction with experts. Thus early in the course the wider internet community of biologists is identified and drawn upon."

S295 External Examiner, 2016 Report

BOC: Citizen science & Global Biodiversity

- Anyone can participate, contribute, identify and record wildlife, as a citizen scientist!



OpenLearn:
www.open.ac.uk/citizen-science-and-global-biodiversity

your place to share nature

Motivating volunteers / participants through learning, a sense of belonging & recognition.

Features:

- Participatory learning design
- Interactivity: social networks and rewards
- Innovative technology: tools & features
- Educational resource supporting teaching & learning

Contact and further Information:

Email: janice.ansine1@open.ac.uk / **iSpot** : iSpot@open.ac.uk

Links:
OU Profile: https://profiles.open.ac.uk/janice-ansine
LinkedIn: https://www.linkedin.com/in/janiceansine

iSpot website: https://www.ispotnature.org
CS&AI Research Group: https://citsci.kmi.open.ac.uk
ISpot Linktree page: https://linktr.ee/iSpotnature_citizen.science

THANK YOU!!!! Q&A