



Wriggling Into Recording

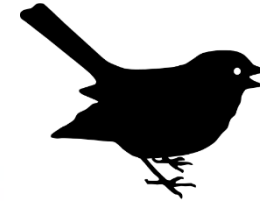
Setting up the earthworm recording scheme

Keiron Derek Brown

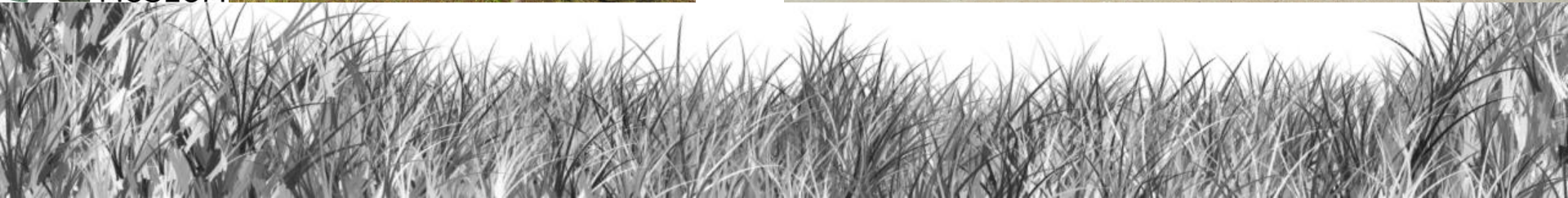
Recording Officer – Earthworm Society of Britain

@KeironDBrown @earthwormsoc





London
Natural
History
Society



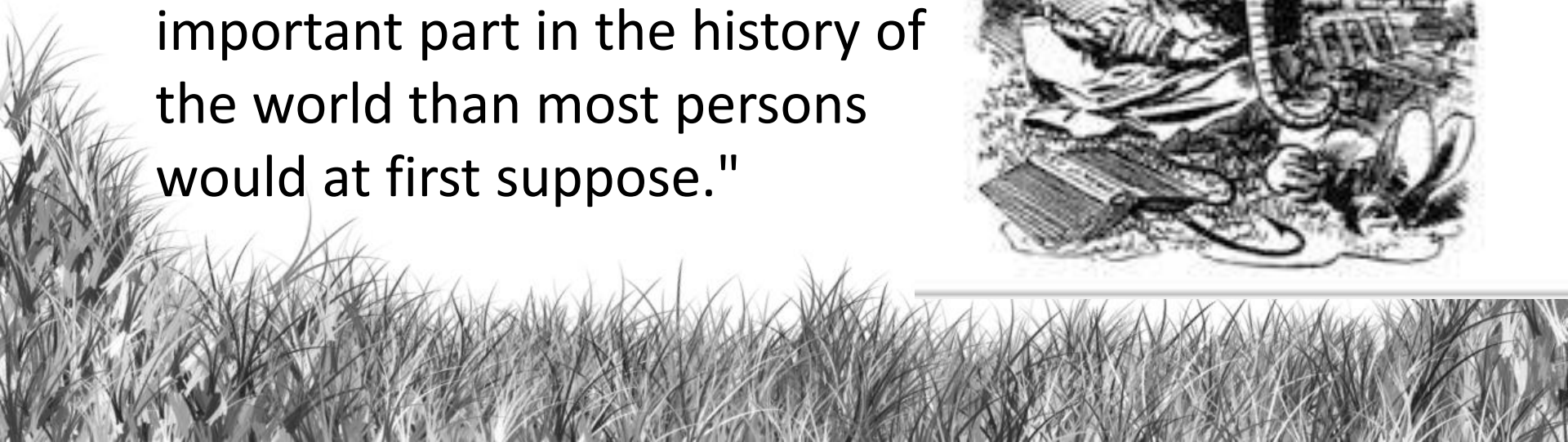


Charles Darwin

The Father of Earthworm Ecology

The Formation of Vegetable
Mould Through the Action of
Worms (1881) Darwin

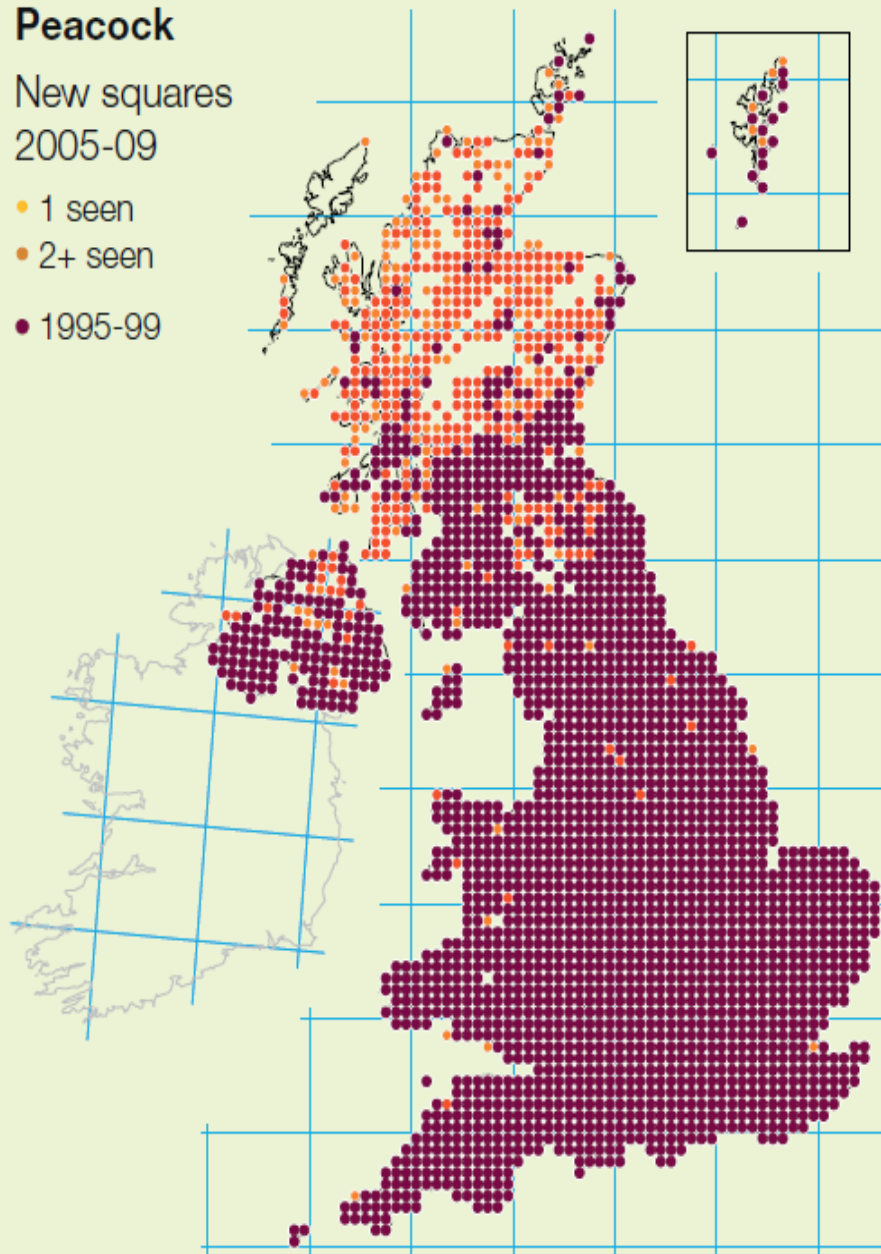
“worms have played a more
important part in the history of
the world than most persons
would at first suppose.”



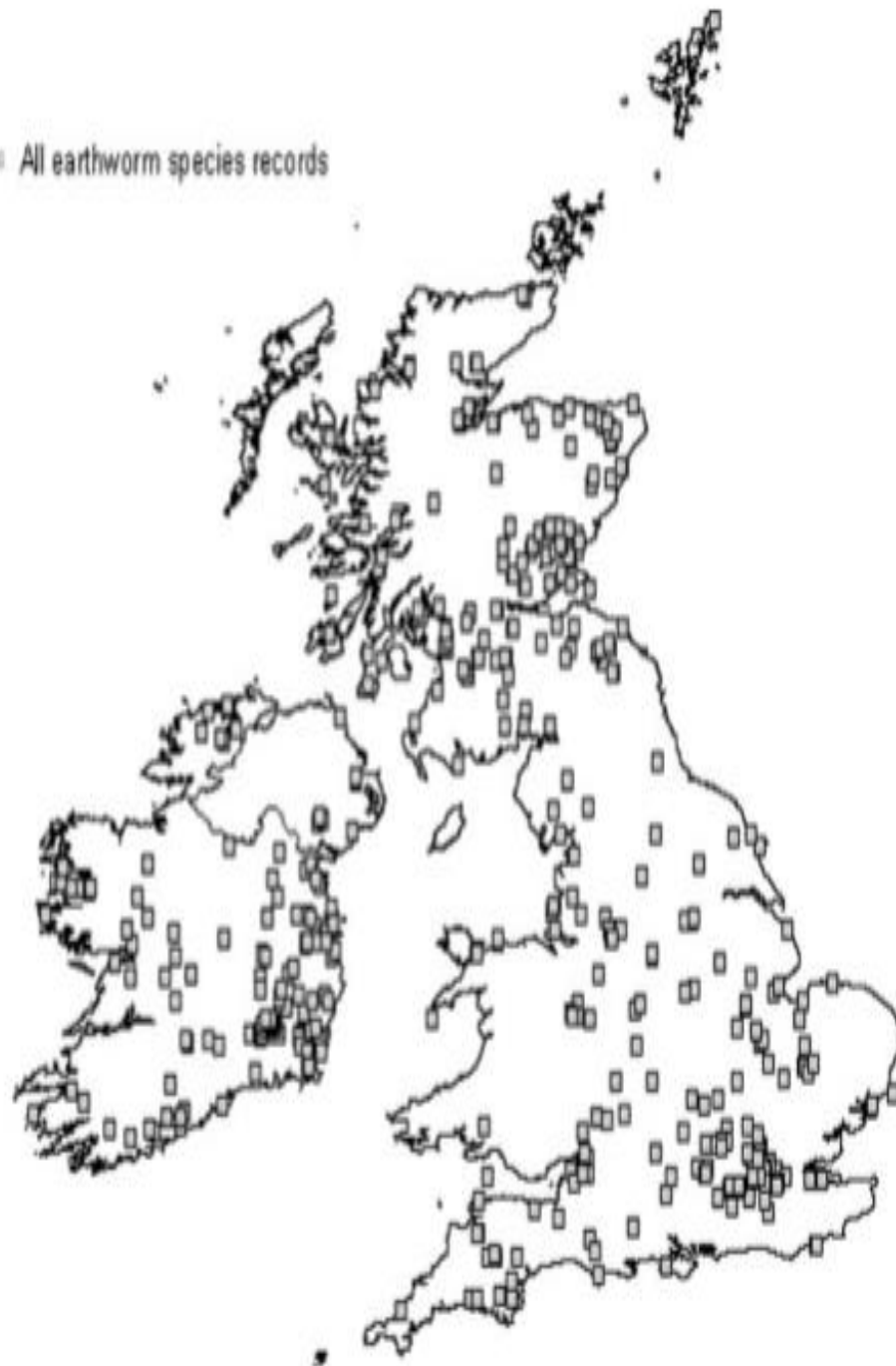
Peacock

New squares
2005-09

- 1 seen
- 2+ seen
- 1995-99



■ All earthworm species records



■ *Dendrobaena attemsi* records

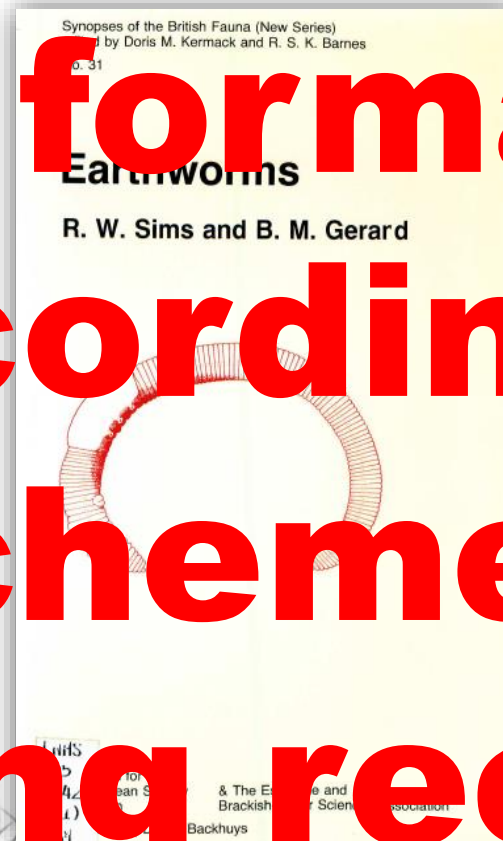


■ *Eisenia fetida* records





Why are earthworms so poorly recorded?

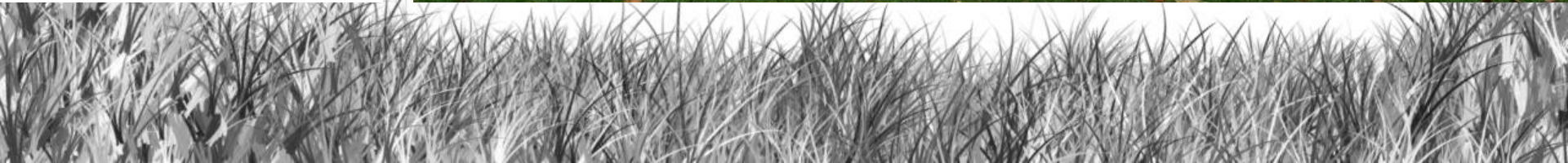


**No formal
recording
scheme
collecting records**

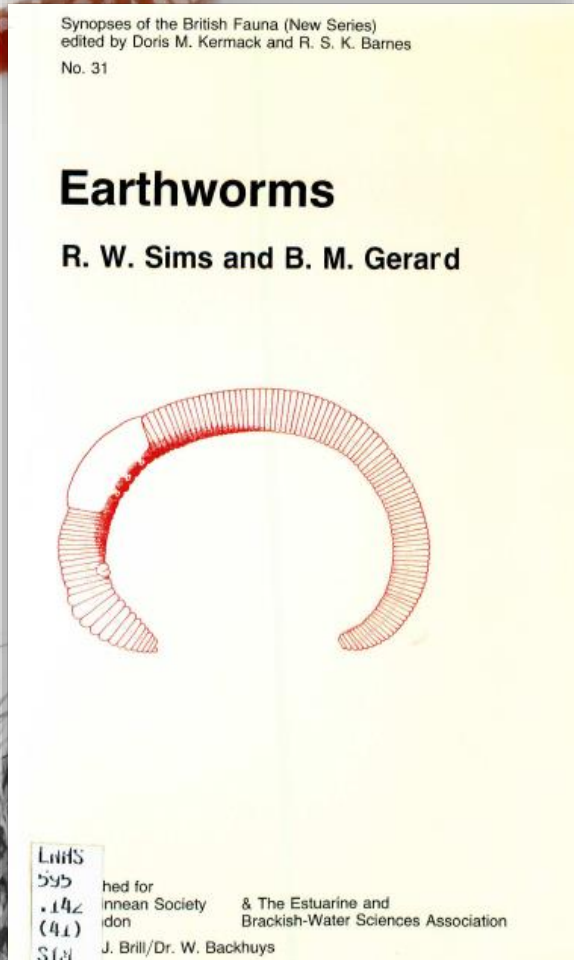


Earthworm Society of Britain

DIG INTO THE WORLD OF EARTHWORMS



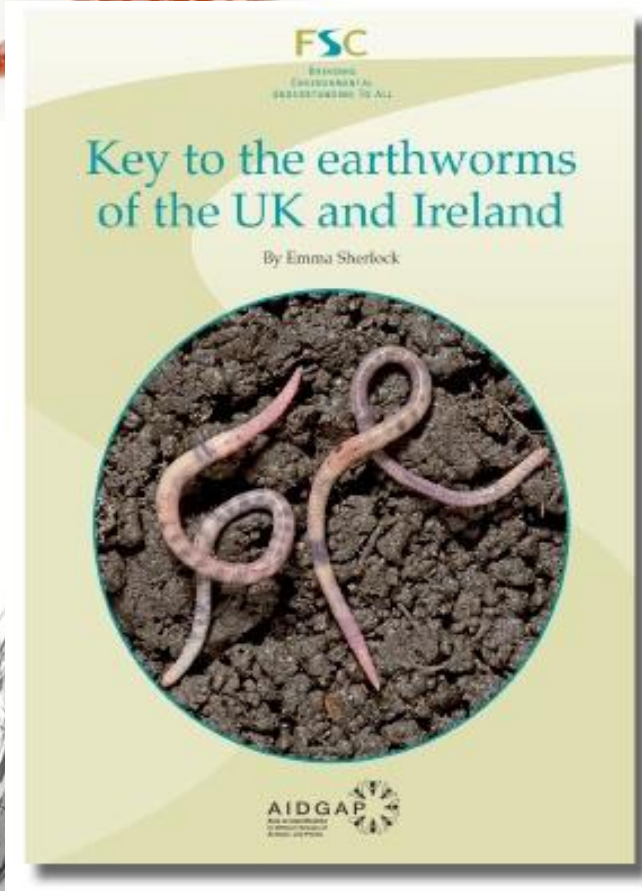
Problem 1: Identification Resources



Linnean Society Earthworm Synopsis (1999) by Sims & Gerard

- ✓ Very comprehensive
- ✓ Dichotomous key
- ✓ Line diagrams
- x Difficult to understand
- x Dated taxonomy
- x Expensive for volunteers
(£18.50 + P&P)

Problem 1: Identification Resources



Key to the Earthworms of the UK & Ireland (2012) by Emma Sherlock

- ✓ Dichotomous key
- ✓ Easy to understand
- ✓ Summary comparison table of features
- ✓ Colour photographs
- ✓ Affordable (£7.50 + P&P)
- x Less comprehensive



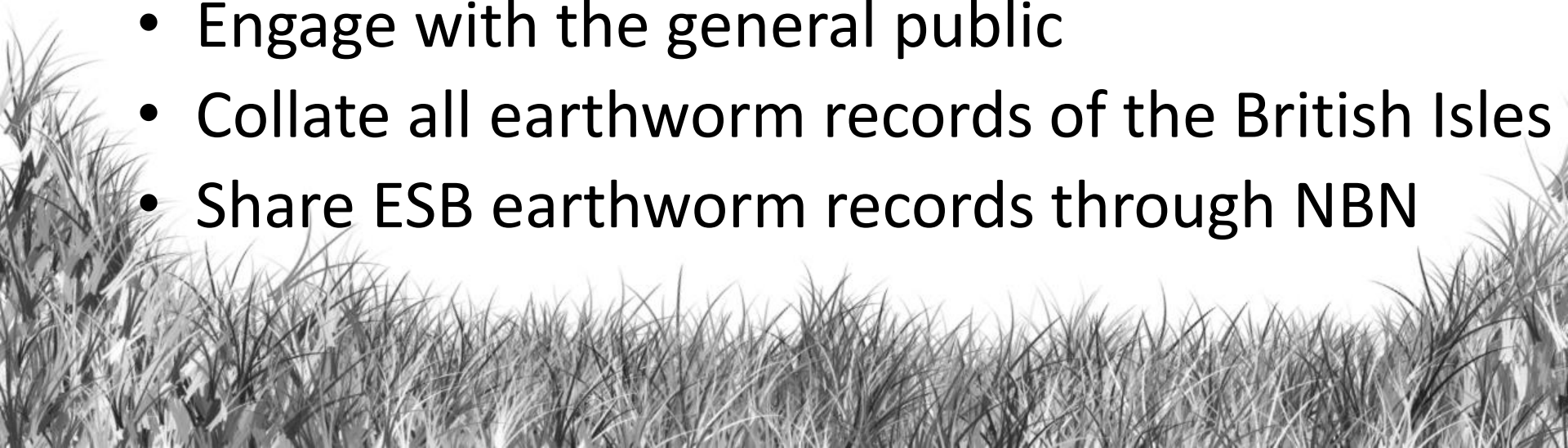
Problem 2: Identification Training





2013: What is the National Earthworm Recording Scheme?

Role of the NERS:

- Undertake sampling of areas for earthworms
 - Train and support earthworm recorders
 - Create guidance for earthworm recording
 - Engage with the general public
 - Collate all earthworm records of the British Isles
 - Share ESB earthworm records through NBN
- 



A recording scheme with no records

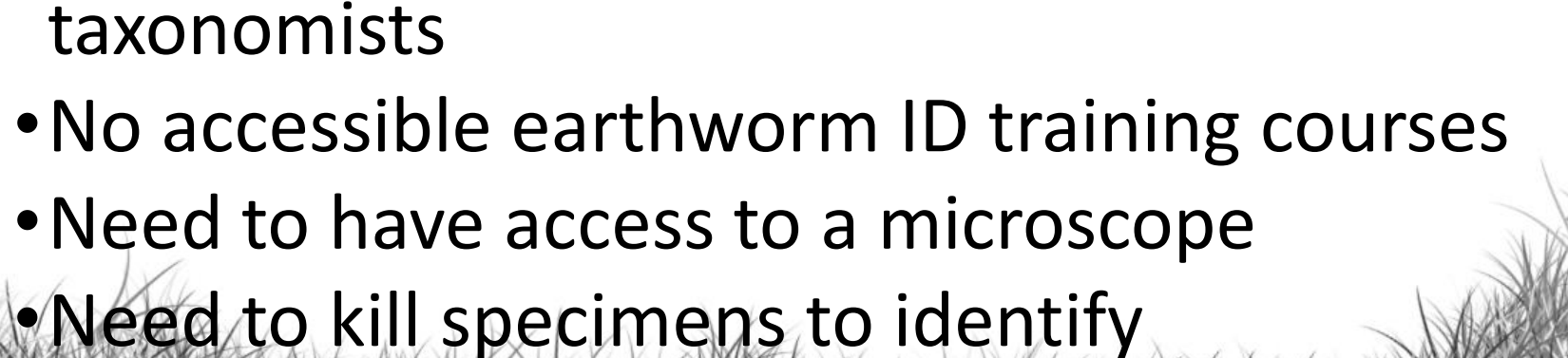
Time for a strategy... with defined targets...

1. 12 recorders actively collecting accurate earthworm records
2. 3 trainee identification course tutors enrolled during 2014
3. Produce 100 earthworm records (species X locality) during 2014





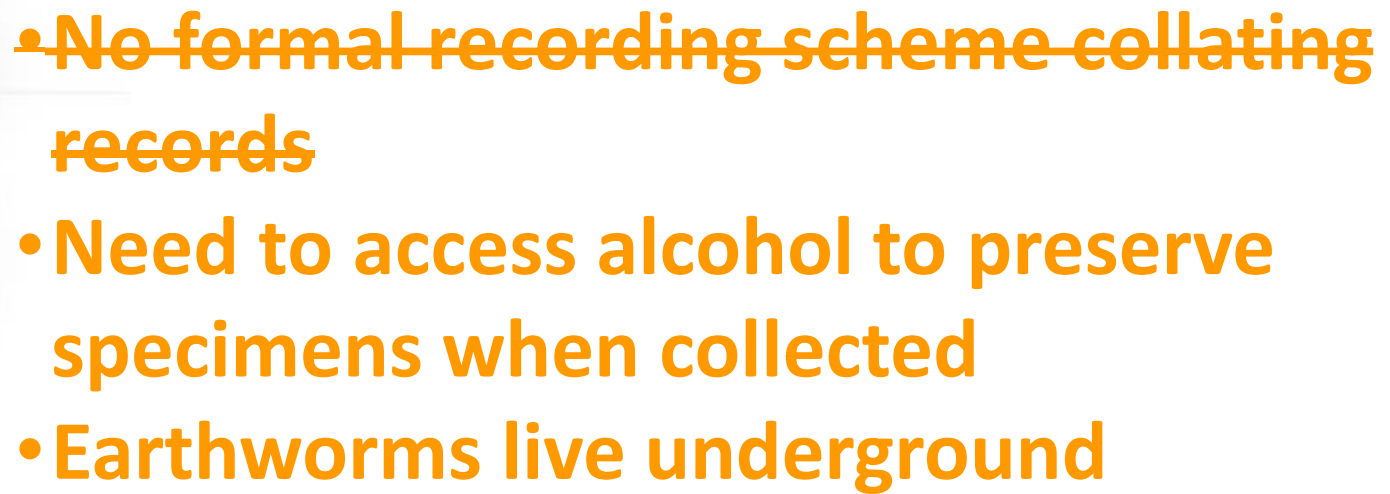
A recording scheme with no records

- No formal recording scheme collating records
 - Need to access alcohol to preserve specimens when collected
 - Earthworms live underground
 - Current identification key was aimed at taxonomists
 - No accessible earthworm ID training courses
 - Need to have access to a microscope
 - Need to kill specimens to identify
- 



- No formal recording scheme collating records
- Need to access alcohol to preserve specimens when collected
- Earthworms live underground





Earthworm Records Submission Sheet





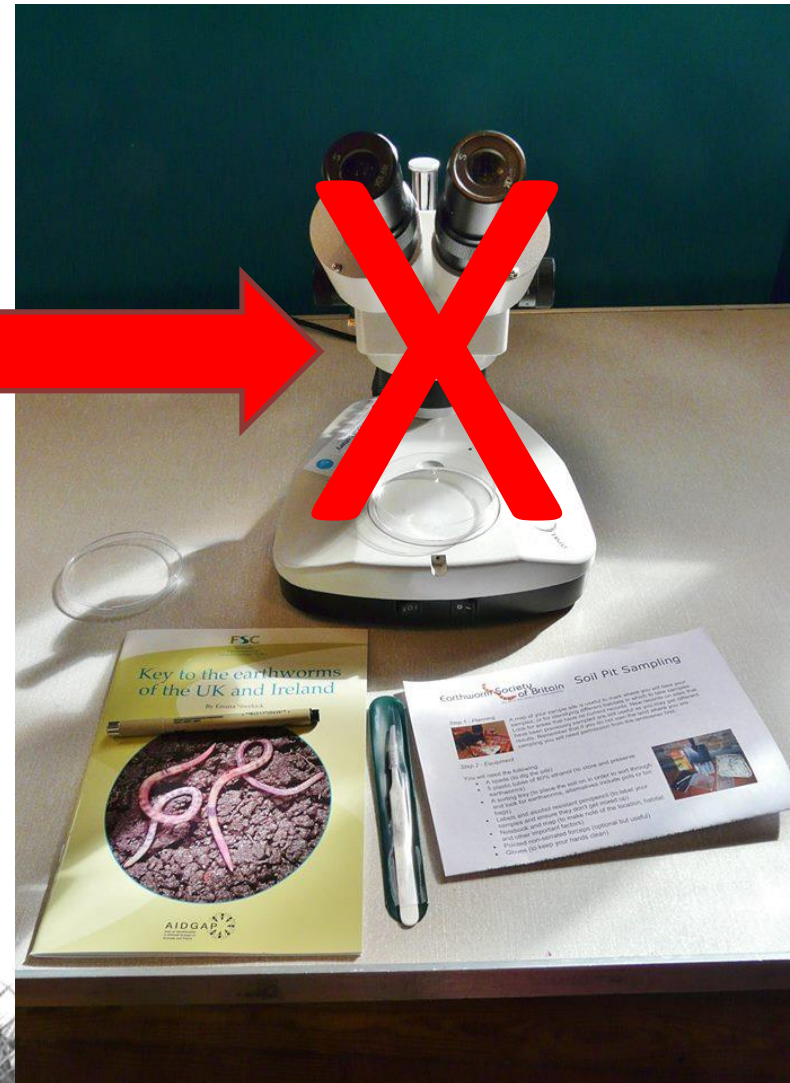
- **Current identification key was aimed at taxonomists**





• ~~Current identification key was aimed at taxonomists~~

**Microscope
NOT included**





- **No accessible earthworm ID training courses**



~~No accessible earthworm ID training courses~~





- Need to have access to a microscope
- Need to kill specimens to identify

Please note that the sampling day will require a reasonable level of fitness and these courses involve the collection and preservation of specimens

Snowdonia (30th - 31st July 2016)

Where: Rhyd y creuau FSC Field Centre, Conwy, Wales

Delivered in partnership with the FSC Tomorrow's Biodiversity Project.

Course fees: Non-members: £20 (includes 1 year membership and recorder pack)

Members: £15 (includes recorder pack)

ESB Trained Earthworm Recorders: No fee (though current membership is required)

For more information and to book a place on the course please contact Keiron Brown at keironderekbrown@gmail.com.

Please note that the course fee does not include accommodation or food. Accommodation at the centre may be available to attendees at a discounted rate of £40 on the Saturday evening (including an evening meal and breakfast).





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RSPB Geltsdale 2015
Site Species List

(c) indicates that the species was recorded from hand-sorted soil pits.
(m) indicates that the species was recorded from macrofaunal searches.

Species in red indicate species noted as rare in Britain. c. (2012) key to the earthworms of the UK and Ireland. London: Field Studies Council and Natural History Museum.

All species below were recorded on 22nd June 2013 by Keirle Brown, David Brown, Stephen Waterston and Tina Wilken. Identifications were verified by Iain Brown.

All species below were recorded by Heather McClellan on 15th April 2011.

Stagbait Cottages (domestic) (NYS97562)
Allolobophora chlorotica (m)
Agamoceros caliginos (m)
Agamoceros rufus (m)
Lumbricus castaneus (m)
Lumbricus rubellus (m)
Stenolabus mammalis (m)

Stagbait Cottages (domestic) (NYS97562)
Allolobophora chlorotica (c)
Agamoceros caliginos (c)
Agamoceros rufus (c)
Gammarolus ruber (c)
Lumbricus rubellus (c)
Stenolabus mammalis (c)

Stagbait Cottages (domestic) (NYS97562)
Allolobophora chlorotica (c)
Agamoceros caliginos (c)
Agamoceros rufus (c)
Lumbricus castaneus (c)
Lumbricus rubellus (c)
Stenolabus mammalis (c)

All species below were recorded by Heather McClellan on 23rd April 2010.

Tinostate Farm (walled side lake) (NYS02585)
Allolobophora chlorotica (m)
Agamoceros caliginos (c)
Agamoceros rufus (m)
Lumbricus castaneus (m)
Lumbricus rubellus (m)

Stagbait Cottages (domestic) (NYS97562)
Agamoceros caliginos (c)
Agamoceros rufus (c)
Lumbricus rubellus (c)
Stenolabus mammalis (c)

Tottersgate (open grassland) (NYS06048)
Allolobophora chlorotica (c)
Agamoceros caliginos (c) (m)
Agamoceros rufus (c)
Lumbricus castaneus (c)

Most of the species recorded are thought to be relatively common species with broad distributions. Though some species that are thought to be either rare or very rare were recorded. However, please note that further investigation regarding the true distribution and abundance or individual earthworm species in the UK is needed in order to establish the true status of UK earthworm species populations.

There were two species recorded where no previous records of these species had been previously submitted to the national Earthworm Recording scheme - i. *particus* (considered a rare species) and ii. *terrestris* (commonly found in waterlogged sites throughout the UK).

List compiled and produced by Keirle Brown, Recording Officer, Earthworm Society of Britain.

Website: www.britishecology.org.uk/earthworms Website: www.earthworms.org.uk Email: info@earthworms.org.uk



What species were recorded?

For the purpose of this section we have excluded the Soil Biodiversity Group records as they included intensive sampling of specific geographic areas and habitats, resulting in a bias towards species found at those locations/habitats. Excluding this data, records for 25 different species of earthworm were submitted to the NERS during 2015 (see figures 2 and 3).

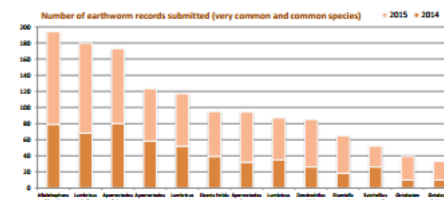


Figure 2 (above): Stacked bar graph demonstrating the number of records received for common and very common species of earthworm (as defined in Sherlock 2012).

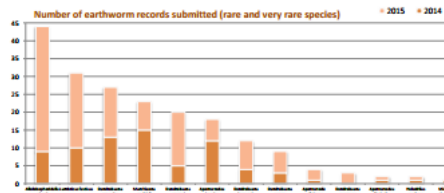


Figure 3 (above): Stacked bar graph demonstrating the number of records received for rare and very rare species of earthworm (as defined in Sherbok 2012). *Aporectodea cupulifera*, *Lumbricus fliedi* and *Sparganophilus tamesis* are omitted as no records were received for these species.

Report compiled by Keiron Derek Brown and published on 20th February 2016.
Facebook: www.facebook.com/earthwormsoc Twitter: @earthwormsoc Website: www.earthwormsoc.org.uk



NATIONAL FORUM
FOR
BIOLOGICAL RECORDING



Tom.bio



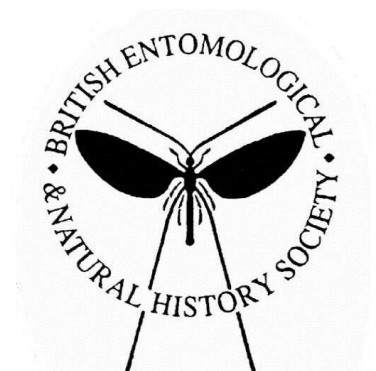
Bedfordshire
Cambridgeshire
Northamptonshire



NATURAL
HISTORY
MUSEUM



UNIVERSITY
of York



THE
ROYAL
PARKS



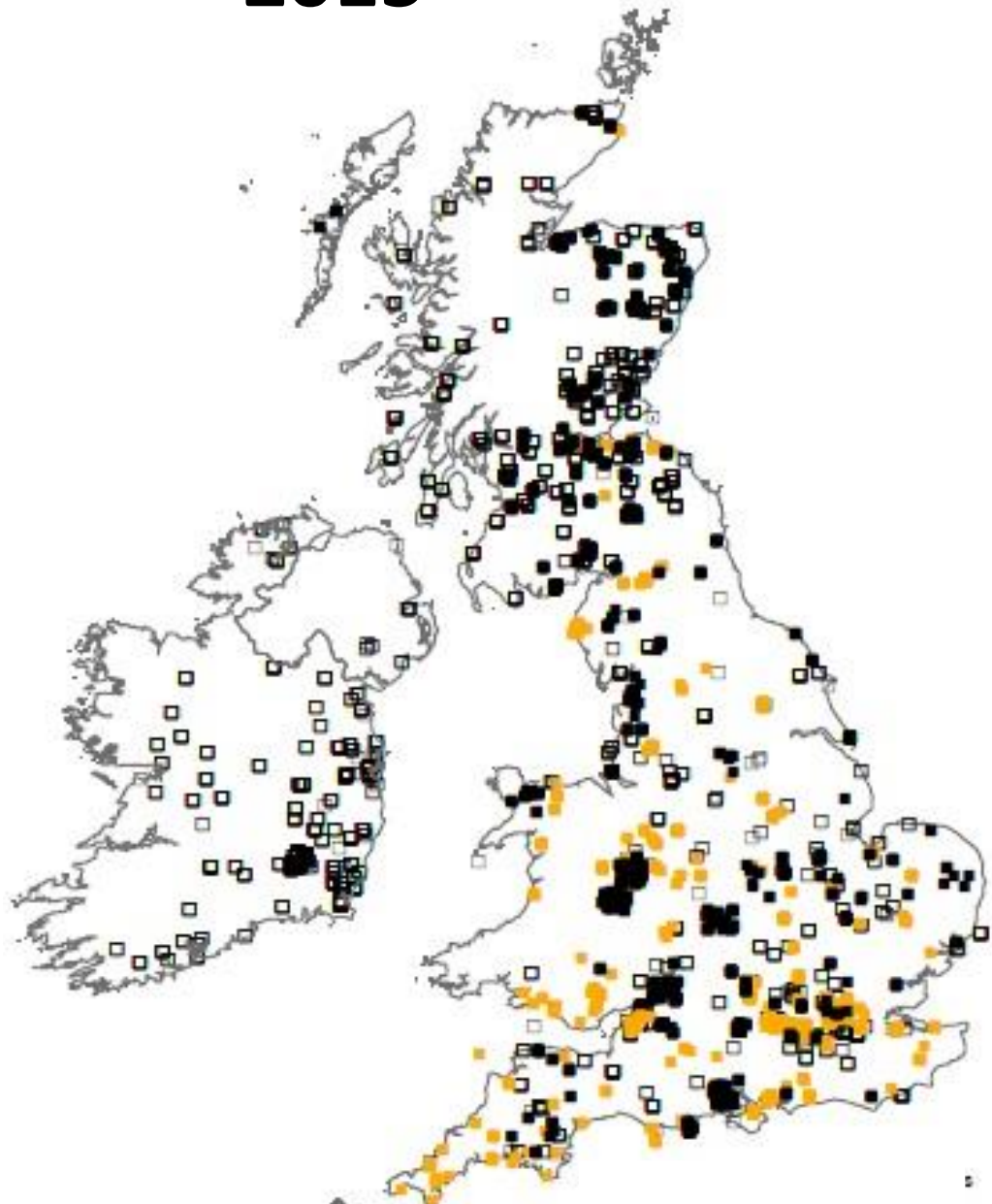
So, did the changes result in
earthworm records?

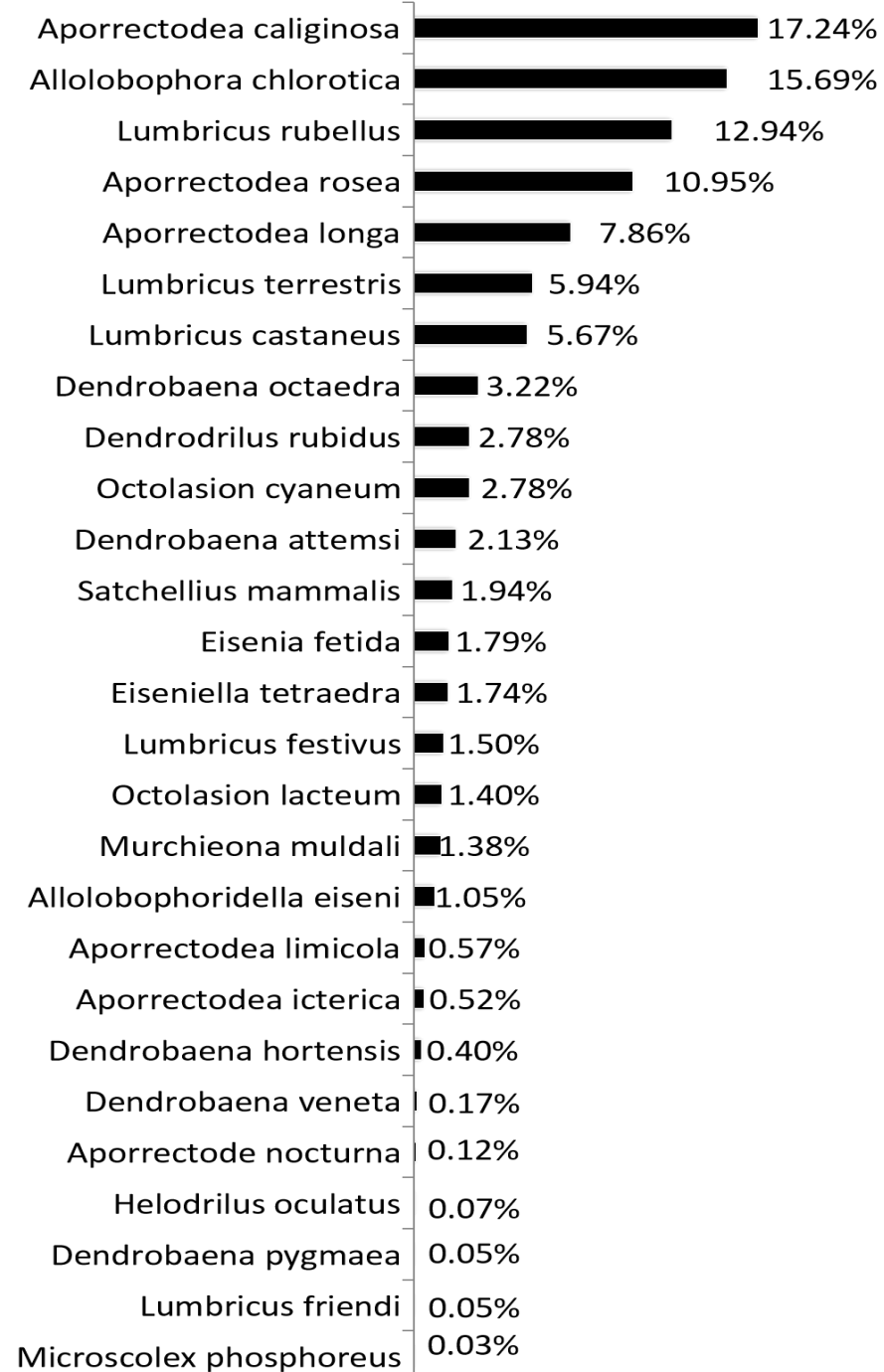
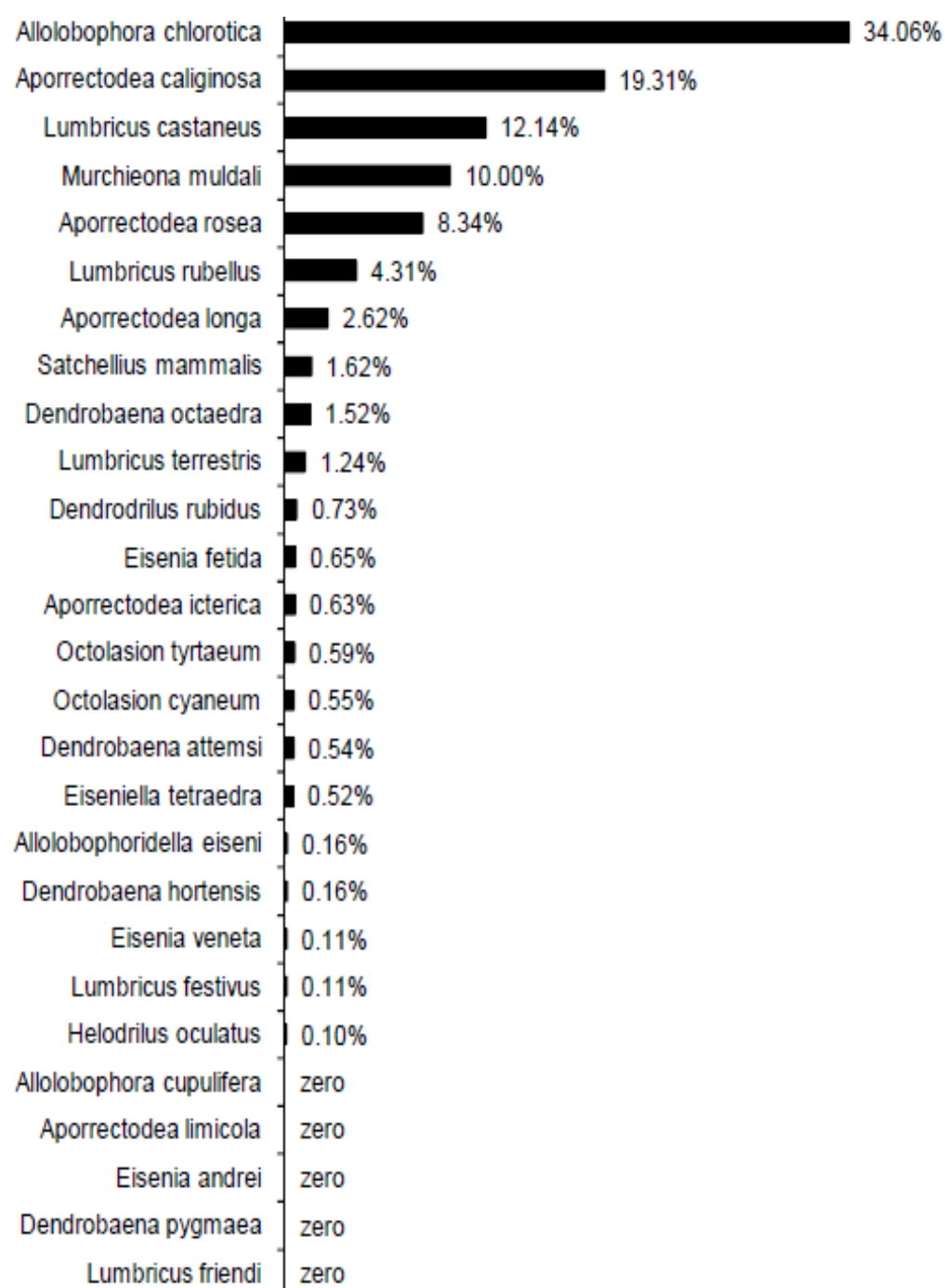


2009



2015

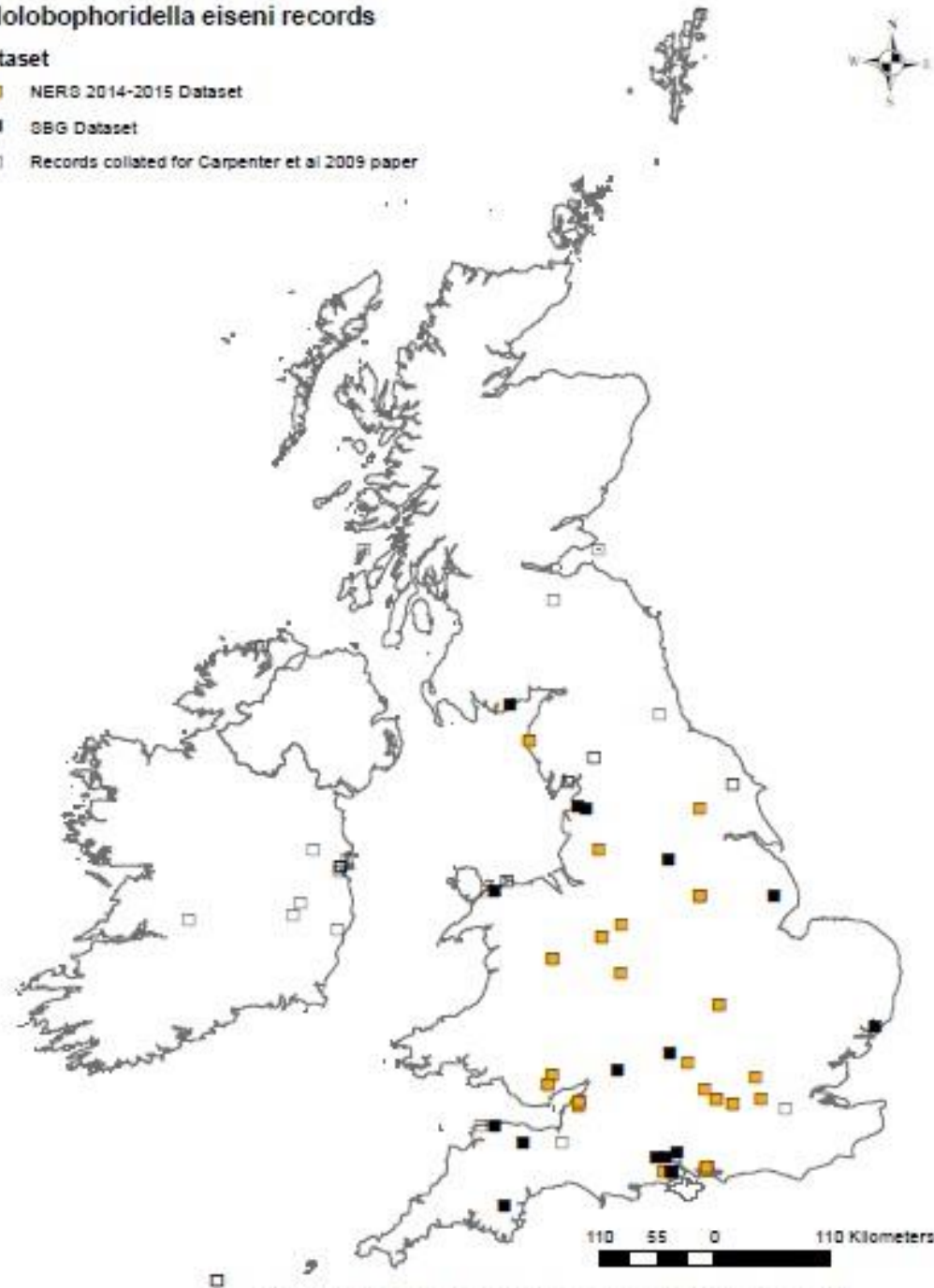




Allobophoridella eiseni records

Dataset

- NERIS 2014-2015 Dataset
- SBG Dataset
- Records collated for Carpenter et al 2009 paper





Position	First Name	Surname	2016 Records
1	Richard	Burkmar	192
2	Ben	Crabb	51
3	Keiron Derek	Brown	49
4	Keith	Lugg	36
5	Victoria	Burton	29
6	Phillip	Playford	20
7	Sam	Devine-Turner	16
8	Charlie	Bell	10
9	Rory	Middleton	9
10	Barbara	Brown	6
=	Kevin	Clements	6
=	Russell	Hedley	6
=	Matt	Slaymaker	6



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