

St Andrews **BioBlitz**



2014-2016 report

Organising Committee

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Cover photo by Tom Ashton





What is a

BioBlitz?

A BioBlitz is a 24-hour period of intense biological surveys conducted within a designated area. It aims to record all living species present, from animals and plants, to fungi and algae. A BioBlitz strives to cover as many taxa as possible, with specialist scientists and naturalists from a range of disciplines pooling their identification abilities and knowledge to produce a species record.

The term was coined in 1996 by Susan Rudy, a US National Park Service naturalist who helped with the first ever event of this kind, at Kenilworth Aquatic Gardens, Washington DC. Since then, BioBlitzes have taken place all across the world. Repeating BioBlitz events, annually or seasonally, in a particular location enables a better picture of the area's changing biodiversity to be built up.

Alongside the scientific data gathered, an important component of any BioBlitz is the involvement of the public and encouragement of citizen science. Events like this, which allow local people to engage with the biodiversity of their area, provide the public with an excellent stepping-stone into the world of science and conservation.

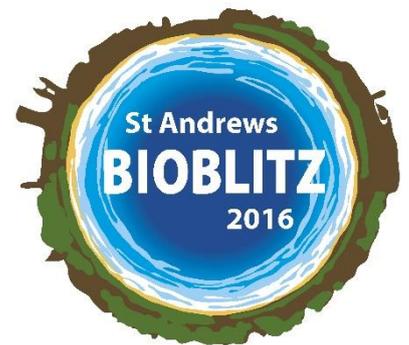
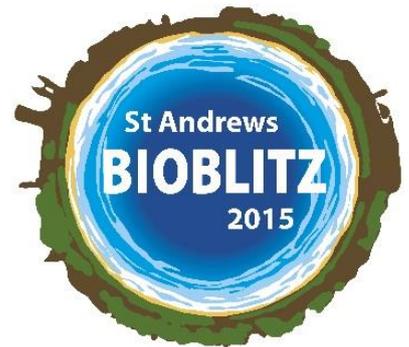
The St Andrews BioBlitz

Over 24 hours, with the help of experts, volunteers and members of the public, the St Andrews BioBlitz provides a snapshot survey of the area's biodiversity within an 800m radius of the Gatty Marine Laboratory, on East Sands. The main aims of the St Andrews BioBlitz consist of a scientific component and a public engagement component.

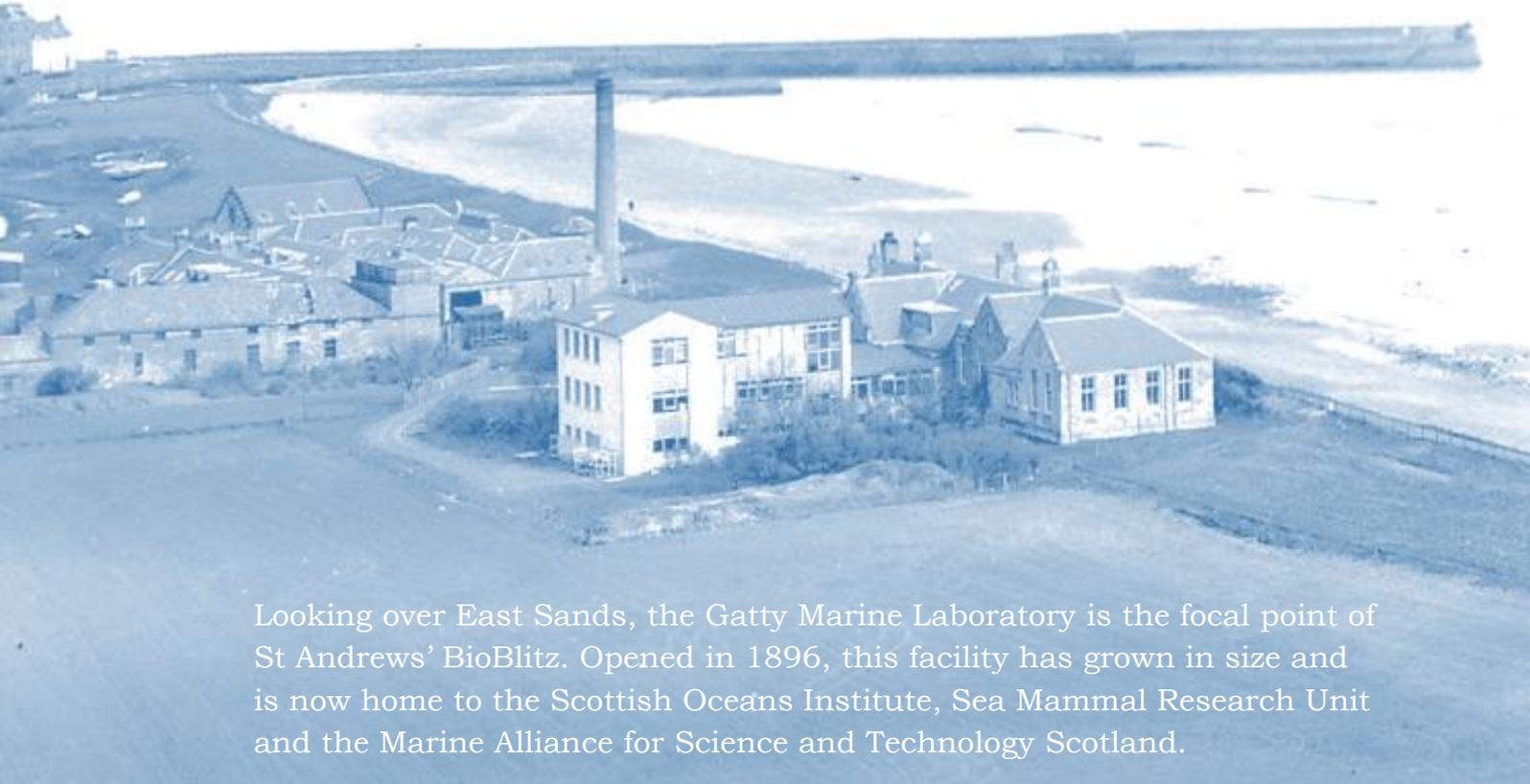
Firstly, the BioBlitz aims to generate an increasingly comprehensive list of species found in the St Andrews Bay area. The data are uploaded to the National Biodiversity Network (NBN) Gateway by Fife Nature Records Centre and are publicly available. The NBN's robust scientific data enables patterns of biodiversity and shifts in species' ranges to be identified and analysed over time, providing a useful resource for research, government and planners.

Secondly, the BioBlitz aims to raise the public's awareness of the wealth of biodiversity on their doorstep - and encourage participation in species recording. Collaboration between community organisations, the university and environmental groups is also promoted.

The more BioBlitz events that take place in St Andrews, the more our understanding of the local biodiversity will develop, and the more members of the public will be involved in citizen science and conservation. Because of this, our long-term objective is to make St Andrews BioBlitz a yearly fixture on Fife's nature calendar, annually accumulating data on how biodiversity changes over time.



The GATTY Marine Lab



Looking over East Sands, the Gatty Marine Laboratory is the focal point of St Andrews' BioBlitz. Opened in 1896, this facility has grown in size and is now home to the Scottish Oceans Institute, Sea Mammal Research Unit and the Marine Alliance for Science and Technology Scotland.

The marine lab was the dream of local scientist W.C. McIntosh, who went on to become the University of St Andrews' Natural History Professor and one of the leading zoologists of his generation. McIntosh served as the first director of the facility, conducting pioneering work on the taxonomy and early life histories of marine organisms found within a few hundred metres of the building.

A major inspiration of the St Andrews BioBlitz is the work of Professor Michael Laverack, director of the Gatty from 1969 to 1985. Laverack's passion for the Gatty and its access to a great span of incredible animal life is evident in his 1974 book of species records, *Fauna and Flora of St Andrews Bay* which builds on McIntosh's taxonomic work. Laverack's introduction in this work tells of his fascination with the institute, the surrounding area and local wildlife, and so St Andrews Bay is a very fitting place to locate a wide-ranging study into local biodiversity.

The Gatty Marine Laboratory's history tells a story of passion and determination in pursuing great science and taxonomy. By recording species, updating survey and data techniques, and contributing to scientific knowledge, the St Andrews BioBlitz upholds the mantle of research around the Gatty and encourages members of the public to help develop our understanding of local species diversity.



13th-14th June

The 2014 BioBlitz was the first event of its kind to take place in St Andrews, which presented us with some exciting challenges. Making an event of this scale a success involved a variety of tasks: experts had to be recruited, equipment had to be found, and funding had to be secured. Alongside time consuming administrative work, organisers were able to have fun publicising the event, as public engagement is fundamental to any BioBlitz event.

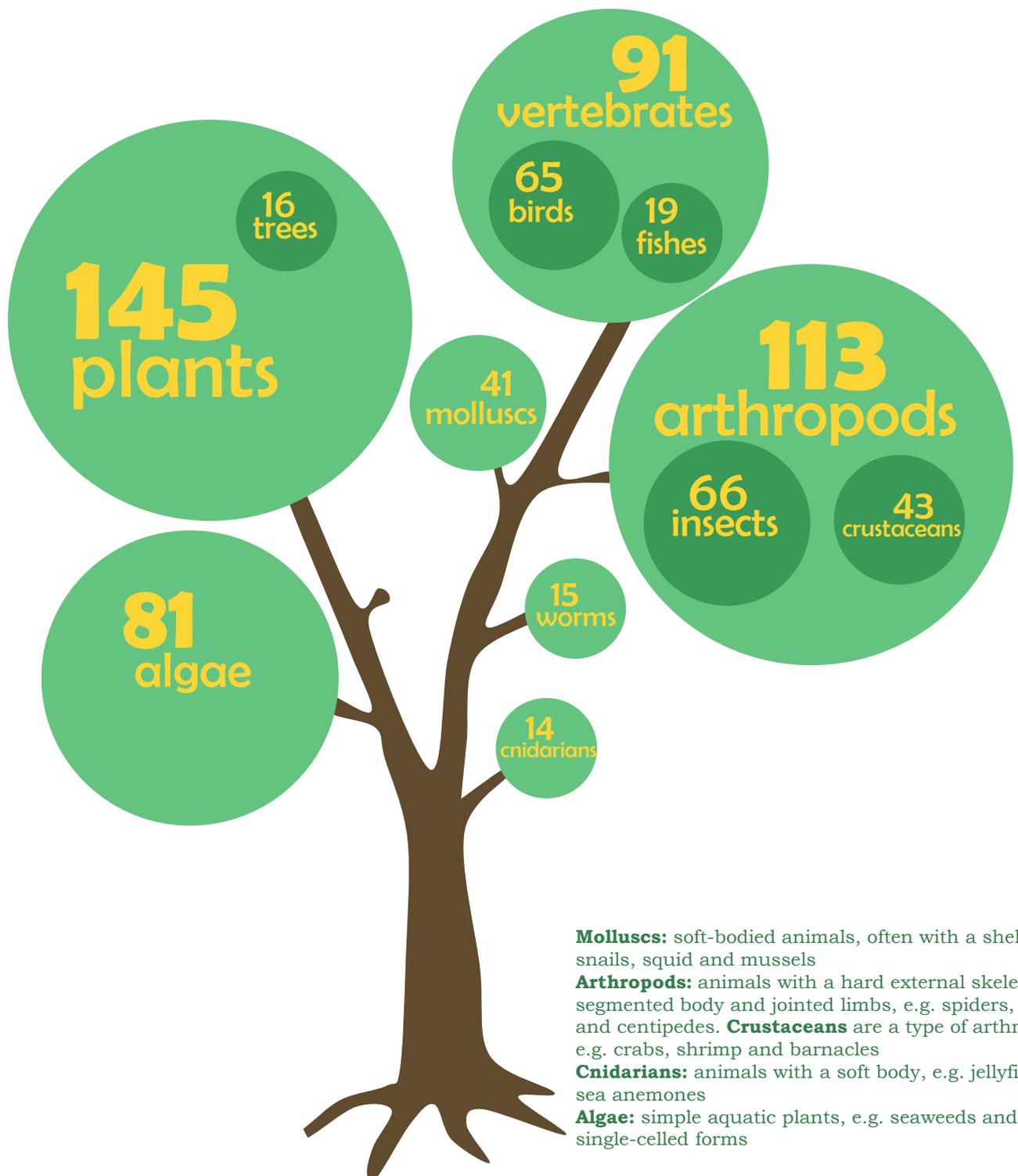
This work paid off when the first ever BioBlitz turned out to be a busy and brilliant success for St Andrews. Complete with the results of pitfall trap sampling, plant and insect surveys, bird walks, a bat walk, rockpooling, an underwater dive survey, moth trapping and unveiling, plankton surveys, and freshwater sampling, the 2014 BioBlitz dataset represented the most intensive and detailed survey of biodiversity conducted in St Andrews Bay in recent times. The findings were rewarding, including a rare and beautiful moth, the Green Silver-Lines moth, second ever to be recorded in Fife.

For a video summary click [here](#).



2014

519 species*



* A full dataset can be found [here](#).



19th-20th June

With prior experience of Bioblitz preparation, the 2015 organisation was more ambitious in terms of reaching more people and recording more species. Alongside returning experts and activities from the 2014 event, 2015 saw a food foraging walk, a fly survey, a lichen and bryophyte survey, and a midnight rockpool ramble join the timetable.

An impressive 120 schoolchildren from three local schools attended the activities on the first day, participating in a search for rocky shore species without any calamities! With better weather than the first BioBlitz, the 2015 BioBlitz also involved many members of the public, on both days, keen to participate in surveys and species identification. Alongside the expert-led surveys, organisation-run stalls informed and entertained participants and passers-by, with enthusiastic staff and interactive activities, including a bike-powered smoothie machine and a 'pin the whiskers on the seal'! All timetabled events were attended by the public, with people of all ages engaging in hands-on interactions with nature and dialogue with the specialists.

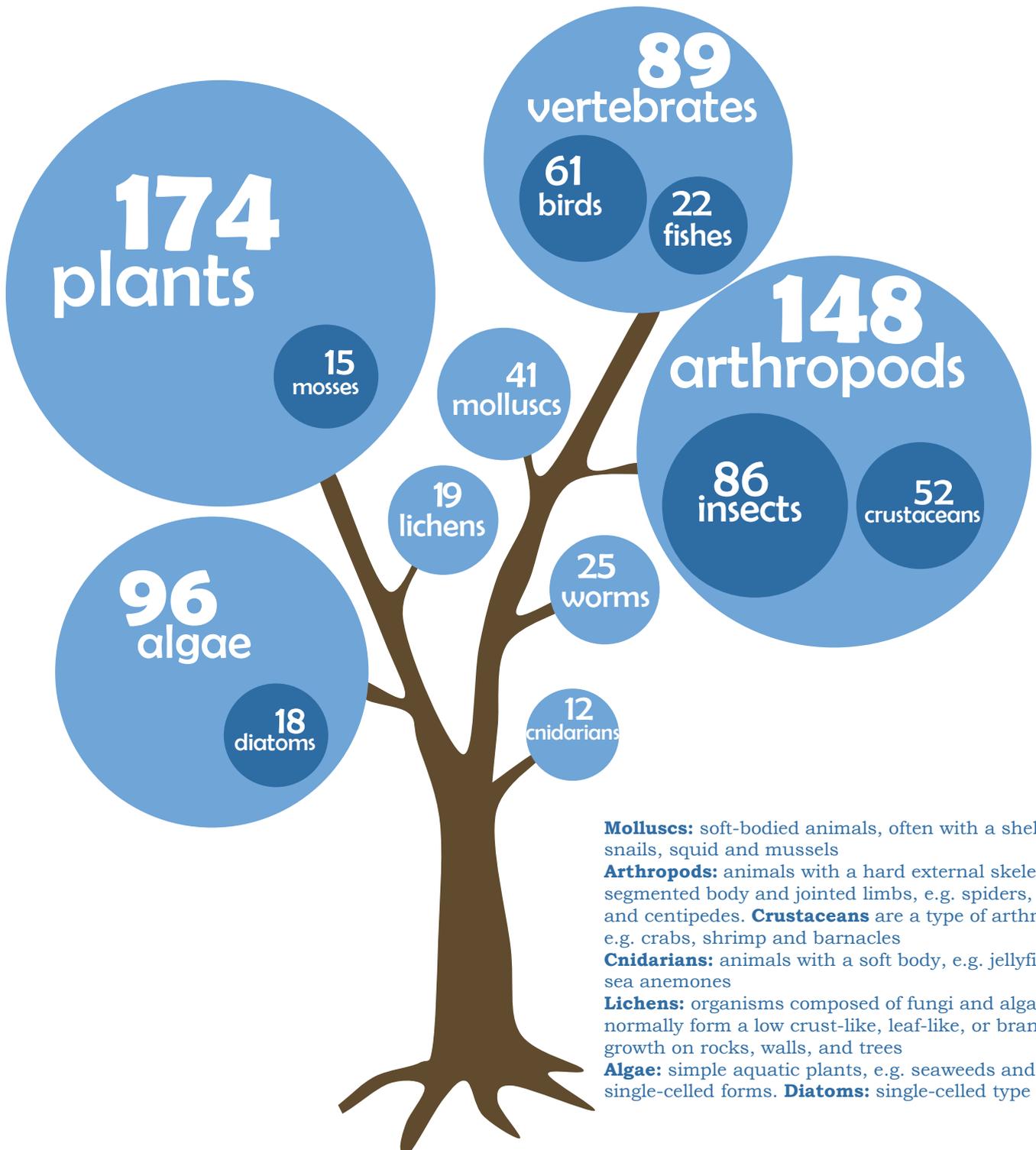
Scientifically, the 2015 BioBlitz succeeded in recording a greater number of species than the previous year and made several important records for Fife. We also spotted our first marine mammals, as members of our dawn chorus walk spotted Bottlenose Dolphins off East Sands!

For a video summary click [here](#).



2015

633 species*



Molluscs: soft-bodied animals, often with a shell, e.g. snails, squid and mussels

Arthropods: animals with a hard external skeleton, a segmented body and jointed limbs, e.g. spiders, insects and centipedes. **Crustaceans** are a type of arthropod, e.g. crabs, shrimp and barnacles

Cnidarians: animals with a soft body, e.g. jellyfish and sea anemones

Lichens: organisms composed of fungi and algae, normally form a low crust-like, leaf-like, or branching growth on rocks, walls, and trees

Algae: simple aquatic plants, e.g. seaweeds and many single-celled forms. **Diatoms:** single-celled type of algae

* A full dataset can be found [here](#).



3rd-4th June

By June 2016, the St Andrews BioBlitz was reaching greater audiences than ever before and the event attracted a brilliant turn-out of curious and keen members of the public. With good weather throughout the BioBlitz, the expert-led walks and array of environmental organisations intrigued, enthused and inspired. 2016 saw the addition of pollinator and butterfly surveys as well as a terrestrial mollusc (slugs and snails) hunt to complement recurring favourites such as pond dipping with St Andrews Botanic Garden, and moth trapping with the Butterfly Conservation Trust.

This year's school sessions were filled by students from Greyfriars Primary, Crail Primary and a number of Fife-based home-schooled youngsters. Our most intrepid school groups yet, these budding naturalists partook in rockpooling, crabbing, and birding, as well as Open Air Laboratories' pollinator and worm surveys and activities with the Marine Conservation Society.

The enthusiasm of the children and their teachers was amazing and we saw lots of smiles, with one student proclaiming: *"This is the most bestest school trip ever!"*

More people investigated the teaching laboratory compared to previous BioBlitzes and, with some of the findings visible on screens linked to microscopes, visitors were able to see the intricate details of some small, but fascinating, creatures. The Marine Biological Association also hosted a new talk in the lab, prior to the evening rockpooling session, highlighting some of the incredible organisms to keep an eye out for.

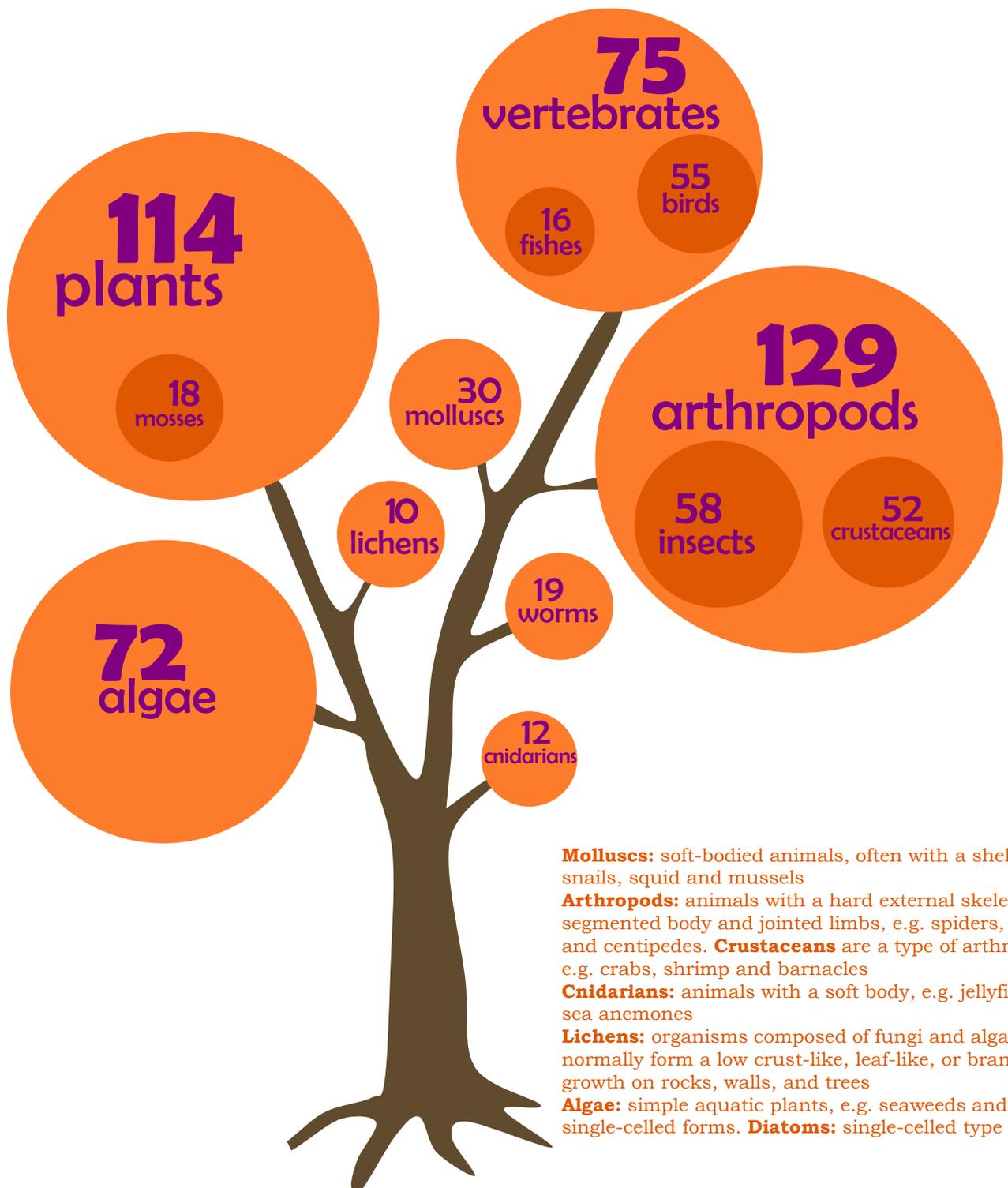
Amongst the weekend's most fascinating finds were: an Iberian Threeband slug and a Lesser Swallow Prominent moth, both new to the 10km² grid square (NO51) they were found in.

For a video summary click [here](#).



2016

495 species



Molluscs: soft-bodied animals, often with a shell, e.g. snails, squid and mussels

Arthropods: animals with a hard external skeleton, a segmented body and jointed limbs, e.g. spiders, insects and centipedes. **Crustaceans** are a type of arthropod, e.g. crabs, shrimp and barnacles

Cnidarians: animals with a soft body, e.g. jellyfish and sea anemones

Lichens: organisms composed of fungi and algae, normally form a low crust-like, leaf-like, or branching growth on rocks, walls, and trees

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People have said...



I am going Rockpooling on Friday night and then again on Saturday morning... So excited!

Tansi

Lovely pictures. My daughter had a lovely time. Thank you.

Lisa

Excellent talk and rock-pooling session yesterday evening. (...) I put my newly-acquired 'knowledge' to use this morning with a spot of local rock-pooling. It was amazing how much more I noticed or was able to identify after attending St Andrews Bioblitz. Many thanks for a great event.

Gil

Thank you to everyone involved with this years BioBlitz for making us feel so welcome - really interesting 2 days and very enjoyable.

Pete (Active First Aid)

Brilliant event ! Well done to everyone who organised and took part. Looking forward to seeing the complete list of beasts etc. when you crunched the numbers!

Ali (Transition St Andrews)

Well done to EVERYONE involved in organising and carrying out this amazing day of bio-blitzing (...) What an amazing event and hopefully the beginning of many more in St Andrews. Bravo to everyone involved.

Nikki (St Andrews Botanic Gardens)

Just to say thank you for working with the children yesterday (...) they all enjoyed the morning and realise that they are contributing to a bigger picture.

Linda (Greyfriars Primary)

A fantastic engaging, inspiring and informative day for our budding scientists. Thank you for providing such a rich experience for our p1/2 class.

Victoria (Crail Primary)

“the most bestest school trip ever!”

Crail Primary student

The St Andrews BioBlitz team is hugely grateful to everyone who has helped with this event. Without the contribution, participation, and enthusiasm of all those involved, the BioBlitz would not have been possible.

Specialists

Adrian Sumner, Alistair Shuttleworth, Andy Blight, Anna Jakeman, Anne Reid, Anne-Marie Smout, Catherine Gemmell, David Ferrier, David Conway, Duncan Davidson, Eliane Bastos, Emily Miles, Emily Readman, Esther Hughes, Gavin Ballantyne, Gillian Fyfe, Gordon Corbet, Grant Brown, Hannah Milburn, Harriet Yates-Smith, Harry Crocker, Heleen Plaisier, Irvine Davidson, Jack Maunder, Jack Sewell, Jeff Graves, Jo Zeimann, Kate Evans, Lindsay Bamforth, Matt Barnes, Matthew Arnold, Nikki Macdonald, Rayna Jarouj, Rebecca Boulton, Ryan Milne, Sandy Edwards, Simon Hayhow, Sophie Thomas, Steph House, Tansy Torkington, Tony Wilson, Will Cresswell

Volunteers

Alex Coram, Alexa Tweddle, Alice Megaw, Alicia Cardona Barrena, Alistair Macleod, Andrea Roach, Andrew Clark, Anna Staehler, Annaleigh Milne, Astrid Vinall, Barbara Barta, Berta Manzano, Birgit Weinmann, Christina McIntyre, Christina Sinclair, Claire Dagen, Claire Gourlay, Claire McGinniss, Clara Celestine Douglas, Clara Coll Llado, Clare McElroy, Courtney Kaye, Daisy Campos Qazi, Donald Malone, Ellen Harrison, Eloise Cotton, Emma Laverick, Erin Phillips, Eugenia Pasanisi, Faith Jones, Faye Moyes, Ginny Greenway, Grania Smith, Haley Arnold, Iain Johnston, Ines Orfao, Jack Cooper, Jaime Fahy, Jennifer House, Johanna Willi, Joe Chapman, Julie Hope, Kelsea Lee, Lara Fahey, Laura Antao, Lauren Shannon, Liam Dougherty, Lili Bagyanszki, Linda Gibson, Lynsey Smith, Marc MacFarlane, Maria Dornelas, Maria Zicos, Mariya Simeonova, Mhairi Miller, Michael Brady, Molly Harvey, Myles Garstang, Pamela Cramb, Ranald Strachan, Rebecca Grant, Rhian Evans, Richard Adams, Samantha Bonnar, Sarah Edward, Sarune Savickaite, Silje Kirsten Jensen, Sophie Eastwood, Susan Thornley, Teresa Abaurrea, Victoria Price

Photographers

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Videographers

Amy Thompson (2014), Eduard Vasile (2015), James Montgomery (2016)



Schools

Newport Primary School (2014-15)
Madras College (2015)
St Leonard's School (2015)
Greyfriars Primary School (2016)
Crail Primary School (2016)

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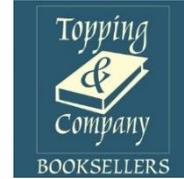
BioBlitz



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