

Careers in the field: Where ecology can take you

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@CTJeffs

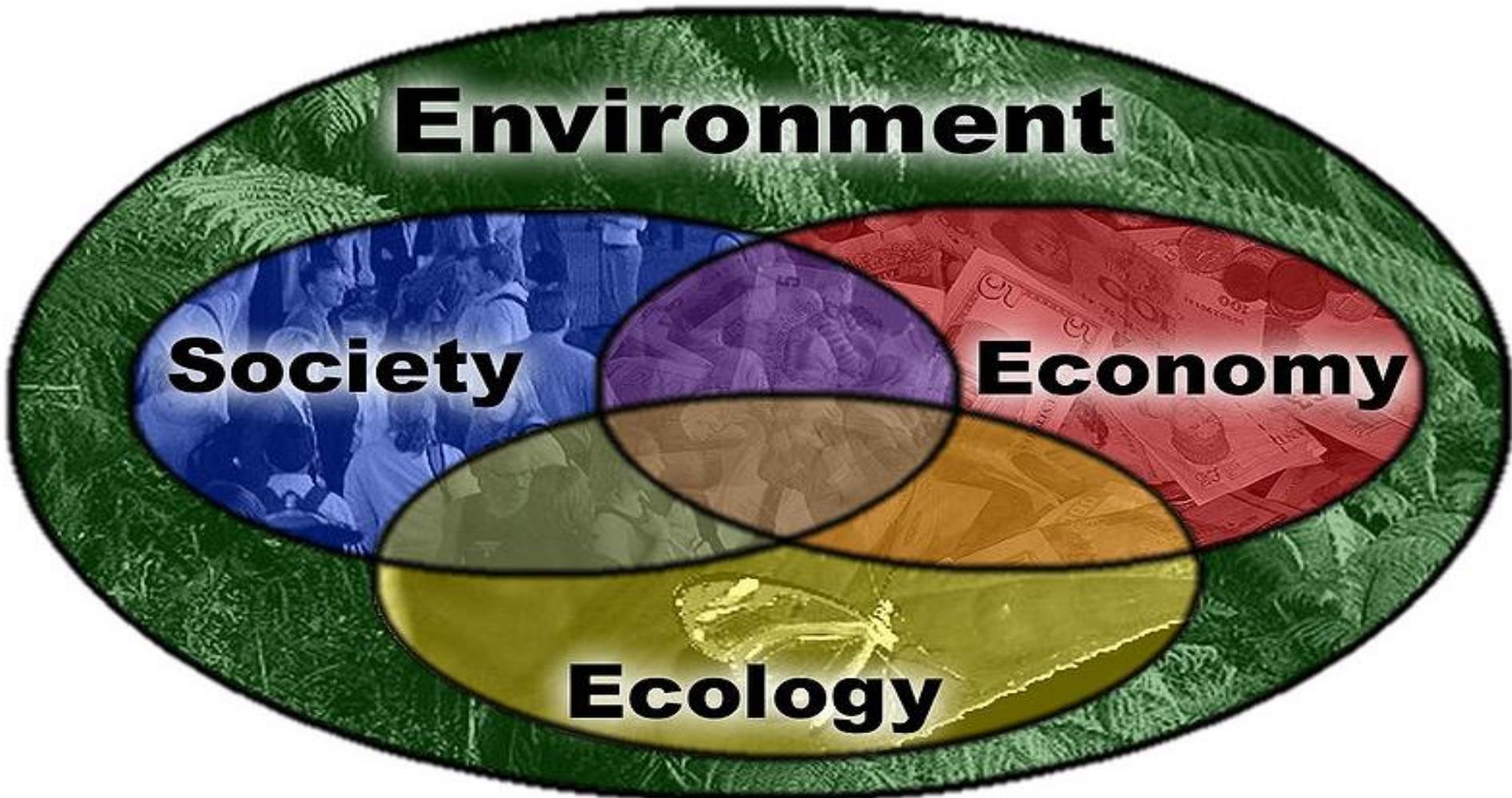
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The importance of ecology:

- essential for tackling global challenges



Careers in the field:

Ecology has many career options, and there are many paths you can take for each

- Research: university, government, NGO, charity, company
- Conservation
- Ecological management
- Ecological consultancy
- Biological and chemical pest control
- Medical research and practice
- Tourism, science communication, journalism

Now let's take just one branch of ecology, insects, as an example!

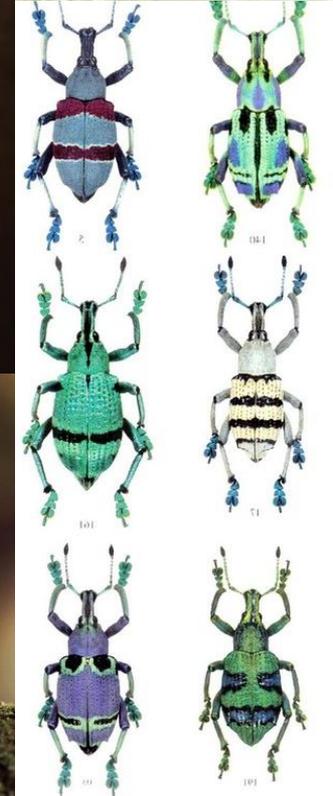
Insects are important

- Essential ecology: pollination, waste removal, food chain foundations, pest control

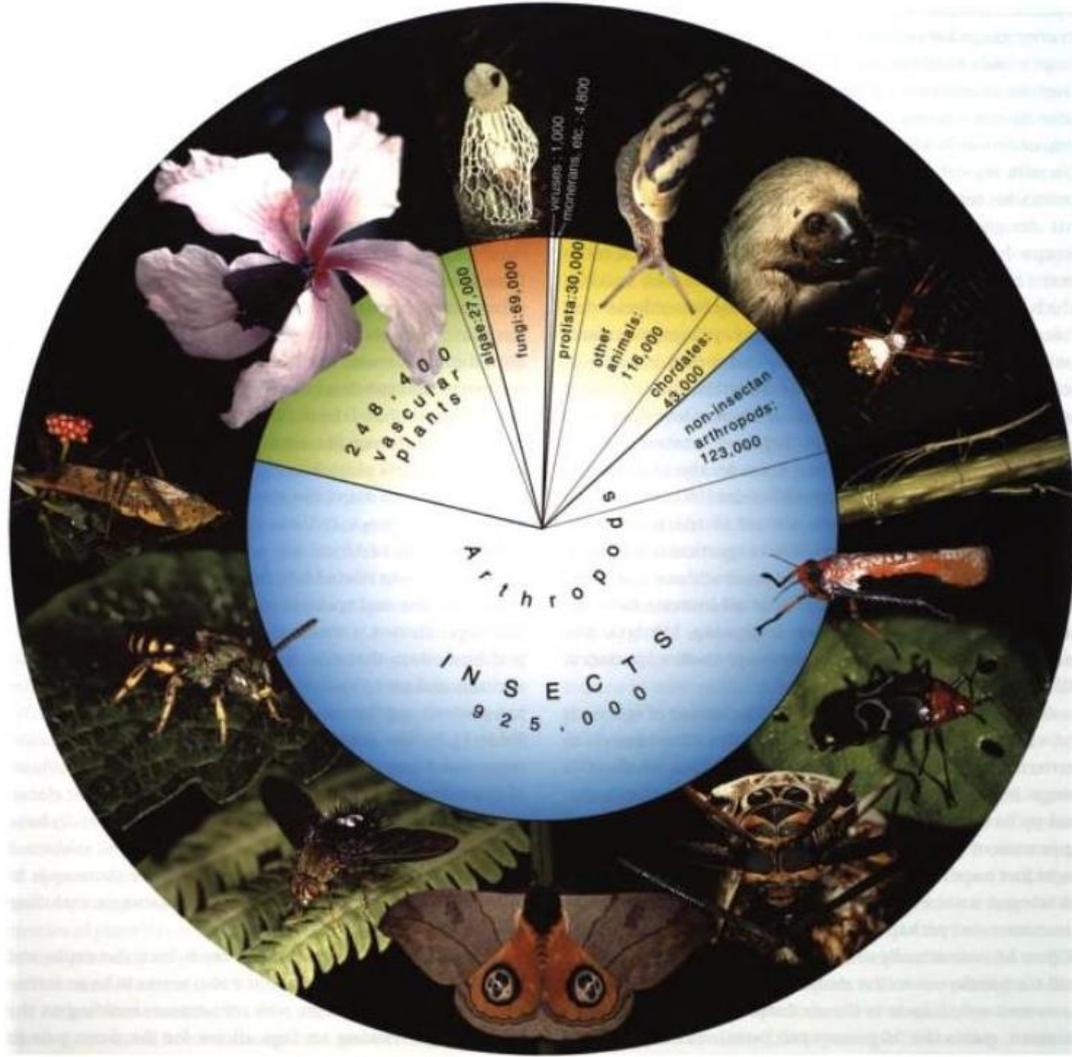
“The little things that run the world” – E. O. Wilson



(P.s. Insects are also beautiful)

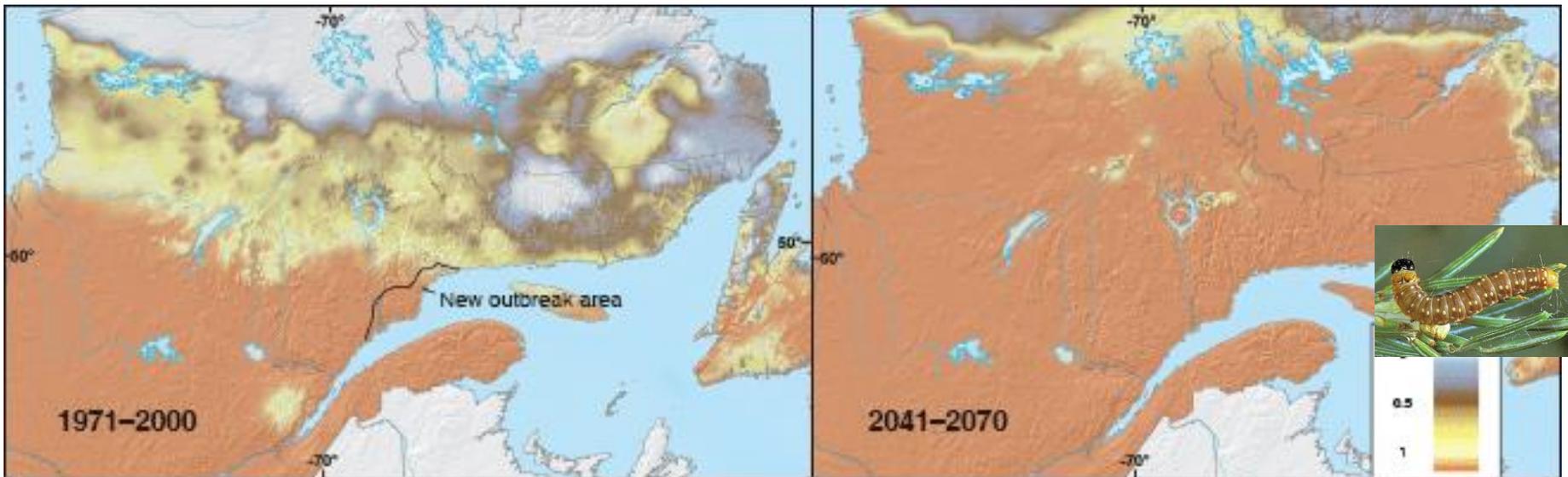


Ecologists vital research & conservation work:
If you protect insects, you protect the majority of animal species



Climate change

- Ecology looks at species threatened by changing conditions, and how pests and diseases may spread geographically

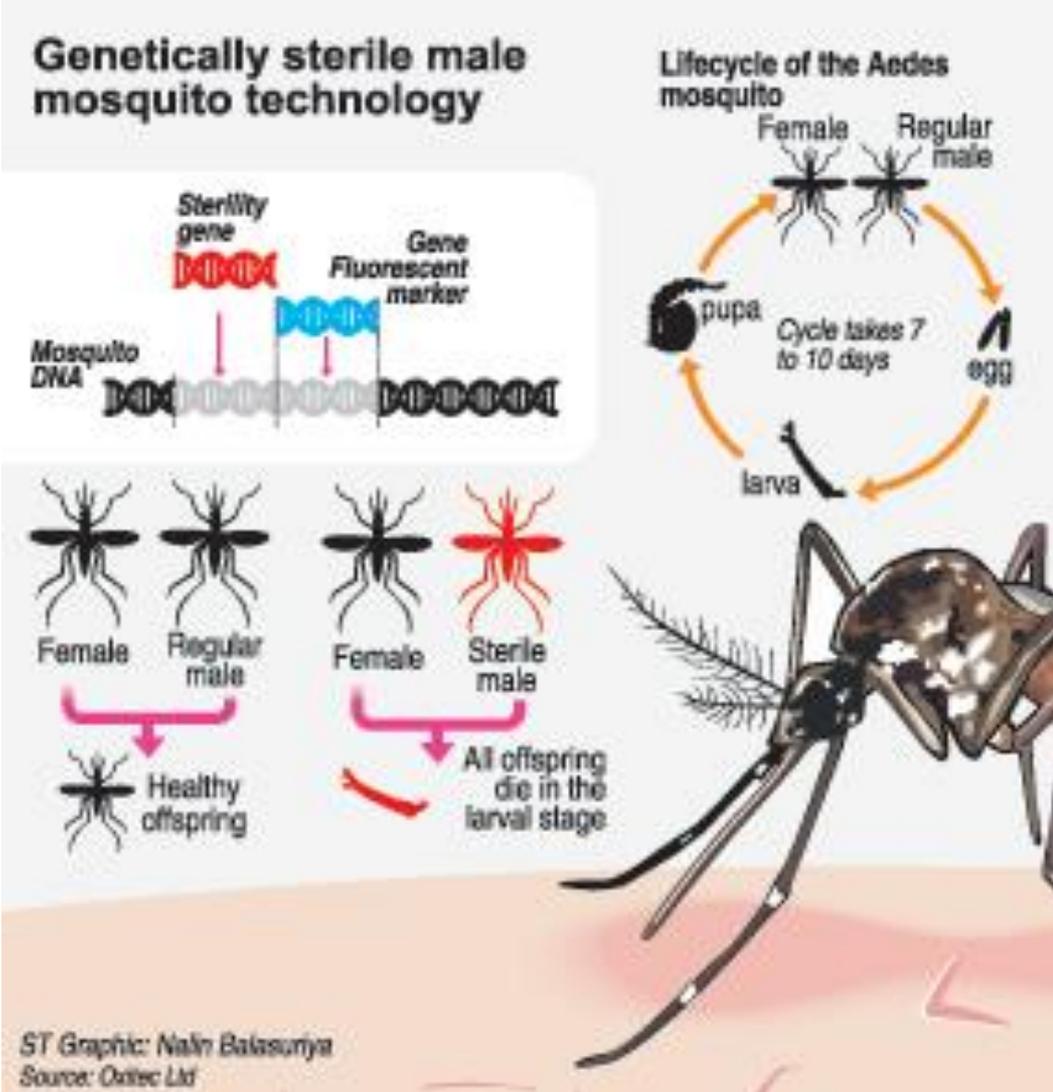
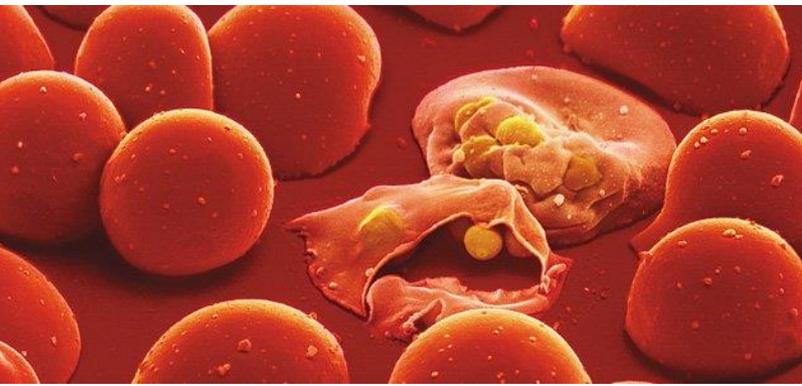
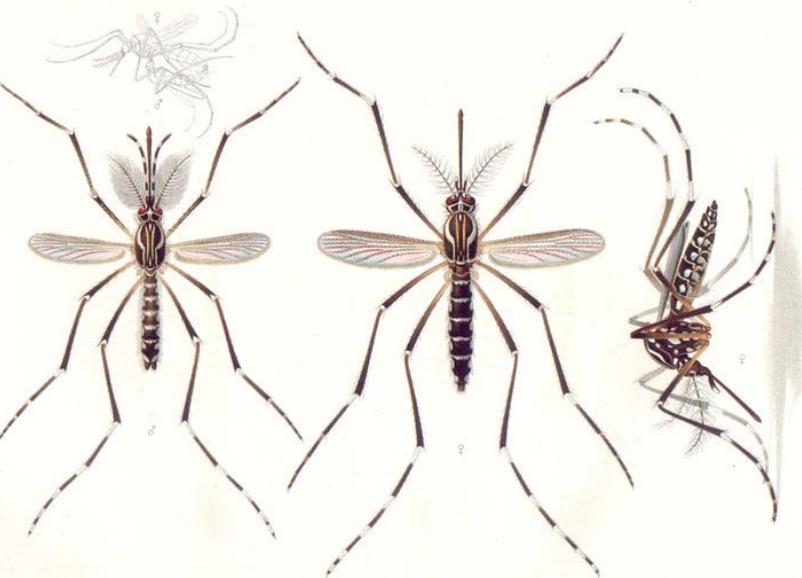


Spruce Budworm (*Choristoneura fumiferana*). Jacques Régnière, Natural Resources Canada

Ecologists work in global food security: Crop production and pest management



Disease control and medical applications



ST Graphic: Nalin Balakuriya
Source: Oxitec Ltd

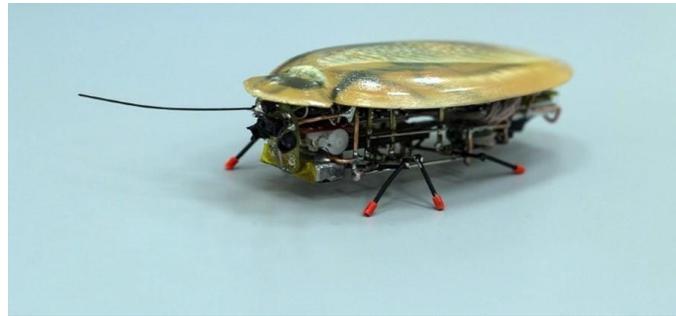
Ecological consultancy & management

- National and international protection of nature using knowledge of species' unique ecology.



Entomological innovation in the field

- Insect ecology inspires technology!
(top right clockwise: pollinating robots, earthquake rescue robots, super-white paints, surgical instruments, water capture machines)



My career in the field: Where I went (and could have gone instead)

- 10 years from undergraduate, through masters, PhD and postdoctoral research in ecology



Undergrad field opportunities

- Take advantage of lectures (+ asking lecturers questions!), field courses, practicals, asking for work experience from those you meet or look for within your university or local area



THE IUCN RED LIST
OF THREATENED SPECIES™



Seek undergrad funding opportunities for your thesis

- Ask your lecturers, department admin staff, PhD students, learned societies, charities, search online
- Don't be afraid to approach a lot of people even if some don't reply!



Conditions in the field:

- not always a picnic. Be prepared for early mornings, long hours, and wet clothes!



But encounter wonderful wildlife!

This is where I found a passion for insects



Written dissertation topics

Make a big effort for your practical and written dissertations. Published work can result and looks fantastic on your CV



Ecological Entomology

Ecological Entomology (2013), **38**, 209–218

DOI: 10.1111/een.12026

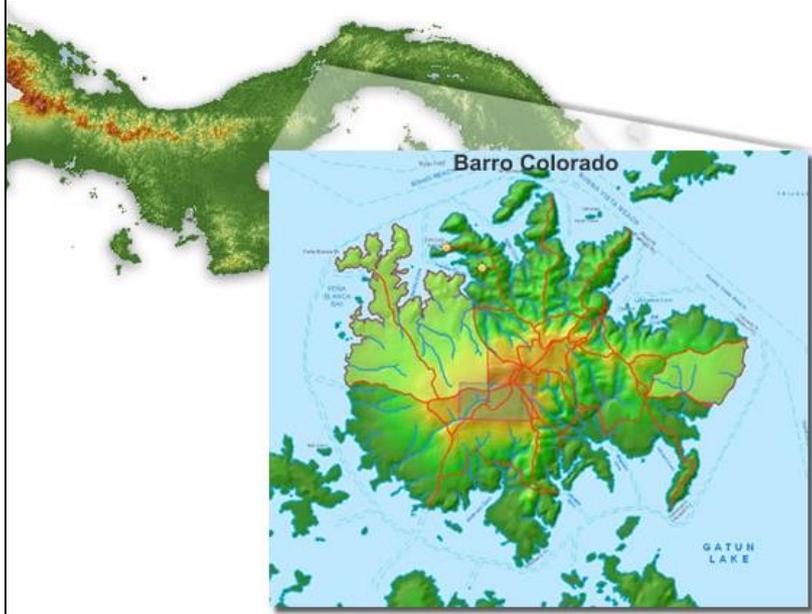
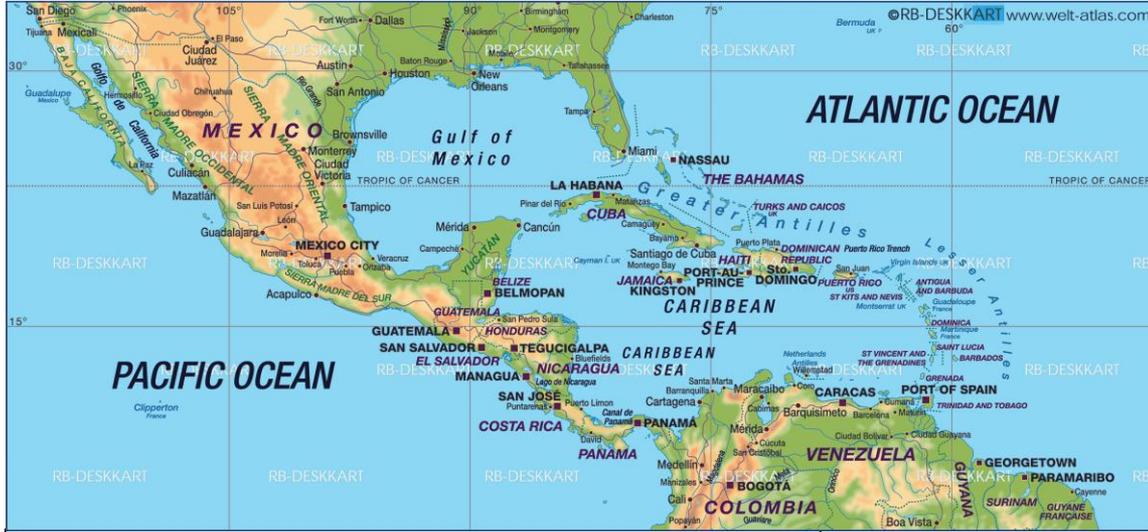
INVITED REVIEW

Effects of climate warming on host–parasitoid interactions

CHRISTOPHER T. JEFFS and OWEN T. LEWIS Department of Zoology, University of Oxford, Oxford, U.K.

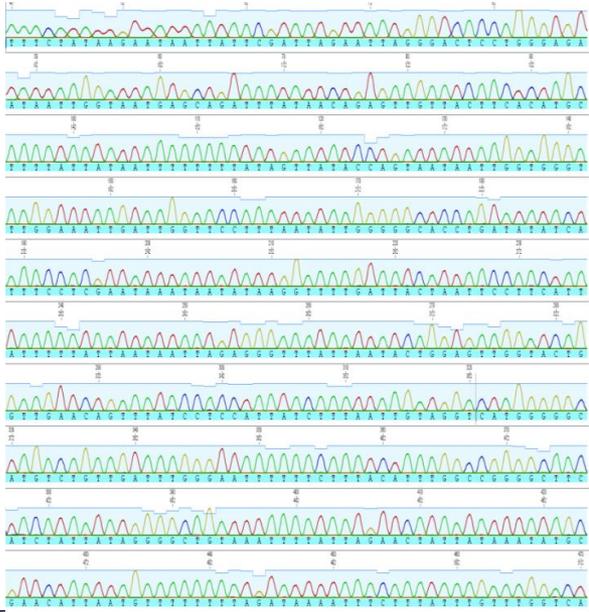
Between undergrad and postgrad?

Seek independent funding, internships, placements before your finals so they are ready once you're finished!



Masters degree

Opportunity to learn new skills, find or confirm your area of interest, and make contacts.



Masters degree

- But, a significant financial decision.
- Don't despair if you can't do one, as you can gain equivalent experience independently
- Find funding sources and internships, contact research groups, volunteer, write up your undergraduate work. Just show you're active!

On to the PhD: 3+ years of work

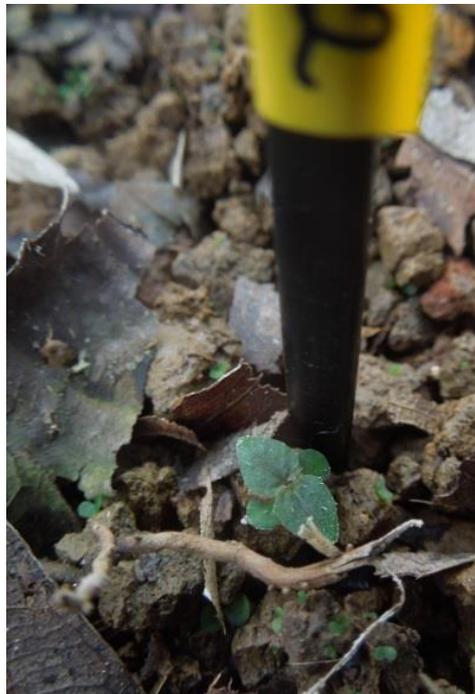
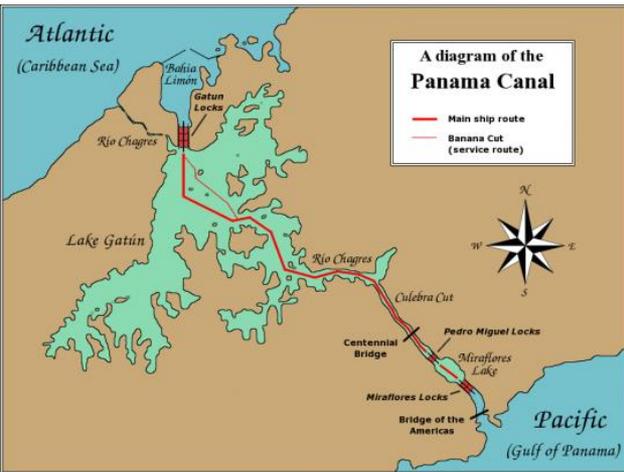
- Take opportunities to develop transferable skills



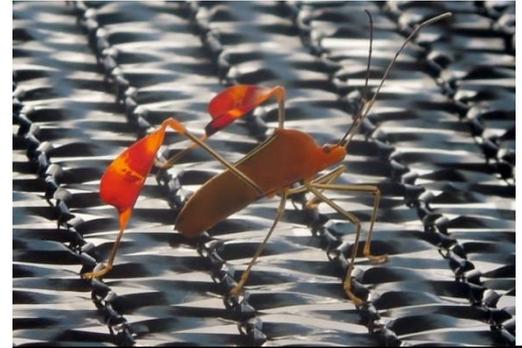
Enjoying wonderful meadow diversity



Collecting soil across Panama



But lots of time to explore and have fun...



Once again: Not all field work is fun work

- Field work is full of wonderful peaks, and hard troughs. It's up to you to ensure you are happy with your balance
- If you're not happy, think of how you might change this! More lab work? A change of subject area? Moving away from research?



Postdoctoral research:

- Moving into your chosen area of expertise
- Writing your own grants during your PhD can help ensure you're doing what YOU like best



So why the Career Switch?

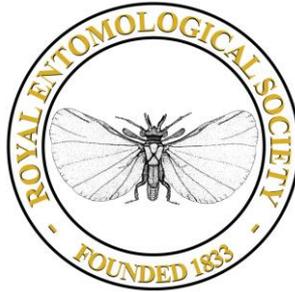
Extra work besides my research helped me find my passion for science communication

- Personally enjoyable and rewarding
- Builds public understanding and support
Justifies use of public money
- Increased financial and political support
- Inspires social change and future ecologists



Outreach and science communication

- Volunteered with learned societies to gain science communication experience and transferable skills
- Blog writing and series curation, podcast making, video production, museum exhibition curation, live outreach events, art-science projects



Your research experience makes you a suitable expert for TV!

- Write up your ideas for short videos and send them to TV researchers, or contact your department's press office or engagement team for advice and contacts



BES summer schools

- We help students develop research and transferable skills
- One year free student membership:

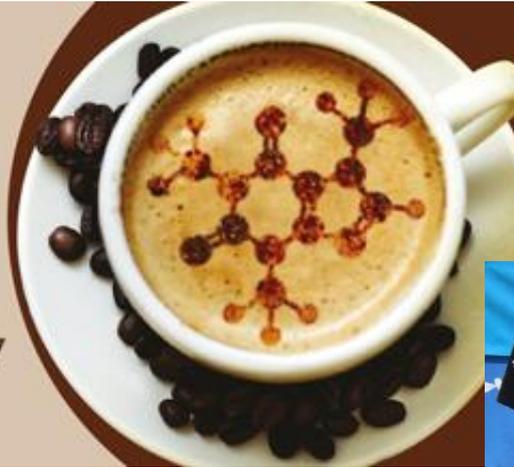
<https://www.britishecologicalsociety.org/membership-community/join-us/>



We provide students with training in Science Communication skills and volunteering opportunities at our public engagement events

Darwin's
Coffee
House

28th–29th September, 2017
#DarwinsCoffee
bit.ly/DarwinsCoffee



Gain experience by working with:

- your lecturers/supervisors/demonstrators
- learned societies
- local organisations and groups
- museums etc.

Top tip: do one thing you don't HAVE to do!
- This could be what you end up enjoying most, and will make you stand out to potential supervisors and bosees



A lush, dense tropical jungle scene. Sunlight filters through the thick canopy of green leaves and vines, creating a misty, ethereal atmosphere. The light rays are visible, illuminating the scene and highlighting the textures of the plants. The overall color palette is dominated by various shades of green, from deep forest greens to bright, sunlit yellows and whites where the light hits the foliage.

A career in the field can give
you many transferable skills!