

symposium

AT THE ZOOLOGICAL SOCIETY OF LONDON



25 and 26 February 2010 ALL DAY | www.zsl.org/science/scientific-meetings | all tickets in advance

FOUNDATIONS OF BIODIVERSITY: saving the world's non-vertebrates

organized by Jonathan Baillie, Michael Samways, Monika Böhm and Ben Collen

Fungi, invertebrates and plants represent the majority of earth's biodiversity. They are main players in ecosystem services, such as pollination and soil formation, play important roles in the establishment of food webs and provide us with biocontrol agents. Their fate is intimately linked to ecosystem health and the continued existence of megafauna and humans alike.

In the past, biodiversity conservation has concentrated on more charismatic megafauna, while attention to non-vertebrates still lags a long way behind that of vertebrates. One of the major conservation challenges ahead is to address this imbalance by improving our knowledge of non-vertebrate conservation issues and finding effective solutions to safeguard the 'Foundations of Biodiversity'. This will enable us to gauge more accurately the impact of humans on the ecosystem services they use.

This symposium will bring together researchers and conservation practitioners from a wide range of backgrounds in invertebrate and plant conservation to highlight and debate the importance of non-vertebrate biodiversity from ecological, social and economic perspectives. Our current state of knowledge of non-vertebrate conservation issues will be reviewed and important knowledge gaps will be addressed in order to provide recommendations on how these can be filled. Most importantly, we will try to find practical solutions to raise the profile of non-vertebrate conservation.

After all, without the 'Foundations of Biodiversity', life on earth as we know it would be impossible.



Image credits (from top): Jens Kipping; Tim Utteridge; Emily Watson; David Minter; Louise Alcock; Owen Lewis; Chris Lukhaup

Sponsors



Rationale of each session

Session I: The Achilles' heels of non-vertebrate conservation

Many of the lesser-known taxa, such as fungi, phytoplankton and insects, profoundly affect the functioning of our ecosystems, providing the foundations for more charismatic megafauna and humans alike. The continued existence of these taxa is therefore of utmost importance for our own well-being, not only from an ecological viewpoint, but also with regard to social, political and economic implications. This session highlights some of these lesser-known species groups, the threats they face and what their loss would mean to humanity.

Session II: Status of non-vertebrates: the knowledge base

Currently the IUCN Red List mainly comprises comprehensive conservation assessments of three major vertebrate groups (mammals, birds, and amphibians) as well as the cycad plants. For these groups we can identify where they are threatened and why, and what conservation actions are required to eliminate these threats. This information is critical for conservation planning and for informing the general public of the impact humans are having on the world's species. The Sampled Red List Index (SRLI) project aimed to provide conservation assessments for a number of non-vertebrate species groups in order to broaden the species coverage of the IUCN Red List and draw up a biodiversity indicator broadly representative of global biodiversity. This section summarises the results for the different non-vertebrate taxonomic groups assessed within the framework of the SRLI and similar conservation assessments projects. The results are split into marine, freshwater and terrestrial ecosystems. Each ecosystem is introduced in terms of the relevant drivers of threat affecting them, followed by species-group specific findings on taxonomy, conservation status and trends, areas of threat and limitations to our knowledge through the lack of data.

Session III: The future of non-vertebrate conservation: filling the gaps

Projects such as the SRLI have provided substantial amounts of information to start filling the knowledge gaps on the conservation status of lesser known taxa, while highlighting important areas which still suffer from limited data and expertise. For example, taxonomic uncertainty often hinders accurate conservation assessment and this may be caused not just by a lack of taxonomic knowledge, but also by a lack of taxonomists in the field. Similarly, while vertebrate conservation policies are already fairly well-established, non-vertebrate conservation is still very much overlooked in terms of the implementation of effective policies to safeguard their survival. This session discusses priorities for future research as well as the urgency to build up a well-trained taxonomist base and rework conservation policies in order to accommodate the needs of non-vertebrate biodiversity.

Session IV: Conserving the foundations of biodiversity: future challenges

Conserving the foundations of biodiversity requires us to rethink our approach to conservation and to define the most likely challenges ahead. For example, landscape-based conservation approaches may be more suitable for non-vertebrate conservation than species-level conservation; however, such landscape or ecosystem-level approaches may require us to find a way to promote conservation issues without the need to focus on charismatic megafauna. But how can we raise the profile of non-vertebrates? How can we build capacity in the field of non-vertebrate conservation? And how can we adapt conservation strategies with regard to the future challenge of climate change?

**THE FOUNDATIONS OF BIODIVERSITY: SAVING THE WORLD'S NON-VERTEBRATES
DRAFT SYMPOSIUM PROGRAMME – updates from www.zsl.org/science/scientific-meetings
THURSDAY 25 February 2010**

- 8.30 Registration opens
9.15 Welcome
9.25 **Introduction: foundations of biodiversity** – a video address by E. O. Wilson (Harvard University, USA)

SESSION I: THE ACHILLES' HEELS OF NON-VERTEBRATE CONSERVATION

- 9.40 **Mycorrhizal fungi: keystone mutualists at risk?** – Ian Alexander (University of Aberdeen, UK)
10.00 **A world without pollinators** – John Donaldson (South African National Biodiversity Institute)
10.20 **Biodiversity belowground: the functional role of soil invertebrates** – Richard Bardgett (Lancaster University, UK)

10.40 **POSTER SESSION (TEA/COFFEE)**

11.10 **Phytoplankton: marine superfood** – TBC
11.30 **Synergies of climate change: the coral crisis** – Callum Roberts (University of York, UK)
11.50 **Invertebrate biodiversity in a world without natural enemies** – Steve Yaninek, Douglas S. Richmond and Ian Kaplan (Purdue University, USA)
12.10 **Panel discussion**

13.00 **LUNCH**

SESSION II: STATUS OF NON-VERTEBRATES: THE KNOWLEDGE BASE

- 14.00 **The marine environment and its major threats** – three talks followed by 10 minutes of questions to the speakers as a panel:
14.05 **One third of reef-building corals face elevated extinction risk from climate change and local impacts** – Kent Carpenter (IUCN / Conservation International Global Marine Species Assessment, Old Dominion University, USA)
14.20 **Cephalopods** – Louise Allcock (Martin Ryan Marine Science Institute, NUI Galway, Ireland)
14.35 **Global conservation status of the world's seagrasses – major threats and the consequences of disappearing meadows** – Suzanne Livingstone (IUCN Species Programme / Conservation International, USA)

15.00 **The freshwater environment and its major threats** – four talks followed by 10 minutes of questions to the speakers as a panel:
15.05 **Freshwater crabs** – Neil Cumberlidge (Northern Michigan University, USA)
15.20 **Freshwater crayfish** – Nadia Dewhurst (Institute of Zoology, ZSL, UK)
15.35 **Freshwater molluscs** – Mary Seddon (IUCN Mollusc Specialist Group)
15.50 **Dragonflies and damselflies** – Viola Clausnitzer (Georg-August-Universität Göttingen, Germany)

16.15 **TEA/COFFEE BREAK**

16.45 **The terrestrial environment and its major threats** – three talks followed by 10 minutes of questions to the speakers as a panel:
16.50 **Plants** – Neil Brummitt (Royal Botanic Gardens, Kew, UK)
17.05 **Butterflies** – Owen Lewis (University of Oxford, UK)
17.20 **Dung beetles** – Sacha Spector (Scenic Hudson, USA)

17.45 **Summary and discussion period** – Ben Collen (Institute of Zoology, ZSL, UK)

18.00 **POSTER SESSION with cash bar**
19.00 **End of Day One**
19.15 **SYMPOSIUM DINNER** – tickets to be booked in advance

**THE FOUNDATIONS OF BIODIVERSITY: SAVING THE WORLD'S NON-VERTEBRATES
DRAFT SYMPOSIUM PROGRAMME – updates from www.zsl.org/science/scientific-meetings
FRIDAY 26 February 2010**

**SESSION III: THE FUTURE OF NON-VERTEBRATE CONSERVATION:
FILLING THE GAPS**

- 9.30 **Prioritising non-vertebrate assessment and conservation: the next steps –**
Simon Stuart (IUCN Species Survival Commission, UK)
- 9.55 **Where are tomorrow's taxonomists? –** *David Pearson (School of Life Sciences, Arizona State University, USA)*
- 10.20 **POSTER SESSION (TEA/COFFEE)**
- 10.50 **Conservation policy and practice for non-vertebrates –** *Roger Catchpole (Natural England and University of Edinburgh, UK)*
- 11.15 **Fungi everywhere: many to conserve –** *David Minter (CABI, UK)*
- 11.40 **The extinction threat to non-vertebrates from global climate change –** *Robert J. Wilson and Ilya M. D. Maclean (University of Exeter, UK)*
- 12.05 **Filling the gaps in plant conservation –** *Eimear Nic Lughadha (Royal Botanic Gardens, Kew, UK)*
- 12.30 **LUNCH**
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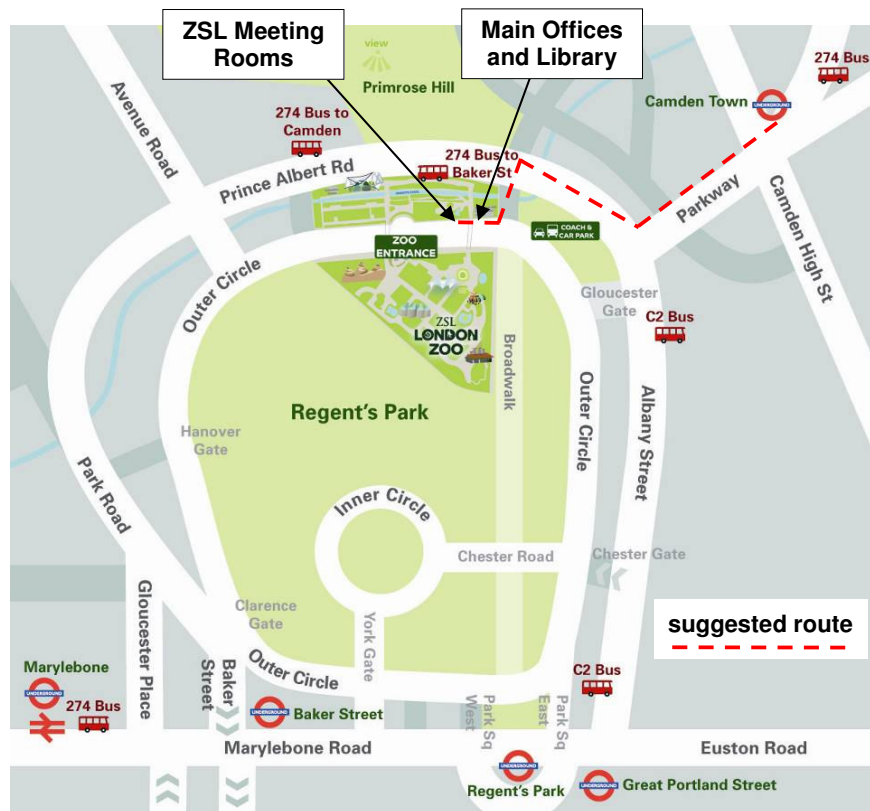
**SESSION IV: CONSERVING THE FOUNDATIONS OF BIODIVERSITY:
FUTURE CHALLENGES**

- 13.30 **Strategic planning for species conservation – how effective is it? –** *Tim New (LaTrobe University, Australia)*
- 14.00 **Too many species, too little information, and not enough time: a multi pronged approach to invertebrate conservation –** *Scott Hoffman Black (Xerces Society, USA)*
- 14.30 **Dynamic designer landscapes for the future: linking species and landscape conservation –** *Michael Samways (Stellenbosch University, South Africa)*
- 15.00 **POSTER SESSION (TEA/COFFEE)**
- 15.30 **From apathy to empathy: how to make people care about biodiversity –** *Raynald Harvey Lemelin (Lakehead University, Canada)*
- 16.00 **Avoiding the Achilles' heels: making non-vertebrate conservation work –** *Jonathan Baillie (Conservation programmes, ZSL, UK)*
- 16.30 **Conclusion**
- 17.00 **End of Symposium**
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Please note that this programme is subject to change. Please check the online programme, available from www.zsl.org/science/scientific-meetings for up-to-date information.

MEALS AND REFRESHMENTS Coffee and tea will be served during breaks and a sandwich lunch is provided for all. A dinner will be held on Thursday evening; tickets cost an extra £40 each and must be purchased by 11 February 2010. Please advise any special dietary requirements on registration form.

LOCATION



The Zoological Society of London's Meeting Rooms are next to its Main Offices, on the Outer Circle, Regent's Park. Cars may be parked in the ZSL London Zoo visitors' car park – please contact Joy Hayward (details below) to arrange a special parking rate for the symposium. The nearest public transport is by the 274 bus (to the Zoo), or by Underground (to Camden Town).

NOTES

Attendance All places must be booked in advance. **Full rate:** two days £130; one day £80.

Discounted rate: (applicable for students and ZSL Friends and Fellows) two days £65; one day £40. Registration deadline: 11 February 2010 (a fee of £10 will be charged on all late registrations).

Meals and refreshments Coffee, tea and a buffet sandwich lunch will be served during breaks and are included in the ticket price. A dinner with the speakers will be held at the end of the first day; tickets cost £40 each and must be purchased no later than 11 February 2010. Please state if you have any special dietary requirements, including vegetarian.

Posters The organisers invite interested parties to submit abstracts for posters with research relating to the symposium topic. Abstracts of no more than 250 words can be emailed or posted (using enclosed form) to Joy Hayward (details below) by 28 January 2010 for consideration by the coordinators. Accepted poster presenters will be notified by 1 February 2010.

Booking and enquiries

please contact:

Joy Hayward, Scientific Meetings Coordinator
Zoological Society of London,
Regent's Park (Outer Circle)
London NW1 4RY, UK.

E: joy.hayward@zsl.org; T: +44 (0)20 7449 6227; F: +44 (0)20 7449 6411

www.zsl.org/science/scientific-meetings/



REGISTRATION FORM

THE FOUNDATIONS OF BIODIVERSITY: SAVING THE WORLD'S NON-VERTEBRATES

25 and 26 February 2010 in the Meeting Rooms, Zoological Society of London, Regent's Park (Outer Circle), London NW1 4RY, UK.

Symposium Attendance	Full rate	Discounted rate (applicable for ZSL Friends & Fellows ¹ and students ²)
For two days or part days	£130	£65
For one day or part day	£80	£40

Deadline for Registration 11 February 2010 (an additional **£10 fee** is applicable for all late registrations).

Please return one form per delegate to Joy Hayward, Scientific Meetings Coordinator, ZSL London Zoo, Regent's Park, London NW1 4RY, UK; e-mail: joy.hayward@zsl.org; fax: +44 (0)20 7449 6411.

REGISTRATION

Please register me for: TWO DAYS / THURSDAY / FRIDAY (please delete as applicable)

I AM / AM NOT a Fellow or Friend of The Zoological Society of London¹

I AM / AM NOT a registered graduate/undergraduate student²

¹Please provide your ZSL Membership number

²Please provide a supporting statement from your course supervisor or a copy of your student card.

3-COURSE DINNER (THURSDAY EVENING)

I would like to book for dinner on Thursday 25 February: please reserve me.....dinner place(s) (£40 each).

Closing date for dinner bookings: 11 February 2010. Please list any special dietary requirements below.

Your details

Title: **First name:** **Surname:**

Name (as you would like it to appear on your badge):

Position: **Organisation:**

Email: **Tel:**

Special dietary requirements (please specify, including vegetarian):

Mailing address (billing address should be provided for card payments):

Delegate list: We would like to make a list of delegates available to all attendees. Please indicate here if you **do not** want your information (name, position, organisation, email address) to be included []

PAYMENT DETAILS

Cheque I enclose a cheque for £..... payable to: The Zoological Society of London.

Please note that cheques can only be accepted in Sterling drawn against a UK bank.

Direct payment by Euros or US\$ may also be possible; please contact Joy Hayward for information.

Card Please complete all details below and return by fax or by post:

Please debit my Visa / MasterCard (delete as appropriate)

Amount £.....

Card Number / /

Expiry Date / Card security code (last three digits printed on or just beneath card signature strip)

Name on Card (capital letters please)

Signature of Card Holder Date

If you would prefer to give card details over the telephone please call Joy Hayward on +44 (0)20 7449 6227.

Cancellations must be received in writing five working days prior to the symposium and will be refunded less a £15.00 processing charge. We regret that no refunds will be possible for places cancelled after 18 February 2010. Substitutions may be made at any time without charge; please notify Joy Hayward of any change in attendee details.

CALL FOR POSTERS

THE FOUNDATIONS OF BIODIVERSITY: SAVING THE WORLD'S NON-VERTEBRATES A 2-day international symposium

Thursday 25 and Friday 26 February 2010 at the Meeting Rooms, Zoological Society of London, Regent's Park (Outer Circle), London NW1 4RY, UK

There are spaces for approximately 20 posters at this 2-day symposium. Posters will be on display throughout, and attendees will have plenty of time to study posters and interact with speakers and other delegates during tea/coffee breaks (poster area is close to refreshment points).

Abstracts of no more than 250 words outlining poster content should be emailed to joy.hayward@zsl.org by 28 January 2010 for consideration.

Please note the deadline for submission of poster abstracts is 28 January 2010.

Those who have submitted successful poster proposals will notified by 1 February 2010 and further guidelines will be sent at that time.

Title of poster

Author(s) of poster

Please indicate which author/representative will attend the symposium to present the poster. Registered delegates' posters will be given priority over poster abstracts submitted by non-delegates.

Contact email address for representative

Abstract of no more than 250 words outlining poster content

For more information, please contact

Joy Hayward: Tel: +44 (0)20 7449 6227; Fax: +44 (0)20 7449 6411; Email: joy.hayward@zsl.org

About the sponsors



Esmée Fairbairn Foundation

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LIVING CONSERVATION

Zoological Society of London

The Zoological Society of London (ZSL) is a charity devoted to the worldwide conservation of animals and their habitats.

ZSL Vision: A world where animals are valued, and their conservation assured.

ZSL Mission: To promote and achieve the worldwide conservation of animals and their habitats.

ZSL supports the **United Nations International Year of Biodiversity** www.cbd.int/2010

