Dr. Dongbo Li

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Professional work experience

Postdoctoral research fellow
(2022 – 2025)
PI:
Dr. Steven Sait
Prof. Mike Fowler
Prof. Chenggui Yuan

School of Biology, University of Leeds, UK

Project title: *Multigenerational trophic responses to coupled short- and long-term environmental change (NERC-funded)*.

Summary: 1) Conducted microcosm experiments to quantify eco-evolutionary dynamics in host–parasitoid systems; 2) Performed time-series analyses to assess environmental impacts on population dynamics and predator–prey oscillations; 3) Collaborated with mathematical modellers to develop experimental-informed modelling frameworks; 4) Led manuscript preparation for peer-reviewed journals and contributed to new grant proposals; 5) Coordinated laboratory activities with technical staffs and co-supervised postgraduate projects.

Education

PhD in *Ecology*
(2018 – 2023)
Supervisors:
Prof. Jane Memmott
Dr. Chris Clements

School of Biological Sciences, University of Bristol, UK

Thesis title: *The effectiveness of wildlife corridors in theory and in practice*

Summary: 1) Evaluated the ecological impacts of corridors on insect pollinators using integrated laboratory and field experiments; 2) Use the soil Collembola experimental systems to investigate how inter-patch dispersal regulates metapopulation dynamics; 3) Quantify how habitat fragmentation and landscape structure affect pollinator movements and pollination services.

MRes in *Ecology*
(2015 – 2018)

School of Biology, Nanjing University, China

Title: *Impact of experimental warming on insect community dynamics*

Summary: 1) Investigated insect community dynamics in response to warming in a field warming system; 2) Conducted insect morphological identification and laboratory DNA barcoding; 3) Collected field data on plant-fly-parasitoid micro food webs.

Supervision & teaching

2023-2024

Co-supervise Mbio project

KS: Designed and optimized experimental workflow to support Mbio students; provided grouped and 1-2-1 tutorials on statistical analysis using R; reviewed and provided feedback on student reports.

2024

Lead supervision of DVRS research project

KS: Secured £3,250 in research funding to support undergraduate gaining research experiences during summer vacation; provided supervision and laboratory training related to experimental design, laboratory techniques and data analysis.

2024-2025

Postgraduate mentor, University of Leeds

KS: Organized regular meetings and discussion sessions to support a group of 5-10 postgraduates; provided guidance on academic progress, time management and research planning.

Scientific community engagement

Peer review activities
Proceedings B, The American Naturalist, Frontiers in Physiology, Biology Letters

Volunteer
2022
BES Annual Meeting, Edinburgh
KS: Assisted in coordinating on-site logistics to ensure the efficient delivery of workshops and parallel sessions; Provided information to support delegates; Collaborated with the organizing team to maintain event operations.

Outreach
2026
Digital Research Infrastructure Retreat, Manchester
KS: Acted as a in-person panellist to facilitate discussions on the ethics of using AI in digital research; Collaborated with UKRI and industry funders to create guidance digital research environments.

Selected presentations

1. **Li, D.**, Coste, C. F., Yuan, C., Fowler, M. S., & Sait, S. M. The impact of environmental noise colour on the population dynamics of an insect host-parasitoid interaction. 2024 BES annual meeting, Liverpool, UK (*talk*)

2. **Li, D.,** Brough, B., Rees, J.W., Coste, C. F., Yuan, C., Fowler, M. S., & Sait, S. M. Humidity modifies heat wave effects on an insect host-parasitoid interaction. 2023 BES annual meeting, Belfast, UK (*talk*)

3. **Li, D.,** Clements, C.F**.** & Memmott, J. Isolation limits spring pollination in a UK fragmented landscape. 2022 BES annual meeting, Edinburgh, UK (*talk*)

Programing and statistical skills

Programming: R, Julia, Stan, QGIS

Expertise: Time series modelling and forecasting

Stats methods: Spectral analysis, multivariate analysis, Bayesian ODE models, structure equation modelling, autoregressive models, spatial analysis

Languages: Chinese (native), English (fluent)

Training courses

Stats modelling
2022
Quantitative methods for population dynamics in R, France
Online training course including population projection models, estimation of demographic parameters, capture-recapture models, N-mixture models.

Theoretical ecology
2022
Matrix population modelling in R
In person workshop including matrix population models, integrated projection modes and access to online database

Publications

Published

1. **Li, D**., Clements, C. F., & Memmott, J. (2026) Linear features affect pollination success in experimental plant assemblages. *Oecologia, 208(64)*

2. **Li, D.,** Clements, C. F., & Memmott, J. (2024). Isolation limits spring pollination in a UK fragmented landscape. *Plos one*, 19(9), e0310679.

3. **Li, D**., Brough, B., Rees, J. W., Coste, C. F., Yuan, C., Fowler, M. S., & Sait, S. M. (2024). Humidity modifies species-specific and age-dependent heat stress effects in an insect host-parasitoid interaction. *Ecology and Evolution*, 14(7), e70047.

4. **Li, D.**, Memmott, J., & Clements, C. F. (2023). Corridor quality buffers extinction under extreme droughts in experimental metapopulations. *Ecology and Evolution*, 13(6), e10166.

5. **Li, D.**, Clements, C. F., Shan, I. L., & Memmott, J. (2021). Corridor quality affects net movement, size of dispersers, and population growth in experimental microcosms. *Oecologia*, 195(2), 547-556.

6. Xi, X., **Li, D.**, Peng, Y., Eisenhauer, N., & Sun, S. (2016). Experimental warming and precipitation interactively modulate the mortality rate and timing of spring emergence of a gallmaking Tephritid fly. *Scientific Reports*, 6(1), 32284.

Under review

1. Coste, C.F.D, Petersen, B., **Li, D.**, Yuan, C., Sait, S.M., Fowler, M.S., How does the rate of environmental change affect density-dependent populations? (*Ecological Monographs - in review*)

2. Liu, T., Wang L., Chen, J., Fei, M., Harvey, J.A., Xu, C., Lewis, O.T., **Li, D**., Xu, N., Xu, C., Sun S., Xi, X.. (2026) Seasonal temperature fluctuation promotes the persistence of a multi-trophic community. (*Ecology Letters- in review*)

3. Liu, T., **Li, D**., Harvey, J.A., Xi, X.. (2026) Parasitoids saved hosts by interfering a more efficient competitor. (*Ecology – in review*)

In submission (finalized drafts)

1**. Li, D.,** Adeniji, LAJ, Meah, RJ, Memmott, J & Clements, CF. Pollination responses to artificial light at night depend on lighting configuration.

In preparation (drafts upon request)

1**. Li, D.,** Coste, C. F., Newton, J., Yuan, C., Fowler, M. S., & Sait, S. M. Warming drives host–parasitoid collapse through disrupted synchrony and trait-mediated declines.

2. **Li, D.,** Coste, C. F., Mugabo, M., Yuan, C., Fowler, M. S., & Sait, S. M. Trophic interaction buffers the effect of environmental noise colour on host-parasitoid interaction.

3. **Li, D.,** Newton J., Rees, J.W. & Sait, S. M. Host thermal acclimation determines the stage-specific effect of heat stress on parasitoids.

4. **Li, D**., Brown, H., Newton, J., Coste, C. F., Yuan, C., Fowler, M. S., & Sait, S. M. Warming reorganises the temporal resonance of delayed density-dependent regulation in host-parasitoid dynamics.