

Curriculum Vitae

Personal information

Date and place of birth: Rieti, December 21th, 1995

Nationality: Italian

Personal E-mail: davideserva@libero.it – davideserva@pec.it

Institutional E-mail: davide.serva@ebd.csic.es and davide.serva@graduate.univaq.it

Affiliations:

Doñana Biological Station (EBD), Spanish National Research Council (CSIC), Avenida Américo Vespucio, No. 26 – 41092 Seville- Spain

Department of Life, Health & Environmental Sciences (MESVA) – Environmental Sciences Section, University of L'Aquila, Via Vetoio, Coppito, 67100 L'Aquila, Italy.

H-index: 6 - **Number of citations**: 106

Website: https://sites.google.com/view/davideserva/about-me

Short professional profile

Widely interested in Macroecology, Conservation Biology, and Sustainability Science with regard to Global Change. My analyses are focused on ecological modeling and spatial data interpretation, applied mostly to vertebrates, especially mammals, amphibians, and reptiles. Current research questions span from potential distribution of target species, range shifts, and connectivity modeling for target species, and protected areas.

My zoology training started with my master's thesis when I started studying the distribution and the possible expansion influenced by climate change of some target species in Europe. To do this, I started to use ecological modeling to build species distribution models (SDMs), using R and GIS.

I have deepened these topics during my Ph.D., in which I have also specialized in habitat connectivity modeling and individual-based models (IBMs), beyond ecological modeling in R and GIS post-analysis. Specifically, I studied various vertebrate species of conservation concern at the European scale, analyzing the distribution of those species by estimating their currently suitable areas and projecting them to future scenarios, using these last to assess the effects of the ongoing climate change, and then assessing the effective role of protected areas in preserving the suitable areas of those species.

Education and Training

(2015-2018) Bachelor's degree in "Biological Sciences", thesis: "Status delle conoscenze attuali sul genere *Salamandrina*: biologia, ecologia e biogeografia" – score: 110/110 cum laude. Supervisor: Prof. Maurizio Biondi; Correlator: Prof. Mattia Iannella.

(2018-2020) Master of Science in "Environmental Biology and Ecosystems Management", thesis: "Species distribution modelling ed analisi predittiva dell'espansione degli areali in Italia di *Canis aureus*, *Lynx lynx* e *Castor fiber*." – score: 110/110 cum laude. Supervisor: Prof. Maurizio Biondi; Correlator: Prof. Mattia Iannella.

(2020-2021) Research Internship in Cellular Biology at Sapienza University of Rome and University Pole of Rieti Sabina Universitas. Supervisor: Dott. Vincenzo Mattei.

(2021-2024) Ph.D. in Environmental Sciences at the University of L'Aquila, project titled: "Spatial and temporal trends in the distribution of Western Palearctic target vertebrates in the context of Global Change: conservation and management at landscape scales", SSD BIO/05; Supervisors: Prof. Maurizio Biondi and Prof. Mattia Iannella. Score: Excellent cum laude.

(**02/2025-09/2025**) **Research Fellow at the University of L'Aquila**, project titled: "National Biodiversity Future Center - NBFC - Assessing and monitoring terrestrial and freshwater biodiversity and its evolution: from taxonomy to genomics and citizen science." Supervisors: Prof. Maurizio Biondi and Prof. Mattia Iannella.

Scientific papers

1. **Serva, D.**, Biondi, M. & Iannella, M. (2023). The Eurasian beaver range expansion reveals uneven future trends and possible conservation issues: an European assessment**.** ***Biodiversity and Conservation*** 32(6), 1999-2016. DOI: https://doi.org/10.1007/s10531-023-02587-x
2. **Serva, D.**, Iannella, M., Cittadino, V., & M. Biondi (2023). A shifting carnivore's community: habitat modeling suggests increased overlap between the golden jackal and the Eurasian lynx in Europe. ***Frontiers in Ecology and Evolution,*** 11, 1165968. DOI: https://www.frontiersin.org/articles/10.3389/fevo.2023.1165968/full
3. **Serva, D.**, Biondi, M., Mantoni, C., & Iannella, M. (2024). Don't stop it now: functional and structural habitat connectivity assessment suggests further expansion in Southern Europe for the Eurasian beaver. ***Landscape Ecology***, *39*(2), 25. DOI: https://doi.org/10.1007/s10980-024-01859-3
4. Iannella, M., Biondi M., & **Serva D.** (2024). Functional connectivity and the current arrangement of protected areas show multiple, poorly protected dispersal corridors for the Eurasian lynx. ***Biological Conservation***, 291, 110498. DOI: https://doi.org/10.1016/j.biocon.2024.110498
5. **Serva, D.**, Cittadino, V., Bernabò, I., Biondi, M., & Iannella, M. (2024). Habitat suitability and connectivity modelling predict a latitudinal-driven expansion in the Mediterranean basin for a historically introduced reptile. ***European Journal of Wildlife Research***, *70* (2), 1-12. DOI: https://link.springer.com/article/10.1007/s10344-024-01780-9
6. **Serva, D.**, Krofel, M., Cerasoli, F., Biondi, M., & Iannella, M. (2025). Supporting Reintroduction Planning: A Framework Integrating Habitat Suitability, Connectivity and Individual-Based Modelling. A Case Study with the Eurasian Lynx in the Apennines. ***Diversity and Distributions***, 31 (4), DOI: **https://doi.org/10.1111/ddi.70024**
7. **Serva, D.**, Bernabò, I., Cittadino, V., Romano, A., Cerasoli, F., Biondi, M., & Iannella, M. (2025). Modeling habitat suitability and connectivity for the sole endemic genus of Italian vertebrate: present and future perspectives. ***Frontiers in Zoology***, 22(1), 8.
8. **Serva, D.**, Iannella, M., Biondi, M., & Krofel, M. (2025). Integrating habitat suitability, connectivity, and individual-based models to guide priorities for the creation of a lynx metapopulation in Southeastern Europe. ***Biological Conservation***, 310, 111381.
9. Iannella, M., **Serva, D.**, Bernabò, I., Cittadino, V., Cerasoli, F., Biondi, M., ... & Di Nicola, M. R. (2025). Where diet, vegetation, and climate overlap: guiding Vipera ursinii ursinii conservation through a converging approach. ***Global Ecology and Conservation***, e03839.

10. Iannella, M., Cittadino, V., Bernabò, I., Romano, A., Biondi, M., & **Serva, D.** (2026). Biodiversity-driven spatial conservation planning to delineate temporally stable regions. *Conservation Biology*, e70244.
11. **Serva, D.**, Di Febbraro, M., Biondi, M., Cagnacci, F., Balkenhol, N., Blaum, N., Bonenfant, C., Brieger, F., Heurich, M., Hewison, A. J. M., Jarnemo, A., Jezek, M., Klamm, A., Kroeschel, M., Licoppe, A., Morellet, N., Mortensen, R. M., Mysterud, A., Nicoloso, S., Palomares, F., Pedersen, S., Pedrotti, L., Pellerin, M., Ruiz-Villar, H., Saïd, S., Selva, N., Semenzato, P., Sergiel, A., Signer, J., Sönnichsen, L., Stiegler, J., Sunde, P., Ullmann, W., Zwijacz-Kozica, T., & Iannella, M. Identifying crucial areas for preserving landscape connectivity in Europe. [In Review]

Current Projects under development

Serva, D., Iannella, M., Krofel, M., Biondi, M., Melzheimer, J., & Wachter, B. Using ecological modeling to assess range dynamics and species interactions between two large carnivores in Namibia.

Serva, D., M., Biondi & Iannella, M. (2025) A multitaxonomic assessment of climate change threats on selected Apennines glacial relicts.

Serva, D., Iannella, M., Biondi, M., Čonč, Š., Fležar, U., Černe, R., Oliveira, T., & Krofel, M. (2025). Mapping specific 'behavioural-states SDMs' shows different responses to the same habitat covariates.

Conferences

- Participation in the Conference for Early Career Researchers titled "Challenging Conservation: Adattarsi al cambiamento" organized by Society For Conservation Biology Italy Chapter, at the BioParco of Rome, from 19/03/2023 to 21/04/2023.

- Participation in the Conference titled "Macroecology & Biogeography meeting 2023" organized by the Ecology Group of the Ecological Society (GfÖ) and from the Biogeography Group of the Association for Geography (VGDH), at Bayreuth University from 03/05/2023 to 06/05/2023.

- Participation in the Conference titled "Rewilding in Italia: stato dell'arte e prospettive future" organized by Rewilding Apennines, at Gioia dei Marsi (AQ) from 03/11/2023 to 05/11/2023.

- Participation to the 7th European Congress of Conservation Biology "Biodiversity positive by 2030", organized by SCB Europe and SCB Italy, at Bologna from 17/06/2024 to 21/06/2024

- Participation to the XIII Conference of the Italian Theriological Association (ATIt) organized by ATIt and University of Molise from 03/07/2024 to 05/07/2024.

- Participation to the XV National Congress of the Societas Herpetologica Italica (SHI) organized by Hyla Nature Experience at Perugia from 17/09/2024 to 20/09/2024.

- Participation in the 2nd Conference for Early Career Researchers in Conservation Biology titled "Biodiversity and Global Changes: A Conservation Perspective" organized by Society For Conservation Biology Italy Chapter and University of L'Aquila, at the University of L'Aquila, from 06/05/2025 to 09/05/2025.

Workshop

- Participation in the Workshop titled "Hint and tips for publishing on conservation and ecology journals" organized by SCB Italy on 18/04/2023, at Sapienza University of Rome. Speakers: Dott. Moreno di Marco, Dott. Luca Santini.

- Participation in the Workshop titled "Physiological species distribution modelling using the TTR-SDM - an introduction" organized by Bayreuth University on 03/05/2023, at Bayreuth University. Speakers: Prof. Dr. Steven Higgins and Dr. Timo Conradi.

- Participation in the Workshop titled "Addressing macro-ecological questions with paleontological data" organized by Bayreuth University on 03/05/2023, at Bayreuth University. Speakers: Gregor Mathes, Franka Gaiser, and Manuel Steinbauer.

- Participation to the Workshop titled "European networks of protected areas: best practices for the conservation of biodiversity" organized by SCB Europe and SCB Italy on 18/06/2024 at Alma Mater Studiorum Bologna University. Speakers: Alessandro Chiarucci, Piero Visconti, Marco Galaverni, and Francesco Marcone.

- Participation to the Workshop titled "Introduction to Predictive Modeling in Ecology" organized by SCB Italy and University of L'Aquila on 05/05/2025 at University of L'Aquila. Speakers: Luca Santini.

- Participation to the Workshop titled "What's Next? Mastering Grant Writing for Early-Career Conservation Biologists" organized by SCB Italy and University of L'Aquila on 05/05/2025 at University of L'Aquila. Speakers: Noemi Spagnoletti.

Conference Presentations

- **Serva, D**., Biondi, M., & Iannella, M. "Modelling the Eurasian beaver range expansion in Europe: uneven future trends and possible conservation issues", at Conference for Early Career Researchers titled "Challenging Conservation: Adattarsi al cambiamento" organized by Society For Conservation Biology Italy Chapter, at BioParco of Rome, on 20/04/2023.

- **Serva, D**., Biondi, M., & Iannella, M. "A Continental-scale modeling approach for the Eurasian beaver expansion: biogeographic perspectives and management issues" at "Macroecology & Biogeography meeting 2023" organized by the Ecology Group of the Ecological Society (GfÖ) and from the Biogeography Group of the Association for Geography (VGDH), at Bayreuth University on 05/05/2023.

- **Serva, D**., Biondi, M., & Iannella, M. "Don't stop it now: structural and functional habitat connectivity assessment for an expanding species, the Eurasian Beaver" at the Conference "Rewilding in Italia: stato dell'arte e prospettive future" organized by Rewilding Apennines at Gioia dei Marsi (AQ) on 04/11/2023.

- **Serva, D**., Biondi, M., & Iannella, M. "A multispecies trait-based landscape connectivity assessment suggests establishing priorities for connectivity restoration in Europe" at the 7th European Congress of Conservation Biology organized by SCB Europe and SCB Italy at Bologna on 19/06/2024.

- **Serva, D.**, Cittadino, V., Bernabò, I., Biondi, M., Romano, A., & Iannella, M. "Integrating habitat suitability and connectivity for the conservation of the genus Salamandrina", at the XV National Congress of the Societas Herpetologica Italica organized by Hyla Nature Experience at Perugia on 19/09/2024.

- **Serva, D**., Krofel, M., Cerasoli, F., Biondi, M., & Iannella, M. "Coupling habitat modeling, functional connectivity, and individual-based models to assess the theoretical feasibility of Eurasian lynx reintroduction in the Apennines" at the 2nd Conference for Early Career Researchers in Conservation Biology titled "Biodiversity and Global Changes: A Conservation Perspective" organized by Society For Conservation Biology Italy Chapter and University of L'Aquila, at the University of L'Aquila, on 08/05/2025.

Conference Posters

- **Serva, D**., Biondi, M., & Iannella, M. "Don't stop it now: structural and functional habitat connectivity assessment for an expanding species, the Eurasian Beaver" at the Conference "Rewilding in Italia: stato dell'arte e prospettive future" organized by Rewilding Apennines at Gioia dei Marsi (AQ) on 04/11/2023.

- **Serva, D**., Krofel, M., Biondi, M., & Iannella, M. "Exploring new techniques to study mammalian range dynamics and conservation: two case studies for the Eurasian lynx (*Lynx lynx*) and the Eurasian beaver (*Castor fiber*) at multiple scales" at the XIII Conference of the Italian Theriological Association (ATIt) organized by ATIt and University of Molise on 03/07/2024.

Other works presented at Conferences

- Iannella, M., **Serva, D**., Cittadino, V., & Biondi, M. "Macro-ecological insights from species distribution models: mapping the possible competitive interaction between golden jackal and Eurasian lynx" at "Macroecology & Biogeography meeting 2023" organized by the Ecology Group of the Ecological Society (GfÖ) and from the Biogeography Group of the Association for Geography (VGDH), at Bayreuth University on 05/05/2023.
- Cittadino, V., Iannella, M., Romano, A., Tiberti, R., **Serva, D**., Biondi, M., & Bernabò, I. "The endangered Calabrian Alpine newt: integrating ecological modelling and connectivity planning for effective conservation actions" at the 7th European Congress of Conservation Biology organized by SCB Europe and SCB Italy at Bologna on 18/06/2024.
- Iannella, M., Cittadino, V., **Serva, D**., Bernabò, I., Mantoni, C., D'Alessandro, P., & Biondi, M. Slithering on the edge: *Vipera ursinii ursinii* in a warming Apennine landscape. 23nd European Congress of Herpetology, Bonn, 8th –12th September 2025.
- Cerasoli, F., Mantoni, C., Iannella, M., Bonifacino, M., Santarelli, E., **Serva, D.**, Ceicola, S., & Natale, A.R. Multi-taxon assessment of animal diversity across a mosaic of natural and semi-natural habitats in the Regional Natural Reserve WWF Oasis "Lago di Serranella" at the XXXIV National Conference of the Italian Society in Ecology (S.It.E.) at Caserta, September 17th - 19th, 2025.

Awards

2023 - Selected as best poster among doctoral students by Rewilding Apennines at the conference "Rewilding in Italy: state of the art and future prospects" (278 €)

2024 – Selected as best poster in Environmental Science at the 1st MESVA Research Showcase (150€)

2025 – 2nd classification at the Laura Bassi Scholarship – Session Spring 2025

2026 – Travel Grant from SCB Italy for ECCB2026 (Leiden) (500€)

Member of Scientific Societies

2023 – present: Society of Conservation Biology Italian Chapter (SCB Italy)

2024 – present: Italian Theriological Association (ATIt)

2024 – **present**: Italian Society of Experimental Biology (SIBS)

2025 – present: Head of the Working Group in Ecological modelling of the Society of Conservation Biology Italian Chapter

Technical and professional skills

Full proficiency in:

- several GIS software (e.g., ArcGIS, QGIS, ArcMap);

- statistical software (e.g.., R, Origin Pro) and programming languages (e.g., R, Julia) for scientific research, and specific packages/algorithms used for ecological niche modelling and connectivity analysis (Maxent, gbm, biomod2, ibis.iSDM, flexsdm, SDMTune, RangeShiftR, ecospat, Circuitscape, Omniscape, etc.);

- wildlife survey techniques, especially amphibians, reptiles, and mammals.

Field Activities

Project: *Ursus arctos marsicanus* Borrello; research contract funded by the Abruzzese Institute of Protected Areas - WWF (IAAP - WWF) – Main activities: Camera trapping activities for monitoring purposes – Project Coordinator: Dott. Francesco Cerasoli. Duration: 2024-2025.

Project: Aggiornamento del quadro conoscitivo della Riserva Naturale Regionale Lago di Serranella; research contract funded by the Abruzzese Institute of Protected Areas - WWF (IAAP - WWF) – Main activities: Camera trapping activities for monitoring purposes – Project Coordinator: Dott. Francesco Cerasoli. Duration: 2024-2025.

Personal data

I authorize the use of these personal data according to the Italian laws (Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali").

L'Aquila, 10/05/2026

Sincerely,

Davide Serva

