

Adrià Bellvert, PhD

Contact

Education

PhD with honors in Biodiversity (2018-2023). Testing the hypothesis of adaptive radiation and its ecophenotypic consequences.

University of Barcelona (UB)

- Specialization in evolutionary biology
- Focused on Geometric morphometric methods, phylogenetic comparative methods, niche modelling with species distribution (SDM) and joint species distribution modelling (JSDM), stable isotope analyses and integrative methods for taxonomic revisions.

Online thesis version: <http://hdl.handle.net/10803/689611>

Master in Biodiversity (2015-2016)

University of Barcelona (UB)

- Specialization in evolutionary biology
- Subjects included theoretical and practical lectures on phylogenetic techniques, statistical analyses and field work sampling experience.

Degree in Environmental Science (2010-2015)

University of Girona (UdG)

- Specialization in Biodiversity
- Focused on ecology, statistical analysis, sampling methods on terrestrial and freshwater environments, and botanical and animal biodiversity.
- Final degree project: Spider diversity of the Deveses de Salt (Diversitat d'aranyes de les Deveses de Salt) (2015). Supervisor: Dr. Núria Roura Pasqual. <https://dugi-doc.udg.edu/handle/10256/11856>

Higher Education Degree in natural resource and landscape management and organization (2008-2010)

Agricultural and Forestry Training School Casa Xifra, Santa Coloma de Farners (Girona)

- Botanical and animal identifications
- Conservation and environmental management

Publications

Bellvert A., Dimitrov D., Zamani A., Arnedo M.A. (2024). Integrating museum collections and molecules reveals genus-level synonymy and new species in red devil spiders (Araneae, Dysderidae) from the Middle East and Central Asia. *European Journal of Taxonomy* **921**: 210-235. <https://doi.org/10.5852/ejt.2024.921.2429>

Bellvert A., Adrián-Serrano S., Macías-Hernández N., Toft S., Kaliontzopoulou A., Arnedo M.A. (2023). The non-dereliction in evolution: Trophic specialisation drives convergence in the radiation of red devil spiders (Araneae: Dysderidae) in the Canary Islands. *Systematic Biology* **72** (5): 998–1012 <https://doi.org/10.1093/sysbio/syad046>

Bellvert A., Roca-Cusachs M., Tonzo V., Arnedo M.A., Kaliontzopoulou A. (2022). The Vitruvian spider: Segmenting and integrating over different body parts to describe ecophenotypic variation. *Journal of Morphology* **283**: 1425–1438. <https://doi.org/10.1002/jmor.21516>

- Korba J., Opatova V., Calatayud-Mascarell A., Enguídanos A., Bellvert A., Adrián S., Sánchez-Vialas A., Arnedo M.A. (2022). Systematics and phylogeography of western Mediterranean tarantulas (Araneae:Theraphosidae). *Zoological Journal of the Linnean Society*, **196**: 845-884. <https://doi.org/10.1093/zoolinnean/zlac042>
- Bellvert A., Gillespie R. G., & Arnedo M.A. (2021). A happy family: systematic revision of the endemic *Theridion* spiders (Araneae, Theridiidae) of the Hawaiian Islands. *Invertebrate Systematics* **35**: 1–58. <https://doi.org/10.1071/IS20001>
- Domènech M., Bellvert A., Closa L., Maceda-veiga A., and Pons P. (2021). New record of *Attulus saltator* for Spain, with further 16 new regional spider records for Catalonia and Galicia (Araneae). *Arachnology Letters* **62**: 75-81. <https://doi.org/10.30963/aramit6208>
- Tonzo V., Bellvert A., Ortego J. 2021. Reticulate evolutionary history in a recent radiation of montane grasshoppers revealed by genomic data. *BioRxiv*. <https://doi.org/10.1101/2021.01.12.426362>
- Bellvert A. (2018). First records of some spiders (Arachnida: Araneae) from La Palma (Spain: Canary Islands). *Revista Ibérica de Aracnología* **33**: 101-105.
- Bellvert A., Domènech M., Cabrera-Cánoves P. & Pujade-Villar J. (2018). First record of *Erigone autumnalis* Emerton, 1882 (Araneae: Linyphiidae: Erigoninae) for the Iberian Peninsula. *Revista Ibérica de Aracnología* **33**: 73-74.
- Bellvert A. & Arnedo M.A. (2016). Threatened or Threatening? Evidence for Independent Introductions of *Macrothele calpeiana* (Araneae: Hexathelidae) and First Observation of Reproduction Outside its Natural Distribution Range. *Arachnology* **17** (3): 137-141. <https://doi.org/10.13156/arac.2006.17.3.137>
- Bellvert A. (2016). First male record of *Sintula retroversus* (O. Pickard-Cambridge, 1875) and confirmation of a *Hypomma cornutum* (Blackwall, 1833) population in the northeast of the Iberian Peninsula (Araneae: Linyphiidae). *Revista Ibérica de Aracnología* **28**: 155-15
- Bellvert A., Casals A., Fonollosa A., Dalmau G. & Tobella C. (2013). First record of *Dolomedes plantarius* (Clerk 1758) (Araneae: Pisauridae) from the Iberian Peninsula. *Revista Ibérica de Arcnología* **23**: 109-111

Books

Domènech M., Bellvert A., Arnedo M.A. Els aràcnids de Catalunya (The arachnids of Catalonia). Barcelona (Spain). Brau editions. January 2024.

Participation in research projects

Spiders as integrators of brown and green food webs in a changing world (2022-2026) – Spanish Research Agency

University of Barcelona (UB)

Implication in:

- Fieldwork
- Morphometric Methods

Some clades are bigger than others: Understanding the variation in species diversity across the Tree of Life of the nocturnal ground-dwelling spiders (2021-2023) – Spanish Research Agency

University of Barcelona (UB)

Implication in:

- Fieldwork
- Geometric Morphometric Methods
- Niche Modelling

Ecological and economic assessment of salvage logging on burnt forests using multiple indicators (2019-2022)

University of Girona (UDG)

Implication in:

- Taxonomic spider identification

Testing adaptive radiation and speciation mechanisms in the highly diverse spider genus *Dysdera* (2016-2019) – Spanish Research Agency

Thesis project. Supervisors Dr. Miquel A. Arnedo & Antigoni Kaliontzopoulou

University of Barcelona (UB)

Implication in:

- Fieldwork
- Systematics
- Geometric Morphometric Methods
- Phylogenetic Comparative Methods
- Stable Isotopes Analysis
- Karyotyping
- Niche Modelling
- Joint Species Distribution Modelling
- Micro-CT tomography

A Happy Family: Adaptive Radiation of the spider genus *Theridion* in the Hawaiian Islands (2016)

MSc final project. Supervisor: Dr. Miquel A. Arnedo

University of Barcelona (UB)

Implication in:

- Taxonomy: specimen handling, dissection, and identification
- Morphological identification of Hawaiian spiders of the genus *Theridion*
- Photography
- Data handling and Statistical analyses: Multivariate Analysis using R programming language

Conferences

5th Iberian Congress of Biological Systematics (CISA), Madrid (Spain) (2023)

- Oral presentation: “Tempo and mode of diversification in red devil spiders (Araneae: Dysderidae) from the Canary Islands”, with Nuria Macías-Hernández, Laura Pollock, Jairo Patiño, Antigoni Kaliontzopoulou & Miquel A. Arnedo.

Society of Island Biology (SIB), Lipari (Italia) (2023)

- Oral presentation: “Tempo and mode of diversification in red devil spiders (Araneae: Dysderidae) from the Canary Islands”, with Nuria Macías-Hernández, Laura Pollock, Jairo Patiño, Antigoni Kaliontzopoulou & Miquel A. Arnedo.

Next Generation Irbio (NGI), Barcelona (Catalunya) (2023)

- Oral presentation: “Evolution and diversification of insular spiders”

Congress of the European Society for Evolutionary Biology (ESEB), Prague (Czech Republic) (2022)

- Oral presentation: “Different ecomorphs affect the species response to ecological release in red devil spiders (Araneae: Dysderidae) on islands”, with José M. Blanco-Moreno, Alba Enguídanos, Cesc Múrria, Laura Pollock, Raül Ramos, Aida Viza, Antigoni Kaliontzopoulou & Miquel A. Arnedo.

33rd European Congress of Arachnology, Greifswald (Germany) (2022)

- Oral presentation: “Different ecomorphs affect the species response to ecological release in red devil spiders (Araneae: Dysderidae) on islands”, with José M. Blanco-Moreno, Alba Enguídanos, Cesc Múrria, Laura Pollock, Raül Ramos, Aida Viza, Antigoni Kaliontzopoulou & Miquel A. Arnedo.

XX Conference of the Iberian Group of Arachnology, Menorca (Catalunya) (2021)

- Oral presentation: “The non-dereliction in evolution: Trophic adaptation convergence during the diversification of *Dysdera* spiders (Araneae: Dysderidae) in the Canary Islands”, with Silvia Adrián, Cristina Arenas, Alba Enguídanos, Marcos Roca-Cusachs, Vanina Tonzo, Antigoni Kaliontzopoulou & Miquel A. Arnedo.

Virtual Evolution (2021)

- Oral short communication: “Are you gonna eat that? Recurrent convergent diet shifts drove diversification of *Dysdera* spiders (Araneae: Dysderidae) in the Canary Islands”, with Silvia Adrián, Cristina Arenas, Alba Enguídanos, Marcos Roca-Cusachs, Vanina Tonzo, Antigoni Kaliontzopoulou & Miquel A. Arnedo.

VI Congreso Latinoamericano de Aracnología (2020)

- Oral presentation: “Nature or nurture? Convergent evolution in predation traits in *Dysdera* spiders of the Canary Islands”, with Silvia Adrián, Cristina Arenas, Alba Enguídanos, Marcos Roca-Cusachs, Vanina Tonzo, Antigoni Kaliontzopoulou & Miquel A. Arnedo

Young Systematists’ Forum (2020)

- Oral presentation: “Nature or nurture? Convergent evolution in predation traits in *Dysdera* spiders of the Canary Islands”, with Silvia Adrián, Cristina Arenas, Alba Enguídanos, Marcos Roca-Cusachs, Vanina Tonzo, Antigoni Kaliontzopoulou & Miquel A. Arnedo

21st International Congress of Arachnology, Canterbury (New Zealand) (2019)

- Oral presentation: “Does trophic specialisation prevent ecological release?”, with Antigoni Kaliontzopoulou, Marcos Roca-Cusachs, Vanina Tonzo & Miquel A. Arnedo

9th Biennial Conference of the International Biogeography Society, Malaga (Spain) (2019)

- Poster: “Testing species boundaries and phylogeographic patterns in the nocturnal ground-dweller *Dysdera* spiders of the Canary Islands by means of DNA barcoding” with Nuria Macías-Hernández, Alba Enguídanos & Miquel A. Arnedo

XVIII Conference of the Iberian Group of Arachnology, Barcelona (Catalunya) (2018)

- Oral presentation: “Speciation with a smile: Adaptive Radiation of *Theridion* spiders in the Hawaiian Islands”, with Miquel A. Arnedo

XXXVII Annual Meeting of the Willi Hennig Society, Barcelona (Catalunya) (2018)

- Poster: “Hau’oli ka’ōpū: Adaptive Radiation of *Theridion* spiders in the Hawaiian Islands, with Miquel A. Arnedo

4th Iberian Congress of Biological Systematics (CISA), Palma de Mallorca (Balearic Islands) (2018)

- Oral presentation: “More than a Happy Face: Did interspecific competition drive diversification of *Theridion* spiders in the Hawaiian Islands?”, with Miquel A. Arnedo

30th European Congress of Arachnology, Nottingham (England) (2017)

- Oral presentation: “A Happy Family: Adaptive Radiation of the spider genus *Theridion* in the Hawaiian Islands”, with Miquel A. Arnedo

7th Natural meeting of Girona, (Catalunya) (2015)

- Oral presentation: “*Dolomedes plantarius* in the Iberian Peninsula” (“*Dolomedes plantarius* a la Península Ibèrica”), with Alba Casals, Gerard Delmau & Carles Tobella.

XIII Conference of the Iberian Group of Arachnology, Girona (Catalunya) (2012)

Work Experience

(2017 - 2018) Part-time work contract at the University of Barcelona. Project: Testing adaptive radiation and speciation mechanisms in the highly diverse spider genus *Dysdera*: the island lineages.

- Photographic technics for Geometric Morphometric analysis

(2018-2023) Full time PhD contract in Biodiversity under the project: Testing adaptive radiation and speciation mechanisms in the highly diverse spider genus *Dysdera*: the island lineages.

Docent Experience

University experience:

2021

- Degree in Biology, lecture: Zoology, field work (8h).
- Degree in Environmental Science, lecture: Exotic species management, field work (2.5h).
- Degree in Sea Science, lecture: Biology II, laboratory and field work (22h)

2022

- Degree in Biology, lecture: Zoology, field work (24h).
- Degree in Biomedical Science: Laboratory and Biomedical equipment, laboratory experience (12h).
- Degree in Sea Science, lecture: Biology II, laboratory and field work (22h)

Others:

(2023) Geometric Morphometrics using R in University of Barcelona, Catalunya, Spain

(2021) Initiation course in Geometric Morphometrics in University of Caldas, Colombia

(2021,2022) Course in initiation in spider taxonomy and identification in Sitges, Catalunya, Spain

(2019) Course in initiation in spider taxonomy and identification in Olot, Catalunya, Spain

Reviewer in scientific journals

- Evolution
- Frontiers in Ecology and Evolution
- Proceedings of the Royal Society B
- Zoosystematics and Evolution
- Zootaxa
- Zoology and Ecology
- Subterranean Biology
- Arxius de Miscel·lania Zoològica

Supervisor experience

Final degree thesis by Sabrina Torres Kalme (2020) – “Evolutionary convergence in the *Dysdera* spider genus from the Canary Islands”.

- Work conceptualization together with Miquel A. Arnedo
- Analyses

- Reviewing of the final manuscript

Final master thesis by Sabrina Torres Kalme (2021) – “Quantifying morphological differentiation in an adaptive radiation to test for niche partitioning: the case of *Laminacauda* sheet-web spiders from the Juan Fernandez Archipelago, Chile”.

- Work conceptualization together with Miquel A. Arnedo
- Analyses
- Reviewing of the final manuscript

Final master thesis by Manuel Marquerie (2022) – “Taxonomic revision goes into high gears! Streamlining the use of high-throughput sequencing approaches to assess the diversity of the Red devil spiders (Araneae: Dysderidae) from the Caucasus”.

- Analyses (support)

Funding

- PhD grant BES-2017-080538 from the Ministerio de Economía, Industria y Competitividad of the Spanish government (2018-2022).
- Systematics Research Fund (SRF) grant (2017).

Awards

2nd Best presentation in Young Systematists' Forum (2020).

1st Picture price in the microscopic category of the VI Congreso Latinoamericano de Aracnología (2020).

Memberships

- Systematics Association (2016-2017)
- International Society of Arachnology (2018-2019)
- International Biogeography Society (2018-2019)
- Society for the Study of Evolution (2021-2022)
- European Society of Arachnology (2022-2023)
- European Society for the Study of Evolution (2022-2024)
- Society of Systematic Biologists (2023)

Courses and seminars

- Course in Zoological nomenclature by Dr. Miguel Angel Alonso Zarazaga (CISC), organized by Systematics and the Biological Evolution group (UB-MNCB) and Evolution and Animal Diversity research group (IBE-CISC-UPF).
- Course in the Introduction in Taxonomic description with Delta and scientific illustration with Adobe Illustrator by Dr. Oliver Coleman, organized by the university of Valencia (UV)
- Course in “Echological niche modeling” by GBIF (Madrid)
- Stable Isotope course applied to trophic studies, organized by CSIC/ICM, Barcelona.

Other Experience

- Field collecting expedition in Georgia (2021).
- Field collecting expedition in the Canary Islands (2017-2019).
- Lab work internship at the Naturalis Biodiversity Center (Leiden, Netherlands). Project focused on the genus *Latrodectus* of the world (2014).

- Multiple bird Ringing sessions with experience in manipulation in passerines and raptors (2010-2014).
- Monitoring and re-introduction of the black vulture (*Aegypius monachus*) in Catalonia, with the Trenca association (2010).
- Monitoring and conservation of Boreal owl (*Aegolius funereus*) in Catalonia, with the Lutra association (2009).

Skills

Languages

- Catalan: Native speaker
- Spanish: Native speaker
- English: Level B2.2

Computer experience

- R language
- tpsUtil and tpsDig2
- Adobe Photoshop
- Adobe Illustrator, InkScape
- Microsoft Office (Excel, Word and PowerPoint)

Others

- Driving licence category B