**CURRICULUM VITAE (CVA)**

***IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.***

| **CV date** | 30/set/2022 |
|---|---|

## Part A. PERSONAL INFORMATION

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|---|---|---|---|
| First name | Miguel Angel | | |
| Family name | Arnedo Lombarte | | |
| Gender (*) | Male | Birth date (dd/mm/yyyy) | 19/04/1969 |
| Social Security, Passport, ID number | 46630819K | | |
| e-mail | marnedo@ub.edu | URL Web: www.marnedo.net | |
| Open Research and Contributor ID (ORCID)(*) | | 0000-0003-1402-4727 | |

*(*) Mandatory*

### A.1. Current position

| | | | |
|---|---|---|---|
| Position | Full profesor (catedràtic contractat) | | |
| Initial date | 24 jul 2017 | | |
| Institution | Universitat de Barcelona | | |
| Departament/Center | Biologia Evolutiva, Ecologia i Ciències Ambientals | | |
| Country | Spain | Teleph. number | +34 934 034 808 |
| Key words | Evolutionary Biology, Systematic Biology, Biogeography, Ecology | | |

### A.2. Previous positions (research activity interruptions, art. 45.2.c))

| Period | Position/Institution/Country/Interruption cause |
|---|---|
| 2007-2017 | Associate professor (professor agregat), Dept. Animal Biology, Universitat de Barcelona, Spain. |
| 2003-2007 | 'Ramón y Cajal' Researcher, Dept. Animal Biology, Universitat de Barcelona, Spain. |
| 2002-2003 | EU funded 'Marie Curie' postdoctoral fellow with Dr. A. Vogler.The Natural History Musuem, London, UK. |
| 1999-2001 | Spanish Ministry of Education funded postdoctoral fellow with Dr. R. G. Gillespie, UC-Berkeley, Division of Insect Biology, ESPM, USA |
| 1998-1999 | NSF funded postdoctoral fellow with Drs. R. G. Gillespie and J. A. Coddington, University of Hawaii, USA |
| 1993-1997 | Teaching Assistant and PhD graduate student funded by Generalitat de Catalunya, Dept. Animal Biology, Universitat de Barcelona, Spain |

## A.3. Education

| PhD, Licensed, Graduate | University/Country | Year |
|---|---|---|
| Licenciado en Biología | Universitat de Barcelona | 1992 |
| Doctorado en Biología | Universitat de Barcelona | 1998 |

## Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

The main motivation behind my research is to understand the origins of biological diversity. My research focuses on inventorying biodiversity and unveiling the processes that shape temporal and spatial dynamics of life. I study biological evolution in a phylogenetic framework, boosting traditional natural history approaches with genomic tools to delimit species, accelerate biological inventories and design monitoring schemes. I conduct most of my research on isolated ecosystems (e.g. islands, caves, mountain tops), which provide experimental conditions for the study of evolution, and use spiders and their kin as model organism.

I got my PhD at the Universitat de Barcelona in 1998. My PhD focused on island diversity and evolution. Specifically, I studied the diversification of the *Dysdera* spiders in the Canary Islands. I have subsequently revisited the Canarian *Dysdera* model system to address topics such as species delimitation or the impact of volcanism on phylogeographic patterns, and to gain deeper insights into the drivers of one the most outstanding cases of adaptive radiation in spiders. After my doctoral studies, I started a postdoctoral period abroad, first in the US (the University of Hawaii, 1998-1999, and the UC Berkeley, 1999-2001) and then in the UK (Museum of Natural History in London, 2001-2002). As a postdoctoral scholar, I worked on two different research topics. First, I expanded my investigations on island evolution to include other archipelagos and, second, I started a new research line on higher-level spider phylogeny using Sanger target gene approaches. More recently, I have incorporated high-throughput sequencing approaches—transcriptomics, low coverage genome resequencing—to my continuing efforts to resolve deep nodes of the spider tree of life.

In 2003, I returned to the Universitat de Barcelona as a *Ramón y Cajal* researcher. In 2007, I was hired as associate professor (*profesor agregado*) at the same university. In 2009, I was awarded an ICREA academia award for excellence in research, which allowed me to consolidate my own research team, and in 2017 I was promoted to full professor (*catedrático contratado*). Being based back in Spain, I shifted my focus of attention to the Mediterranean. Using groups of spiders that because of their low vagility and narrow distributions were well suited for both biogeographic studies—e.g ground dwelling red-devil spiders, trap-door spiders and their kin—I investigated the influence of geological and climatic factors in the diversification of the highly diverse and endemic Mediterranean biota. Additionally, I conducted research on the colonization and patterns and drivers of community assembly in other isolated systems, such as Iberian Mountain ranges, and Mediterranean caves. In 2012, I became interested in macroecology and biodiversity monitoring. I started a new research venue based on the integration of standardized sampling protocols with modern high-throughput sequencing techniques to investigate large-scale biodiversity patterns and tackle inventorying of mega-diverse groups, such as spiders. I have subsequently expanded traditional species richness and abundance approaches to also include phylogenetic, functional, and genetic diversity, to reveal the underlying mechanism shaping biodiversity patterns of arthropod assemblages. In the last years, I have enlarged my research toolkit by adding geometric morphometrics and species distribution modelling techniques to refine species delimitation in an integrative taxonomy framework, and test macroevolutionary and ecological hypothesis explaining species diversification in space and time. Additional spin-offs from my research include collaborations with material engineers to investigate the biological basis of spider silk mechanical properties.

I have **published** ~100 papers in SCI journals and 9 book chapters. I have been principal investigator of 21 **extramural projects** and member of research teams of 28 additional ones. I have given 22 **invited**

**talks** and 108 **conference contributions**. I have **collaborated with labs** in Europe, North America, and Latin America. I am **associated editor** of five SCI journals. I have **peer-reviewed** manuscripts for ~30 national and international journals (Publons E-9086-2011) and **evaluated** projects for funding agencies in 9 countries. I have **supervised 6 postdoctoral researchers**, **12 PhD students** (three on-going) and **17 MSc students**. I have also been actively involved in promoting research (e.g., organiser of the XXXVII Annual Meeting of the Willi Hennig Society, Barcelona, Spain, September 2018), teaching (university courses on Systematic Biology and Phylogenetics), and training in Biodiversity studies. In this regard, from 2016-2022, I was the **coordinator of the Master in Biodiversity** of the Universitat de Barcelona, and since 2018 of the Advanced course in 'Phylogenomics and Population Genomics' (https://www.ub.edu/certfem/ppgcourse/). Finally, I have been recently appointed director of the Institut de Recerca de la Biodiversitat (http://www.ub.edu/irbio/), a centre that promotes and coordinates research excellence in the field of biodiversity conducted at the Universitat de Barcelona.

## Part C. RELEVANT MERITS *(sorted by typology)*

### C.1. Publications *(see instructions)*


1. Escuer P, Pisarenco VA, Fernandez-Ruiz AA, Vizueta J, Sanchez-Herrero JF, **Arnedo MA**, Sanchez-Gracia A, Rozas J. 2022. The chromosome-scale assembly of the Canary Islands endemic spider *Dysdera silvatica* (Arachnida, Araneae) sheds light on the origin and genome structure of chemoreceptor gene families in chelicerates. *Molecular Ecolology Resources* 22:375-390.
2. Domenech, M., Wangensteen, O. S., Enguidanos, A., Malumbres-Olarte, J., **Arnedo, M. A**. 2022. For all audiences: Incorporating immature stages into standardised spider inventories has a major impact on the assessment of biodiversity patterns. *Molecular Ecolology Resources* 22: 2319-2332.
3. Kallal RJ, Kulkarni SS, Dimitrov D, Benavides LR, **Arnedo MA**, Giribet G, Hormiga G. 2021. Converging on the orb: denser taxon sampling elucidates spider phylogeny and new analytical methods support repeated evolution of the orb web. *Cladistics* 37:298-316.
4. Domènech M, Malumbres-Olarte J, Enguídanos A, Múrria C, **Arnedo MA**. 2021. What DNA barcodes reveal: microhabitat preference, hunting strategy and dispersal ability drive genetic variation across Iberian spider species. *Insect Conservation and Diversity* 15: 248-262.DOI: 10.1111/icad.12552.
5. **Arnedo MA**, Hormiga G. 2021. Repeated colonization, adaptive radiation and convergent evolution in the sheet-weaving spiders (Linyphiidae) of the south Pacific Archipelago of Juan Fernandez. *Cladistics* 37:317-342.
6. Adrián-Serrano S, Lozano-Fernandez J, Pons J, Rozas J, **Arnedo MA**. 2021. On the shoulder of giants: Mitogenome recovery from non-targeted genome projects for phylogenetic inference and molecular evolution studies. *Journal of Zoological Systematics and Evolutionary Research* 59:5-30.
7. Mammola S, **Arnedo MA**, Fišer C, Cardoso P, Dejanaz AJ, Isaia M. 2020. Environmental filtering and convergent evolution determine the ecological specialization of subterranean spiders. *Functional Ecology* 34: 1064-1077.
8. Malumbres-Olarte J, Crespo LC, Domènech M, Cardoso P, Moya-Laraño J, Ribera C, **Arnedo MA**. 2020. How Iberian are we? Mediterraneity determines structure and endemicity of spider communities in Iberian oak forests. *Biodiversity and Conservation* 29:3973-3996.
9. Macías-Hernández NE, Domènech M, Cardoso P, Emerson BC, Borges PAV, Lozano-Fernandez J, Paulo OS, Vieira A, Enguídanos A, Rigal F, et al. 2020. Building a Robust, Densely Sampled Spider Tree of Life for Ecosystem Research. *Diversity* 12:288.
10. Macias-Hernandez N, Athey K, Tonzo V, Wangensteen OS, **Arnedo MA**, Harwood JD. 2018. Molecular gut content analysis of different spider body parts. *PLoS ONE* 13:e0196589.

## C.2. Congress

*Only 5 selected, due to space limitations*

1. **Arnedo, MA**.; Bellvert, A.; Arneas, C.; Enguídanos, A.; Macías-Hernández, N. 2020. Species delimitation in the context of an adaptive radiation: How many species of *Dysdera* spiders are in the Canary Islands? VI Latin American Congress of Arahnology, Buenos Aires, Argentina (*Oral presentation. Student award jury*).
2. **Arnedo, MA**.; Bellvert, A.; Crespo L.; Lozano-Fernandez, J.; Enguídanos, A.; Macías-Hernández, N. 2019. Go West! Colonisation and diversification of *Dysdera* ground dweller spiders in the Macaronesian Archipelagoes. 21st International Congress of Arachnology, Canterbury, New Zealand (*Oral presentation, member scientific committee*)
3. **Arnedo, MA**. 2018. Replaying life's tape: How species proliferate and diversify on islands. 7th Annual ForBio Meeting, Tromso, Norway (*Invited conference*).
4. **Arnedo, MA.** 2017. Cómo llegar a ser una especie: filogeorgafía y delimitación de especies en arañas. V Congresso Latino-Americano de Aracnologia, Caeté, Brazil (*Invited conference*).
5. **Arnedo, MA.** 2017. Through the looking glass: How high throughput sequencing technologies are revolutionizing our understanding of arachnid diversity and evolution. Fourth Conference of Asian Society of Arachnology, Chongqing, China (*Invited conference*).

## C.3. Research projects

*Only last 5, due to space limitations*

1. Some clades are bigger than others: Understanding the variation in species diversity across the Tree of Life of the nocturnal ground-dwelling spiders (SMITHS). PID2019-105794GB-I00 (2021-2023). Funded by Spanish Ministerio de Ciencia, Innovación y Universidades. Total amount awarded: 194.810,00 €. Principal investigator: **MA. Arnedo**.
2. Secuenciación de genomas de las especies eucariotas del territorio catalán: el genoma del escorpión ciego *Belisarius xambeui*. PRO2020-S02-Arnedom (2020-2021). Funded by Societat Catalana de Biologia-IEC. Total amount awarded: 9.500,00 €. Principal investigator: **MA. Arnedo**
3. Colonization and diversification of linyphiid spiders in the Juan Fernandez Islands. (2018-2019). Project #14517-1, funded by the National Geographic Society. Total amount awarded: 22.900 €. Principal Investigator: Gustavo Hormiga GWU, US, co-PI: **MA. Arnedo**.
4. Testing adaptive radiation and speciation mechanisms in the highly diverse spider genus *Dysdera*: the island lineages. (2016-2019). Project CGL2016-80651-P, funded by the Spanish Ministerio de Ciencia e Innovación. Total amount awarded: 185.130€. Principal investigator: **MA. Arnedo**
5. Support funding for the activities of approved research groups in Catalonia. (2017-2021) Project #2017SGR83 (AGAUR). Funded by Catalan Government, Agency for Management of University and Research Grants. (SGR). Total amount awarded: 18.837,50€. Principal investigator: **MA. Arnedo**.

## C.4. Contracts, technological or transfer merits

- Análisis de biomarcadores, indicadores biológicos y determinación taxonómica para la valoración de los posibles efectos ambientales del vertido del agua en la era del Prat al Llobregat. #CTN1900375. 12/07/2019-11/05/2020. Agència Catalana de l'Aigua. Total amount awarded: **38.740,00€.** Principal investigator: Núria Bonada Caparrós; Narcis Prat Fornells.