

Part A. PERSONAL INFORMATION

CV date	20/09/2024
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First and Family name	Andrea Sánchez Meseguer		
Email	a.meseguer@csic.es		
ID number	53386855Z	Age	41
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0003-0743-404X	
	SCOPUS Author ID (*)	36867697700	
	WoS Researcher ID (*)	H-8593-2019	

(*) Optional (**) Mandatory

A.1. Current position

Name of University/Institution	Consejo Superior de Investigaciones Científicas		
Department	Real Jardín Botánico		
Address and Country	Pl. Murillo 2, 28014 Madrid		
Phone number	91 420 3017	E-mail	ameseguer@rjb.csic.es
Current position	Research Scientist	From	10/01/2024
Key words	Evolution, Genomics, Phylogeny, Biodiversity, Fossils		

A.2. Education

PhD, Licensed, Graduate	University	Year
Licenciada en Biología	Universidad Autónoma de Madrid	2006
Doctorada en Biología Evolutiva y Biodiversidad	Universidad Autónoma de Madrid	2013

A.3. General indicators of quality of scientific production

- Total number of citations: 3726. Average/year during the last 5 years: 448
- H index = 22 according to Google Scholar
- Total number of publications: 32 (30 SCI) / First Quartile (Q1): 28 / First (11) or last (6) author.
- Presentations in international conferences: 14 orals, 9 poster / Plenary lectures: 1
- Invited talks: 9
- PhD Thesis advisor: 2 (in process), Postdoctoral advisor: 3

Part B. CV SUMMARY

Dr. Andrea Sánchez Meseguer is a **researcher at the Real Jardín Botánico, CSIC**. Her recent research combines genomic tools and macroevolutionary models to reconstruct the evolution of lineages and biomes, with particular emphasis on the patterns driving biotic assemblage over long temporal and broad spatial scales. With **+30 peer-reviewed articles and circa 4,050 citations** (~2,370 since 2019, Google Scholar profile), she has published articles in top-tier specialized journals: *Trends in Ecology & Evolution*, *eLife*, *Systematic Biology*, *Evolution*, *New Phytologists*, *Molecular Ecology*, *Global Ecology and Evolution*, etc., as well as in the multidisciplinary journal *Science*. The latter is listed in the top 1% of Essential Science Indicators in Environment/Ecology. She has made contributions to the development of integrative ecological and evolutionary research programs, where she has developed a novel approach to integrating fossils and ecological niche models into biogeography. The latter was published in the top-tier journal *Systematic Biology*, and its broad significance was evidenced by the award of the Publisher's Award for Excellence in Systematic Research for it. She is also recognized for her work using meta-analytic approaches to the study of biome evolution, using cross-taxonomic databases of thousands of species and associated ecological data to uncover the evolutionary factors that explain the outstanding tropical diversity. Since 2022, Andrea is researcher at the RJB. Over the past five years, she has led four funded research projects, with a total budget of over €800,000. She has been actively involved in teaching and training a young generation of scientists; she has directly supervised 2 PhD student and 3 international postdocs, as well as many other graduate and undergraduate students. Every year she teaches an MSc program in Biogeography at the UIMP-CSIC, and between 2016 and 2019 she taught a specialized course in Next Generation Sequencing techniques at different universities (UB, URJC). Among her professional activities, she has been a scientific advisor



for the Spanish National Research Agency (AEI) since 2019, and the Czech Science Foundation (in 2020). During her career, she has collaborated with laboratories in Europe, North America, Asia and Latin America and has also been actively involved in the promotion and dissemination of research. Find more information at my [Google Scholar](#) profile.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (10 most relevant, metrics based on Journal Citation Reports from the year of publication)

1. **AS Meseguer**, A Michel, PH Fabre, OAP Escobar, G Chomicki, R Riina, A Antonelli, PO Antoine, F Delsuc, F Condamine. **2022**. Diversification dynamics in the Neotropics through time, clades and biogeographic regions. *Elife* 11, e74503. IF 8.14, Q1
2. **AS Meseguer**, R Carrillo, SW Graham, I Sanmartín. **2022**. Macroevolutionary dynamics in the transition of angiosperms to aquatic environments. *New Phytologist* 235(1), 344-355. IF 10.3, Q1
3. O Pérez-Escobar, A Zizka, MA Bermúdez, **AS Meseguer**, F Condamine, C Hoorn, H Hooghiemstra, Y Pu, D Bogarín, T Pennington, A Antonelli, G Chomicki. The Andes through time and the evolution and distribution of Andean floras. *Trends in Plant Science* 27(4), 364-378, **2021**. IF: 17.712, Q1.
4. **AS Meseguer**, FL Condamine. Ancient tropical extinctions at high latitudes contributed to the latitudinal diversity gradient. *Evolution* 74(9), 1966-1987, **2020**. IF: 3.69, Q1. **Top cited article in Evolution 2020-2021**.
5. **AS Meseguer**, PO Antoine, A Fouquet, F Delsuc, FL Condamine. The role of the Neotropics as a source of world tetrapod biodiversity. *Global Ecology and Biogeography* 29(9), 1565-1578, **2020**. IF: 6.045, Q1.
6. **AS Meseguer**; JM Lobo; J Cornuault; D Beerling; BR Ruhfel; CC Davis; E Joussetin; I Sanmartín. Reconstructing deep-time paleoclimate legacies in the clusioid Malpighiales unveils their role in the evolution and extinction of the boreotropical flora. *Global Ecology and Biogeography* 27, 616-628, **2018**. IF: 6.045, Q1
7. **AS Meseguer**; A Manzano-Marín; A Coeur d'Acier; A L Clamens; M Godefroid; E Joussetin. *Buchnera* has changed flatmate but the repeated replacement of co-obligate symbionts is not associated with the ecological expansions of their aphid hosts. *Molecular Ecology* 26(8), 2363-2378. **2017**. IF: 6.086, Q1. **Featured article in the 2017 News & views of the journal**.
8. I Sanmartín; **AS Meseguer**. Extinction in phylogenetics and biogeography: From timetrees to patterns of biotic assemblage. *Frontiers in Genetics* 7, 35-35. **2016**. IF: 3.789, Q1
9. **AS Meseguer**; J M Lobo; R H Ree; D J Beerling; I Sanmartin. Integrating fossils, phylogenies, and niche models into biogeography to reveal ancient evolutionary history: the case of *Hypericum* (Hypericaceae). *Systematic Biology* 64(2), 215-232. **2015**. IF: 14.38, Q1. **Award to best student paper in the journal 2015**.
10. C Hoorn; F P Wesselingh; H Ter Steege; M A Bermudez; A Mora; J Sevink; I Sanmartín; **AS Meseguer**; C L Anderson; J P Figueiredo; C Jaramillo; D Riff; F R Negri; H Hooghiemstra; J Lundberg; T Stadler; T Särkinen; A Antonelli. Amazonia through time: Andean uplift, climate change, landscape evolution, and biodiversity. *Science* 330(6006), 927-931. **2010**. IF: 31.38, Q1

C.2.1. Research projects

1. Contrasting evolutionary dynamics in the tropics: splendid isolation vs. magnificent desolation in the Neotropical and Afrotropical floras (GONDWANDIV). Proyecto del Plan Nacional (PID2023-153023NB-I00) funded by the Spanish Ministerio de Ciencia e Innovación. Total amount awarded: €. Principal Investigator (PI): **AS Meseguer**, CoPI: I Sanmartín. Duration: 2024-2028.
2. How can the reconstruction of an ancient lost biome inform us about the current threats of biodiversity? Proyecto Intramural Especial (202430E059) funded by the CSIC. Total amount awarded: 12.225€. Principal Investigator: **AS Meseguer**. Duration: 5 months, 2024
3. Explaining evolutionary species RADiations using new genomic and Artificial Intelligence tools (RADIA) Proyecto Consolidación Investigadora (CNS2023-145236), funded by the Spanish



- Ministerio de Ciencia, Innovación y Universidades and the Agencia Estatal de Investigación. Total amount awarded: 288.906€. Principal Investigator: **AS Meseguer**. Duration: 2024-2026.
4. Neotropical plant diversification in space and time (NEODIV). Proyecto del Plan Nacional (PID2020-120145GA-I00) funded by the Spanish Ministerio de Ciencia e Innovación. Total amount awarded: 102.000€. Principal Investigator: **AS Meseguer**. Duration: 2021-2024
 5. How can the reconstruction of an ancient lost biome inform us about the current threats of biodiversity? (BOREOTROP) Atracción de Talento (2019-T1/AMB-12648) funded by the Comunidad de Madrid and CSIC. Total amount awarded: 285.322€. Principal Investigator: **AS Meseguer**. Duration: Abril 2020- enero 2024
 6. Drivers of Neotropical diversification using an integrative macroevolutionary approach (NEOTROPHYL), funded by *Agence National de la Recherche*, Labex CEBA (ANR-10-LABX-25-01). Total amount awarded: 261.000€. Principal Investigator: F Delsuc, F Condamine. Full-time researcher. Duration: Octubre 2016– Octubre 2019.
 7. Evolutionary history of the endosymbiotic bacterial genomes of conifer-feeding aphids (microPhan), funded by *Agence National de la Recherche* (anr 10-INBS-0009) and *France Genomics*. Total amount awarded: 8.000 €. Principal Investigator: E Joussetin. **Investigador a tiempo completo**. Duration: 2015–2017.
 8. Integrating cophylogenies, area shifts and paleomaps for inferring history of associations under climate change (PHYLOSPACE), funded by *Agence National de la Recherche* (anr 09 pext-002-03). Total amount awarded: 739.499€. Principal Investigator: E Joussetin. Full-time researcher. Duration: 15/12/2009-15/07/2014.
 9. Origin and biogeography of the Afro-Mediterranean Rand Flora (RANDFLORA) funded by the Spanish Ministerio de Ciencia e Innovación (CGL2009-13322-C03). Total amount awarded: 209.000€. Principal Investigator: I Sanmartín. Full-time researcher. Duration: 01/01/2010– 31/12/2012

C.2.2. Competitive grants for the recruitment of students

1. Ayudas destinadas para la contratación de personal investigador predoctoral en formación financiadas por la Comunidad de Madrid (PIPF-2022/ECO-25483), estudiante Pablo Gutierrez (2023-2027).
2. Ayudas para la Formación de Profesorado Universitario (FPU) financiada por el Ministerio de Ciencia Innovación y Universidades (FPU22/01383), estudiante Pablo Gutierrez. Rechazada
3. Ayuda para la contratación de ayudante de investigación cofinanciada por Fondo Social Europeo a través del Programa Operativo de Empleo Juvenil y la Iniciativa de Empleo Juvenil (YEI). GARANTÍA JUVENIL CAM 2021 (PEJCM21_RJB_M2_50), financiado por la Dirección General de Universidades e Investigación, Comunidad de Madrid. IP: AS Meseguer. Tipo de participación: Tutor responsable del puesto solicitado. Financiación conseguida: 50.000€. Duración: 2022-2024.
4. Ayuda para la contratación de investigador predoctoral cofinanciada por Fondo Social Europeo a través del Programa Operativo de Empleo Juvenil y la Iniciativa de Empleo Juvenil (YEI). GARANTÍA JUVENIL CAM 2019 (PEJCAM19_PRE_RJB_003), financiado por la Dirección General de Universidades e Investigación, Comunidad de Madrid. IP: AS Meseguer. Tipo de participación: Tutor responsable del puesto solicitado. Financiación conseguida: 25.000€. Duración: 2020-2021.

C.3. Research advisor and teaching

Research advisor

Postdoctoral advisor: Irene Villa (2021-2022), Karen López (2022-2023), Raquel Divieso (2024-)

Doctoral advisor: Irene Masa (2020-), Pablo Gutierrez-del Peña (2022-)

Master (TFM) advisor: Pierre Arnal (2015–2016), Alice Michel (2017–2018), Yolanda Turégano (2022-2023).

Undergraduate (TFG) advisor: Jana Lopez Plaza (UAM, 2016–2017), Jon Cendoya Iriondo (2013–2014)

External practices: Lara Huebra (UPV, 2023), Adrián Olivares (UAH, 2023), Elsa Alonso (UAM, 2023), Irene Molina (UAM, 2020), Eduardo Lacruz (UIMP, 2020), Ruben Carrillo (UAM, 2019).



Garantía Juvenil: Pablo Gutierrez-del Peña (2023), Laura Calvo (2024)

Teaching

- Seminario “*Biogeografía y macroevolución*”. Master en Ecología (UAM). 3h, 2023.
- Curso “*Biogeografía y técnicas analíticas*”. Master de Biodiversidad y Conservación Áreas Tropicales (UIMP). 80h, 2019, 2020, 2021, 2022, 2023.
- Curso “*Introducción a las Técnicas de Next Generation Sequencing*”. Curso posgrado/extensión universitaria (UB, URJC): 16h, 2016, 2017, 2018, 2019.
- Curso “*Botánica*”. Licenciatura en Ciencias Ambientales (UAM): 20 h, 2011
- Workshop on parametric, model-based biogeography (University of Gotheborg): 5h, 2009.

C.4. Service to the scientific community

- Organization Symposium “*Perspectives on plant biome turnover in an era of massive data and new methodological developments*”, International Botanical Congress 2024
- Organization Journal Club at RJB, 2023, 2024
- Organization monthly seminar series: “*Cafés Sistemáticos*” (Grupo de Trabajo en Sistemática, SEBOT), 2021, 2022.
- Organization roundtable “*Etapas de la carrera científica*”, SEBOT meeting, Toledo 2021.

C.4. Exper panels and reviewer

- 2020: Expert panel for Agencia Estatal de Investigación (AEI) Programa Estatal Juan de la Cierva Formación 2019.
- 2019-2023: Expert reviewer for funding agencies: AEI (Proyectos Plan Estatal I+D+I, Parques Nacionales, Programa Torres Quevedo, Ayudas Personal Técnico de apoyo) and CSF (Czech Science Foundation)
- 2020, 2023: PhD evaluation committee: Victoria Culshaw (UAM); Nathan Mallet (CNRS, France).
- 2020, 2021: Marter defense evaluation committee: Master de Biodiversidad y conservación áreas tropicales (UIMP).

SCI journals

Trends in Ecology and Evolution, Ecology Letters, Nature Ecology and Evolution, Systematic Biology, American Naturalist, Global Ecology and Biogeography, New Phytologists, Proceedings of the Royal Society, Molecular Ecology, Evolution, Journal of Biogeography, Frontiers in Evolutionary and Population Genetics, Journal of Animal Ecology, Current Zoology, International Journal of Plant Science, BMC Evolutionary Biology, Annals of Botany, Botanical Journal of the Linnean Society.

Editorial boards (Associate editor)

- Frontiers in Plant Science (review editor)
- PCI in Evolutionary Biology

C.5. Fellowships and Awards

- **Synthesys +program**, GB-TAF (Kew Gardens and Natural History Museum; 2022)
- **Atracción de Talento** de la Comunidad de Madrid (**Modalidad 1**) RJB, CSIC, 2020-2024.
- **Juan de la Cierva Incorporación**, RJB, CSIC, 2019-2020.
- **Marie-Curie FP7-COFUND**. *Centre de Biologie et Control de Populations* (GBGP, INRA). 2014 – 2016.
- **Publisher's Award for Excellence in Systematic Research**. Award to the best article publish by a student in Systematic Biology in 2015. Entidad concesionaria: Oxford University Press.
- Selected student for attending the Sao Paulo School of Advanced Science-Evolution. 2012. Entidad concesionaria: Fundação de Amparo à Pesquisa do Estado de São Paulo, Brasil
- **Ayudas formación de profesorado universitario (FPU)**. RJB-CSIC. 2009 – 2013.



C.6. Dissemination and scientific communication

National and international conferences: - International Botanical congress, Madrid, 2024; IV Simposio Anual de Botánica Española (SEBOT), León, 2023; V Iberian Congress of Biological Systematics (CISA), Madrid, 2023; VIII Congreso de la Sociedad Española de Biología Evolutiva (SESBE), Vigo, España, 2022; I congreso de la Sociedad Española de Botánica (SEBOT), Toledo, 2021; Botany 2021 Virtual; II Encuentro Virtual de Sistemática, Biogeografía y Evolución (SBE 2021) online 2021; International Association for Lichenology 9th Symposium, Virtual, 2021. Congreso de la Sociedad Española de Biología Evolutiva (SESBE), Sevilla, 2020; The Evolution Conference, Montpellier, 2018; VI SESBE, Palma de Mallorca, 2018; Centre d'étude de la biodiversité amazonienne (CEBA) annual meeting, Cayenne, 2017; Radiations, Zurich, Switzerland 2017. Neotrophyl meeting, Montpellier, 2016; International Biogeographic Society meeting, Bayreuth, 2015; UK-France joint meeting on Aphids, Paris, 2015; Agreenskills meeting, Barcelona; The French Aphid Research Network (BAPOA) meeting, Montpellier, 2014; 5th Annual Hypericum Meeting, Heidelberg, 2012; SPSAS-evol meeting, Sao Pablo, 2012; 4th Annual Hypericum Meeting, Graz, 2011; BioSystematics, Berlin, 2011.

Invited talks: Universidad de Vigo, online 2021; II Encuentro Virtual de Sistemática, Biogeografía y Evolución (SBE 2021) online 2021; The Evolution Conference, Montpellier, 2018; Herbario de la Universidad San Marcos (USM), Lima, 2017; Universidad de Oslo (NMBU), 2016; Institute de Science de l'Evolution de Montpellier (ISEM-CNRS), 2016; Universidad de Hohenheim, Stuttgart, 2015; Universidad de Montreal, Biodiversity Centre, 2015.

Dissemination articles:

AS Meseguer. Dos enfoques para entender mejor la biodiversidad tropical. *El Diario del Jardín Botánico*, 2023. **AS Meseguer;** J Lobo; I Sanmartín. 35 millones de años de evolución del género de plantas *Hypericum* en las regiones templadas del planeta. *Adelanto Digital*. 2015. **AS Meseguer;** J Lobo; I Sanmartín. El enfoque multidisciplinar logra una reconstrucción profunda de la historia evolutiva de un género de plantas. *Boletín del Jardín Botánico de Madrid*. 2015. M Mairal & **AS Meseguer.** Resolviendo una incógnita biogeográfica, el caso de la Rand Flora afro-mediterránea. *Chronica Naturae* 2012

Other dissemination activities: Noche Europea de los Investigadores (2019,2020,2023), Día de la Mujer en la Ciencia (2020), Maratón Científico RJB (2009, 2011, 2020, 2021, 2023), Taller en colegios: Benito Pérez-Galdós, Majadahonda (2022).

C.7. Contracts, technological or transfer merit

2022. Arborescience – CSIC: probe capture kit design for *Hypericum* genomic amplification