

CV Date	26/11/2022
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Part A. PERSONAL INFORMATION

First Name *	Gregorio		
Family Name *	Sánchez Montes		
Sex *	Male	Date of Birth *	07/02/1986
ID number Social Security, Passport *	78939107W	Phone Number *	(0034) 914111328 - 988968
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Email Address	gregorio.sanchezmontes@mncn.csic.es		
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	Researcher ID	AAC-2414-2020	
	Scopus Author ID		

* Mandatory

A.1. Current position

Job Title	Titulado superior de actividades técnicas y profesionales		
Starting date	2018		
Institution	Consejo Superior de Investigaciones Científicas		
Department / Centre	Departamento de Biodiversidad y Biología Evolutiva / Museo Nacional de Ciencias Naturales		
Country	Spain	Phone Number	(0034) 914111328 - 988968
Keywords	Computational biology; Population genetics; Population biology; Biogeography; Nature conservation; Animal ecology; Fresh water ecosystems		

A.2. Previous positions

Period	Job Title / Name of Employer / Country
2017 - 2018	Investigador convenio / Universidad de Navarra / Spain
2012 - 2012	Licenciado / PROED Evaluación, diagnóstico y apoyo a las necesidades educacionales / Spain

A.3. Education

Degree/Master/PhD	University / Country	Year
Programa Oficial de Doctorado en Biología y Medio Ambiente	Universidad de Navarra / Spain	2017
Máster Universitario en Ecología	Universidad Autónoma de Madrid y Universidad Complutense de Madrid / Spain	2011
Licenciado en Biología	Universidad de Navarra / Spain	2009

A.4. General quality indicators of scientific production

I have been involved in 6 projects of population genetics, biogeography and demography in natural populations. Based on this research, I have taken part on 21 peer-reviewed research papers, from which I am the first or the corresponding author in 10. 16 of these papers are published in JCR journals, 7 in the first quartile (Q1) in Ecology and Zoology, 6 Q2 in Biology, Ecology, Evolutionary Biology and Biodiversity Conservation, 2 Q3 in Zoology and 1 Q4 in Biochemistry and Molecular Biology. These publications have received 172 citations in the last 5 years (Google Scholar). I have been invited to review papers for Journal of Evolutionary Biology, Ecology and Evolution, Amphibia-Reptilia, Basic and Applied Herpetology, PeerJ, The

Herpetological Journal, Biological Journal of the Linnean Society, Molecular Ecology, Heredity and Hydrobiologia.

I have presented my work in four Iberian and three international scientific conferences on Evolution and Herpetology, where the growing empirical body from our long-term amphibian monitoring program is raising interest as it provides new demographic, biogeographic and evolutionary inferences about Iberian biodiversity. I have also presented 7 talks in scientific workshops and imparted 6 seminars in different research centres. At the same time, I find scientific dissemination very rewarding, so I have participated on the European Researchers' Night and the World Environment Day, talked to the general public and school kids about evolution and historical scientific breakthroughs, and written one dissemination paper. I also maintain a public profile in ResearchGate, where my publications have been consulted 5631 times.

In 2010 I participated on the setting up of the amphibian monitoring program in Laguna de Valdemanco (Central Spain) led by Dr. Íñigo Martínez-Solano, who co-supervised my PhD. Since that year, we have been continuously documenting the largely unknown demography of nine amphibian species by individual capture-mark-recapture methods with passive integrated transponder tags. So far, we have marked more than 8300 individuals of the nine species and obtained increasing recapture rates through the years (>25% in most species), which is leading to accurate demographic estimates and unprecedented dispersal records, as already demonstrated in our latest papers. I have co-supervised 13 graduate and postgraduate student projects with Dr. Martínez-Solano, with excellent results in all cases. I have combined annual fieldwork effort with stays at national and international research centres, where I improved my skills for the optimization of species-specific molecular markers, pedigree reconstruction, population genetic analyses and age estimation by skeletochronology, building up and consolidating the multidisciplinary scientific profile that is required for integrative demographic research. My international stay at the Zoological Society of London led to fruitful collaborations with theoretical geneticist Jinliang Wang, who co-authored three of my papers and has since then become involved in our amphibian monitoring project. I have also collaborated with Drs. Iván Gómez-Mestre and Carmen Díaz-Paniagua from the Eco-Evo-Devo group at the Doñana Biological Station, who accumulate decades of amphibian demographic data. At this stage I seek to integrate new molecular techniques (genomics), theoretical frameworks and computational pipelines to address demographic questions with higher resolution power.

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Publications

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 **Scientific paper**. Reyes-Moya, I.; Sánchez-Montes, G.; Martínez-Solano, I.(2/3). 2022. Integrating dispersal, breeding and abundance data with graph theory for the characterization and management of functional connectivity in amphibian pondscapes Landscape Ecology. Springer. In press. ISSN 0921-2973. Google Scholar (1) <https://doi.org/10.1007/s10980-022-01520-x>
- 2 **Scientific paper**. Caballero-Díaz, C.; Sánchez-Montes, G.; Gómez, I.; Díaz-Zúñiga, A.; Martínez-Solano, I.(2/5). 2022. Artificial water bodies as amphibian breeding sites: the case of the common midwife toad (*Alytes obstetricans*) in central Spain Amphibia-Reptilia. Brill. 43-4, pp.395-406. ISSN 0173-5373. Google Scholar (0) <https://doi.org/10.1163/15685381-bja10115>
- 3 **Scientific paper**. Reinke, B.A.; Cayuela, H.; Janzen, F.J.; et al; Sánchez-Montes, G.; Miller, D.A.W.(10/114). 2022. Diverse aging rates in ectothermic tetrapods provide insights for the evolution of aging and longevity Science. American Association for the Advancement of Science. 376-6600, pp.1459-1466. ISSN 0036-8075. Google Scholar (5) <https://doi.org/10.1126/science.abm0151>

- 4 **Scientific paper.** Cayuela, H.; Lemaître, J.-F.; Léna, J.-P.; et al; Sánchez-Montes, G.; Miller, D.A.W.(9/50). 2021. Sex-related differences in aging rate are associated with sex chromosome system in amphibians *Evolution*. Wiley. 76-2, pp.346-356. ISSN 0014-3820. Google Scholar (3) <https://doi.org/10.1111/evo.14410>
- 5 **Scientific paper.** Fernández de Larrea, I; Sánchez-Montes, G. (AC); Gutiérrez-Rodríguez, J.; Martínez-Solano, I.(2/4). 2021. Reconciling direct and indirect estimates of functional connectivity in a Mediterranean pond-breeding amphibian *Conservation Genetics*. Springer. 22, pp.455-463. ISSN 1566-0621. Google Scholar (1) <https://doi.org/10.1007/s10592-021-01345-2>
- 6 **Scientific paper.** Pacífico, EC; Sánchez-Montes, G; Miyaki, CY; Tella, JL. (2/4). 2020. Isolation and characterization of 15 new microsatellite markers for the globally Endangered Lear's macaw *Anodorhynchus leari* *Molecular Biology Reports*. Springer. 47, pp.8279-8285. ISSN 0301-4851. Google Scholar (3) <https://doi.org/10.1007/s11033-020-05812-w>
- 7 **Scientific paper.** Sánchez-Montes, G (AC); Martínez-Solano, I; Díaz-Paniagua, C; Vilches, A; Ariño, AH; Gomez-Mestre, I. (1/6). 2020. Telomere attrition with age in a wild amphibian population *Biology Letters*. The Royal Society. 16-7, pp.20200168. ISSN 1744-9561. Google Scholar (6) <https://doi.org/10.1098/rsbl.2020.0168>
- 8 **Scientific paper.** Caballero-Díaz, C; Sánchez-Montes, G.; Butler, H.M.; Vredenburg, V.T.; Martínez-Solano, I.(2/5). 2020. The role of artificial breeding sites in amphibian conservation: a case study in rural areas in central Spain *Herpetological Conservation and Biology*. 15-1, pp.87-104. ISSN 2151-0733. Google Scholar (11)
- 9 **Scientific paper.** Hyeun-Ji, L; Broggi, J; Sánchez-Montes, G; Díaz-Paniagua, C; Gomez-Mestre, I. (3/5). 2020. Dwarfism in close continental amphibian populations despite lack of genetic isolation *Oikos*. Wiley. 129-8, pp.1243-1256. ISSN 0030-1299. Google Scholar (3) <https://doi.org/10.1111/oik.07086>
- 10 **Scientific paper.** Olarte, O; Sánchez-Montes, G; Martínez-Solano, I. (2/3). 2020. Integrative demographic study of the Iberian painted frog (*Discoglossus galganoi*): inter-annual variation in the effective to census population size ratio, with insights on mating system and breeding success *Integrative Zoology*. Wiley. 15-6, pp.498-510. ISSN 1749-4877. Google Scholar (3) <https://doi.org/10.1111/1749-4877.12452>
- 11 **Scientific paper.** Capellà-Marzo, B; Sánchez-Montes, G (AC); Martínez-Solano, I. (2/3). 2020. Contrasting demographic trends and asymmetric migration rates in a spatially structured amphibian population *Integrative Zoology*. Wiley. 15-6, pp.482-497. ISSN 1749-4877. Google Scholar (6) <https://doi.org/10.1111/1749-4877.12449>
- 12 **Scientific paper.** Sánchez-Montes, G; Recuero, E; Barbosa, AM; Martínez-Solano, I. (1/4). 2019. Complementing the Pleistocene biogeography of European amphibians: Testimony from a southern Atlantic species *Journal of Biogeography*. Wiley-Blackwell. 46-3, pp.568-583. ISSN 0305-0270. Google Scholar (17) <https://doi.org/10.1111/jbi.13515>
- 13 **Scientific paper.** Sánchez-Montes, G.; Wang, J.; Ariño, A.H.; Martínez-Solano, I.(1/4). 2018. Mountains as barriers to gene flow in amphibians: Quantifying the differential effect of a major mountain ridge on the genetic structure of four sympatric species with different life history traits *Journal of Biogeography*. Wiley-Blackwell. 45-2, pp.318-331. ISSN 0305-0270. Google scholar (38) <https://doi.org/10.1111/jbi.13132>
- 14 **Scientific paper.** Sánchez-Montes, G.; Wang, J.; Ariño, A.H.; Vizmanos, J.L.; Martínez-Solano, I.(1/5). 2017. Reliable effective number of breeders/adult census size ratios in seasonal-breeding species: Opportunity for integrative demographic inferences based on capture-mark-recapture data and multilocus genotypes *Ecology and Evolution*. Wiley-Blackwell. 7-23, pp.10301-10314. ISSN 2045-7758. Google Scholar (12) <https://doi.org/10.1002/ece3.3387>
- 15 **Scientific paper.** Sánchez-Montes, G.; Ariño, A.H.; Vizmanos, J.L.; Wang, J.; Martínez-Solano, I.(1/5). 2017. Effects of sample size and full sibs on genetic diversity characterization: a case study of three syntopic Iberian pond-breeding amphibians *Journal of Heredity*. Oxford University Press Inc. 108-5, pp.535-543. ISSN 0022-1503. Google Scholar (27) <https://doi.org/10.1093/jhered/esx038>

- 16 **Scientific paper.** Sánchez-Montes, G.; Recuero, E.; Gutiérrez-Rodríguez, J.; Gomez-Mestre, I.; Martínez-Solano, I.(1/5). 2016. Species assignment in the *Pelophylax ridibundus* x *P. perezi* hybridogenetic complex based on 16 newly characterised microsatellite markers *The Herpetological Journal*. British Herpetological Society. 26-2, pp.99-108. ISSN 0268-0130. Google Scholar (13)
- 17 **Scientific paper.** Sánchez-Montes, G.; Martínez-Solano, I.(1/2). 2022. Seguimiento de poblaciones de anfibios mediante la integración de historiales de captura y herramientas moleculares *Munibe Monographs. Nature Series. Sociedad de Ciencias Aranzadi Zientzia Elkarte*. 5, pp.83-93. ISSN 2340-0463.
- 18 **Scientific paper.** Caballero-Díaz, C; Pérez, M.A.; Díaz, A.; Sánchez-Montes, G.; Martínez-Solano, I.(4/5). 2019. A report of complete albinism in an adult *Pleurodeles waltl* in the wild *Boletín de la Asociación Herpetológica Española. Asociación Herpetológica Española*. 30-2, pp.29-31. ISSN 1130-6939. Google Scholar (4)
- 19 **Scientific paper.** Fernández-Ortín, D.; Sánchez-Montes, G.; Martínez-Solano, I.(2/3). 2019. A catalogue of reptiles of Monfragüe National Park (Spain), with molecular characterization of populations of *Blanus Wagler, 1830* in this protected area *Basic and Applied Herpetology. Asociación Herpetológica Española*. 33, pp.81-91. ISSN 0213-6686. Google Scholar (8) <https://doi.org/10.11160/bah.173>
- 20 **Scientific paper.** Gutiérrez-Rodríguez, J.; Sánchez-Montes, G.; Martínez-Solano, I.(2/3). 2017. Effective to census population size ratios in two Near Threatened Mediterranean amphibians: *Pleurodeles waltl* and *Pelobates cultripes* *Conservation Genetics. Springer*. 18-5, pp.1201-1211. ISSN 1566-0621. Google Scholar (7) <https://doi.org/10.1007/s10592-017-0971-5>
- 21 **Scientific paper.** Sánchez-Montes, G.; Martínez-Solano, I.(1/2). 2011. Population size, habitat use and movement patterns during the breeding season in a population of Perez's frog (*Pelophylax perezi*) in central Spain *Basic and Applied Herpetology. Asociación Herpetológica Española*. 25, pp.81-96. ISSN 0213-6686. Google Scholar (6) <https://doi.org/10.11160/bah.11013>

C.2. Conferences and meetings

- 1 Gregorio Sánchez Montes; Ernesto Recuero Gil; Ana Márcia Barbosa; Íñigo Martínez-Solano González. Contrasting biogeographic responses to Pleistocene glaciations in Iberian amphibians. *Trends in Biodiversity and Evolution, TiBE2019: Biodiversity, Ecology and Evolution in Mediterranean Ecosystems. CIBIO-InBIO*. 2019. Portugal. Conference.
- 2 Gregorio Sánchez Montes; Carmen Díaz Paniagua; Íñigo Martínez-Solano González. Sexual conflict and population dynamics in two pond-breeding amphibians. *XV Congreso Luso-Español de Herpetología / XIX Congreso Español de Herpetología. Biología y conservación de herpetos en el Antropoceno. Universidad de Salamanca*. 2018. Spain. Conference.
- 3 Gregorio Sánchez Montes; Carmen Díaz Paniagua; Jinliang Wang; Arturo Hugo Ariño Plana; José Luis Vizmanos Pérez; Íñigo Martínez-Solano González. Demographic insights from the integration of pedigree reconstruction and capture-mark-recapture methods in seasonal-breeding species. *II Joint Congress on Evolutionary Biology. European Society for Evolutionary Biology, American Society of Naturalists, Society of Systematic Biologists, Society for the Study of Evolution*. 2018. France. Conference.
- 4 Gregorio Sánchez Montes; Jinliang Wang; Arturo Hugo Ariño Plana; José Luis Vizmanos Pérez; Íñigo Martínez-Solano González. Applying integrative demography to obtain reliable effective/census size ratios in pond-breeding amphibians. *19th European Congress of Herpetology. Universidad de Salzburgo*. 2017. Austria. Conference.
- 5 Ernesto Recuero Gil; A. Márcia Barbosa; Gregorio Sánchez Montes; Íñigo Martínez-Solano González. Integrative phylogeography of the Iberian treefrog (*Hyla molleri*). *XIV Congreso Luso-Español de Herpetología / XVIII Congreso Español de Herpetología. Retos de la herpetología del siglo XXI. Universitat de Lleida*. 2016. Spain. Conference.

- 6 Gregorio Sánchez Montes; Jinliang Wang; Arturo Hugo Ariño Plana; José Luis Vizmanos Pérez; Íñigo Martínez-Solano González. Pedigree-based estimation of effective number of breeders in Iberian amphibians: the role of mating system in population status assessment. XIV Congreso Luso-Español de Herpetología / XVIII Congreso Español de Herpetología. Retos de la herpetología del siglo XXI. Universitat de Lleida. 2016. Spain. Conference.
- 7 Íñigo Martínez-Solano González; Jorge Gutiérrez Rodríguez; Gregorio Sánchez Montes; A. Márcia Barbosa; João F. Gonçalves; Emilio Civantos Calzada. Beyond the pond: an organismal, multi-scale approach to integrative phylogeography. Evolution meeting. Society for the Study of Evolution. 2016. United States of America. Conference.
- 8 Íñigo Martínez-Solano González; Jorge Gutiérrez Rodríguez; Gregorio Sánchez Montes. Seguimiento genético de poblaciones de anfibios ibéricos: problemática y oportunidades. XII Congreso Luso-Español de Herpetología / XVI Congreso Español de Herpetología. Fragmentación del territorio y conservación de herpetofauna. Asociación de Naturalistas del Sureste. 2012. Spain. Conference.
- 9 Gregorio Sánchez Montes; Jorge Gutiérrez Rodríguez; Íñigo Martínez-Solano González. Utilidad de los métodos de captura-marcaje-recaptura para evaluar el impacto de la fragmentación del hábitat en anfibios ibéricos: tres años de seguimiento en una comunidad de anfibios del Sistema Central. XII Congreso Luso-Español de Herpetología / XVI Congreso Español de Herpetología. Fragmentación del territorio y conservación de herpetofauna. Asociación de Naturalistas del Sureste. 2012. Spain. Conference.

C.3. Research projects and contracts

- 1 **Project.** PID2020-116289GB-I00, El papel de la dispersión en la conectividad y diferenciación de poblaciones de anfibios: una aproximación integradora. Plan Estatal de Investigación Científica y Técnica y de Innovación 2017-2020. Íñigo Martínez-Solano González. (Museo Nacional de Ciencias Naturales). 01/09/2021-31/08/2024. 181.500 €. Obtener datos de captura-marcaje-recaptura en poblaciones naturales de anfibios ibéricos, aplicación de marcadores moleculares al estudio de las dinámicas poblacionales. Genotipado y análisis de datos...
- 2 **Project.** CGL2017-83131-P, Bases para un plan de seguimiento genético integrado a largo plazo de poblaciones de anfibios. Programa Estatal de Fomento de la Investigación Científica y Técnica de Excelencia. Íñigo Martínez-Solano González. (Museo Nacional de Ciencias Naturales). 01/01/2018-31/12/2020. 193.600 €. Obtener datos de captura-marcaje-recaptura en poblaciones naturales de anfibios ibéricos, aplicación de marcadores moleculares al estudio de las dinámicas poblacionales. Genotipado y análisis de datos...
- 3 **Project.** Life+ Respira. Life+. Jesús Miguel Santamaría Ulecia. (Universidad de Navarra). 01/01/2014-31/12/2017. Desarrollo de algoritmos para la automatización de la representación de datos de contaminación georreferenciados y su incorporación a servidores web de acceso público (B2SHARE/EUDAT). Development of ...
- 4 **Project.** Foraging ecology of Lear's Macaws and its conservation implications: a stable isotopes approach. José Tella. (Estación Biológica de Doñana). 01/03/2015-30/09/2017. 28.682,73 €. Genotyping of DNA samples from molted feathers of the Lear's macaw *Anodorhynchus leari* with a panel of microsatellite markers. Individual identification from genotyping. Population genetic analyses. P...
- 5 **Project.** CGL2013-49460-EXP, ¿Puede producirse la adaptación por otro mecanismo que por la selección natural? Una prueba experimental. EXPLORA – Plan Nacional. Wilhelmus Edelaar. (Universidad Pablo de Olavide). 01/09/2014-31/08/2017. 69.000 €. Optimization of microsatellite primers in multiplex reactions. DNA sample genotyping, genetic analysis.
- 6 **Project.** CGL2011-28300/BOS, Patrones vs procesos en filogeografía comparada: barreras al flujo génico, contraste de hipótesis y concordancia temporal en procesos de diversificación de la batracofauna ibérica. Plan Nacional. Íñigo Martínez-Solano González. (Instituto de Investigación en Recursos Cinegéticos). 01/01/2012-01/01/2014. 121.000 €. Monitorización de poblaciones de anfibios ibéricos mediante la toma de datos de captura-marcaje-recaptura y muestras de tejido. Optimización de marcadores moleculares (microsatélites) específicos par...

C.5. Stays in public or private R&D centres

- 1** Zoological Society of London. Institute of Zoology. United Kingdom. Londres. 01/05/2016-07/08/2016. 3 months - 7 days. Doctorate.
- 2** Centro de Investigación Médica Aplicada (CIMA). . Spain. Pamplona. 15/01/2016-31/03/2016. 2 months - 15 days. Doctorate.
- 3** Estación Biológica de Doñana. Departamento de Ecología de Humedales. Spain. Sevilla. 15/07/2015-31/08/2015. 1 month - 15 days. Doctorate.
- 4** Museo Nacional de Ciencias Naturales. Departamento de Biodiversidad y Biología Evolutiva. Spain. Madrid. 01/07/2015-15/07/2015. 15 days. Doctorate.
- 5** Museo Nacional de Ciencias Naturales. Departamento de Biodiversidad y Biología Evolutiva. Spain. Madrid. 15/07/2014-31/08/2014. 1 month - 15 days. Doctorate.
- 6** Museo Nacional de Ciencias Naturales. Departamento de Biodiversidad y Biología Evolutiva. Spain. Madrid. 15/04/2013-31/08/2013. 4 months - 15 days. Doctorate.