

# RAFAEL MEDINA, PH.D.

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ASSOCIATE PROFESSOR  
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## PROFILE

Evolutionary botanist specializing in the integrative taxonomy and molecular systematics of mosses (Funariaceae, Orthotrichaceae), liverworts (Plagiochilaceae), and ferns (Blechnaceae). Author and coauthor of ≈45 peer-reviewed publications, with an established record of securing competitive research funding in both the United States and Spain. A committed educator, with over 2,000 hours of teaching experience at the university level, designing and delivering courses across diverse academic environments. Skilled field botanist with extensive collection experience across 12 countries, complemented by in-depth expertise in herbarium management and curation. Actively engaged in citizen science, editorial duties for scientific journals, and leadership roles within botanical societies.

## EDUCATION

- 2012 **Ph.D.** Evolutionary Biology and Biodiversity. Universidad Autónoma de Madrid  
Dissertation: “Estudios de taxonomía integrativa en el género *Orthotrichum* Hedw., subgénero *Pulchella* (Schimp.) Vitt (Bryophyta)”
- 2005 **D.E.A.** (≈M.Sc.) Evolutionary Biology and Biodiversity. Universidad Autónoma de Madrid
- 2003 **B.Sc.** Life Sciences. Universidad Autónoma de Madrid

## PROFESSIONAL APPOINTMENTS

- 2023-present **Associate Professor** [Tenured] (Profesor Contratado Doctor)  
Dept. of Biodiversity, Ecology & Evolution. Universidad Complutense de Madrid
- 2020-2023 **Assistant Professor** (Profesor Ayudante Doctor)  
Dept. of Biodiversity, Ecology & Evolution. Universidad Complutense de Madrid
- 2016-2020 **Assistant Professor**  
Department of Biology. Augustana College (Illinois)
- 2012-2016 **Postdoctoral Associate**  
Dept. of Ecology and Evolutionary Biology. University of Connecticut
- 2006-2011 **Teaching Assistant** (Ayudante LOU)  
Dept. of Biology. Universidad Autónoma de Madrid

## PUBLICATIONS

## PEER-REVIEWED RESEARCH PUBLICATIONS

- 2024 MOLINO, S., G. SANTOS, R. VÁZQUEZ, **R. MEDINA** & J. M. GABRIEL Y GALÁN. Monograph of the genera *Struthiopteris* Scop. and *Spicantopsis* Nakai (Blechnaceae, Polypodiopsida). *Phytotaxa* 677 (1): 001–048. DOI: [10.11646/phytotaxa.677.1.1](https://doi.org/10.11646/phytotaxa.677.1.1)
- MEDINA, R.**, P. AGUADO-RAMSAY, D. ARRIBAS, J. A. CALLEJA, R. D. CEDRÉS-PERDOMO, F. LARA, J. MUÑOZ, G. SANTOS, A. A. SUBIRAN. Nuevas citas briológicas de España y Portugal, 2024. *Boletín de la Sociedad Española de Briología* 58: cor.2024.92.46.001. DOI: [10.58469/bseb.cor.2024.92.46.001](https://doi.org/10.58469/bseb.cor.2024.92.46.001)
- MEDINA, R.**, S. C. BELLÓN, R. D. CEDRÉS-PERDOMO, C. E. ROYO, D. G. DEL OLMO, D. HORCAJADA-TEJERO, I. LAFUENTE, D. RODRÍGUEZ HERNÁNDEZ, A. RUZIC, L. S. PÉREZ. Trabajos académicos en briología, 2024. *Boletín de la Sociedad Española de Briología* 58: tes.2024.96.34.001. DOI: [10.58469/bseb.tes.2024.96.34.001](https://doi.org/10.58469/bseb.tes.2024.96.34.001)
- 2023 PATEL, N., **R. MEDINA**, L. WILLIAMS, O. LEMIEUX, B. GOFFINET & M. JOHNSON. Frequent allopolyploidy with distant progenitors in the moss genera *Physcomitrium* and *Entosthodon* (Funariaceae) identified via subgenome phasing of targeted nuclear genes. *Evolution* 77(12): 2561-2575. DOI: [10.1093/evolut/qpaa171](https://doi.org/10.1093/evolut/qpaa171)
- ZHANG, L., Q. ZUO, W.-Z. MA, J. SHEVOCK, N. PATEL, M. JOHNSON, **R. MEDINA**, N. WILDING & B. GOFFINET. Phylogenomics resolves the rediscovered Himalayan endemic *Brachymeniopsis gymnostoma* (Bryophyta, Funariaceae), as a species of *Entosthodon*, prompting also the transfer of *Clavithea poeltii*. *Taxon* 72(6):1216-1227 DOI: [10.1002/tax.13106](https://doi.org/10.1002/tax.13106)
- SÁNCHEZ, R., **R. MEDINA**, M. BRUGUÉS, M. INFANTE, B. ALBERTOS & P. HERAS. Nuevos datos sobre *Petalophyllum ralfsii* (Wilson) Nees & Gottsche en Andalucía. Revisión de su estado de conservación en España. *Boletín de la Sociedad Española de Briología* 57: inv.24.82.001 DOI: [10.58469/bseb.inv.2023.24.82.001](https://doi.org/10.58469/bseb.inv.2023.24.82.001)
- PATIÑO, J., J. A. CALLEJA, M. CUERDO, D. G. DEL OLMO, D. HORCAJADA, M. MAIRAL, **R. MEDINA**, A. MUÑOZ & G. SANTOS. Nuevas citas briológicas de España y Portugal, 2023. *Boletín de la Sociedad Española de Briología* 57: cor.29.60.001 DOI: [10.58469/bseb.cor.2023.29.60.001](https://doi.org/10.58469/bseb.cor.2023.29.60.001)
- 2022 **MEDINA, R.**, M. JOHNSON, N. PATEL, G. TOCCI, D. TOREN & B. GOFFINET. Vindication of *Physcomitrium pygmaeum* (Funariaceae), an elusive and endangered moss from North America's Great Basin. *The Bryologist* 125(528-540) DOI:[10.1639/0007-2745-125.4.528](https://doi.org/10.1639/0007-2745-125.4.528)
- MOLINO, S., I. LAFUENTE, G. ROUHAN & **R. MEDINA**. Morphological and molecular evidences reject conspecificity of Malagasy and Mascarene *Parablechnum* (Blechnaceae, Polypodiopsida). *Phytokeys* 214: 47-60 DOI: [10.3897/phytokeys.214.95125](https://doi.org/10.3897/phytokeys.214.95125)
- CALLAGHAN, D. A., H. DURING, **R. MEDINA** & H. YANG. Long-term survival of bryophytes underground – on the diaspora bank of *Physcomitrium eurystomum* Sendtn. *Journal of Bryology* 44:208-216 DOI: [10.1080/03736687.2022.2151857](https://doi.org/10.1080/03736687.2022.2151857)
- PATIÑO, J., I. BISANG, B. GOFFINET, L. HEDENÅS, S. MCDANIEL, S. PRESSEL, M. STECH, C. AH-PENG, A. BERGAMINI, R. T. CANERS, D C. CARGILL, N. CRONBERG, J. DUCKETT, S. EPPLEY, N. J. FENTON, KI. FISHER, J. GONZÁLEZ-MANCEBO, M. HASEBE, J. HEINRICHS, K. HYLANDER, M. S. IGNATOV, J. MARTÍNEZ-ABAIGAR, N. G. MEDINA, **R. MEDINA**, D. QUANDT, S. A. RENSING, K. RENZAGLIA, M. RENNER, R. M. ROS, A. SCHÄFER-VERWIMP, J. C. VILLARREAL, A. VANDERPOORTEN. Unveiling the nature of a miniature world: a horizon scan of fundamental questions in bryology. *Journal of Bryology* 44: 1-34 DOI: [10.1080/03736687.2022.2054615](https://doi.org/10.1080/03736687.2022.2054615)

*Peer-reviewed research publications (cont.)*

- 2021 PATEL, N, **R. MEDINA**, M. JOHNSON & B. GOFFINET. Karyotypic diversity and cryptic speciation: Have we vastly underestimated moss species diversity? *Bryophyte Diversity and Evolution* 43(1):150-163 DOI: [10.11646/BDE.43.1.12](https://doi.org/10.11646/BDE.43.1.12)
- 2020 **MEDINA, R.**, D. H. VITT & J. R. SHEVOCK. *Orthotrichum* subgenus Rivularium revisited: Convergent morphology and repeated evolution of the rheophytic syndrome. *The Bryologist*, 123(4):593-600 DOI: [10.1639/0007-2745-123.4.593](https://doi.org/10.1639/0007-2745-123.4.593)
- CALLAGHAN, D.A., **R. MEDINA**, J. MASSON & H. DURING. Status and ecology of Norfolk Bladder-moss (*Physcomitrium eurystomum* Sendtn) in Britain. *Journal of Bryology* 42(3): 246-257 DOI: [10.1080/03736687.2020.1743562](https://doi.org/10.1080/03736687.2020.1743562)
- 2020 ELLIS, L.T., O.M. AFONINA, I.V. CZERNYADJEVA, L.A. KONOREVA, A.D. POTEKIN, V.M. KOTKOVA, M. ALATAŞ, H.H. BLOM, M. BOIKO, R.A. CABRAL, S. JIMENEZ, D. DAGNINO, C. TURCATO, L. MINUTO, P. ERZBERGER, T. EZER, O.V. GALANINA, N. HODGETTS, M.S. IGNATOV, A. IGNATOVA, S.G. KAZANOVSKY, T. KIEBACHER, H. KÖCKINGER, E.O. KOROLKOVA, J. LARRAÍN, A.I. MAKSIMOV, D. MAITY, A. MARTINS, M. SIM-SIM, F. MONTEIRO, L. CATARINO, **R. MEDINA**, M. NOBIS, A. NOWAK, R. OCHYRA, I. PARNIKOZA, V. IVANETS, V. PLÁŠEK, M. PHILIPPE, P. SAHA, MD.N. AZIZ, A.V. SHKURKO, S. ŞTEFĂNUŢ, G.M. SUÁREZ, A. UYGUR, K. ERKUL, M. WIERZGOŃ & A. GRAULICH New national and regional bryophyte records, 63. *Journal of Bryology* 42(3): 281-296 DOI: [10.1080/03736687.2020.1750930](https://doi.org/10.1080/03736687.2020.1750930)
- 2019 **MEDINA, R.**, M. JOHNSON, Y. LIU, N. WICKET, A.J. SHAW & B. GOFFINET. Phylogenomic delineation of *Physcomitrium* (Bryophyta: Funariaceae) based on targeted sequencing of nuclear exons and their flanking regions rejects the retention of *Physcomitrella*, *Physcomitridium* and *Aphanorrhagma*. *Journal of Systematics and Evolution*. 57 (4): 404-417 DOI:[10.1111/jse.12516](https://doi.org/10.1111/jse.12516)
- LIU Y., M. G. JOHNSON, C. J. COX, **R. MEDINA**, N. DEVOS, A. VANDERPOORTEN, L. HEDENÄS, N. E. BELL, J. R. SHEVOCK, B. AGUERO, D. QUANDT, N. J. WICKETT, A. J. SHAW & B. GOFFINET. 2019. Resolution of the backbone phylogeny of mosses using targeted exons from organellar and nuclear genomes. *Nature Communications* 10(1): 1485. DOI:[10.1038/s41467-019-09454-w](https://doi.org/10.1038/s41467-019-09454-w)
- MEDINA, R.**, F. LARA, B. GOFFINET, R. GARILLETI & V. MAZIMPAKA. On the priority of *Orthotrichum cylindrocarpum* over *O. coulteri* and Lesquereux's early vindication of an autonomous American bryology. *Taxon* 68: 137-141. DOI: [10.1002/tax.12014](https://doi.org/10.1002/tax.12014)
- 2018 **MEDINA, R.**, M. JOHNSON, Y. LIU, N. WILDING, T. HEDDERSON, N. WICKETT & B. GOFFINET. Evolutionary dynamism in bryophytes: Phylogenomic inferences confirm rapid radiation in the moss family Funariaceae. *Molecular Phylogenetics and Evolution* 120: 240-247. DOI:[10.1016/j.ympev.2017.12.002](https://doi.org/10.1016/j.ympev.2017.12.002)
- SHERSHEN, E., C. GILLILAND & **R. MEDINA**. Bryophytes of Loud Thunder Forest Preserve, with an updated checklist of the bryoflora of Rock Island County, Illinois. *Evansia* 35(2): 36-42. DOI: [10.1639/0747-9859-35.2.036](https://doi.org/10.1639/0747-9859-35.2.036)
- 2017 HUDSON, L. N., NEWBOLD, T. ET AL. (contributor in an authorship group of several hundreds). The database of the PREDICTS (Projecting Responses of Ecological Diversity in Changing Terrestrial Systems) project. *Ecology and Evolution* 7: 145-188. DOI: [10.1002/ece3.2579](https://doi.org/10.1002/ece3.2579)
- 2016 LARA, F., R. GARILLETI, B. GOFFINET, I. DRAPER, **R. MEDINA**, B. VIGALONDO & V. MAZIMPAKA. *Lewinskya*, a new genus to accomodate the phaneroporous and monoicous taxa of *Orthotrichum* Hedw. *Cryptogamie, Bryologie* 37(4):361-382. DOI: [10.7872/cryb/v37.iss4.2016.361](https://doi.org/10.7872/cryb/v37.iss4.2016.361)
- 2016 JOHNSON, M.G., E.M. GARDNER, Y. LIU, **R. MEDINA**, B. GOFFINET, A.J. SHAW, N.J.C. ZEREGA & N.J. WICKETT. HybPiper: Extracting coding sequence and introns for phylogenetics from high-throughput sequencing reads using target enrichment. *Applications in Plant Science* 4: 1600016. DOI: [10.3732/apps.1600016](https://doi.org/10.3732/apps.1600016)

*Peer-reviewed research publications (cont.)*

- 2015 ALONSO, M., **R. MEDINA**, M.J. CANO, J.A. JIMÉNEZ & B. GOFFINET. The complete mitochondrial genome of the moss *Oxystegus tenuirostris* (Hook. & Taylor) A.J.E. (Pottiaceae, Bryophyta). *Mitochondrial DNA* DOI:10.3109/19401736.2015.1082087. DOI: [10.3109/19401736.2015.1082087](https://doi.org/10.3109/19401736.2015.1082087)
- L.T. ELLIS, A.K. ASTHANA, A. SRIVASTAVA, V.A. BAKALIN, H. BEDNAREK-OCHYRA, M.J. CANO, J.A. JIMÉNEZ, M. ALONSO, J. DEME, J. CSIKY, M.G. DIA, P. CAMPISI, P. ERZBERGER, R. GARILLETI, K.V. GOROBETS, N.J.M. GREMMEN, M.S. JIMENEZ, G.M. SUÁREZ, I. JUKONIENÉ, T. KIEBACHER, M. KIRMACI, A. KOZUR, H. KÜRSCHNER, F. LARA, V. MAZIMPAKA, J. LARRAÍN, M. LÉBOUVIER, **R. MEDINA**, R. NATCHEVA, K. K. NEWSHAM, M. NOBIS, A. NOWAK, M. ÖREN, A. D. ÖZÇELİK, J.D. ORGAZ, D.F. PERALTA, V. PLÁŠEK, L. ČÍHAL, R. RISTOW, J. SAWICKI, A. SCHÄFER-VERWIMP, V.R. SMITH, A. STEBEL, S. ŞTEFĂNUŢ, M. SUBKAITĚ, B.Y. SUN, A. USELIENĚ, G. UYAR, J. VÁŇA, Y.J. YOON & S.J. PARK. New national and regional bryophyte records, 43. *Journal of Bryology* 37:2, 128-147. DOI: [10.1179/1743282015Y.0000000003](https://doi.org/10.1179/1743282015Y.0000000003)
- 2015 **MEDINA, R.**, Y. LIU, W. LI-SONG, G. SHUILIANG, K. HYLANDER & B. GOFFINET. DNA-based revised geographic circumscription of species of *Physcomitrella* s.l. (Funariaceae): *P. patens* new to East Asia and *P. magdalenae* new to East Africa. *The Bryologist* 118: 22-31. DOI: [10.1639/0007-2745-118.1.022](https://doi.org/10.1639/0007-2745-118.1.022)
- 2014 LIU, Y., **R. MEDINA** & B. GOFFINET. 350 My of Mitochondrial Genome Stasis in Mosses, an Early Land Plant Lineage. *Molecular Biology and Evolution* 31: 2586–2591. DOI: [10.1093/molbev/msu199](https://doi.org/10.1093/molbev/msu199)
- 2013 **MEDINA, R.**, F. LARA, B. GOFFINET, R. GARILLETI & V. MAZIMPAKA. Unnoticed diversity within the disjunct moss *Orthotrichum tenellum* s.l. validated by morphological and molecular approaches. *Taxon* 62: 1133-1152. DOI: [10.12705/626.15](https://doi.org/10.12705/626.15)
- PATIÑO, J., **R. MEDINA**, A. VANDERPOORTEN, J. M. GONZÁLEZ-MANCEBO, R. M. ROS, N. DEVOS, R. G. MATEO, F. LARA & O. WERNER. Origin and fate of the single-island endemic moss *Orthotrichum handiense*. *Journal of Biogeography* 40: 857-868. DOI: [10.1111/jbi.12051](https://doi.org/10.1111/jbi.12051)
- 2012 **MEDINA, R.**, F. LARA, B. GOFFINET, R. GARILLETI & V. MAZIMPAKA. Integrative taxonomy successfully resolves the pseudo-cryptic complex of the disjunct epiphytic moss *Orthotrichum consimile* s.l. (Orthotrichaceae). *Taxon* 61: 1180-1198. DOI: [10.1002/tax.616002](https://doi.org/10.1002/tax.616002)
- MEDINA, R.**, A. EDERRA & F. LARA. *Orthotrichum armatum* in Western Cape province of South Africa. *Journal of Bryology* 34: 52-55. DOI: [10.1179/1743282011Y.0000000040](https://doi.org/10.1179/1743282011Y.0000000040)
- 2011 **MEDINA, R.**, F. LARA, V. MAZIMPAKA, J. SHEVOCK & R. GARILLETI. *Orthotrichum pilosissimum*, a new moss from arid areas of Nevada with unique axillary hairs. *The Bryologist* 114: 316-624. DOI: [10.1639/0007-2745.114.2.316](https://doi.org/10.1639/0007-2745.114.2.316)
- ELLIS L.T., A.K. ASTHANA, V. SAHU, P. BANSAL, V. NATH, P. ERZBERGER, T. HALLINGBÄCK, M. INFANTE, P. LAZAREVIĆ, L. LUIS, **R. MEDINA**, R. OCHYRA, N. PANDE, B. PAPP, V. PLÁŠEK, M. SABOVLJEVIĆ, J. SAWICKI, M. SIM-SIM, A. STEBEL, G.M. SUÁREZ, J. VAN ROOY & N. PHEPHU. New national and regional bryophyte records, 27. *Journal of Bryology* 33:2, 158-162 DOI: [10.1179/1743282011Y.0000000007](https://doi.org/10.1179/1743282011Y.0000000007)
- 2010 LARA, F., V. MAZIMPAKA, **R. MEDINA**, R. CAPARRÓS & R. GARILLETI. Northeastern Turkey, an unnoticed but very important area for the Orthotrichaceae (Bryophyta). *Nova Hedwigia* 138: 163-178
- MEDINA, R.**, F. LARA, B. ALBERTOS, I. DRAPER, R. GARILLETI & V. MAZIMPAKA. Epiphytic bryophytes in harsh environments: the *Juniperus thurifera* forests. *Journal of Bryology* 32: 23-31 DOI:[10.1179/037366810X12578498135715](https://doi.org/10.1179/037366810X12578498135715)

*Peer-reviewed research publications (cont.)*

- 2009 GARILLETI, R., **R. MEDINA**, V. MAZIMPAKA & R.F. LARA. *Orthotrichum hispanicum* in the Turkish Caucasus and Kashmir. *Journal of Bryology* 31: 46-47 DOI: [10.1179/174328208X300723](https://doi.org/10.1179/174328208X300723)
- MEDINA, R.**, R. GARILLETI, V. MAZIMPAKA & F. LARA. A new look at *Orthotrichum scanicum* Grönvall (Orthotrichaceae, Bryophyta). *Journal of Bryology* 31:86-92 DOI: [10.1179/174328209X404934](https://doi.org/10.1179/174328209X404934)
- LARA, F., R. GARILLETI, **R. MEDINA**, R. GARILLETI & V. MAZIMPAKA. A new key of the genus *Orthotrichum* in Europe and the Mediterranean Region. *Cryptogamie, Bryologie* 30: 129-142
- MEDINA, R.**, F. LARA, V. MAZIMPAKA & R. GARILLETI. *Orthotrichum norrisii* (Orthotrichaceae), a new epiphytic Californian moss. *The Bryologist* 111: 670-675 DOI: [10.1639/0007-2745-111.4.670](https://doi.org/10.1639/0007-2745-111.4.670)
- 2008 MEDINA, N. G., **R. MEDINA**, F. LARA & V. MAZIMPAKA. Brioflora epífita de Sierra Alhamilla (Almería). *Boletín de la Sociedad Española de Briología*. 32/33: 1-7 DOI: [10.58469/bseb.2008.66.25.001](https://doi.org/10.58469/bseb.2008.66.25.001)
- 2008 VILLAVERDE, C, N. G. MEDINA, B. ESTÉBANEZ, **R. MEDINA**, V. MAZIMPAKA, M. INFANTE & F. LARA. Contribución al conocimiento de la brioflora del extremo sureste de la Comunidad de Madrid. *Boletín de la Sociedad Española de Briología*. 32/33: 21-29 DOI: [10.58469/bseb.2008.91.53.003](https://doi.org/10.58469/bseb.2008.91.53.003)
- 2007 LARA, F., **R. MEDINA**, R. GARILLETI & V. MAZIMPAKA. On the presence of *Orthotrichum patens* Bruch & Brid. in the Iberian Peninsula. *Cryptogamie, Bryologie* 29: 157-164.
- GONZÁLEZ MANCEBO, J. M., B. ALBERTOS, A. BARRÓN, K. CEZÓN, R. M. CROS, I. DRAPER, B. ESTÉBANEZ, R. GARILLETI, T. HALLINGBÄCK, R. HERNÁNDEZ-MAQUEDA, F. LARA, A. LOSADA-LIMA, R. G. MATEO, V. MAZIMPAKA, J. MUÑOZ, **R. MEDINA**, N. G. MEDINA, J. PATIÑO, F. PUCHE, S. RAMS, R. M. ROS & E. RUIZ. Bryophytes collected by the Spanish Bryological society during a field trip at La Gomera (Canary Islands). *Boletín de la Sociedad Española de Briología*. 30/31: 43-51 DOI: [10.58469/bseb.2007.64.55.006](https://doi.org/10.58469/bseb.2007.64.55.006)
- 2006 ELÍAS, M. J., B. ALBERTOS, G. CALABRESE, M. J. CANO, B. ESTÉBANEZ, M. T. GALLEGU, R. GARILLETI, J. GUERRA, P. HERAS, M. INFANTE, F. LARA, M. A. MARTÍN, V. MAZIMPAKA, **R. MEDINA**, J. MUÑOZ, L. POKORNY, F. PUCHE & J. A. SÁNCHEZ. Aportaciones al conocimiento de la flora briológica española. Nótula XV: musgos, antocerotas y hepáticas de la Sierra de Gredos (Ávila). *Boletín de la Sociedad Española de Briología*. 28: 25-31 DOI: [10.58469/bseb.2006.56.38.003](https://doi.org/10.58469/bseb.2006.56.38.003)
- LARA, F., R. GARILLETI, B. ALBERTOS, **R. MEDINA** & V. MAZIMPAKA. Nuevos datos sobre la distribución en la Península Ibérica de *Orthotrichum sprucei* Mont., *O. rivulare* Turn. y *Dendrocryphaea lamyana* (Mont.) P.Rao. *Boletín de la Sociedad Española de Briología*. 28: 61-66 DOI: [10.58469/bseb.2006.77.82.006](https://doi.org/10.58469/bseb.2006.77.82.006)
- BLOCKEEL T.L., J. ENROTH, D. ERTZ, T.A. J. HEDDERSON, I. HOLZ, M. JAFARI, H. KÜRSCHNER, F. LARA, V. MAZIMPAKA, **R. MEDINA**, G. RAMEL, A. SCHÄFER-VERWIMP, S. SHIRZADIAN, A. SOTIAUX, O. SOTIAUX, A. STEBEL & A. TAVILI. New national and regional bryophyte records, 14. *Journal of Bryology* 28: 271-275 DOI: [10.1179/174328206X157195](https://doi.org/10.1179/174328206X157195)
- PUCHE, F., A. BARRÓN, M. BRUGUÉS, M. J. CANO, I. DRAPER, A. EDERRA, B. ESTÉBANEZ, M. T. GALLEGU, C. GIMENO, J. GUERRA, J. A. JIMÉNEZ, F. LARA, **R. MEDINA** & N. G. MEDINA. Aportaciones al conocimiento de la flora briológica española. Nótula XVI: musgos y hepáticas del Alto Tajo (Cuenca, Guadalajara, Teruel). *Boletín de la Sociedad Española de Briología*. 28: 87-94 DOI: [10.58469/bseb.2006.62.79.009](https://doi.org/10.58469/bseb.2006.62.79.009)
- MEDINA, R.** Nuevas citas provinciales de briófitos epífitos de sabinars ibéricos. *Boletín de la Sociedad Española de Briología*. 28: 57-60 DOI: [10.58469/bseb.2006.61.41.005](https://doi.org/10.58469/bseb.2006.61.41.005)

### **BOOK CHAPTER**

- 2011 ESTÉBANEZ, B., I. DRAPER & **R. MEDINA**. Briófitos: una aproximación a las plantas terrestres más sencillas. In VIEJO, J. L. (Ed.) *Biodiversidad. Aproximación a la diversidad botánica y zoológica de España*. Memorias de la Real sociedad Española de Historia Natural. Segunda época. IX: 19-73. Real Sociedad Española de Historia Natural. Madrid. ISBN: 978-84-936677-6-4

### **BOOK REVIEW**

- 2015 **MEDINA, R.** & B. GOFFINET. Better shoes alone don't get you to your destination [Rev. of *A Framework for Post-Phylogenetics Systematics* by R. Zander]. *The Bryologist* 117: 431-433

## **GRANTS AND FELLOWSHIPS**

### **GRANTS AS PRINCIPAL INVESTIGATOR**

- 2022-2025 Diversification and hybridization across Gondwana in the youngest fern family: a phylogenomic approach to *Parablechnum* (Blechnaceae). **119,790 €**. Ministerio de Ciencia e Innovación. Proyectos de Generación de Conocimiento 2021. September 2022-August 2025. PID2021-127118NA-I00
- 2022-2023 Radiación evolutiva y diversidad críptica en el género *Parablechnum* (Blechnaceae, Monilophyta): una aproximación taxonómica y filogenómica. **11,946 €**. Banco Santander y Universidad Complutense de Madrid. Proyectos Santander-UCM. August 2022-July 2023. PR44/21-29930
- 2018-2021 Collaborative research: Diversity of the moss *Physcomitrium pyriforme*: significance of autopolyploidy within a phylogenomic and experimental framework. **\$ 128,732**. National Science Foundation. March 2018-March 2021. DEB-1753673

### **INTRAMURAL GRANTS AS PRINCIPAL INVESTIGATOR IN AUGUSTANA COLLEGE**

- 2017 Faculty Research Fund. Consolidation of the AUGIE herbarium. **\$2,766**
- 2017-2019 Research Fund for New Faculty. Consolidation of a Bryology lab. **\$12,000**

### **PARTICIPATION ON OTHER RESEARCH GRANTS**

- 2023-2027 Análisis de distintas dimensiones de la biodiversidad oculta en el Parque Nacional de la Sierra de las Nieves. **94.720,96 €**. Ministerio para la Transición Ecológica y el Reto Demográfico. Organismo Autónomo de Parques Nacionales. 3013/2023. Sept 2023-Jan-2027. PI: Sergio Pérez Ortega.
- 2017-2020 Aproximación a los patrones de diversificación en un grupo fundamental de musgos epífitos mediante la resolución efectiva de su filogenia: Orthotrichoideae (Orthotrichaceae, Bryophyta). **173,030 €**. Ministerio de Economía, Industria y Competitividad. CGL2016-80772-P. Dec 2016-Dec 2020. PI: Isabel Draper.
- 2014-2017 Collaborative Research: Evolution, Diversification, and Conservation of a Megadiverse Flagship Lichen Genus. **\$223,000**. National Science Foundation, DEB- 1354631. Aug 2014-Jul 2017. PI: Bernard Goffinet. (7 months in 2016)

*Participation in research grants (cont.)*

- 2012-2015 Rapid radiation and sporophyte evolution in the Funariaceae: inferences from phylogenomics and cross generational cuticle development studies. **\$219,814**. National Science Foundation, DEB-1146295. Jul 2012-Jun 2015. PI: Bernard Goffinet.
- 2011 Population analyses on epiphytic bryophytes: biological implications related with the dispersal strategy on species of the family Orthotrichaceae. **13,832 €**. Universidad Autónoma de Madrid. CCG10-UAM/AMB-5630. Jan-Dec 2011. PI: Belén Estébanez.
- 2008-2010 Taxonomic, systematic and biogeographic studies on the genus *Orthotrichum* Hedw., subgenus *Pulchella* (Schimp.) Vitt. A worldwide revision. **60,000 €**. Ministerio de Educación y Ciencia. CGL2007-61389/BOS. Jan 2008-Dec 2010. PI: Francisco Lara.
- 2005-2007 Taxonomy and systematics of the family Orthotrichaceae in Europe and the Mediterranean Basin. **32,700 €**. Ministerio de Educación y Ciencia. Spanish Ministry of Education and Science. CGL2004-03513/BOS. Jan 2005-Dec 2007. PI: Vicente Mazimpaka.

**PREDOCTORAL FELLOWSHIP**

- 2005-2006 Fellowship for Faculty Training (**Formación de Profesorado Universitario, FPU**). Spanish Ministry of Education. AP-2004-0007 (Resigned to accept *Ayudante* appointment)

**OTHER PREDOCTORAL FUNDING**

- 2012 Bryophyte Bonanza Challenge Fellowship (Awarded by the US National Science Foundation for the attendance to MOSS 2012 & 3<sup>rd</sup> Int. Conference on Molecular Systematics of Bryophytes) **\$902**
- 2007-2009 Grants for the Mobility of Young Staff Researchers Program (Universidad Autónoma de Madrid). Awarded 3 times (2007, 2008, 2009). Research visits to the University of Connecticut. **€4,200 each**.

**CONFERENCES**

**PARTICIPATION IN SCIENTIFIC CONFERENCES**

Only oral presentations are listed unless otherwise specified. (\*=speaker. §=keynote speaker. †=supervised student)

- 2024 SANTOS, G.\*†, S. MOLINO, M. MAIRAL, D. LAFUENTE, J. LAZARTE, G. LARA, W. TESTO, R. HURTADO, **R. MEDINA**. Implicaciones taxonómicas de los viajes de recolección: el ejemplo de *Parablechnum* C.Presl en Bolivia (poster). V Simposio de Botánica Española. Granada, November 29-30

1) LAFUENTE, I.\*†, **R. MEDINA** & J. MUÑOZ. Una aproximación filogenética al género *Breutelia* (Bartramiaceae, Bryophyta); 2) GARCÍA DEL OLMO, D.\*†, G. SANTOS & **R. MEDINA**. Detection of phylogenetic variability in the *Hypopterygium tamarisci* (Sw.) Brid. ex Müll. Hal. complex through Sanger sequencing and genetic capture. 3) RODRÍGUEZ D.\*†, B. GOFFINET & **R. MEDINA**. Variación morfológica y filogenética en las poblaciones ibéricas de *Physcomitrium pyriforme*. XXVIII Reunión de Briología. Silleda, Spain, September 24-27

*Conference presentations (cont.)*

- 2024 1) **MEDINA, R.\***, M. JOHNSON, N. PATEL, N. WILDING, Y. LIU & B. GOFFINET. Challenges in defining genera: The limits of integrative taxonomy in the Funariaceae (Bryophyta). 2) **MOLINO, S.\***, G. SANTOS, M. MAIRAL, W. TESTO, P. DELANGE, R. HURTADO, J. RODGER, R. MEDINA. Unlocking *Parablechnum* from the field to the lab: A Hyb-Seq approach to unravel the global disjunction of a young fern genus. 3) PATEL, N.\*, M. JOHNSON, **R. MEDINA** & B. GOFFINET. Cryptic speciation among polyploid mosses demonstrated through phylogenomic analysis. 4) HORCAJADA, D.\*<sup>□</sup>, B. ESTÉBANEZ & **R. MEDINA**. Complex thalloid going simple: the importance of microanatomic traits in unveiling *Dumortiera hirsuta*'s diversity. 5) LAFUENTE, I.\*<sup>□</sup>, **R. MEDINA** & J. MUÑOZ. Phylogenetic approach to the genus *Breutelia* (Bartramiaceae, Bryophyta) (poster). 6) MOLINO, S.\*, I. LAFUENTE, G. SANTOS, C. PRADA, M. MAIRAL, M. BERDUGO, **R. MEDINA**. First global study of the palynological characters of the genus *Parablechnum* (Blechnaceae, Polypodiopsida) (poster). 7) RODRÍGUEZ-HERNÁNDEZ, D.\*<sup>□</sup>, B. GOFFINET & **R. MEDINA**. Testing the Molecular and Morphological variability of the moss *Physcomitrium pyriforme* (Hedw.) Brid. in the Iberian Peninsula. 8) SANTOS, G.\*<sup>¤</sup>, C. PRADA, L. QUINTANILLA, S. MOLINO, **R. MEDINA**. Development and description of the gametophytic phase of a selection of species of the genus *Parablechnum* (Polypodiopsida). 9) GARCÍA DEL OLMO, D.\*<sup>¤</sup>, G. SANTOS & **R. MEDINA**. Detection of phylogenetic variability in the *Hypopterygium tamarisci* complex through Sanger sequencing and genetic capture. XX International Botanical Congress. Madrid, July 21-27
- 2023 1) **MEDINA, R.**<sup>§</sup> Los siete pecados capitales del trabajo con colecciones briológicas: una década de estudios en Funariaceae. 2) LÓPEZ-MANSO, P.\*<sup>†</sup>, T. GONZÁLEZ-RODRÍGUEZ\*, A. LAMAS, **R. MEDINA**. Cuatrecasas, 1935: Especímenes canarios hallados en el herbario MACB (poster). IV Simposio Anual de la Sociedad Española de Botánica. Universidad de León, Spain. November 17-19
- 2023 1) MOLINO, S.\*<sup>¤</sup>, W. TESTO, M. MAIRAL, G. SANTOS & **R. MEDINA**. Discovering *Parablechnum*: a complex evolutionary history within the youngest fern family. 2) PATEL, N.\*, **R. MEDINA**, L. WILLIAMS, O. LEMIEUX, B. GOFFINET & M. JOHNSON. A target-capture approach to reconstruction of allopolyploid origins in the *Physcomitrium pyriforme* species complex. Botany 2023 (Botanical Society of America Annual Meeting). Boise, Idaho. July 22-26
- 2022 1) **MEDINA, R.\*** M. JOHNSON, N. PATEL, G. TOCCI, D. TOREN, & B. GOFFINET. Search for a fugitive: rediscovery and lectotypification of the elusive moss *Physcomitrium pygmaeum*. 2) LAFUENTE, I.\*<sup>†</sup>, **R. MEDINA**, G. ROHUAN, & S. MOLINO. Biometry and ornamentation of spores of the genus *Parablechnum* (Blechnaceae, Polypodiopsida) as a valuable source of taxonomic information. 3) SÁNCHEZ-ESCALONILLA RELEA, J. L.\*<sup>†</sup>, REVIRIEGO, M., DÍAZ-DIOS, U., MOLINO, S., **MEDINA, R.** Variation of DNA concentration over time in herbarium specimens of *Funaria hygrometrica* (poster). XXIII International Symposium of Cryptogamic Botany. Valencia. July 20-22.
- PATEL, N.\*<sup>†</sup>, M. JOHNSON, **R. MEDINA** & B. GOFFINET. Whole genome duplication and reticulate evolution in the *Physcomitrium pyriforme* species complex. Botany 2022 (Botanical Society of America Annual Meeting). Anchorage, Alaska. July 24-27
- 2021 1) **MEDINA, R.\*** (Symposium: 50 Fundamental Questions in Bryology) Beyond the sphynxes: current and renewed challenges in bryophyte evolution & systematics 3) PATEL, N., M. JOHNSON, **R. MEDINA** & B. GOFFINET. Whole genome duplication and reticulate evolution in the *Physcomitrium pyriforme* species complex. Northern ecosystems in a changing world (BL2021-IAB, ABLs, CBA-ABC, SQB). Online (Quebec City). July 6-9
- 1) MOLINO, S., J. J. PALACIO, R. VÁZQUEZ, C. PARADA, M. VICENT, W. TESTO & **R. MEDINA**. Advances in systematics and phylogeography of the genus *Parablechnum* C.Presl (Blechnaceae, Polypodiopsida) 2) **MEDINA, R.\***, M. JOHNSON, N. PATEL & B. GOFFINET. Lessons learned and future directions in Funariaceae systematics using high-throughput sequencing and target capture. Primer congreso español de botánica. SEBOT. Toledo 8-10 septiembre



*Conference presentations (cont.)*

- 2020 1) GUTIERREZ-GONZALEZ, N.\* , J. KOONTZ, T. BROSIUS & **R. MEDINA**. The value of small collections: 12 unaccounted type specimens from the 1893 Rydberg expedition to Nebraska discovered in a liberal arts college 2) PATEL, N.\* , **R. MEDINA**, M. JOHNSON & B. GOFFINET. Autopolyploidy contributes to cryptic speciation in mosses 3) ANGULO, J.\* , N. WICKETT, L. POKORNY, M. JOHNSON, **R. MEDINA**, B. GOFFINET, J. SHAW, Y. LIU. Botany 2020. Virtual Botany Conference (Botanical Society of America Annual Meeting). Online. July 18-23
- 2019 **MEDINA, R.**, M. JOHNSON, Y. LIU, N. WICKETT, J. SHAW & B. GOFFINET\*. Expanded delimitation of Physcomitrium (Funariaceae) based on targeted sequencing of nuclear exons and their flanking regions. 2) **MEDINA, R.** § & B. GOFFINET. The dawn of bryology in North America: a tale of a cursed flora. Joint meeting International Association of Bryology-iMOSS-Sociedad Española de Briología. Madrid, Spain, July 9-12
- 2017 1) **MEDINA, R.\***, M. JOHNSON, Y. LIU, J. BUDKE, N. WILDING & B. GOFFINET. The Origin of the Model Taxon Physcomitrella patens: Resolving a Rapid Diversification Using a Phylogenomic Approach Based on Enriched Genomic Libraries. 2) **MEDINA, R.\*** Biodiversity Description Simulation: a Tool to Stimulate Interest in Plant Taxonomy during Class. XIX International Botanical Congress. Shenzhen, China, 23-29 July.
- 2016 DRAPER I.\* , F. LARA, R. GARILLETI, B. VIGALONDO, **R. MEDINA**, Y. LIU, V. MAZIMPAKA & B. GOFFINET. Towards the clarification of the phylogeny of the Orthotrichoideae. XXV Meeting of the Spanish Bryological Society. Western Andalusia. 30 May-6 June.
- 2016 1) **MEDINA R.**, M. JOHNSON, Y. LIU, J. BUDKE, N. WILDING, T. HEDDERSON, N. WICKETT & B. GOFFINET\*. A genomic approach to solve the phylogeny of the Funariaceae. 2nd International Symposium on the Evolution and Systematics of pleurocarpous mosses. 2) LIU Y., M. JOHNSON, **R. MEDINA**, N. DEVOS, N. BELL, D. QUANDT, A. VANDERPOORTEN, B. SHAW, N. WICKETT, A.J. SHAW & B. GOFFINET\*. 2016. Resolving the backbone phylogeny of mosses, using targeted NGS data from plastid, mitochondrial and nuclear genomes. 3) DRAPER I.\* , F. LARA, R. GARILLETI, B. VIGALONDO, **R. MEDINA**, Y. LIU, V. MAZIMPAKA & B. GOFFINET. Searching a variable region to increase the resolution in an unresolved phylogeny. 4) LIU Y., M. JOHNSON, **R. MEDINA**, N. DEVOS, W.R. BUCK, J. SHEVOCK, H. AKIYAMA, M. IGNATOV, L. HEDENÄS, P. DALTON, N. BELL, B. SHAW, N. WICKETT, A.J. SHAW & B. GOFFINET\*. Phylogenetic relationships within the pleurocarpous mosses: phylogenomic inferences from targeted enriched libraries of genes from all compartments. 2nd International Symposium on the Evolution and Systematics of pleurocarpous mosses. Nees Institute for Plant Biodiversity, University of Bonn, Germany. June 9-12, 2016
- 1) **MEDINA R.\***, M. JOHNSON, Y. LIU, J.M. BUDKE, N. WILDING, T. HEDDERSON, N.J. WICKETT & B. GOFFINET. Zooming in on the rapid radiation of the Funariaceae. Abstract 317. 2) LIU Y., M. JOHNSON, **R. MEDINA**, N. DEVOS, N. WICKETT, A.J. SHAW & B. GOFFINET. Resolving the backbone phylogeny of mosses, using targeted NGS data from plastid, mitochondrial and nuclear genomes. Abstract 503. Botany 2016 (Botanical Society of America Annual Meeting); Savannah, Georgia, July 30–August 3
- 2015 JOHNSON, M.\* , N. WICKETT, **R. MEDINA**, Y. LIU, N. DEVOS, J. SHAW & B. GOFFINET. Phylotranscriptomic insights into the radiation of mosses: gene family expansions and paleopolyploidy. Botany 2015 (Botanical Society of America Annual Meeting). 25-29 July. Edmonton (Canada)
- LIU, Y., **R. MEDINA** & B. GOFFINET\*. 350 my of mitochondrial genome stasis in mosses, an early land plant lineage. Meeting of the International Association of Bryologists. 11-15 January. Puerto Williams (Chile).
- 2013 **MEDINA, R.\***, Y. LIU AND B. GOFFINET. Targeted sequencing of organellar exomes in early land plants. Laboratory methodology. Pleurocarp Tree of Life Meeting and Workshop. Chicago Botanic Garden. 4-5 October. Chicago

*Conference presentations (cont.)*

- 2013 1) LIU\*, Y., **R. MEDINA** AND B. GOFFINET. The evolution of the mitochondrial genome in mosses. 2) LIU, Y., **R. MEDINA\***, N. WILDING, J.M. BUDKE, T. HEDDERSON & B. GOFFINET. The evolutionary history of *Physcomitrella patens*: phylogenetic inferences from 4 loci within the Funariidae. Botany 2013 (Botanical Society of America Annual Meeting). 27-31 July. New Orleans
- 2012 **MEDINA, R.\***, B. GOFFINET, F. LARA, R. GARILLETI & V. MAZIMPAKA. Unnoticed *Orthotrichum* species richness in western North America revealed by integrative approaches. 3rd International Conference on Molecular Systematics of Bryophytes. New York Botanical Garden. 15-22 June. New York City
- 2011 **MEDINA, R.\***, B. GOFFINET, F. LARA, R. GARILLETI & V. MAZIMPAKA. Species delimitation combining Morphology and Molecular Phylogenetics: the case of the *Orthotrichum tenellum*-like taxa in California. XVIII Symposium of Cryptogamic Botany. Universidad de Barcelona. 13-16 June. Barcelona (Spain)
- 2010 PATIÑO, J.\* , **R. MEDINA**, O. WERNER, R. M. ROS, F. LARA & J. M. GONZÁLEZ-MANCEBO. Flirting with extinction? *Orthotrichum handiense*, a Canarian endemic bryophyte under multiple threats. International Symposium FloraMac2010. University of the Azores. 23-25 September. Açores (Portugal)
- 2009 **MEDINA, R.\***, F. LARA, B. ALBERTOS, I. DRAPER, R. GARILLETI & V. MAZIMPAKA. Epiphytic bryophytes of inland juniper forests throughout the Mediterranean basin. World Conference on Bryology 2009. Meeting of the International Association of Bryologists. 16-21 August. Cape Town (South Africa)
- 2008 **MEDINA, R.\***, F. LARA, R. GARILLETI & V. MAZIMPAKA. Presentación de una nueva clave del género *Orthotrichum* (s.l.) en Europa y la Región Mediterránea. XXII Meeting of the Spanish Bryological Society. 9-13 June. Espinosa de los Monteros (Spain)
- 2007 1) **MEDINA, R.\***, F. LARA, V. MAZIMPAKA & R. GARILLETI. *Orthotrichum norrisii* sp. nov., un nuevo musgo de California próximo a *O. tenellum* Bruch ex Brid. 2) LARA, F.\* , R. GARILLETI, **R. MEDINA**, B. ESTÉBANEZ & V. MAZIMPAKA. Diversidad global en el grupo de *Orthotrichum diaphanum* (Orthotrichaceae, Musci) XVI Symposium of Cryptogamic Botany. Universidad de León. 9-22 septiembre. León (Spain)
- 2006 **MEDINA, R.\***, V. MAZIMPAKA, F. LARA, B. ALBERTOS, I. DRAPER & R. GARILLETI. Aproximación al conocimiento de la variabilidad de los sabinares albares mediante el estudio de sus comunidades de briófitos epífitos. 3rd International Symposium on Juniper Forests. 24-26 May. Soria (Spain)
- 1) **MEDINA, R.\***, F. LARA, B. ALBERTOS, B. ESTÉBANEZ, R. GARILLETI & V. MAZIMPAKA. Novedades corológicas de la familia Orthotrichaceae en la Región Caucásica de Turquía. 2) MEDINA, N.G.\* , **R. MEDINA**, F. LARA & V. MAZIMPAKA. Briófitos epífitos de Sierra Alhamilla (Almería). Resultados preliminares. XXI Meeting of the Spanish Bryological Society. 14-17 junio. Viso del Marqués (Spain)
- 2005 ESTÉBANEZ, B.\* , **R. MEDINA**, I. DRAPER, B. ALBERTOS, R. GARILLETI, F. LARA & V. MAZIMPAKA. Taxonomy and systematics of the family Orthotrichaceae in Europe and the Mediterranean area. XXXIII Congress of the Japanese Bryological Society. 26-28 August. Fukui (Japan)
- MEDINA, R.\***, F. LARA, R. GARILLETI & V. MAZIMPAKA. Consideraciones previas a una revisión taxonómica del género *Orthotrichum* Hedw., subgénero Pulchella (Schimp.) Vitt.. XX Meeting of the Spanish Bryological Society. 4-6 February. San Sebastián de La Gomera (Spain)
- 2005 MAZIMPAKA, V., **R. MEDINA\***, R. GARILLETI & F. LARA. Nuevos datos sobre la distribución y variabilidad morfológica de *Orthotrichum scanicum* Grönvall. XV Symposium of Cryptogamic Botany. Universidad del País Vasco. 21-23 September. Bilbao (Spain)
- MEDINA, R.\***, B. ALBERTOS, F. LARA & V. MAZIMPAKA. Briófitos epífitos de los sabinares ibéricos: resultados preliminares. XIX Meeting of the Spanish Bryological Society. 4-6 June. Tragacete (Spain)

*Conference presentations (cont.)*

- 2004 1) MEDINA, R.\* , F. LARA, L. POKORNY, I. DRAPER, D. CORTÉS & V. MAZIMPAKA. Interest of *Juniperus thurifera* L. forests in the conservation of epiphytic bryophytes. 2) DRAPER, I.\* , B. ALBERTOS, F. LARA, R. GARILLETI, R. MEDINA & V. MAZIMPAKA. Hot-spots areas for the epiphytic bryophytes in Morocco (Northern Africa). 5th European Bryophyte Conservation Conference. 21-23 September. Valencia (Spain)
- 2003 **MEDINA, R.\***, B. ALBERTOS, F. LARA & V. MAZIMPAKA. Briófitos epífitos del sabinar de Lozoya del Valle (Madrid). XVIII Meeting of the Spanish Bryological Society. 8-10 November. El Barco de Ávila (Spain)

## ORGANIZATION OF SCIENTIFIC CONFERENCES

- 2025 XXIV International Symposium of Cryptogamic Botany. **Member of the Scientific Committee**. School of Forestry Engineering. Pontevedra. Spain

## HIGHER EDUCATION TEACHING

### UNIVERSITY-LEVEL TEACHING

#### *UNIVERSIDAD COMPLUTENSE DE MADRID (2020-2024)*

Courses taught (≈600 hours estimated by November 2024, undergraduate level)

Botany 4 lecture sections + 13 lab sections. Six semesters  
Evolutionary Biology 3 lab sections. Three semesters

#### *AUGUSTANA COLLEGE (2016-2020)*

Courses taught (897 hours, undergraduate level)

BIOL101 Biological Principles (3 cr) + 2 lab sections. One term  
BIOL140 Organisms to Ecosystems (4 cr) + 1-2 lab sections. Two semesters  
BIOL180 Principles of Ecology (3 cr) + 1 lab section. Two terms  
BIOL220 General Botany (3 cr) + 1-3 lab sections. Six terms  
BIOL324 Techniques in Natural History (4cr.). One semester  
BIOL410 Evolutionary Trees (introduction to Phylogenetics) (3 cr). One term  
BIOL499 Directed Study: Botanical Illustration / Herbarium Management (3 cr). Two terms

#### *UNIVERSITY OF CONNECTICUT (2012-2016)*

Course designed and taught (11 hours, M.Sc. level)

EEB 3899-007 (Independent Study). Seminar: "A primer for practical phylogenetic data gathering". (1 cr). Co-designed and co-taught with Dr. Yang Liu in 2015

*University teaching experience (cont.)*

**UNIVERSIDAD AUTÓNOMA DE MADRID (2005-2012)**

Certified official teaching assistance of labs and field for **494 hours** (undergraduate level)

2005-2012	Botany (for Biology majors). 7 courses. Laboratory and field
2009-2011	Botany (for Env. Sc. majors). One course. Laboratory and field
2003-2004	Botany (for Env. Sc. majors). One course. Laboratory.
2008-2009	Advanced laboratory; Terrestrial ecosystems. One course. Field
2005-2007	Introduction to the Iberian Flora. Two courses. Laboratory and field
2005-2006	Cryptogamy. One course. Laboratory

**COURSE DESIGN**

**M.Sc. program. “Advanced Studies in Botany”. Universidad Complutense de Madrid**

*(currently under development)* Member of the faculty team creating the program. Expected by 2025-2026

Major participation in the following courses: Advanced workshop on plant identification; Plant Evolution and Paleobotany; Nomenclature and Classification.

**Design and implementation of new courses in Augustana College**

BIOL410	Evolutionary Trees (introduction to Phylogenetics). 3 cr. Special topics course
BIOL324	Techniques in Natural History. 4 cr.
BIOL140	(as part of the departmental team) Organisms to Ecosystems. 4 cr.

**STUDENT SUPERVISION AND SCIENTIFIC MENTORING**

***SUPERVISION OF PH.D. STUDENTS***

*(in progress)* **David Horcajada Tejero.** Estudios sistemáticos en un género hiperdiverso de hepáticas: revisión de *Plagiochila* (Dumort.) Dumort., sección *Plagiochila*. Doctoral Program in Biology. Universidad Complutense de Madrid. Defense estimated in 2028

2022 **Sonia Molino de Miguel.** Sinopsis global y aproximación a la filogenia molecular del género *Parablechnum* C.Presl (Blechnaceae, Polypodiopsida) / A global synopsis and molecular phylogenetic approach of the genus *Parablechnum* C.Presl (Blechnaceae, Polypodiopsida). Co-supervised with Drs. W. Testo and M. Vicent. Defended at Universidad Complutense de Madrid on September 5<sup>th</sup> 2022

***SUPERVISION OF M.SC. THESES (TFMS)***

2024 **David Horcajada Tejero.** Thesis: “Complex thalloid going simple: unveiling the diversity within the liverwort *Dumortiera hirsuta* (sw.) Nees through microanatomy and molecular phylogenetics”. Co-supervised with Belén Estébanez. Máster Universitario en Biodiversidad y Biología de la Conservación. Universidad Pablo Olavide

2024 **David García del Olmo.** Thesis: “Testing hidden diversity in widespread bryophytes: the case of *Hypopterygium tamarisci* (Sw.) Brid. ex Müll. Hal.”. Máster Universitario en Biodiversidad y Biología de la Conservación. Universidad Pablo Olavide

2024 **Irene Lafuente López.** Thesis: “A phylogenetic approach to the genus *Breutelia* (Bartramiaceae, Bryophyta)” Co-supervised with Jesús Muñoz. Máster oficial en biodiversidad en áreas tropicales y su conservación. UIMP-CSIC

### **SUPERVISION OF B.SC. THESES (TFGS)**

- 2024 **Diego Rodríguez Hernández.** Project: “Variabilidad morfológica y molecular del musgo *Physcomitrium pyriforme* (Hedw.) Brid. en la Península Ibérica”. Universidad Complutense de Madrid
- 2022 **José Luis-Sánchez Escalonilla.** Project: “Caracterización de las comunidades endolíticas de afloramientos de yesos en la Comunidad de Madrid”. Co-supervised with Sonia Molino. Universidad Complutense de Madrid
- Irene Lafuente López.** Project: “Análisis morfométrico de esporas en el género *Parablechnum*”. Co-supervised with Sonia Molino. Universidad Complutense de Madrid
- 2021 **Jorge José de Palacio Manzano.** Project: “Filogenia y biogeografía del complejo de *Parablechnum loxense* (Kunth) Gasper & Salino”. Co-supervised with Sonia Molino. Universidad Complutense de Madrid
- 2010 **Álvaro González.** Thesis: “Catálogo de la flora briofítica del abedular de Somosierra (Madrid)”. Universidad Autónoma de Madrid
- 2009 **Pablo Ventura.** Thesis: “Caracterización de las comunidades de briófitos de la acebeda de Robregordo (Madrid)”. Universidad Autónoma de Madrid

### **HERBARIUM DIRECTION AND CURATION**

- 2020-present Curation Manager of the **MACB herbarium**, Universidad Complutense de Madrid.
- 2017-2020 Director of the **AUGIE herbarium**, Augustana College, Illinois.

### **FIELD EXPERIENCE**

2,200+ botanical collections deposited at AUGIE, CONN, MACB, and MAUAM.

#### **Team leader of field work campaigns**

Bolivia (September 2023)

New Zealand and Australia (NSW) (Dec 2022-Jan 2023)

#### **Other areas of specimen collection**

China (2017)

Ethiopia (2012)

France (2005)

Greece (2005)

Morocco (2004, 2012)

South Africa (2009)

Turkey (2005, 2006)

United Kingdom (2019)

USA (2008-2020): CA, CO, CT, GA, SC, IA, IL, KS, LA, MA, ME, MN, NH, NE, NV, OK, UT, WI, WY

Spain (2003-2024)

## INVITED LECTURES AT SCIENTIFIC SOCIETIES

- 2022 **Systematics Association.** Invited speaker of the 2022 Founder's Lecture 2022.  
Title: High-achiever low plants: what mosses teach us about complexity and evolution.  
Linnaean Society of London. London. Oct 14<sup>th</sup>
- 2015 **New England Botanical Society.** Invited speaker of the monthly meeting.  
Title: Mosses, DNA and old papers.  
Harvard University Museum of Natural History. Cambridge, MA. October 2<sup>nd</sup>

## SCIENCE COMMUNICATION AND OUTREACH

### SELECTION OF OUTREACH PUBLICATIONS

- 2016 **MEDINA, R.** El infierno de Linneo. *Principia Magazine* 3: 86-89
- 2015 FARKAS, T., K. FUCIKOVA, A. CASKENETTE, L. CISNEROS, **R. MEDINA**, U. SEZEN & B. WADE. UConn BioBlitz 2015 post-blight report. *Connecticut Wildlife* 35(5):14-16
- AMEZTEGUI, A. & **MEDINA, R.** El ocaso de los gigantes. *Principia Magazine* 1: 24-33
- 2014 **MEDINA, R.** Invitación a los briófitos: botánica a pequeña escala. *JOF* 14:6-21 (ISSN: 2254-3651)
- 2013 **MEDINA, R.** Espezie labainkorak, estereotipo likatsuak. *Elhuyar* 299: 40-41 (ISSN 0213-3687)
- 2012 **MEDINA, R.** Qué es una especie y por qué debería importarnos. *JOF* 4: 86-96 (ISSN: 2254-3651)
- 2011 **MEDINA, R.** Exploradores de la biodiversidad ayer y hoy: nuevas respuestas a preguntas antiguas. *JOF* 1: 45-51 (ISSN: 2254-3651)
- MEDINA, N. G. & **R. MEDINA.** Small is beautiful: la microflora de los bosques de montaña. En: *Pequeño libro de los Bosques de Montaña. Recordatorio de un año necesario.* RedMontañas
- 2009 **MEDINA, R.** Darwin, 200 años después. *Alkaid. Revista multitemática* 3. (ISSN: 9-771888-886000-00003)

### SCI-COMM JOURNAL EDITION

- 2014-2019 Associate editor and writer of *Principia* (<http://principia.io>) Website and semiannual journal of scientific culture [Spanish]. ISSN: 2386-5997.
- 2012-2014 Co-editor and writer of *JOF*. Bimonthly online journal of scientific outreach [Spanish]. ISSN: 2254-365

### ORGANIZATION OF SCI-COMM EVENTS AND EXHIBITS

- 2021-2024 Co-organizer of Citizen Science events at Universidad Complutense de Madrid during the “Biomaratón de Flora Española” (Four consecutive editions since 2021)
- 2018 Organizer of the Citizen Science campaign “PhyscoHunt” aimed to engage amateur naturalists to find and report *Physcomitrium pyriforme* and contribute specimens to the NSF research project DEB-1753673

*Sci-Comm event organization (cont.)*

- 2017 Guest curator of the exhibit “Herbarium Tales”, an invitation to reflect on our interactions with plants from the scientific, historical and artistic perspective. Augustana Teaching Museum of Art. Nov 2017-Feb 2018. Rock Island (Illinois)
- 2015 Member of the executive committee of the UConn BioBlitz 2015 (a 24-hour biodiversity inventory open to the public: <http://bioblitz2015.eeb.uconn.edu/>) Storrs campus (Connecticut) 24-25 July
- 2015 Co-instructor of the UConn Early College Experience Biology Workshop (a lab session for 50 high school biology teachers aimed to introduce bryophytes as a model system for biology teaching). Storrs, Connecticut. 19 March 2015

**SCIENCE BLOGGING**

- 2012-2015 Writer at **Mapping Ignorance** (<http://mappingignorance.org/author/rafael-medina>). Blog of the Chair of Scientific Culture of the University of the Basque Country.
- 2014-2015 Writer at **CienciaXplora** (<http://www.cienciaxplora.com/firmas/rafael-medina/>) Blog of Science of the Spanish TV-Media Group “AtresMedia” [Spanish].
- 2012-2013 Writer at **Hablando de Ciencia** (<http://www.hablandodeciencia.com/>). Blog of popular science [Spanish]

**PARTICIPATION IN SCI-COMM EVENTS OR WORKSHOPS**

- 2021 Speaker at the Citizen Science workshop (With Mario Mairal and Santiago Martín Bravo). Congreso de Botánica Española. SEBOT. Toledo, Sept 8th
- Invited speaker at the Community Science workshop of the BL2021 Conference (Northern ecosystems in a changing world) PhyscoHunt: helping moss genomics from your backyard. Online (Quebec City). July 6-9
- 2020 Guest speaker at the online conference “Inversolar – Congreso Internacional Online”. Talk: “El valor del seccarral: conservando la biodiversidad almeriense”. Online conference on agrosystem innovation. APROA. CuteSolar. Dec 18<sup>th</sup>.
- 2018 Guest of the botanical podcast “In Defense of Plants”, hosted by Matt Candeias, University of Illinois. Episode 180. <http://www.indefenseofplants.com/podcast/2018/9/30/ep-180-a-mossome-citizen-science-opportunity>
- Panelist in a public talk on the history of botany: [“Elizabeth Britton and Jeanne Baret, two female botanists who conquered a men’s science”]. Royal Botanical Garden. Madrid. July 12<sup>th</sup>
- 2017 Invited speaker at the annual meeting of the Augustana Historical Society. (Tour to the herbarium with the occasion of its consolidation). Nov 15<sup>th</sup>
- 2016 Bryophyte specialist at the Connecticut BioBlitz (a 24-hour biodiversity inventory open to the public). Two-Rivers Magnet School, East Hartford, Connecticut. June 4<sup>th</sup>-5<sup>th</sup>
- Bryophyte specialist at the Weir Farm Bioblitz, (Wilton, Connecticut). May 21<sup>st</sup>

*Participation in Sci-Comm events (cont.)*

- 2014 Taxon leader (bryophytes) at the Macaulay Honors College/New York Botanical Garden Bioblitz. New York Botanical Garden (New York City, USA). September 7<sup>th</sup>
- 2013 Bryophyte specialist at the White Memorial Bioblitz. White Memorial. Litchfield (Connecticut, USA) May 31<sup>st</sup>-June 1<sup>st</sup>
- 2012 Invited speaker at the VI Fair of Cacti and Succulents of Benalmádena (Talk: “Introduction to the Cape Floristic Region”). (Benalmádena, Spain). July 7<sup>th</sup>
- 2011 Invited speaker at the environmental Center of La Pedriza (talk: “Bryophytes: a closer look. An introduction to the biology of mosses and liverworts”) with Rut Caparrós (Madrid, Spain). April 30<sup>th</sup>
- 2010 Invited speaker at the conference “Blogs and Science”. (talk: “Taxomania: sorting the biodiversity) Universidad de Granada (Spain). April 22<sup>nd</sup>-23<sup>rd</sup>

**RELEVANT WORKSHOPS AND COURSES ATTENDED**

- 2023 Workshop on Nomenclature of algae, fungi and plants. Sandra Knapp & Nicholas Turland. Real Jardín Botánico de Madrid. 24-25 April 2023
- 2019 Strategic Planning for Herbaria. Online course. Society of Herbarium Curators. 25 hours
- 2011 Advanced workshop on oral and written scientific communication. Association for Promotion of Multimedia Education (UMNA). Madrid. 16 hours
- 2010 Linux: Instalation and Administration (first steps). Center of Scientific Computation. Universidad Autónoma de Madrid (CCCUAM). 20 hours
- 2009 Training program for faculty and staff members. Universidad Autónoma de Madrid. Teaching with ICT: the teacher’s webpage; The oral speech in the academic context; Autonomous learning, motivation and evaluation; Evaluation of learning (8 ECTS credits total)
- 2008 3rd. Course on Molecular Evolution, Phylogenetics and Phylogenomics. Research Center Príncipe Felipe. Valencia. 40 hours
- 2005 Workshop on Bibmaster (Resource for management of taxonomic and bibliographic information). Coordination Unit of GBIF Spain. Royal Botanical Garden. Madrid. 7 hours

**AWARDS**

- 2019 Outstanding paper award. *Journal of Systematics and Evolution*. Awarded by the editorial board.
- 2017 Excellent Scholar Award. Organizing Committee of the XIX International Botanical Congress. Shenzhen, China.
- 2013 Outstanding Ph.D. Degree Award (“Premio extraordinario de doctorado”) Facultad de Ciencias. Universidad Autónoma de Madrid.
- 2004 Outstanding Bachelor Degree Award (“Premio extraordinario de licenciatura”) Facultad de Ciencias. Universidad Autónoma de Madrid.



### **BEST STUDENT PRESENTATION AWARDS**

- 2012 MOSS 2012 & 3rd Internat. Conference on Molecular Systematics of Bryophytes. New York City  
2009 World Conference on Bryology 2009 (International Association of Bryology). Cape Town (S. Africa)

## **PROFESSIONAL MEMBERSHIP AND SERVICE**

### **CURRENT SOCIETAL MEMBERSHIP**

International Association of Plant Taxonomists (since 2023)  
Spanish Botanical Society (since 2019)  
Society of Herbarium Curators (since 2019)  
American Bryological and Lichenological Society (since 2015)  
Botanical Association of America (since 2013)  
International Association of Bryologists (since 2008)  
Spanish Bryological Society (since 2006)

### **PAST SOCIETAL MEMBERSHIP**

American Fern Society (2023-2024)  
Illinois Native Plant Society (2017-2020)  
New England Botanical Society (2015-2022)

### **ELECTED MEMBERSHIP OF THE COUNCIL OF SCIENTIFIC SOCIETIES**

2023-present **Secretary** of the Spanish Bryological Society  
2021-2023 **President** of the Spanish Bryological Society  
2019-2021 **Spokesperson** of the Spanish Bryological Society  
2019-2023 **Council Member** of the International Association of Bryologists  
2019-2024 **Webmaster** of the International Association of Bryologists

### **EDITORIAL ROLES FOR PEER REVIEWED JOURNALS**

2021-present Member of the editorial board of the *Boletín de la Sociedad Española de Briología*  
2020-present Member of the editorial board of *The Bryologist*. Associate Editor  
2020-2021 Associate Editor of the journal *Bryophyte Diversity and Evolution* for the Special Issue of the 50<sup>th</sup> Anniversary of the International Association of Bryologists

### **PEER REVIEW FOR SCIENTIFIC JOURNALS**

Annals of Botany	Mediterranean Botany
Boletín de la Sociedad Argentina de Botánica	New Phytologist
Boletín de la Sociedad Española de Briología	Nova Hedwigia
Botanica Complutensis	Taxon
Botanical Journal of the Linnean Society	Phytokeys
Bryologist	Phytotaxa
Cryptogamie-Bryologie	Plant Systematics and Evolution
Journal of Bryology	Scientia Insularum
Mediterranean Botany	Scientific Reports
Molecular Phylogenetics and Evolution	

## UNIVERSITY COMMITTEE SERVICE

- 2024-present     Coordinator of “Botánica” (12-credit mandatory class for undergraduate students). Facultad de Ciencias Biológicas. Universidad Complutense de Madrid
- 2024-present     Member of the **Research Committee** (Comisión de Investigación). Facultad de Ciencias Biológicas. Universidad Complutense de Madrid.
- 2022-2024        Substitute member of the **Research Committee** (Comisión de Investigación). Facultad de Ciencias Biológicas. Universidad Complutense de Madrid.
- 2017-2020        Member of the **International and Off-Campus Programs Committee** of Augustana College