

Curriculum Vitae Jurriaan Michiel de Vos

Title: Dr. sc. nat.
Address (office): Department of Environmental Sciences – Botany, University of Basel,
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Email: jurriaan.devos@unibas.ch
Citizenship: Netherlands
Date of Birth: 15 November 1980
Marital status: Married, two children (2016, 2018)
Languages: Dutch (native); English (proficient); German (proficient); Swiss German (proficient);
French (conversational)
Google Scholar profile: <https://scholar.google.com/citations?user=vIBE4bAAAAAJ>
ORCID profile: <https://orcid.org/0000-0001-6428-7774>
Personal profile: <https://ppe.duw.unibas.ch/en/devos/>
Research theme: Plant Ecology & Evolution: Reproductive diversity across lineages and environments.

Professional Appointments

University of Basel, Switzerland:

- Wissenschaftlicher Mitarbeiter / Kurator Herbarien (Senior Scientist / Curator of the Herbaria); September 2017 onward. Department of Environmental Sciences - Botany.

Royal Botanic Gardens, Kew, United Kingdom:

- Early Career Research Fellow; September 2015 - August 2017. Department of Comparative Plant and Fungal Biology, Integrative Monography group.

Brown University, Providence RI, United States:

- Postdoctoral Research Associate; August 2014 - July 2015. Department of Ecology and Evolutionary Biology, Edwards Lab
- Swiss National Science Foundation Postdoctoral Fellow; February 2013 - July 2014. Department of Ecology and Evolutionary Biology, Edwards Lab

Education

University of Zürich, Switzerland:

- 'Doktor der Naturwissenschaften' (Dr. sc. nat., equivalent to PhD; January 2013). Advisor: Prof. Elena Conti, Institute of Systematic Botany. Thesis: *"Flowers, Sex, and Diversity: Reproductive-Ecological and Macro-Evolutionary Aspects of Floral Variation in the Primrose Family, Primulaceae"*.

Wageningen University, Netherlands

- 'Doctoraal' (ir.; January 2008; equivalent to MSc Biology, specialization Ecology and Biodiversity). Advisors: Prof. Marc S. M. Sosef, Dr. James E. Richardson, research chair Biosystematics.
- 'Propedeuse' (January 2003; equivalent to basic study period BSc, Biology)

Awards

University of Zürich, Switzerland:

- Dr.sc.nat. (Ph.D.) awarded with Distinction ("mit Auszeichnung"; awarded <5% of PhD candidates based on scientific excellence; requires nomination after PhD-defense and 2 external recommendations)

Wageningen University, Netherlands:

- 'Doctoraal' (MSc) awarded with Distinction ("cum laude"; awarded top 5% of MSc candidates based on quality of thesis and average course scores)

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Research Funding

AlumniBasel Ehemaligenvereinigung der Universität Basel:

- Donation for MSc-project (February 2018 - February 2020) "*Systematics and floral evolution of Dracula orchids*", CHF 14'803.

Swiss National Science Foundation:

- Fellowship "Prospective Researchers" scheme (February 2013 - July 2014; CHF 87'200). Project "*Ecological determinants of plant reproductive diversity*"; PBZHP3_147199. Advisor: Prof. Edwards (Brown University), in collaboration with Prof. Harder (University of Calgary).

The David and Claudia Harding Foundation, London:

- Research Grant "*Integrated monography of the genus Saxifraga L. as a window on the evolution of the European Alpine flora*" (Harding Alpine Plant and Fungal Research Programme; January 2016 - December 2019; GBP 297'806, ca. CHF 359'994), Co-PI.

Bentham-Moxon Trust Fund, London:

- Grant towards costs of fieldwork Peru (July 2016; GBP 2'940, ca. CHF 3'554)
- Grant towards costs of fieldwork Peru (July 2016; GBP 1'648, ca. CHF 2'139)

G. & A. Claraz-Schenkung Foundation, Zurich:

- Grant towards costs of conference attendance (January 2011; CHF 2'500)
- Grant towards costs of conference attendance and field work (January 2010; CHF 800)
- Grant towards costs of fieldwork (January 2009; CHF 1'000)

Alberta Mennega Foundation, Utrecht:

- Grant towards costs of fieldwork (September 2005; EUR 700 ca. CHF 846)

Publication List

Papers submitted:

- de Vos JM, Edwards E, Harder LD. *Submitted*. Whole plant trait associations preclude independent evolution of reproductive traits.
- Prenner G, Guignard MS, de Vos JM. *Submitted*. Environmental and architectural determinants of pollen presentation: Pattern and rate of anther dehiscence and flower opening in a papilionoid legume, *Baptisia australis*.
- Pegoraro L, de Vos JM, Cozzolino S, Scopece G. *In revision*. Directional selection and trade-off patterns in sympatric *Anacamptis pyramidalis* cytotypes.

Refereed full papers:

2018

- Hancock LP, Obbens F, Moore AJ, Thiele K, de Vos JM, West J, Holtum JA, Edwards EJ. 2018. Phylogeny, evolution, and biogeographic history of *Calandrinia* (Montiaceae). ***American Journal of Botany*** 105(6): 1021-1034. IF: 2.586. doi: 10.1002/ajb2.1110
- Thomson SA, ..., de Vos JM, and 182 others. 2018. Taxonomy based on science is necessary for global conservation. ***PLoS Biology*** 16(3): e2005075. IF: 9.796. doi: 10.1371/journal.pbio.2005075
- Goolsby E, Moore AJ, Hancock LP, de Vos JM, Edwards EJ. 2018. Molecular evolution of photosynthesis genes during transitions to C₄ and CAM metabolism. ***American Journal of Botany*** 105 (3): 602-613. IF: 2.586. doi: 10.1002/ajb2.1051
- de Vos JM*, Keller B*, Nowak MD, Keller B, Conti E. 2018. Mixed mating in homostylous species: genetic and experimental evidence from an alpine plant with variable herkogamy, *Primula halleri*. ***International Journal of Plant Sciences*** 179(2): 87-99. ** IF: 1.748. doi: 10.1086/695527
* Equal contribution. ** Awarded the Editor's Choice Paper-of-the-month Open Access.
- Moore AJ, de Vos JM, Hancock LP, Goolsby E, Edwards EJ. 2018. Targeted enrichment of large gene families for phylogenetic inference: phylogeny and molecular evolution of photosynthesis genes in the portulugo clade (Caryophyllales). ***Systematic Biology*** 67(3): 367-383. * IF: 8.917. doi: 10.1093/sysbio/syx078

2017

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- Pérez-Escobar OA, Chomicki G, Condamine FL, de Vos JM, Martins AC, Smidt EC, Klitgård B, Gerlach G, Heinrichs J. 2017. Multiple geographical origins of environmental sex determination enhanced the diversification of Darwin's favourite orchids. *Scientific Reports* 7:12878. IF: 4.259. doi: 10.1038/s41598-017-12300-y
- 2016
- Keller B, de Vos JM, Schmidt-Lebuhn AN, Thomson JD, Conti E. 2016. Both morph- and species-dependent asymmetries affect reproductive barriers between heterostylous species. *Ecology and Evolution* 6(17): 6223-6244. IF: 2.54 doi: 10.1002/ece3.2293
- 2015
- Edwards EJ, de Vos JM, Donoghue MJ. 2015. Brief Communications Arising: Doubtful pathways to cold tolerance in plants (a critique of Zanne et al., *Nature* 506: 89–92, 2014). *Nature* 521 (7552): E5-E6. IF: 38.14. doi: 10.1038/nature14393_
- de Vos JM, Joppa LN, Gittleman JL, Stevens PR, Pimm SL. 2015. Estimating the normal background rate of species extinction. *Conservation Biology*. IF: 4.32. doi: 10.1111/cobi.12380. * **
* Covered worldwide in popular press, receiving third-highest Altmetric media score ever for a *Conservation Biology* paper. http://www.altmetric.com/details.php?domain=onlinelibrary.wiley.com&citation_id=2628560
** Third most highly cited paper published in *Conservation Biology* in 2015.
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- 2014
- Haller BC, de Vos JM, Keller B, Henry A, Conti E. 2014. A tale of two morphs: modeling pollen transfer, magic traits, and reproductive isolation in parapatry. *PLoS ONE* 9: e106512. IF: 3.53. doi: 10.1371/journal.pone.0106512
- de Vos JM, Hughes CE, Schneeweiss GM, Moore BR, Conti E. 2014. Heterostyly accelerates diversification via reduced extinction in primroses. *Proceedings of the Royal Society B: Biological Sciences* 281: 20140075. IF: 5.683. doi: 10.1098/rspb.2014.0075
- de Vos JM, Wüest RO, Conti E. 2014. Small and ugly? Phylogenetic analyses of the “selfing syndrome” reveal complex evolutionary fates of monomorphic primrose flowers. *Evolution* 68: 1042–1057. IF: 4.864. doi: 10.1111/evo.12331.
- 2013
- Abrahamczyk S, de Vos JM, Gottleuber P, Sedivy C, Kessler M. 2013. A humped latitudinal phylogenetic diversity pattern of orchid bees (Hymenoptera: Apidae: Euglossini) in western Amazonia: assessing the influence of climate and geologic history. *Ecography* 37: 1-9. IF: 5.124. doi: 10.1111/j.1600-0587.2013.00417.x
- Koenen EJM*, de Vos JM*, Atchinson GW, Simon MF, De Souza ER, De Quieroz LP, Schrire BD, Hughes CE. 2013. Exploring the tempo of species diversification in Legumes. *South African Journal of Botany* 89: 19-30. IF: 1.409. doi: 10.1016/j.sajb.2013.07.005
* Equal contribution.
- Schirromeister BE, de Vos JM, Antonelli A, Bagheri HC. 2013. Evolution of multicellularity coincided with increased diversification of cyanobacteria and the Great Oxidation Event. *Proceedings of the National Academy of Sciences of the United States of America* 110(5): 1791-1796. IF: 9.737. doi: 10.1073/pnas.1209927110.
- 2012
- Keller B, de Vos JM, Conti E. 2012. Decrease of sexual organ reciprocity between heterostylous primrose species, with possible functional and evolutionary implications. *Annals of Botany* 110(6): 1233-1244. IF: 3.449. doi: 10.1093/aob/mcs199.
- Schmidt-Lebuhn AN, de Vos JM, Keller B, Conti E. 2012. Phylogenetic analyses of *Primula* section *Primula* reveal rampant non-monophyly among morphologically distinct species. *Molecular Phylogenetics & Evolution* 65(1): 23-34. IF: 4.066. doi: 10.1016/j.ympev.2012.05.015.
- de Vos JM, Keller B, Isham ST, Kelso S, Conti E. 2012. Reproductive implications of herkogamy in homostylous primroses: variation during anthesis and reproductive assurance in alpine environments. *Functional Ecology* 26(4): 854- 865. IF: 4.861. doi: 10.1111/j.1365-2435.2012.02016.x.
- 2009

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- de Vos JM, Breteler FJ, 2009. A revision of the African genera *Paropsiopsis* and *Smeathmannia* (Passifloraceae-Paropsieae), including a new species of *Paropsiopsis* from Cameroon. ***Edinburgh Journal of Botany*** 66(1): 27-49. doi: 10.1017/S0960428609005174.

Conference papers:

As presenting author:

1. SwissPLANT 2018, Meiringen, Switzerland. (oral). "*The whole plant context of floral adaptation*".
2. Botanica Sudalpina 2017, Lugano, Switzerland. (oral). "*Reproductive ecology and phylogeography of a self-compatible alpine specialist, *Primula halleri**".
3. XIX International Botanical Congress, Shenzhen, China, 2017 (oral). "*Flower number - flower size relations in Montiaceae in the context of reproductive adaptation across environments*"
4. Caryophyllales 2015, Berlin, Germany (poster). "*Ecological significance of correlated evolution of flower number and flower size in *Lewisia* (Montiaceae)*"
5. Botany 2014, Boise, Idaho (oral). "*Evolution of flower number - flower size trade-offs: ecological significance and evolutionary patterns in *Lewisia* and related genera (Montiaceae)*"
6. Radiations 2014, Zürich, Switzerland (poster). "*Evolution of correlated traits and the diversification of inflorescences in *Lewisia* (Montiaceae, Caryophyllales)*"
7. Society for the Study of Evolution, Snowbird, Utah, 2013 (oral). "*Phylogenetic analyses of the "selfing syndrome" and the evolutionary fates of self-compatible primrose flowers*"
8. Joint congress on Evolution, Ottawa, 2012 (oral). "*Evolution of breeding systems and diversification rates in heterostylous and homostylous primroses (Primulaceae)*"
9. Joint meeting of the Swiss Zoological Society, the Swiss Botanical Society, and the Swiss Systematics Society, Fribourg, 2012 (oral). "*Breeding system evolution and speciation/extinction rates: Did heterostyly spur diversification of primroses (Primulaceae)?*"
10. International Botanical Congress, Melbourne, Australia, 2011 (oral). "*Breeding system evolution in heterostylous and homostylous *Primula*, with special reference to section *Aleuritia**"
11. Society for the Study of Evolution, Portland, Oregon, 2010 (oral). "*Do homostylous species outcross? Variation of anther-stigma separation and mating in *Primula halleri**"
12. Federation of European Biological Systematic Societies, Leiden, Netherlands, 2009 (poster)
13. European Society for Evolutionary Biology, Torino, Italy, 2009 (poster)
14. International Organization for Plant Biosystematists, Vysoke Tatry, Slovakia, 2008 (poster)

Other, non-peer-reviewed publications:

1. Noorduyt L, Van der Windt N, Kos G, de Vos JM, 2006. Van impasse naar inpassen. Wetenschapswinkel Wageningen UR, rapport 226, Wageningen, Netherlands. (In Dutch).

Teaching and Supervision

Teaching

University of Basel:

- Block course Plant Biology (11991-01). Leading student research projects.
- Plant Anatomy (10555-01). Leading labs.
- Flora and Vegetation of the Region Basel (19595-01). Excursion leader and course coordinator.
- Mediterranean Ecosystems: Samos excursion (19653-01). Excursion leader.
- Mediterranean Ecosystems: Tenerife excursion (21571-01). Excursion leader and course coordinator.
- Introduction to Flower Biology (11938-01). Lecturer.

University of Zürich:

- Plant-Insect Interactions BIO221 (2010, 2011): development and supervision of 3-week research projects; MSc- and advanced BSc-level, ~16 students, (Swiss-) German and English.
- Evolution BIO113 (2009, 2010, 2011): main instructor of lab on floral convergences, teaching assistant in other labs; BSc-level, ~200 students, (Swiss-) German.

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- Molecular Phylogenetics BIO222 (2008, 2009, 2010): development and supervision of computer labs; MSc- and advanced BSc-level, ~12-16 students, English.
- Evolution and Biodiversity of Plants BIO123 (2011): teaching assistant; BSc-level, ~200 students, (Swiss-) German.

Wageningen University:

- Flora Course Netherlands (2005, 2006): field excursion leader, teaching assistant during plant determination labs; BSc-level, ~60-70 students, Dutch and English.

Supervision of students

University of Basel, Switzerland:

- MSc-student (Seraina Rodenwald, September 2018 onward . Project "Does within-species variation along elevational gradients predict among-species diversification in *Saxifraga*?")
- MSc-student (Rafael Pulfer, March 2018 onward. Project "*Systematics and floral evolution of Dracula orchids*")
- PhD-student (co-advisor) (Patricia Dos Santos, April 2016- March 2020. Project "*Adaptive radiation of Canary Island Crassulaceae*", based at University of Lisbon, Portugal)

Royal Botanic Gardens, Kew:

- PhD-student (co-advisor) (Michaelangelo Moerland, May 2016- current. Project "*Integrated monography of the genus Saxifraga L.*")
- Co-supervisor of MSc-student (Matthew Jeffery, Mar 2017- Oct 2017. Project "*From Lush Lowlands to the Roof of the World: Leaf Economics and Habitat Evolution in Saxifragas (Genus Saxifraga L.)*")

Brown University:

- Supervisor of undergraduate research volunteers (N. Uberoi, orientation on senior thesis; Sept-Dec 2013).

University of Zürich:

- Daily supervisor of the full time research internship of an advanced BSc-student (B. Weigelt, orientation on MSc; January - February 2011).
- Daily supervisor of a weekly visiting research volunteer (F.-M. Weinhart; November 2010 - February 2011).
- Co-supervisor of fieldwork in the Swiss Alps for honors-thesis of S.T. Isham, The Colorado College, Colorado Springs, Colorado (June-August 2009).

Invited lectures & departmental seminars

1. Wageningen University, Netherlands, Biosystematics chair (hosted by Prof. Schranz), October 2018: departmental seminar.
2. University of Basel, Department of Environmental Sciences (hosted by Prof. Kahmen), November 2017: departmental seminar.
3. Royal Botanic Gardens, Kew, UK (hosted by Prof. Willis), February 2017: departmental lunch seminar.
4. Freie Universität, Berlin, Botanical Garden and Botanical Museum (hosted by Prof. Bachelier), November 2016: departmental seminar.
5. University of Zurich, Zürich, Department of Evolutionary and Systematic Botany (hosted by Dr. Schlüter), May 2016: departmental seminar.
6. Brown University, Providence, USA, Department of Geological Sciences, Planetary Geosciences Group (hosted by Dr. Head), September 2014: departmental lunch seminar.
7. Brown University, Providence, USA, Department of Ecology and Evolutionary Biology (hosted by seminar committee), September 2013: departmental lunch seminar.
8. University of Basel, Switzerland, Biogeography Group, Department of Environmental Sciences (hosted by Dr. Simon Loader), October 2012: departmental seminar.
9. University of Calgary, Canada, Department of Biological Sciences (hosted by Dr. Jana Vamosi), July 2012: departmental seminar.
10. Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Biodiversity and Conservation Biology (hosted by Dr. Rafael Wüest), March 2011: departmental seminar.
11. University of Basel, Switzerland, Dr. Salzburger lab, December, 2010: lab group seminar.

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12. University of California, Berkeley, California, Dr. Huelsenbeck lab (hosted by Dr. Brian R. Moore), February 2009: departmental seminar.
13. University of Amsterdam, Netherlands, Institute for Biodiversity and Ecosystem Dynamics (hosted by Dr. Eric Schranz), November 2008, invited lecture.

Professional development

Visiting researcher:

- University of Calgary, Canada. Department of Biological Sciences, Harder Lab, March 27 – April 4 2016.
- University of Calgary, Canada. Department of Biological Sciences, Harder Lab, October 7 - December 1 2014.
- University of Calgary, Canada. Department of Biological Sciences, Harder Lab, April 25 - May 1, 2013.

Visiting student:

- The Colorado College, Colorado Springs, USA. Department of Biology, Kelso Lab, March 24-28, 2010.
- University of California at Davis, California, USA. Moore Lab, 15-23 March 2010.
- University of California at Berkeley, California, USA. Department of Integrative Biology, Huelsenbeck Lab (hosted by Dr. Brian R. Moore), February 4-14, 2009.
- University of Amsterdam, Netherlands. Institute for Biodiversity and Ecosystem Dynamics, Oostermeijer Lab, October 1, 2008.

Selected workshop participation

- Grant Writing for Early Career Researchers, Royal Botanic Gardens, Kew, 7 September, 2016.
- Computational Methods in Macroevolutionary Analysis, Radiations conference, Zürich, Switzerland, June 12, 2014.
- Post-doctoral Grant Writing, Plant Science Centre, Zürich, Switzerland, October 4-5, 2010.
- Bodega Applied Phylogenetics, Bodega Bay, University of California at Davis, California, USA, March 6-13, 2010.
- Tropical Plant Families of South East Asia, University of Leiden, Netherlands, January 12-30, 2009.

Service and Outreach

Professional service

- Invited reviewer for publications in: *Alpine Botany*; *American Journal of Botany*; *American Journal of Undergraduate Research*; *American Naturalist*; *Annals of Botany*; *AoB Plants*; *Bauhinia*; *BMC Evolutionary Biology*; *Ecology & Evolution*; *Evolution*; *Evolutionary Ecology*; *Conservation Biology*; *FLORA*; *International Journal of Plant Sciences*; *Journal of Biogeography*; *Molecular Phylogenetics and Evolution*; *Mycologia*; *Nature*; *Perspectives in Plant Ecology, Evolution, and Systematics*; *Plant Biology*; *Plant Ecology and Diversity*; *Plant Species Biology*; *Plant Systematics and Evolution*; *Proceedings of the National Academy of Sciences, USA*; *Proceedings of the Royal Society B: Biological Sciences*; *Science*; *Scientific Reports*; *Systematic Biology*, *Systematics and Biodiversity*.
- Invited reviewer for grant applications: Czech Science Foundation (Department of Agricultural and Biological/Environmental Sciences, 2017); German Centre for Integrative Biodiversity Research (iDiv, Halle-Jena-Leipzig, sDiv call 2018).
- Symposium organizer: “*Evolution of plant reproductive systems*”, 2017, International Botanical Congress, Shenzhen, China (session; with E. Conti); “*PhD-student symposium*”, 2010, 2011, Institute of Systematic Botany, University of Zürich, Switzerland (full day).
- Committee Member Centre for Ecology and Evolution, London (<http://www.ucl.ac.uk/cee>; 2015-2017)
- Search committee member: Professorship, 2018, University of Basel; PhD position, 2016, Royal Botanic Gardens, Kew; two postdoctoral positions and a PhD-position, 2010-2011, Institute of Systematic Botany, University of Zurich.
- Board Member Basler Botanische Gesellschaft (Botanical Society of Basel, <http://botges.ch>; 2018-current)
- Committee member Swiss Botanical Society: Education and Certification committee (Sept. 2018-current)
- Committee member PhD-student Emiliano Mora Carrera, Institute of evolutionary and systematic botany, University of Zurich, Switzerland.

Public outreach:

- Public exhibition “*Herbarien Basel*”, Botanical Institute, University of Basel, Switzerland, 30 May 2018

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- Public lecture, Succulent plant collection, Zürich, Switzerland, February 2018 (2x, in German)
- Public lecture, Botanical Society of Basel, Basel, Switzerland, October 2017 (in German)
- Public symposium "*A Christmas celebration of scientific exploration (family-friendly)*", 2016, Centre for Ecology and Evolution, London (full day, main organizer with I. Leach)
- Public lecture, Friends of the Botanical Garden, Zürich, Switzerland, May 2011 (in German)
- Public lecture, Friends of the Botanical Garden, Zürich, Switzerland, April 2010 (in German)
- Volunteer, Lange Nacht der Forschung (Long Night of Science) Public Forum, Zürich, Switzerland, September 2009, with public exhibitions and discussions with laymen on plant evolution (in English and Swiss German)

Other

Field experience:

- 2017: Peru (Arequipa, Moquegua); USA (CA, OR, NV).
- 2016: Switzerland (Alps), Italy (Alps), Austria (Alps).
- 2014: USA (CA, OR, WA, NV, UT; three months continuously).
- 2013: USA (CA, OR, WA, UT, CO, NM, AZ).
- 2011: Bulgaria (various mountain ranges).
- 2009: Switzerland (Alps).
- 2008: Switzerland (Alps); Slovenia (Alps); UK (Scotland).
- 2007: Switzerland (Alps).
- 2005: Cameroon (SW Province).

Minor awards:

- De Vos et al. 2018 (Int. J. Plant Sc.): Awarded the Editor's Choice Paper-of-the-month Open Access.
- Botanica Sudalpina Conference 2017: Best presentation award, runner-up.
- International Journal of Plant Sciences: Cover photo February 2018 issue (179:2)
- Systematic Biology: Cover photo May 2018 issue (67:3)