Ornela De Gasperin Quintero

CURRICULUM VITAE – JANUARY 2024

PERSONAL INFORMATION

Ornela De Gasperin Quintero
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Google Scholar:
https://scholar.google.co.uk/citations?user=klTTM4YAAAAJ&hl=en&oi=ao
email: ornela.degasperin@inecol.mx; Ornela.gasperin@gmail.com
Member of the National Researcher System (SNI 1, Biology and Chemistry)

CURRENT POSITION

Professor at INECOL, A. C.
Member of the National Laboratory of the Biology of Climate Change in Mexico

EDUCATION

2011 - BSc in Biology, National Autonomous University of Mexico
Honors degree thesis: 'Effect of early social experience on courtship patterns on males of the *Amarillo* fish', supervised by Prof Constantino Macias García

2016 - PhD in Zoology, University of Cambridge
Thesis: 'Interspecific interactions and family dynamics in the burying beetle, *Nicrophorus vespilloides*', supervised by Prof Rebecca Kilner

PROFESSIONAL EXPERIENCE

- Postdoctoral researcher. Department of Biology, University of Fribourg. Supervised by Prof Daniele Silvestro (2021-2022)
- Postdoctoral researcher. Department of Ecology and Evolution, University of Lausanne. Supervised by Prof Michel Chapuisat (2016-2021)
- Research associate. Department of Zoology, University of Oxford. Supervised by Prof Ashleigh Griffin (2014-2016)

PUBLICATIONS

***co-first authorship**

Esquivel-Román, A., Baena-Díaz, F., Bustos-Segura, C., **De Gasperin, O.,** & González-Tokman, D. 2023. Synergistic effects of elevated temperature with pesticides on reproduction, development and survival of dung beetles. https://doi.org/10.21203/rs.3.rs-3740664/v1

Blacher***** P.B., **De Gasperin* O.,** Grasso G., Sarton-Lohéac S., Alleman R. & M. Chapuisat. 2022. Cryptic recessive lethality of a supergene controlling social organization in ants. *Molecular Ecology,* 32:1062–1072. https://doi.org/10.1111/mec.16821

Hakala S. M., Fujioka H., **De Gasperin O.,** Gapp K., Genzoni E., Kilner R., Koene J. M., König B., Linksvayer T. A., Meurville M.-P., Negroni M., Palejowski H., Wigby S. & LeBoeuf, A. C. 2022. Socially transferred materials: how and why to study them. *Trends in Ecology and Evolution,* 35:446–458. https://doi.org/10.1016/j.tree.2022.11.010

Blacher, P.B., **De Gasperin O.** & M. Chapuisat. 2022. Cooperation by ant queens during colony-founding perpetuates alternative forms of social organization. *Behavioral Ecology and Sociobiology,* 76:165. https://doi.org/10.1007/s00265-021-03105-1

De Gasperin* O., Blacher*, P.B. & M. Chapuisat. 2021. Social insect colonies are more likely to accept unrelated queens when they come with workers. *Behavioral Ecology,* 32:1004-1011. https://doi.org/10.1093/beheco/arab047

Foncuberta*, A., **De Gasperin* O.**, Dinde, S., Avril, A. & M. Chapuisat. 2021. Disentangling the mechanisms linking dispersal and sociality in supergene-mediated ant social forms. *Proceedings of the Royal Society B Biological Sciences.* 288:20210118. https://doi.org/10.1098/rspb.2021.0118

De Gasperin* O., Blacher, P. B., Grasso, G. & M. Chapuisat. 2020. Winter is coming: harsh environments limit independent reproduction of cooperative-breeding queens in a socially polymorphic ant. *Biology Letters,* 16:20190730. https://doi.org/10.1098/rsbl.2019.0730

De Gasperin* O., Duarte, A., English, S., Attisano, A. & R.M. Kilner. 2019. The early-life environment and individual plasticity in life history traits, *Ecology and Evolution*, 9:339-351. https://doi.org/10.1002/ece3.4749

Duarte, A., Cotter, S. C., **De Gasperin, O.,** Houslay, T., Boncoraglio, G., Welch & R. M. Kilner. 2017. No evidence of a cleaning mutualism between burying beetles and their phoretic mites and microbes. *Scientific Reports*, 7:13838. https://doi.org/10.1038/s41598-017-14201-6

De Gasperin* O., Duarte, A., Troscianko J. & R.M. Kilner. 2016. Fitness costs associated with building and maintaining the burying beetle's carrion nest. *Scientific Reports*, 6:35293. https://doi.org/10.1038/srep35293

De Gasperin* O. & R.M. Kilner. 2016. Interspecific interacions and the scope for parent-offspring conflict: high mite density changes the trade-off between offspring size and number in the burying beetle, *Nicrophorus vespilloides*. *PLoS ONE*, 11:e0150969. https://doi.org/10.1371/journal.pone.0150969

Duarte, A., Cotter, S., Reavey, C., Ward, R., **De Gasperin, O.** & R.M Kilner. 2016. Social immunity of the family: parental contributions to a public good modulated by brood size. *Evolutionary Ecology,* 30:123–135. https://doi.org/10.1007/s10682-015-9806-3

De Gasperin* O. & R.M. Kilner. 2015. Interspecific interactions change the outcome of sexual conflict over pre-hatching parental investment in the burying beetle *Nicrophorus vespilloides*. *Ecology and Evolution,* 5:5552–5560. https://doi.org/10.1002/ece3.1795

De Gasperin* O., Duarte, A. & R.M. Kilner. 2015. Interspecific interactions explain variation in the duration of paternal care in the burying beetle, *Nicrophorus vespilloides. Animal Behaviour,* 109:199–207. https://doi.org/10.1016/j.anbehav.2015.08.014

De Gasperin* O. & R.M. Kilner. 2015. Friend or foe: interspecific interactions and conflicts of interest within the family. *Ecological Entomology,* 40:787–795. https://doi.org/10.1111/een.12259

Kilner, R.M., Boncoraglio, G., Henshaw, J., Jarrett, B., **De Gasperin, O.** & H. Kokko. 2015. Parental effects alter the evolutionary economics of social interactions within the family. *Elife*, 4:e07340. https://doi.org/10.7554/eLife.07340

De Gasperin* O. & C. Macias García. 2014. Congenital predispositions and early social experience determine the courtship patterns of males of the Amarillo fish. *Behavioral Ecology and Sociobiology,* 68:639–648. https://doi.org/10.1007/s00265-013-1678-3

SCIENCE COMMUNICATION ARTICLES (most relevant)

De Gasperin Quintero, O., León Torres, G., Pino Castañón, M., Sponer, R., & J. Andrés Cruz. 2023. Entrevista a Abya Yala, representantes de *Scientist Rebellion*. Quimiofilia, 30:12–30.

De Gasperin Quintero, O. 2023. Cooperar o no cooperar, esa es la cuestión. Eco-lógico, 4(1):34-41

De Gasperin Quintero, O. 2023. La catástrofe climática-ecológica, síntoma de un sistema económico enfermo. https://proyectotroposfera.org/index.php/2023/08/28/la-catastrofe-climatica-ecologica-sintoma-de-un-sistema-economico-enfermo/. 31 de Agosto, 2023

De Gasperin Quintero, O. 2023. La catástrofe ecológica https://www.nvinoticias.com/cultura/ciencia-la-mano-la-catastrofe-ecologica/151291. Publicado en línea el 28 de agosto del 2023.

De Gasperin Quintero, O., Baena Díaz, f. & D.González Tokman. 2023. Efectos transgeneracionales: la herencia no genética. Artículo publicado en la Crónica y el Portal Comunicación Veracruzana el 31 de enero 2023. https://www.inecol.mx/inecol/index.php/es/ct-menu-item-25/ct-menu-item-27/17–ciencia-hoy/1914-efectos-transgeneracionales-la-herencia-no-genetica

De Gasperin, O. 2015. How does nature deal with humans? *BlueSci* **33**, 14–15. https://issuu.com/bluesci/docs/bluesci_issue_33

De Gasperin, O. 2015. Do animals get lost? *BlueSci* **32**, 10–11. https://issuu.com/bluesci/docs/complied_bluesci_32_-_online_1.comp/14

De Gasperin, O. 2014. Babies supress own immune system. *BlueSci* **29**, 4. https://issuu.com/bluesci/docs/bluesci_issue_29

De Gasperin, O. 2016. Wolves and relatives have species-specific howls, extensive study finds. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/wolves-and-relatives-have-species-specific-howls-extensive-study-finds

De Gasperin, O. 2015. Cultural shocks enhance cognitive performance. *BlueSci.* https://www.bluesci.co.uk/posts/cultural-shocks-enhance-cognitive-performance

De Gasperin, O. 2015. Month of birth linked to natal and adult differences, study suggests. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/month-of-birth-linked-to-natal-and-adult-differences-study-suggests

De Gasperin, O. 2014. Probe successfully lands comet for the first time in history. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/probe-successfully-lands-on-comet-for-the-first-time-in-history

De Gasperin, O. 2014. Communities of ferns communicate to decide an individual's sex. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/communities-of-ferns-communicate-to-decide-an-individuals-sex

De Gasperin, O. 2014. New software allows to live-track cells. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/new-software-allows-to-live-track-cells

De Gasperin, O. 2014. Homosexuality in the animal kingdom. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/feature-homosexuality-in-the-animal-kingdom

De Gasperin, O. 2014. New metal-eating plant discovered in the Philippines. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/new-metal-eating-plant-discovered-in-the-philippines

De Gasperin, O. 2014. Probable hydrogen river observed flowing through space. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/probable-hydrogen-river-observed-flowing-through-space

De Gasperin, O. 2013. Birds pay attention to speed limits, study shows. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/birds-pay-attention-to-speed-limits-study-shows

De Gasperin, O. 2013. Drinking impairs healing of broken bones. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/drinking-impairs-healing-of-broken-bones

De Gasperin, O. 2013. Extensive glacial retreat in the Mount Everest region. *BlueSci.co.uk*: https://www.bluesci.co.uk/posts/extensive-glacial-retreat-in-the-mount-everest-region

De Gasperin, O. 2013. Mice can transmit fear to their offspring through sperm. *BlueSci.co.uk:* https://www.bluesci.co.uk/posts/mice-can-transmit-fear-to-their-offspring-through-sperm

MENTORING & STUDENT SUPERVISION (most relevant)

2023-present	Supervisor of the BSc thesis: *Efecto del recurso reproductivo sobre la adecuación y el canibalismo en la especie Nicrophorus olidus,* carried out by Angélica Pérez Tenorio, Institución: U.N.A.M.
2020 - 2021	Co-supervisor of the MSc's first step project 'Male mating success in a socially polymorphic ant', carried out by Sidonie Nicole, Department of Ecology and Evolution, University of Lausanne
2020 - 2021	Co-supervisor of the MSc's first step project 'Influence of recognition cues on mate choice in the Alpine silver ant', carried out by Mia Kotur Corliss, Department of Ecology and Evolution, University of Lausanne
2019-2020	Supervisor of the MSc thesis ´Dispersal, reproductive success and social polymorphism in the Alpine silver ant, *Formica selysi*', carried out by Solenn Sarton-Lohéac. Department of Ecology and Evolution, University of Lausanne
2019-2020	Co-supervisor of the MSc's first step project ´Genetic determinants of worker longevity', carried out by Roxanne Allemann. Department of Ecology and Evolution, University of Lausanne
2019-2020	Co-supervisor of the MSc's first step project ´Colony founding strategies in the Alpine silver ant', carried out by Nicolas Rausa. Department of Ecology and Evolution, University of Lausanne
2018-2019	Supervisor of the MSc's first step project ´Developing a protocol to measure sperm number using flow cytometry in Alpine silver ants', carried out by Solenn Sarton-Lohéac. Department of Ecology and Evolution, University of Lausanne
2019	Co-supervisor of the BSc SUR project 'The role of heterozygote advantage in the maintenance of social polymorphism in the Alpine silver ants' carried out by Mohamed Yasser Abdo. Department of Ecology and Evolution, University of Lausanne
2018-2019	Co-supervisor of the BSc thesis 'Fitness associated with different genotypes in *Formica selysi*', carried out by Guglielmo Grasso. Department of

Ecology and Evolution, University of Lausanne
2018-2019 Co-supervisor of the MSc's thesis 'Inter-colony competition and cooperation in a socially polymorphic ant' carried out by Patrick Januario Lopez. Department of Ecology and Evolution, University of Lausanne

TEACHING EXPERIENCE (most relevant)

- 2023: Invited teacher: Parental care. Animal Behaviour Course, Graduate level, U.N.A.M.
- 2023: Invited speaker: Why do Animal Families vary? Animal Behaviour Course, BSc level, U.N.A.M.
- 2023: Invited speaker: Why do Animal Families vary? Animal Behaviour Course, BSc level, U.N.A.M.
- 2023: Invited speaker: Introduction to Research. Graduate Level, INECOL.
- 2023: Invited speaker: *Flexible Acceptance of Alien Queens by Ant Workers.* Animal Behaviour Course, BSc level, Adelphi University
- 2023: Invited speaker: *Flexible Acceptance of Alien Queens by Ant Workers.* Animal Behaviour Course, BSc level, Barnard College, Columbia University
- 2022: Invited speaker: *Flexible Acceptance of Alien Queens by Ant Workers.* Animal Behaviour Course, BSc level, U.N.A.M.
- 2020: Organizer of the 'Experimental Design Course', final year bachelor level. Department of Ecology and Evolution, University of Lausanne
- 2016-2019: Examiner of 4 master's dissertations. Department of Ecology and Evolution, University of Lausanne
- 2016- 2019: Supervisor for the 'Experimental Design Course', final year bachelor level. Department of Ecology and Evolution, University of Lausanne
- 2013-2014: Tutor for the Part II (final year) Behavioural Ecology module. Department of Zoology, University of Cambridge

CONFERENCE PRESENTATIONS (most relevant)

-- 'Why do animal families vary?'
Curso Internacional Bases Biológicas de la Conducta, Morelia. October 2023

-- 'Why do animal families vary?'
Coloquio de Matemáticas Aplicadas, IIMAS, U.N.A.M. March 2023

-- 'Why do animal families vary?'
Departamento de Ecología Tropical de la Facultad de Medicina Veterinaria y Zootecnia de la Universidad Autónoma de Yucatán. March 2023

-- Cryptic mutation load in a supergene controlling social organization in ants
18th International Society for Behavioral Ecology (ISBE)
Stockholm, Sweden, August 2022

-- 'Why do animal families vary?' April 1st, 2021. Insect Biology Research Institute, IBRI, University of Tours, France

-- Poster presentation: 'Winter is coming: harsh environments reduce the success of independent reproduction in cooperative breeding queens, in a socially polymorphic ant'. ASAB summer meeting 2019. Konstanz, Germany

-- Oral presentation: 'Maintenance of a social polymorphism in the Alpine silver ant'. ESEB 2018, Montpellier, France

-- Poster presentation: 'The early life environment pre-determines individual plasticity in a life-history strategy'. ESEB 2017, Groningen, the Netherlands

-- Poster and flash presentation: 'Fitness costs associated with building and maintaining the burying beetle's carrion nest.' Biology2017, Bern, Switzerland

-- Oral presentation: 'The early life environment pre-determines individual plasticity in a life history strategy'. ISBE 2016, Exeter, UK

-- Oral presentation: 'Sexual conflict over brood desertion when ecological conditions change' ISBE 2014, Hunter College, New York
-- Poster presentation: 'Interspecific interactions explain patterns of paternal care in the burying beetle' ENTO 2013, University of St. Andrews

INTERNAL SEMINARS (most relevant)

-- Oral presentation: 'Why do animal families vary?' INECOL, A. C., April, 2023
-- Oral presentation: 'Maintenance of a social polymorphism in the Alpine silver ant'. Department of Biology, University of Fribourg. 2021
-- Oral presentation: 'Maintenance of a social polymorphism in the Alpine silver ant'. Department of Ecology and Evolution, University of Lausanne. 2018
-- Oral presentation: 'Fitness costs associated with building and maintaining the burying beetle's carrion nest'. Department of Ecology and Evolution, University of Lausanne. 2017
-- Oral presentation: 'Changes in life-history trade-offs based on successive sampling of environmental information in the burying beetle'. Department of Ecology and Evolution, University of Lausanne. 2016
-- Oral presentation: 'Changes in life-history trade-offs based on successive sampling of environmental information in the burying beetle'. Department of Zoology, University of Oxford. 2015
-- Oral presentation: 'Ecological interactions and family dynamics in the burying beetle'. Mexican Seminar Series, University of Cambridge. 2015
-- Poster presentation: 'Do mites influence paternal care in the burying beetle?' Departmental Seminar Day, Department of Zoology, University of Cambridge. 2014
-- Poster presentation: 'Do mites influence paternal care in the burying beetle?' Graduate School of Life Sciences Poster and Image Competition, University of Cambridge. 2014
-- Poster presentation: 'Interspecific interactions explain patterns of paternal care in the burying beetle' Graduate School of Life Sciences Poster and Image Competition, University of Cambridge. 2013
-- Oral presentation: 'The influence of inter-specific interactions on conflict and cooperation within species' Department of Zoology, University of Cambridge. 2012
-- Poster presentation: 'Do mites influence family dynamics in the burying beetle, *Nicrophorus vespilloides*?' EBI-Sanger-Cambridge PhD Symposium, Emmanuel College, University of Cambridge. 2012
-- Poster presentation: 'Do mites influence family dynamics in the burying beetle, *Nicrophorus vespilloides*?' Cambridge Graduate Student Life Science Conference, Peterhouse College, University of Cambridge. 2012

PROYECTS WITH FUNDING

Supergene control of social organization in the Alpine silver ant

Lead researcher: Michel Chapuisat, University of Lausanne
SNSF 2017-2022, número 31003A_173189, CHF 904,000
Years: 2017-2022

Male fertility and social polymorphism in ants

Lead researcher: Michel Chapuisat, University of Lausanne, y
Serge Aron, ULB
UNIL-ULB partnership 2017, € 5,800; Year: 2017

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SCIENCE COMMUNICATION ENGAGEMENT (most relevant)

2023	TedX Talk: Understanding Climate Breakdown. Colegio Americano de Xalapa
02/2017	Attended EvoKe, Evolutionary knowledge for everyone. Porto
2013-2016	Writer, copy writer, editor, and producer of the *BlueSci* (Cambridge University Science Magazine) website and printed issues
03/2016	Member of 'The Major Transitions' group at the Behind the Scenes Science outreach event organized by the Royal Society. Carlton House, London
06/2015	Member of 'The Major Transitions' group at the Science Museum Lates: The next big thing. Science Museum, London
2015	Events and Publicity Officer for *BlueSci*
2014	Issue Editor for the 30th Issue of the *BlueSci* magazine
06/2013	Science Communication Day Workshop. London

GRANTS, SCHOLARSHIPS AND TRAVEL AWARDS

2017-2018	Grant to carry out the project 'Male fertility and social polymorphisms in ants' (€5800), provided by the University of Lausanne and the University Libre of Brussels
08/17	Foundation *pour l'Université du Lausanne* to attend ESEB 2017 meeting, Groningen (CHF800)
07/16	ISBE travel grant to attend ISBE 2016 meeting, Exeter (£800)
07/14	Travel grant from the Cambridge philosophical society to attend ISBE 2014 meeting, New York (£3000)
07/14	Parry Dutton Student Fund/North America Foundation Fund (£1000)
07/14	ISBE travel grant to attend ISBE 2014 meeting, New York (£1,000)
07/14	Balfour Fund grant, Department of Zoology (£1,000)
09/13	Award from the Secretary for Public Education in Mexico (£3,000)
10/12	Hitchcock Fund research grant (£250)