

Marc GILLES

Postdoc in
Behavioural Ecology

INTERESTS

- Chemical ecology
- Communication
- Ornithology
- Avian olfaction
- Behavioural assays
- Multivariate data

INFORMATION

Birth date
24.04.1995

Age
30

Nationality
France

Driving license

CONTACT

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📍 Behavioural Ecology
Bielefeld University
33615 Germany

🌐 <https://marc-gilles.github.io/>



EDUCATION

2013 – 2016



BSc
Caen
France

2016



BSc Erasmus
Bergen
Norway

2016 – 2018



MSc
Strasbourg
France

2018



MSc thesis
Turku
Finland

2019 – 2024



PhD
Bielefeld
Germany

2025



Postdoc
Bielefeld
Germany

PROJECTS

2025 Bird odour: attraction or protection?

Department of Behavioural Ecology, Bielefeld University, Germany
Postdoc (1 year) • PI: Barbara Caspers

2019 Preen oil and body odour in birds

– 2024 Department of Behavioural Ecology, Bielefeld University, Germany
PhD thesis (4 years) • Supervisors: Barbara Caspers, Innes Cuthill

2018 Early-life conditions and personality in blue tits

Department of Biology, University of Turku, Finland
MSc thesis (6 months) • Supervisors: Jon Brommer, Barbara Class

2016 Collective movements in domestic horses

Ecophysiology et Ethology Department (DEPE) – CNRS, Strasbourg, France
MSc research project (4 months) • Supervisor: Odile Petit



PUBLICATIONS

PEER-REVIEWED PUBLICATIONS

2025

8. Chen, R. S., Rizvi, T., ... & Maraci, Ö. (including **Gilles, M.**) How can we make scientific events more inclusive? Insights from Q&A sessions and surveys from an international conference. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.71588>

7. Jeanjean, L., Caspers, B. A., Schmoll, T., & **Gilles, M.** (2025). Chemical signatures in the preen oil of Pied Flycatchers: testing reproducibility and exploring ontogeny. *Journal of Avian Biology*, 2025: e03365. <https://doi.org/10.1111/jav.03365>

6. Gould, E., Fraser, H. S., Parker, T. H., Nakagawa, S., Griffith, S. C., Veski, P. A., ... & Lagisz, M. (including **Gilles, M.**) (2025). Same data, different analysts: variation in effect sizes due to analytical decisions in ecology and evolutionary biology. *BMC biology*, 23(1), 35. <https://doi.org/10.1186/s12915-024-02101-x>

2024

5. Pereira, H., Chakarov, N., Caspers, B. A., **Gilles, M.**, Jones, W., Mijoro, T., Zefania, S., Székely, T., Krüger, O. & Hoffman, J. I. (2024). The gut microbiota of three avian species living in sympatry. *BMC Ecology and Evolution*, 24(1), 144. <https://doi.org/10.1186/s12862-024-02329-9>

LANGUAGES

-  Native (C2)
-  Proficiency (C2)
-  Advanced (C1)
-  Advanced (B2)

SKILLS

Ornithology

- Species ID
- Nest searching
- Capture & ringing
- Sampling (blood, preen oil)

Chemical analyses

- Solvent extraction
- GC-MS & GC-FID

Statistical analyses

- Multivariate (PCA, RDA, PERMANOVA)
- Mixed models
- Bayesian models (MCMCglmm)

Scientific illustration

- Adobe Illustrator

Project management

- Planning of breeding monitoring
- Coordination of fieldwork in remote locations

4. **Gilles, M.**, Zefania, S., Mijoro, T. J., Cuthill, I. C., Székely, T., & Caspers, B. A. (2024). Can chicks smell their parents? No evidence of olfactory parent recognition in a shorebird. *Animal Behaviour*, 217, 133-143.

<https://doi.org/10.1016/j.anbehav.2024.08.007>

3. **Gilles, M.**, Kosztolányi, A., Rocha, A., Cuthill, I. C., Székely, T. & Caspers B. A. (2024) No sex difference in preen oil chemical composition during incubation in Kentish plovers. *PeerJ*, 12, e17243. <https://doi.org/10.7717/peerj.17243>

2. **Gilles, M.***, Fokkema, R. W.* , Korsten, P., Caspers, B. A., & Schmoll, T. (2024). Preen oil composition of Pied Flycatchers is similar between partners but differs between sexes and breeding stages. *Ibis*, 166(1), 171-186. <https://doi.org/10.1111/ibi.13246>

2022

1. Grieves, L. A.* , **Gilles, M.***, Cuthill, I. C., Székely, T., MacDougall-Shackleton, E. A., & Caspers, B. A. (2022). Olfactory camouflage and communication in birds. *Biological Reviews*, 97(3), 1193-1209. <https://doi.org/10.1111/brv.12837>

* Shared first authorship

DOCTORAL DISSERTATION

Gilles, M. (2024). The role of preen oil and body odour in birds (Doctoral dissertation, Bielefeld University, Bielefeld, Germany). <https://doi.org/10.4119/unibi/2993613>

PREREGISTRATION

Jeanjean, L., **Gilles, M.**, Schmoll, T., & Caspers, B. (2023). Variation in preen oil composition in a wild population of Pied Flycatchers: effects of sex, breeding stage, life stage, individual and family identity. *OSF*. <https://doi.org/10.17605/OSF.IO/TBCUG>

MAGAZINE ARTICLE

Gilles, M. Avian olfaction. Ornithological masterclass 37. *BTO News*. (in press)

IN PREPARATION

Gilles, M., Karaduman, M., Jones, W., Mijoro, T., Pereira, H., Zefania, S., Cuthill, I. C., Székely, T., & Caspers, B. A. Preen gland size in three sympatric plover species. (in prep.)



OUTREACH


News & blogs

Der Falke (2025) • "Erkennen Jungvögel ihre Eltern am Geruch?"

Schweizer Jäger (2022) • "[Der Bürzel macht's Vögel haben keinen Geruchssinn, oder doch?](#)"

Phys.org (2022) • "[Camouflage or communication: How birds use odor](#)"

Wissenschaft.de (2022) • "[Vögel: Wozu der Duft des Bürzel-Sekrets dient](#)"

BOU blog • Four blogposts 

Public presentations

"L'odeur des oiseaux" (2023) • Public highschool in Langres, France



GRANTS

- 2025** Bielefeld Young Researchers' Fund • Postdoc scholarship (12 months, 24 000 €)
- 2023** Bielefeld Young Researchers' Fund • PhD scholarship (6 months, 7 500 €)
- 2022** International Society of Behavioural Ecology • Travel grant (300 \$)
- 2018** Erasmus+ • Traineeship grant (6 months, 3 600€)



AWARDS

- Best talk** • Behaviour 2023 (International Council of Ethologists), Bielefeld, Germany
- Best talk** • DZG 2022 (German Zoological Society), Bonn, Germany
- Best video** • ASAB Twitter Conference 2021 (Association for the Study of Animal Behaviour)
- Best poster** • EthoGes 2020 (German Ethological Society), Tübingen, Germany
- Best poster** • Int. Course in Behavioural Biology 2018 (Institut Francilien d'Ethologie), Paris, France



EDITORSHIP & PEER REVIEW

- Guest editor** Animal Behaviour (special issue "Chemical communication and behaviour")
- Reviewer** Ethology, Journal of Chemical Ecology, Ornithology, Frontiers in Animal Science, Biotropica



ORGANISATION OF CONFERENCES

- 2023** Behaviour 2023, Bielefeld, Germany (scientific committee, communication, design and sponsoring)
- 2023** Symposium "Chemical communication and behaviour", Bielefeld, Germany (main organiser)
- 2020-2022** "Animal Behaviour Seminar", Bielefeld, Germany (host)



TEACHING

- 2021–2023** MSc course "Ecosystem Wadden Sea" at Bielefeld University (2-week field excursion, R introduction course)
- 2021–2025** MSc course "Animal Ecology in a changing world" at Bielefeld University (class on bird acoustic monitoring)

SOCIETIES

International Society for Behavioural Ecology (ISBE)

German Ethological Society (EthoGes)

German Ornithological Society (DO-G)

EDI working group Bielefeld University



MENTORING

- MSc theses** Laurence Jeanjean (Sorbonne University, France), Sidonie Rakotoarisoa (Antananarivo University, Madagascar)
- BSc theses** Michelle Meschede, Ramona Rütter (Bielefeld University, Germany)
- Research projects** 1 MSc student and 4 BSc students (Bielefeld University, Germany)



WORKSHOPS ATTENDED

- 2022** Analysis of multivariate data in R (by Gavin Simpson, online)
- 2021** Analysis of multivariate data in PRIMER (by Adam Smith, online)
- 2020** Modelling Population Dynamics (by Brett Sandercock, in Debrecen, Hungary)
- 2019** Meta-analysis (by Shinishi Nakagawa & Alfredo Sanchez-Tojar, in Bielefeld, Germany)



INVITED TALKS

BEEPS Seminar (2025) • IPHC-CNRS, Strasbourg, France

Smelly birds: protection or attraction?

Vogelwarte Seminar (2025) • Vogelwarte Swiss Ornithological Institute, Sempach, Switzerland

The role of preen oil and body odour in birds

CEFE Department Seminar (2025) • CEFE-CNRS, Montpellier, France

The role of preen oil and body odour in birds

GfÖ Symposium (2023) • Ecological Society of Germany, Switzerland & Austria, Leipzig, Germany

The smell of birds (invited talk in symposium on “Animal Chemical Ecology”)

McMaster Ecology, Evolution & Behaviour Seminar (2021) • McMaster University, Canada

The preen oil of birds: olfactory camouflage and communication



CONFERENCES

EOU 2025 • European Ornithologist Union, Bangor, UK

Poster: *Olfactory camouflage and communication in birds*

Ecology & Behaviour 2025 • Montpellier, France

Poster: *Olfactory camouflage and communication in birds*

IWSG 2023 • International Wader Study Group, Sylt, Germany

Talk: *Can plover chicks recognise the smell of their parents? Field experiment in Madagascar*

Behaviour 2023 • International Council of Ethologists, Bielefeld, Germany

Talk: *Can plover chicks recognise the smell of their parents?*

DZG 2022 • German Zoological Society, Bonn, Germany

Talk: *Can plover chicks recognise the smell of their parents?*

ISBE 2022 • International Society for Behavioural Ecology, Stockholm, Sweden

Talk: *Olfactory camouflage and communication in birds*

DZG 2021 • German Zoological Society, online

Talk: *Partners smell alike: Preen oil and olfactory phenotypes in pied flycatchers*

ASAB Twitter Conference 2021 • Association for the Study of Animal Behaviour, online

Twitter thread & video: *Do birds use preen oil for olfactory communication or camouflage?*

ASAB Winter Meeting 2020 • Association for the Study of Animal Behaviour, online

Talk: *What information in preen oil? Sex and seasonal diff. in the chemical composition of preen oil*

EthoGes 2020 • German Ethological Society, Tübingen, Germany

Poster: *Smelly plovers: what is the function of preen oil?*

ÉLVONAL Shorebird Meeting 2020 • Debrecen, Hungary

Talk: *Preen oil composition changes during breeding: how and why?*

SFE² 2018 • French Society of Ecology and Evolution, Rennes, France

Talk: *Early food availability affects morphology and behaviour in blue tits*

International Course in Behavioural Biology 2018 • Institut Francilien d'Éthologie, Paris, France

Poster: *Impacts of early food availability on the personality of blue tit fledglings*

AURA Symposium 2018 • University of Turku, Turku, Finland

Talk: *Blue tits and caterpillars: early food availability affects morphology and behaviour*