

# 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  
French

Driving license

## CONTACT

✉ marc.gilles@live.fr

ORCID

Google Scholar

Web of Science

ResearchGate

Github

LinkedIn

Bluesky



## 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

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

Talk: The role of preen oil and body odour in birds

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

Talk: The role of preen oil and body odour in birds

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

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

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

Talk: 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?

**SFE<sup>2</sup> 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