

Javier Sierro PhD in Acoustic Ecology

Innovative researcher in animal communication and behavioural ecology with a strong drive to find universal patterns of behaviour. I am fascinated by the role of motor performance in animal interactions, with experience in birdsong research but eager to tackle communication systems in other taxa, from arthropods to fish or mammals. My knowledge in music, including composition and instrument manufacturing has helped me remarkably in the study of production and transmission of sound in animal communication. I am a self-taught R programmer familiarized with the manipulation, analysis and synthesis of sounds, as well as with statistical modelling.



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 Research Gate

 Google Scholar

 ORCID

Bioacoustic analysis

Experimental design

Statistical modelling

Quantitative analysis

Photo/Video editing

Field sound recordings

Behavioural protocols

Education:

- **BSc in Biology** (2009-2013). University of Salamanca, Spain.
- **MSc in Evolution, Biodiversity and Conservation** (2013-2015). Leiden University, The Netherlands.
 - MSc Thesis I: "The role of syllable diversity in the Common chiffchaff (*Phylloscopus collybita*)". Supervised by Dr. Hans Slabbekoorn
 - MSc Thesis II: "Effect of social context in food calling in wild ravens (*Corvus corax*)". Supervised by Dr. Thomas Bugnyar and Dr. Katharina Riebel (University of Vienna)
- **Research assistant of Dr. Diego Gil in the National Museum of Natural Sciences of Spain** (2016-2017):
 - Research project: "Behavioural response of birds to aircraft noise".
- **PhD in Behavioural ecology** (2018-2022). Lancaster University, UK.
 - "The role of vocal consistency in bird communication, a case study in the blue tit (*Cyanistes caeruleus*)". Supervised by Dr. Ian Hartley and Dr. Selvino de Kort
- **Post-Doc at the National Museum of Natural Sciences** (2024). Madrid, Spain.

Publications:

- [Sierro, J., Gil, D., Sáez-Gómez, P., Hidalgo-Rodríguez, P., Rabadán-Gonzalez, J., Camacho, C. \(2024\). Call for your life: acoustic structure and age-sex differences in distress calls of red-necked nightjars. *Ethology*](#)
- [de Kort, S. R., Porcedda, G., Slabbekoorn, H., Mossman, H. L., Sierro, J., & Hartley, I. R. \(2024\). Noise impairs the perception of song performance in blue tits and increases territorial response. *Animal Behaviour* 215, 131-141.](#)
- [Sierro, J., de Kort, S. R., & Hartley, I. R. \(2024\). Differential impact of anthropogenic noise during the acoustic development of begging calls in Blue Tits \(*Cyanistes caeruleus*\). *Ibis*.](#)
- [Sierro, J., de Kort, S.R. & Hartley, I.R. \(2023\). Sexual selection for both diversity and repetition in birdsong. *Nature Communications* 14, 3600](#)
- [Sierro, J., de Kort, S. R., & Hartley, I. R. \(2023\). A limit to sustained performance constrains trill length in birdsong. *iScience*, 26\(11\)](#)
- [Sierro, J., de Kort, S.R. & Hartley, I.R. \(2023\). Sound properties affect measurement of vocal consistency in bird-song: validation of the Spectrogram Cross-Correlation method \(SPCC\). *Journal of the Acoustic Society of America* \(JASA\). 154 \(2\). 699-708.](#)
- [Sierro, J., Sierro, J., & Slabbekoorn, H., \(2023\) Angry birds calling: an advanced system of signalling aggression to moderate conflict in the common chiffchaff. *Animal Behaviour*. 201, 211-221.](#)
- [Sierro, J., de Kort, S. R., Riebel, K., & Hartley, I. R. \(2022\). Female blue tits sing frequently: a sex comparison of occurrence, context and structure of song. *Behavioral Ecology*. 33\(5\), 912-925.](#)
- [Sierro, J., Sierro, J., & Slabbekoorn, H. \(2020\). Experimental test of the communicative value of syllable diversity and syllable switching in the common chiffchaff. *Animal Behaviour*, 165, 11-21.](#)

[Sierro, J., Loretto, M. C., Szípl, G., Massen, J. J., & Bugnyar, T. \(2020\). Food calling in wild ravens \(*Corvus corax*\) revisited: Who is addressed? *Ethology*, 126\(2\), 257-266.](#)

[Alquezar, R. D., Macedo, R. H., Sierro, J., & Gil, D. \(2020\). Lack of consistent responses to aircraft noise in dawn song timing of bird populations near tropical airports. *Behavioral Ecology and Sociobiology*, 74\(7\), 1-12.](#)

[Sierro, J., Schloesing, E., Pavón, I., & Gil, D. \(2017\). European blackbirds exposed to aircraft noise advance their chorus, modify their song and spend more time singing. *Frontiers in Ecology and Evolution*, 5, 68.](#)

Conferences:

1. IBAC meeting (International BioAcoustic Society), 2025, Denmark. **Sierro, J.** "The nest as a concert hall: Resonance in the nest cavity and its implication for communication". **Poster presentation**
2. **ETOECOEVO meeting** (Ibero-American congresses of Evolutionary Ecology), 2025, Spain. **Sierro, J.** "Universal rules constrain vocal signals in terrestrial vertebrates". **Oral presentation**
3. **ETOECOEVO meeting** (Ibero-American congresses of Evolutionary Ecology), 2023, Spain. **Sierro, J.** "Vocal performance trade-offs with trill length and ensures honesty in the signal". **Oral presentation**
2. **ECBB meeting** (European Conference on Behavioural Biology), 2022. Groningen, The Netherlands. de Kort, Selvino. "Female blue tits sing (quite a lot)". **Oral presentation**
3. **ASAB meeting** (Association for the study of animal behaviour), 2019. Konstanz, Germany. **Sierro, J.** "The success of virtuous song". **Oral presentation.**
4. **IBAC annual meeting** (Bioacoustics Society), 2019. Bristol, UK. **Sierro, J.** "Measuring vocal consistency in birdsong, validation and comparison of methods". **Oral presentation.**
5. **Behaviour meeting**, 2017. Estoril, Portugal. **Sierro, J.** "European blackbirds exposed to aircraft noise advance their chorus, modify their song and spend more time singing". **Poster presentation.**
6. **Eco-etología**, 2016. Granada, Spain. **Sierro, J.** "Airports are special: the singing strategy of blackbirds to

Outreach:

In 2021, I volunteered during one month in el Manu, a remote Amazonian area in Peru (<https://www.acca.org.pe/>). During this time, I gave adapted oral presentations of my work and participated as an assistant ringer during bird surveys. The aim was to involve the local people in the scientific activities conducted in the research station and offer a different perspective of their environment. On a different scale, one of my publications [1] has also reached far beyond academic circles, featuring in [The Times online](#) and print articles as well as in a [radio](#) piece (1h31m).

References:

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Dr. Diego Gil
Research Scientist
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