

Giulia Scarparo

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EMPLOYMENT

- 10/2020–present **POSTDOCTORAL RESEARCHER**
Department of Entomology, University of California Riverside, California, USA
Advisor: Prof. Jessica Purcell
- 12/2017–05/2018 **SCIENCE PROMOTER**
Scientific educational labs for secondary schools
Employer: Fabrizio Lombardini

EDUCATION

- 11/2016 – 01/2020 **PH.D. degree in Molecular, cellular and environmental biology (BMCA)**
Department of Science, University Roma Tre, Rome, Italy
Advisor: Prof. Andrea Di Giulio
- 03/2015–07/2016 **MASTER’S degree (DM 270) in Biodiversity and ecosystem management**
Department of Science, University Roma Tre, Rome, Italy
Final grades: 110/110 *cum laude*
Advisors: Prof. Andrea Di Giulio and Prof. Patrizia d’Ettorre
- 10/2011–12/2014 **BACHELOR’S degree in Biological sciences (DM 270)**
Department of Science, University Roma Tre, Rome, Italy
Final grade: 110/110 *cum laude*
Advisors: Prof. Andrea Di Giulio and Prof. Alberto Fanfani

PUBLICATIONS

- Scarparo G.**, Palanchon M., Brelsford A., & Purcell, J. Does social antagonism facilitate supergene expansion? A novel region of suppressed recombination in a 4-haplotype supergene system. *bioRxiv*, 2023-03.
- Moore W., **Scarparo G.** & Di Giulio A. 2022. Foe to frenemy: predacious ant nest beetles use multiple strategies to fully integrate into ant nests. – *Current Opinion in Insect Science*, 52, 100920.
<https://doi.org/10.1016/j.cois.2022.100921>.
- Scarparo G.**, Sankovitz M., Loope K.J., Wilson Rankin E. & Purcell J. 2021. Longitudinal genetic analysis of an invasive wasp reveals early joining and persistent queens in polygynous colonies. – *Evolutionary Applications*, 00, 1–14.
<https://doi.org/10.1111/eva.13324>
- Scarparo G.**, Rugman-Jones P., Gebiola M., Di Giulio A. & McFrederick Q. 2021. First screening of bacterial communities of *Microdon myrmicae* and its ant host: do microbes facilitate the invasion of ant colonies by social parasites? – *Basic and Applied Ecology*, 50, 43–56.
- Scarparo G.**, Rugman-Jones P., Gebiola M., Di Giulio A. & Purcell J. 2020. Social parasite distancing: RADseq reveals high inbreeding in the social parasite *Microdon myrmicae* but low philopatry for host ant nest. – *Ecological Entomology*, 1–11. <https://doi.org/10.1111/een.12944>.
- Scarparo G.**, Wolton R., Molfini M., Cao Pinna L. & Di Giulio A. 2020. Comparative morphology of myrmecophilous immature stages of European *Microdon* species (Diptera: Syrphidae): updated identification key and new diagnostic characters. – *Zootaxa*, 4789 (2): 348 – 370. <https://doi.org/10.11646/zootaxa.4789.2.2>.
- Scarparo, G.**, d’Ettorre, P., & Di Giulio, A. 2019. Chemical deception and structural adaptation in *Microdon* (Diptera, Syrphidae, Microdontinae), a genus of hoverflies parasitic on social insects. – *Journal of Chemical Ecology*, 45(11-12), 959 – 971.

- Scarparo G.**, Cerretti P., Mei M. & Di Giulio A. 2017. Detailed morphological description of the immature stages of the ant parasite *Microdon mutabilis* (Diptera, Syrphidae, Microdontinae) including discussion on functional morphology, behaviour and host specificity. – *European Journal of Entomology*, 114, 565 – 586.
- Di Giulio A., Gisondi S., Molfini M., Ricciari A., **Scarparo G.**, & Bologna M.A. 2017. Strange loves: a remarkable case of aberrant copulation in beetles. – *Fragmenta Entomologica*, 49, 171–173.

INVITED TALKS AND PRESENTATIONS

- Scarparo G.**, Palanchon M., Brelsford A., & Purcell J. More than social organization: When supergenes underlie multiple complex phenotypes in ant societies. *2023 Pacific Branch ESA Meeting*, Seattle, Washington, USA, 2-5 April 2023. Oral presentation. **Invited speaker**.
- Scarparo G.**, Palanchon M., Brelsford A., & Purcell J. More than social organization: a miniaturizing supergene controls complex phenotype in *Formica cinerea* (Hymenoptera; Formicidae). *18th Congress of the Italian Association for the study of Social and Presocial Arthropods (AISASP)*, Sassari, Italy, 7-9 September 2022. Oral presentation.
- Scarparo G.**, Palanchon M., Brelsford A., & Purcell J. More than social organization: a miniaturizing supergene controls complex phenotype in *Formica cinerea* (Hymenoptera; Formicidae). Southern California Animal Behavior Meeting, Riverside, California, USA, 2 April 2022. Oral presentation.
- Scarparo G.** Deceptions and strategies of social parasites: the case of *Microdon*. *Webinar. Incontri di Zoologia*, 1 October 2020. <http://www.incontridizooologia.it>. **Invited speaker**.
- Scarparo G.**, d’Ettorre P., McFrederick Q., Rugman-Jones P., Gebiola M., Wolton R., & Di Giulio A. Integrative approach to the study of functional morphology and parasitic strategies of myrmecophilous hoverflies. *10th Annual Meeting of the European PhD Network in “Insect Science”*, Genoa, Italy, 4-6 December 2019. Oral presentation.
- Scarparo G.**, Casale F., Muzzi M., & Di Giulio A. Descrizione e confronto della morfologia esterna e anatomia di quattro specie europee del genere *Microdon* (Diptera, Syrphidae, Microdontinae); dall’uovo alla pupa. *1st Student Meeting of the Italian Association for the study of Social and Presocial Arthropods (AISASP)*, Rome, 8 November 2019. Oral Presentation
- Scarparo G.**, Rugman-Jones P., Gebiola M., McFrederick Q. & Di Giulio A. Characterization and comparison of bacterial communities within *Microdon myrmicae* (Diptera, Syrphidae) and its host, *Myrmica scabrinodis* (Hymenoptera, Formicidae). *80th Congresso dell’Unione Zoologica Italiana (UZI)*, Rome, Italy, 23-26 September 2019. Poster.
- Scarparo G.**, Rugman-Jones P., Gebiola M., McFrederick Q. & Di Giulio A. Caratterizzazione e confronto delle comunità microbiche di *Microdon myrmicae* (Diptera, Syrphidae) e dell’ospite, *Myrmica scabrinodis* (Hymenoptera, Formicidae). *17th Congress of the Italian Association for the study of Social and Presocial Arthropods (AISASP)*, Florence, Italy, 4-5 August 2019. Oral presentation.
- Scarparo G.**, d’Ettorre P. & Di Giulio A. Social parasites: chemical strategies and functional morphology of *Microdon* spp. (Diptera, Syrphidae, Microdontinae). *9th Student Meeting of the Italian Association for the study of Social and Presocial Arthropods (AISASP)*, Rome, Italy, 28 February 2019, Oral presentation.
- Scarparo G.** An integrative approach to study the evolution of *Microdon* hover flies, social parasites of ants. *Special Seminar, Department of Entomology, University of California Riverside (UCR)*, California, USA, 11 December 2019.
- Scarparo G.**, d’Ettorre P. & Di Giulio A. Social parasites: chemical strategies and functional morphology of *Microdon* spp. (Diptera, Syrphidae, Microdontinae). *79th Congress of Italian Union of Zoological (UZI)*, Lecce, Italy, 25-28 September 2018. Oral presentation.
- Scarparo G.**, d’Ettorre P. & Di Giulio A. Functional morphology and chemical strategy of *Microdon mutabilis* (Diptera, Syrphidae) immature stages. *VII Student Meeting of the Italian Association for the study of Social and Presocial Arthropods (AISASP)*, Bologna, Italy, 31 March 2017. Oral presentation.
- Scarparo G.**, d’Ettorre P. & Di Giulio A. Morfologia funzionale e strategia chimica degli stadi immaturi di *Microdon mutabilis* (Diptera, Syrphidae). *XVI Congress of the Italian Association for the study of Social and Presocial*

Arthropods (AISASP), Rome, Italy, 14-15 September 2017. Oral presentation. Premio "D'Eustacchio" per best oral presentation

Cappelli G., **Scarpato G.**, Leroy C., d'Ettorre P., Cammaerts R. & Di Giulio A. Strategia chimica della specie *Claviger apenninus* (Coleoptera, Staphylinidae). *XVI Congress of the Italian Association for the study of Social and Presocial Arthropods (AISASP)*, Rome, Italy, 14-15 September 2017. Poster.

Scarpato G., d'Ettorre P. & Di Giulio A. Functional morphology and chemical strategy of *Microdon mutabilis* (Diptera, Syrphidae), a nest parasite of *Formica cunicularia*. *7th Congress of the Italian Society for Evolutionary Biology (SIBE)*, Rome, Italy, 28-31 August 2017. Oral presentation.

AWARDS AND HONORS

2020	Con.Sienze award Best national Ph.D. thesis in Biology.
2019	Graduate student travel award 17 th Congress of the Italian Association for the study of Social and Presocial Arthropods (AISAPS)
2017	Best oral presentation 16 th Congress of the Italian Association for the study of Social and Presocial Arthropods (AISAPS)
2017	Graduate student travel award 16 th Congress of the Italian Association for the study of Social and Presocial Arthropods (AISAPS)

TEACHING ASSISTANTSHIPS

2018-2019	BIO 05/17– Biology I
2017–2019	BIO 05 – Zoology
2017- 2019	AGR 11– Entomology

MENTORED STUDENTS

-Graduate students: Francesca Casale, Luigi Cao Pinna
 -Undergraduate students: Valentina Ruzza, Jorge Piche Perez, Alan Wu, Carolina Gonzalez

ORGANIZED CONFERENCES AND SYMPOSIA

2-5/04/2023	Symposium title ' <i>Emerging Research Questions in Social Insect Genomics</i> ' sponsored by Annals of the Entomological society of America 2023 Pacific branch of the Entomological Society of America Meeting Seattle, Washington
11/08/2019	1 th Student Meeting of the Roman Association of Entomology (ARDE) Rome, Italy
09/2019	80 th Congress of Italian Zoological Union (UZI) Rome, Italy
02/28/2019	9 th Student Meeting of the Italian Association for the study of Social and Presocial Arthropods (AISASP) Rome, Italy

OUTREACH AND SERVICE

05/18/2022	Six Legs, Endless Possibilities: Training the Next Generation of Agricultural Scientists- Riverside Community College Lab experience: <i>Quantify aggression between nestmates and non-nestmates ant workers (learning behavioral observational methods)</i>
10-17/03/2022	Six Legs, Endless Possibilities: Training the Next Generation of Agricultural Scientists- Moreno Valley Community College Lab experience: <i>Supergenes underlie colony social form and other complex traits in ants (learning lab techniques – PCR RLFP)</i>
02/05/2020	Career orientation Day- University Life Day (Giornata di Vita Universitaria, GVU) Talk: <i>My experience as a science researcher</i> - Department of Science, University Roma Tre.
09/27/2019	European Researchers' Night (Notte Europea dei Ricercatori)- Science dissemination day Talk: <i>Introduction to the ant's world</i> .
09/28/2018	European Researchers' Night (Notte Europea dei Ricercatori)- Science dissemination day

09/2017 – 10/2017 Workshop: *Hidden biodiversity: the inhabitants of the soil.*
Taman National Bantimurung Bulusaraung, Maros Regency
Sulawesi Selatan, Indonesia
Volunteering: training the local rangers on the entomological sampling.

REVIEWER FOR PEER-REVIEWED JOURNALS

Cladistics; Ecological Entomology; European Journal of Zoology; Scientific Reports; Zootaxa

MEMBERSHIP TO SCIENTIFIC ORGANIZATIONS

2017- present A.R.D.E.- Associazione Romana di Entomologia (Roman Association of Entomology)
Member of the board
2017- present A.I.S.A.S.P.- Associazione Italiana per lo studio di Artropodi Sociali e Presociali
(Italian Association for the study of Social and Presocial Arthropods).