

# Curriculum Vitae

## GIUSEPPE MARRAMÀ, Ph.D.

### ADDRESS

University of Vienna  
Faculty of Earth Science, Geography and Astronomy  
Department of Palaeontology  
Althanstrasse 14  
1090 Vienna, Austria  
phone: +43-1-4277-53530  
e-mail: giuseppe.marrama@univie.ac.at  
www.evomorg.org

### MAIN AREAS OF RESEARCH

Vertebrate Palaeontology, Palaeoichthyology, Macroevolution, Phylogeny, Geometric morphometrics

### EDUCATION

- September 16, 2019: **Habilitation** to the role of Associate Professor in the sector 04/A2 - Structural Geology, Stratigraphy, Sedimentology and Paleontology.
- January 26, 2016: **PhD** in Vertebrate Paleontology (Doctorate with high honors); University of Turin, Italy. Thesis: The Eocene ichthyofauna of Monte Bolca: Contribution to the knowledge of the paleobiodiversity, paleoenvironment and evolutionary significance.
- February 10, 2011: **MSc** in Paleobiology; University of Milan, Italy. Thesis: The genus *Plesioperleidus* (Osteichthyes, Actinopterygii) from the Early Triassic of Madagascar.
- December 20, 2007: **BSc** in Natural Sciences; University of Pavia, Italy. Thesis: Study of a fossil collection from the Cretaceous site of Pietraraja BN, Italy, collected during controlled excavations of the Museo di Storia Naturale di Milano in 2001.

### PROFESSIONAL EXPERIENCE

<b>Current position</b> (since 01.11.2017)	Lise Meitner (FWF) Postdoctoral fellow at Department of Palaeontology of the University of Vienna. Project title: Taxonomy, systematics and relationships of the Eocene cartilaginous fishes (Chondrichthyes) from the Bolca Konservat-Lagerstätte, northeastern Italy.
09.2017-10.2017	Postdoc contract for the creation of a database on global stratigraphic and geographic occurrences of Eocene cartilaginous fishes.
07.2017-08.2017	Visiting Professor at Department of Palaeontology of the University of Vienna. Courses: 1) Geometric Morphometrics in Palaeobiology; 2) Geology and Palaeobiology of

important vertebrate localities.

- 10.2016-06.2017 9-months postdoc scholarship from OeAD at Department of Palaeontology of the University of Vienna: Systematics, phylogeny, and palaeoecology of the sharks (Chondrichthyes, Elasmobranchii) from the Bolca Konservat-Lagerstätte.
- 2013-2015 PhD student at Dipartimento di Scienze della Terra, University of Turin, Italy. Systematics of clupeoid fishes, paleoecology and taphonomy of the Eocene ichthyofauna of Bolca, Italy.

## COURSES TAUGHT

- 2017 Geometric Morphometrics in Palaeobiology (280202 VO + UE) (block lecture, 30 hours); link: <https://ufind.univie.ac.at/en/course.html?lv=280202&semester=2017S>  
At University of Vienna, Department of Palaeontology.
- 2017 Geology and Palaeobiology of important vertebrate localities ( codice: 280203 VO) (block lecture, 30 hours); link: <https://ufind.univie.ac.at/en/course.html?lv=280203&semester=2017S>.  
At University of Vienna, Department of Palaeontology.

## ACADEMIC PRIZES/RECOGNITIONS

- 2019 JSP 2018 'Outstanding Paper Award' by Journal of Systematic Palaeontology for the paper: **Marramà G.**, Claeson K.M., Carnevale G. & Kriwet J. (2018). Revision of Eocene electric rays (Torpediniformes, Batomorphii) from the Bolca Konservat-Lagerstätte, Italy, reveals the first fossil embryo in situ in marine batoids and provides new insights into the origin of trophic novelties in coral reef fishes. *Journal of Systematic Palaeontology* 16: 1189-1219.
- 2016 Doctorate with high honors
- 2014 Best Oral Student Presentation Award achieved during XIV Edizione delle Giornate di Paleontologia, Paleodays 2014 Bari, Italy; June 11-13, 2014. Title: **Marramà G.** & Carnevale G. (2014). Eocene clupeoid fishes from Bolca, Italy.

## RESEARCH PROJECT ACHIEVEMENTS

- 2017 Principal investigator of Lise Meitner Project (M2368-B25): Taxonomy, systematics and relationships of the Eocene cartilaginous fishes (Chondrichthyes) from the Bolca Konservat-Lagerstätte, northeastern Italy. Funding agency: Austrian Science Fund (FWF). From 01.11.2017 to 30.10.2019. Total amount funded: € 153.340.
- 2016 Principal investigator of Ernst Mach Grant, Worldwide: Sharks (Chondrichthyes, Elasmobranchii) from the Eocene of the Monte Bolca Konservat-Lagerstätte. Funding agency: Austrian Federal Ministry of Science, Research and Economy (OeAD). From 03.10.2016 to 30.06.2016. Total amount funded: € 9.360
- 2016 SYNTHESYS Call 3 Fellowship: Systematic revision of aulopiform and clupeiform fishes from the Eocene of Monte Bolca, Italy. Funding agency: European Community Research Infrastructure Action - SYNTHESYS. From 15.03.2016 to 26.03.2016. Total amount funded: € 500.
- 2014 Partially funded PhD: The Eocene ichthyofauna of Monte Bolca: Contribution to the knowledge of the paleobiodiversity, paleoenvironment and evolutionary significance. Funding agency: Compagnia San Paolo Foundation. From 01.10.2014 to 31.12.2015. Total amount funded: € 14.350.

## SCIENTIFIC PUBLICATIONS

### Peer-reviewed

1. **Marramà G.**, Carnevale G., Giusberti L., Naylor G. & Kriwet J. (2019) A bizarre Eocene dasyatoid batomorph (Elasmobranchii, Myliobatiformes) from the Bolca Lagerstätte (Italy) reveals a new, extinct body plan for stingrays. *Scientific Reports* 9:14087. doi:10.1038/s41598-019-50544-y
2. **Marramà G.**, Carnevale G., Naylor G. & Kriwet J. (2019) Mosaic of plesiomorphic and derived characters in an Eocene myliobatiform batomorph (Chondrichthyes, Elasmobranchii) from Italy defines a new, basal body plan in pelagic stingrays. *Zoological Letters* 5:13.
3. Jambura P., Kindlimann R., López-Romero F., **Marramà G.**, Pfaff C., Stumpf S., Türtscher J., Underwood C., Ward D., Kriwet J. (2019). Micro-computed tomography imaging reveals the development of a unique tooth mineralization pattern in mackerel sharks (Chondrichthyes; Lamniformes) in deep time. *Scientific Reports* 9:9652
4. **Marramà G.**, Carnevale G., Smirnov P.V., Trubin Y.S., Kriwet J. (2019) First report of Eocene gadiform fishes from the Trans-Urals (Sverdlovsk and Tyumen regions, Russia). *Journal of Paleontology*. doi:10.1017/jpa.2019.15
5. Fanti F., Mazzuferi G. & **Marramà G.** (2019). Egg preservation in an Eocene stingray (Myliobatiformes, Dasyatidae) from Italy. *Journal of Vertebrate Paleontology*. doi:10.1080/02724634.2019.1578967
6. **Marramà G.**, Engelbrecht A., Carnevale G. & Kriwet J. (2019). Eocene sand tiger sharks (Lamniformes, Odontaspidae) from the Bolca Konservat-Lagerstätte, Italy: palaeobiology, palaeobiogeography and evolutionary significance. *Historical Biology* 31: 102-116. doi:10.1080/08912963.2017.1341503
7. Villafaña J.A., **Marramà G.**, Hernandez S., Carrillo-Briceno J.D., Hovestadt D., Kindlimann R. & Kriwet J. (2019). The Neogene fossil record of *Aetomylaeus* (Elasmobranchii, Myliobatidae) from the south-eastern Pacific. *Journal of Vertebrate Paleontology*. doi:10.1080/02724634.2019.1577251
8. **Marramà G.**, Carnevale G., Naylor G. & Kriwet J. (2018). Reappraisal of the Eocene whiptail stingrays (Myliobatiformes, Dasyatidae) of the Bolca Lagerstätte, Italy. *Zoologica Scripta*. doi:10.1111/zsc.12330
9. **Marramà G.**, Schultz O. & Kriwet J. (2018). A new Miocene skate from Central Paratethys (Upper Austria): The first unambiguous skeletal record for the Rajiformes (Chondrichthyes: Batomorphii). *Journal of Systematic Palaeontology*. doi:10.1080/14772019.2018.1486336
10. Robin N., **Marramà G.**, Vonk R., Kriwet J. & Carnevale G. (2018). Eocene isopods on electric rays: tracking ancient biological interactions from a complex fossil record. *Palaeontology*. doi:10.1111/pala.12398

11. **Marramà G.**, Bannikov A., Kriwet J. & Carnevale G. (2018). An Eocene paraclupeid fish (Teleostei, Ellimmichthyiformes) from Bolca, Italy: The youngest marine record of double-armoured herrings. *Papers in Palaeontology*. doi:10.1002/spp2.1230
12. **Marramà G.**, Klug S., De Vos J. & Kriwet J. (2018). Anatomy, relationships and palaeobiogeographic implications of the first Neogene holomorphic stingray (Myliobatiformes: Dasyatidae) from the early Miocene of Sulawesi, Indonesia, SE Asia. *Zoological Journal of the Linnean Society* 184: 1142-1168. doi: 10.1093/zoolinnean/zly020
13. Cawley J.J., **Marramà G.**, Carnevale G & Kriwet J. (2018). A quantitative approach to determine the taxonomic identity and ontogeny of the pycnodontiform fish *Pycnodus* (Neopterygii, Actinopterygii) from the Eocene of Bolca Lagerstätte, Italy. *PeerJ* 6(1). doi: 10.7717/peerj.4809
14. **Marramà G.**, Carnevale G. & Kriwet J. (2018). New observations on the anatomy and paleobiology of the Eocene requiem shark †*Eogaleus bolcensis* (Carcharhiniformes, Carcharhinidae) from Bolca Lagerstätte, Italy. *Comptes Rendus Palevol* 17: 443-459.
15. **Marramà G.**, Claeson K.M., Carnevale G. & Kriwet J. (2018). Revision of Eocene electric rays (Torpediniformes, Batomorphii) from the Bolca Konservat-Lagerstätte, Italy, reveals the first fossil embryo *in situ* in marine batoids and provides new insights into the origin of trophic novelties in coral reef fishes. *Journal of Systematic Palaeontology* 16: 1189-1219.
16. **Marramà G.**, Carnevale G., Engelbrecht A., Claeson K.M., Zorzin R., Fornasiero M., Kriwet J. (2018). A synoptic review of the Eocene (Ypresian) cartilaginous fishes (Chondrichthyes: Holocephali, Elasmobranchii) of the Bolca Konservat-Lagerstätte, Italy. *Paläontologische Zeitschrift* 92: 283-313.
17. **Marramà G.**, Engelbrecht A., Mörs T., Reguero M.A. & Kriwet J. (2018). The southernmost occurrence of *Brachycarcharias* (Lamniformes, Odontaspidae) from the Eocene of Antarctica provides new information about the palaeobiogeography and palaeobiology of Palaeogene sand tiger sharks. *Rivista Italiana di Paleontologia e Stratigrafia* 124: 283-298.
18. **Marramà G.** & Carnevale G. (2018). *Eoalosa janvieri* gen. et sp. nov., a new clupeid fish (Teleostei, Clupeiformes) from the Eocene of Monte Bolca, Italy. *Paläontologische Zeitschrift* 92: 107-120.
19. **Marramà G.** & Kriwet J. (2017). Principal component and discriminant analyses as powerful tools to support taxonomic identification and their use for functional and phylogenetic signal detection of isolated fossil shark teeth. *PLoS ONE* 12(11):e0188806.
20. **Marramà G.** & Carnevale G. (2017). Morphology, relationships and paleobiology of the Eocene barracudina †*Holosteus esocinus* (Aulopiformes, Paralepididae) from Monte Bolca, Italy. *Zoological Journal of the Linnean Society* 181: 209-228.
21. **Marramà G.**, Lombardo C., Tintori A. & Carnevale G. (2017). Redescription of “*Perleidus*” (Osteichthyes, Actinopterygii) from the Early Triassic of Northwestern Madagascar. *Rivista Italiana di Paleontologia e Stratigrafia*, 123: 219-242.

22. Carnevale G., Johnson G.D., **Marramà G.** & Bannikov A.F. (2017). A reappraisal of the Eocene priacanthid fish *Pristigenys substriata* (De Blainville, 1818) from Monte Bolca, Italy. *Journal of Paleontology*, 91: 554-565.
23. **Marramà G.** & Carnevale G. (2017). The relationships of *Gasteroclupea branisai* Signeux, 1964, a freshwater double-armored herring (Clupeomorpha, Ellimmichthyiformes) from the Late Cretaceous-Paleocene of South America. *Historical Biology*, 29: 904-917
24. Frédéricich B., **Marramà G.**, Santini F. & Carnevale G. (2016). Non-reef environments impact the diversification of extant jacks, remoras and allies (Carangoidei, Percomorpha). *Proceedings of the Royal Society of London B*, 283: 20161556.
25. **Marramà G.**, Villier B., Dalla Vecchia F. M. & Carnevale G. (2016). A new species of *Gladiopycnodus* (Coccodontoidea, Pycnodontomorpha) from the Cretaceous of Lebanon provides new insights about the morphological diversification of pycnodont fishes through time. *Cretaceous Research*, 61: 34-43.
26. **Marramà G.**, Bannikov A., Zorzini R. & Carnevale G. (2016). Controlled excavations in the Eocene Pesciara and Monte Postale deposits reveal new details about the paleoecology and taphonomy of the fish assemblages of Bolca Konservat-Lagerstätte, Italy. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 454: 228-245.
27. **Marramà G.**, Garbelli C. & Carnevale G. (2016). A morphospace for the Eocene fish assemblage of Bolca, Italy: A window into the diversification and ecological rise to dominance of modern tropical marine fishes. *Bollettino della Società Paleontologica Italiana*, 55(1): 11-21.
28. **Marramà G.**, Garbelli C. & Carnevale G. (2016). A clade-level morphospace for the Eocene fishes of Bolca: Patterns and relationships with modern tropical shallow marine assemblages. *Bollettino della società Paleontologica Italiana*, 55(2): 139-156.
29. **Marramà G.** & Carnevale G. (2016). An Eocene anchovy from Monte Bolca, Italy: The earliest known record for the family Engraulidae. *Geological Magazine* 153(1): 84-94. doi:10.1017/S0016756815000278.
30. **Marramà G.** & Carnevale G. (2015). The Eocene sardine †*Bolcaichthys catopygopterus* (Woodward, 1901) from Monte Bolca, Italy: osteology, taxonomy, and paleobiology. *Journal of Vertebrate Paleontology* 35:e1014490. doi:10.1080/02724634.2015.1014490.
31. **Marramà G.** & Carnevale G. (2015). Eocene round herring from Monte Bolca, Italy. *Acta Palaeontologica Polonica* 60(3): 701-710. doi: 10.4202/app.00057.2014

#### **Non peer-reviewed**

- 1) Carnevale G., Bannikov A.F., **Marramà G.**, Tyler J.C. & Zorzini R. (2014). The Pesciara-Monte Postale Fossil-Lagerstätte: 2. Fishes and other vertebrates. In: Papazzoni C.A, Giusberti L., Carnevale G., Roghi G., Bassi D. & Zorzini R. (eds). The Bolca Fossil-Lagerstätte: A window into the Eocene World. *Rendiconti della Società Paleontologica Italiana*, 4: 37-63.

## CONFERENCES AND SYMPOSIA

### Invited talks (Keynote speaker)

**Marramà G.** 2018. The Eocene cartilaginous fishes from the Bolca Lagerstätte, Italy: New insights into the adaptive fish radiation after the end-Cretaceous extinction. 19th Jahrestagung Gesellschaft für Biologische Systematik (GfBS), Vienna, Austria.

### Conference presentations

**Marramà G. (presenter)**, Carnevale G., Giusberti L., Naylor G., Kriwet J. 2019. A new Eocene batoid fish (Elasmobranchii, Myliobatiformes) from Monte Bolca (Italy) reveals an extinct body plan for stingrays. 90th Annual Meeting of the Paläontologische Gesellschaft, Munich; 15-18 September 2019.

Kriwet J. (presenter), **Marramà G.**, Carnevale G., Cawley J. 2019. Success and demise of pycnodont fishes (Neopterygii, †Pycnodontiformes). 90th Annual Meeting of the Paläontologische Gesellschaft, Munich; 15-18 September 2019.

**Marramà G. (presenter)**, Carnevale G., Naylor G., Kriwet J. 2019. An Eocene Myliobatiform (Chondrichthyes, Elasmobranchii) from Monte Bolca (Italy) Defines a New, Basal Body Plan for Pelagic Stingrays. International Congress of Vertebrate Morphology; 21-25 July 2019, Prague.

Kriwet J. (presenter), **Marramà G.**, Carnevale G., Cawley J. 2019. Drivers of Taxonomic and Functional Diversity in Extinct Non-Teleostean Neopterygians (Osteichthyes, Actinopterygii). International Congress of Vertebrate Morphology; 21-25 July 2019, Prague.

Jambura P. (presenter), Turtscher J., Kindlimann R., **Marramà G.**, Pfaff C., Stumpf S., Underwood C., Ward D., Kriwet J. Evolutionary Trends and the Phylogenetic Relevance of Tooth Mineralization Patterns in Sharks (Chondrichthyes; Elasmobranchii) International Congress of Vertebrate Morphology, 21-25 July 2019, Prague.

Turtscher J. (presenter), Jambura P., **Marramà G.**, Kindlimann R., Kriwet J. 2019. The origin and evolution of the tiger shark genus *Galeocerdo* (Elasmobranchii, Carcharhiniformes) revisited. International Congress of Vertebrate Morphology, 21-25 July 2019, Prague.

**Marramà G. (presenter)**, Schultz O., Kriwet J. 2018. The first unambiguous skeletal record for the skates (Batmorphii, Rajiformes) from the early Miocene of Upper Austria. 5th International Palaeontological Congress, 9-13 July 2018 Paris, France.

Carnevale G. (presenter), **Marramà G.**, Bannikov A., Kriwet J. 2018. The youngest marine record of double-armoured herrings: an Eocene paraclupeid fish (Teleostei, Clupeomorpha,

- Ellimmichthyiformes) from Monte Bolca. 5th International Palaeontological Congress, 9-13 July 2018 Paris, France.
- Varese M. (presenter), **Marramà G.**, Carnevale G., Kriwet J., Giusberti L. 2018. Redescription of "Rhinobatus" designi, an Eocene guitarfish from the Bolca Konservat-Lagerstätte, Italy. XVIII edizione delle Giornate di Paleontologia, 6-8 Giugno 2018, Trento e Predazzo, Italy.
- Kriwet J. (presenter), **Marramà G.**, Cawley J. 2018. Predicting competition between †Pycnodontiformes and Ginglymodi (Osteichthyes, Neopterygii) through geologic time based on quantitative analyses of lower jaw features. 5th International Palaeontological Congress, 9-13 July 2018 Paris, France.
- Robin N. (presenter), **Marramà G.**, Vonk R., Kriwet J Carnevale, G.. 2017 Eocene isopods on electric rays: tracking ancient biological interactions in a complex fossil record. 5th International Palaeontological Congress, 9-13 July 2018 Paris, France.
- Turtscher J. (presenter), Jambura P., **Marramà G.**, Kindlimann R., Kriwet J. 2018. The evolutionary history of the tiger shark, *Galeocerdo cuvier*. 22nd Annual Conference of the European Elasmobranch Association. November 2018, Peniche, Portugal.
- Marramà G. (presenter)**, Claeson, M. K., Carnevale, G. & Kriwet J. 2017. Eocene electric rays (Torpediniformes, Batomorphii) from the Monte Postale site, Bolca Lagerstätte, Italy. Giornate di Paleontologia XVII edizione - Anagni, Italy; May 24-26, 2017.
- Marramà G. (presenter)**, Bannikov A., Zorzin R. & Carnevale G. 2016. New insights into the paleoecology and taphonomy of the Eocene fish assemblages of the Italian Bolca Lagerstätte revealed from recent controlled excavations. XVI Edizione delle Giornate di Paleontologia, Paleodays 2016; Faenza, Italy; May 25-27, 2016.
- Marramà G. (presenter)**, Garbelli C., Carnevale, G. 2015. Do coral reefs drive morphological and functional diversification? Evidences from comparative analysis of Eocene and Recent fish morphospace occupation. XV Edizione delle Giornate di Paleontologia - Paleodays 2015, 27-29 May 2015, Palermo, Italy.
- Dal Sasso C. (presenter), **Marramà G.**, Carnevale G. 2014. Vertebrates from the uppermost stratigraphic sequence of the Pietraroja Plattenkalk (Early Cretaceous, Southern Italy). XII EAVP (European Association of Vertebrate Paleontologist), Turin, Italy.
- Marramà G. (presenter)**, Carnevale, G. 2014. Eocene clupeoid fishes from Bolca, Italy. XIV Edizione delle Giornate di Paleontologia - Paleodays 2014, 11-13 June 2014, Bari, Italy.
- Marramà G. (presenter)**, Lombardo C., Tintori A. 2013. Il genere *Plesioperleidus* (Osteichthyes, Actinopterygii) del Triassico Inferiore del Madagascar. 13th Meeting of the Società Paleontologica Italiana, Paleodays 2013, Perugia, Italy (2013)