

HOSTING GROUPS FOR INTERNATIONAL MOBILITY

Phylogenetics and phylogeography research group

The main objectives of the **Phylogenetics and phylogeography research group** are the study of biodiversity using integrated genetic and morphological approaches, and to infer the phylogeny and biogeography of selected marine, terrestrial, and freshwater taxa.

Our laboratories, the "Phylogeny and Phylogeography Laboratory" and the "Taxonomy and Faunistics Laboratory", are both located in the Botany, Anthropology, and Zoology building on Via Archirafi 18. They are equipped with state-of-the-art tools for morphological analyses, species identification, and genetic characterization.

In recent years, our research has focused primarily on the diversity of freshwater and marine crustaceans, terrestrial arthropods, marine and freshwater fish, and turtles and terrapins.

Finally, special attention is also given to the study of invasive species and biological invasions, with a particular focus on freshwater ecosystems in the Mediterranean bioregion.



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Selected publications:

Faraone F.P., Vecchioni L., Giacalone G., Muscarella C., Di Nicola M.R., Arculeo M. & F. Marrone. Patterns of genetic and phenotypic diversity of the Mediterranean banded centipede *Scolopendra cingulata* Latreille, 1829 (Chilopoda: Scolopendromorpha) in Sicily and adjacent areas. **Zool. J. Linn. Soc.**, in press (2025) <https://doi.org/10.1093/zoolinnean/zlaf031>

Vecchioni, L., Arculeo, M., Cottarelli, V. & F. Marrone. Range-wide phylogeography and taxonomy of the marine rock pools dweller *Tigriopus fulvus* (Fischer, 1860) (Copepoda, Harpacticoida). **JZSER**, 59(4), 839–857 (2025) <https://doi.org/10.1111/jzs.12457>

Marrone, F., Vecchioni, L., Deidun, A., Mabrouki, Y., Arab, A. & M. Arculeo. DNA taxonomy of the potamid freshwater crabs from Northern Africa (Decapoda, Potamidae) **Zool. Scr.**, 49(4), 473–487 (2020) <https://doi.org/10.1111/zsc.12415>

Belaiba, E., Marrone, F., Vecchioni, L., Bahri-Sfar, L. & M. Arculeo. An exhaustive phylogeny of the combtooth blenny genus *Salaria* (Pisces, Blenniidae) shows introgressive hybridization and lack of reciprocal mtDNA monophyly between the marine species *Salaria basilisca* and *Salaria pavo*. **Mol. Phylogenet. Evol.**, 135, pp. 210–221 (2019) <https://doi.org/10.1016/j.ympev.2019.02.026>

Marrone, F., Lo Brutto, S., Hundsdoerfer, A.K. & M. Arculeo. Overlooked cryptic endemism in copepods: Systematics and natural history of the calanoid subgenus *Occidodiaptomus* Borutzky 1991 (Copepoda, Calanoida, Diaptomidae). **Mol. Phylogenet. Evol.**, 66(1), pp. 190–202 (2013) <https://doi.org/10.1016/j.ympev.2012.09.016>