

## LUIGI MUSCO



Born in Galatone (Lecce, Italy) on 07/01/1972

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**Current Position:** Researcher

**Current Affiliation:**

Integrative Marine Ecology Department, Stazione Zoologica Anton Dohrn, Napoli (Italy)

**Education/Training/Experience**

<b>Institute and Location</b>	<b>Degree / Function</b>	<b>Year</b>	<b>Field of Study</b>
Lecce University, Italy	Laurea	2001	Biological sciences
Lecce University, Italy	Research contract	2003	Annelid taxonomy
National Interuniversity Consortium For Marine Sciences, CoNISMa, Lecce Section, Italy	Research contract	2003-2004	Taxonomy of non-indigenous annelids
Department of Biological and Environmental Science and Technology (DiSTeBA), Salento University, Lecce, Italy	Research contract	2004-2005	Annelid diversity
Università del Salento, Lecce, Italy	PhD	2007	Fundamental Ecology
CoNISMa, Lecce Section, Italy	Fellowship	2007-2008	Annelid diversity in 4 Mediterranean MPAs
DiSTeBA, Salento University, Lecce, Italy	Postdoc	2009-2010	Ecology, biology and diversity of annelids under natural and controlled conditions
Institute for Coastal Marine Environment, IAMC-CNR, Mazara d.V. (Trapani), Italy	Postdoc	2012-2013	Marine benthic assemblages under alien species invasions

IAMC-CNR, Castellammare d.G. (Trapani), Italy	Postdoc	2013	Food-web analysis of benthic assemblages under increasing levels of fishing impact
IAMC-CNR, Castellammare d.G.(Trapani), Italy	Researcher	2013-2016	Invertebrates as bioindicators in marine rocky shores
Stazione Zoologica Anton Dohrn, Napoli, Italy	Researcher	2016-present	Marine Biodiversity Conservation

### **Appointments and awards**

2018: Anton Dohrn Best Researcher Award 2018

2018: Qualified Associate Professor of Ecology (Italian Ministry of Research)

2014: Qualified Associate Professor of Zoology (Italian Ministry of Research)

2011: Qualified Researcher in Coastal Marine Ecology (Italian CNR)

2011: Qualified Researcher in Marine Ecology and Ecotoxicology (Italian CNR)

2010: Qualified Researcher in Marine Ecology (Italian CNR)

2010: Member of the Scientific committee of the 10<sup>th</sup> International Polychaete Conference

2006: Taxonomic Editor of the Syllidae (Annelida) for the European Register of Marine Species

Top Reviewer Award for the contributions to the journal Estuarine, Coastal and Shelf Science (Elsevier)

### **Other**

2016- present - PI of ABBaCo – Restauro Ambientale e Balneabilità del SIN Bagnoli-Coroglio (Environmental Restoration and Bathing of the Site of National Interest Bagnoli-Coroglio) led by Stazione Zoologica Anton Dohrn in collaboration with CNR (IAMC, ISAC), INGV, ISS, Università Politecnica delle Marche, Università Parthenope, Università della Campania, Università Federico II, CoNISMa, funding of Ministero dell’Istruzione, dell’Università e della Ricerca (Italian Ministry for Education, University and Research).

Media:

- [https://www.raiplay.it/social/video/2019/02/Linea-Verde-Life---Napoli-37856ae7-7fe9-4a8e-b053-bb3810ac3b87.html?wt\\_mc=2.www.fb.raiplay\\_vod\\_linea-verde\\_linea-verde-life---napoli.&fbclid=IwAR2KUyIC21C1\\_Qdw44DUkslHy8q52HxMINx2pNrSvrgR8\\_ib80Z-G8Ca958](https://www.raiplay.it/social/video/2019/02/Linea-Verde-Life---Napoli-37856ae7-7fe9-4a8e-b053-bb3810ac3b87.html?wt_mc=2.www.fb.raiplay_vod_linea-verde_linea-verde-life---napoli.&fbclid=IwAR2KUyIC21C1_Qdw44DUkslHy8q52HxMINx2pNrSvrgR8_ib80Z-G8Ca958)
- [https://www.repubblica.it/ambiente/2018/07/30/news/nel\\_mediterraneo\\_i\\_coralli\\_killer\\_dell\\_e\\_meduse-202995871/?rss](https://www.repubblica.it/ambiente/2018/07/30/news/nel_mediterraneo_i_coralli_killer_dell_e_meduse-202995871/?rss)
- [http://www.ansa.it/canale\\_scienza\\_tecnica/notizie/terra\\_poli/2018/07/30/nel-mediterraneo-il-primo-corallo-killer-delle-meduse\\_7939074d-5fd3-4e8a-b22b-4b9524685679.html](http://www.ansa.it/canale_scienza_tecnica/notizie/terra_poli/2018/07/30/nel-mediterraneo-il-primo-corallo-killer-delle-meduse_7939074d-5fd3-4e8a-b22b-4b9524685679.html)
- <https://wiley.altmetric.com/details/45773418/news>
- <http://www.ilvaporetto.com/progetto-abbaco/>
- [https://www.ilmattino.it/tecnologia/scienza/scoperta\\_la\\_cleptopredazione\\_mechanismo\\_di\\_predazione\\_intelligente-3358159.html](https://www.ilmattino.it/tecnologia/scienza/scoperta_la_cleptopredazione_mechanismo_di_predazione_intelligente-3358159.html)

## Students' Supervision

External supervisor of 2 PhD students (University of Palermo, Scuola Superiore Sant'Anna di Pisa). Internal Supervisor of 7 MSc and 5 undergraduate students' theses (Salento University). External Supervisor of 6 undergraduates and 2 masters students of the School of Biological Sciences, University of Portsmouth, 3 undergraduate students of the Federico II University, an undergraduate student and a graduate student (International Master of Marine Biology) of the Polytechnic University of Marche. Supervisor for an Internship student (Université de La Rochelle internship program). Scientific Advisor of a post-doc researcher at SZN. Member of examining committees for undergraduate and graduate courses at the University of Palermo (Biogeography) and the Salento University (Zoology, Symbiosis and Associations among Animals).

## Publications

Author of 42 publications on ISI-journals (h-index: 17) and 4 book chapters

### *List of publications of the last 10 years:*

#### Peer-reviewed publications:

- Ragazzola F, Marchini A, Vasapollo C, Castelli A, Cerrati G, Gazzola F, Jiang C, Langeneck J, Mannauzzi MC, Musco L, Nannini M, Zekonyte J, Lombardi C (2019) Intertidal Mediterranean coralline algae habitat is expecting a shift towards a reduced growth and a simplified associated fauna under climate change. *Frontiers in Marine Science* 6:106. doi: 10.3389/fmars.2019.00106
- Hamdy, R., Langeneck, J., Atta, MM., Dorgham, MM., El-Rashidy, HH., Musco, L. (2019) Diversity and ecology of crustaceans from shallow rocky habitats along the Mediterranean coast of Egypt. *Marine Biodiversity*. <https://doi.org/10.1007/s12526-017-0787-z>.
- Bertocci I, Dell'Anno A, Musco L, Gambi C, Saggiomo V, Cannavacciuolo M, Lo Martire M, Passarelli A, Zazo G, Danovaro R (2019). Multiple human pressures in coastal habitats: variation of meiofaunal assemblages associated with sewage discharge in a post-industrial area. *Science Of The Total Environment*, 655:1218-12312401
- Musco L, Vega Fernández T, Caroselli E, J. Roberts MJ, Badalamenti F (2018) Protocooperation among small polyps allows the coral *Astroides calycularis* to prey on large jellyfish. *Ecology*. 99(10):2400–2401
- Bussotti S, Di Franco A, Bianchi CN, Chevaldonné P, Egea L, Fanelli E, Lejeusne C, Musco L, Navarro-Barranco C, Pey A, Planes S, Vieux-Ingrassia JV & Guidetti P (2018) Fish mitigate trophic depletion in marine cave ecosystems. *Scientific Reports*, 8: 9193
- Galasso, C.; Orefice, I.; Toscano, A.; Vega Fernández, T.; Musco, L.; Brunet, C.; Sansone, C.; Cirino, P. (2018) Food Modulation Controls Astaxanthin Accumulation in Eggs of the Sea Urchin *Arbacia lixula*. *Marine Drugs*, 16, 186.
- Langeneck, J., Diez, M.E., Nygren, A., Salazar-Vallejo, S. Carrera-Parra, L.F., Vega Fernández, T., Badalamenti, F., Castelli, A., Musco L. (2018) Worming its way into Patagonia: an integrative

approach reveals the cryptic invasion by *Eulalia clavigera* (Annelida: Phyllodocidae). Marine Biodiversity <https://doi.org/10.1007/s12526-018-0864-y>

- Langeneck, J., Musco, L., Busoni, G., Conese, I., Aliani S., Castelli A. (2018) Syllidae (Annelida: Phyllodocida) from the deep Mediterranean Sea, with the description of three new species. *Zootaxa* 4369(2), 197-220
- Noè, S., Badalamenti, F., Bonaviri, C., Musco, L., Vega Fernández, T., Vizzini, S., Gianguzza, P. (2018) Food selection of a generalist herbivore exposed to native and alien seaweeds. *Marine Pollution Bulletin* 129 (2), 469-473
- Cirino, P., Brunet, C., Ciaravolo, M., Galasso, C., Musco, L., Vega Fernández, T., Sansone, C., Toscano, A. (2017) The sea urchin *Arbacia lixula*: a novel natural source of astaxanthin. *Marine Drugs*, 15 (6) 187
- Bertocci, I., Badalamenti, F., Lo Brutto, S., Mikac, B., Pipitone, C., Schimmenti, E., Vega Fernández, T., Musco, L. (2017) Reducing the data-deficiency of threatened European habitats: Spatial variation of sabellariid worm reefs and associated fauna in the Sicily Channel, Mediterranean Sea. *Marine Environmental Research*. 130: 325-337
- Willis, T.J., Berglöf, K.T.L., McGill, R.A.R., Musco, L., Piraino, S., Rumsey, C.M., Vega Fernández, T., Badalamenti, F., (2017) Kleptopredation: a mechanism to facilitate planktivory in a benthic mollusk. *Biology Letters*. 13 (11) 20170447
- Musco, L., Prada, F., D'Anna, G., Galasso, N.M., Pipitone, C., Vega Fernández, T., Badalamenti, F. Turning casualty into opportunity: fragmenting dislodged colonies is effective for restoring reefs of a Mediterranean endemic coral (2017) *Ecological Engineering*, 98, 206-212.
- Gambi, M.C., Musco, L., Giangrande, A., Badalamenti, F., Micheli, F., Kroeker, K.J. (2016) Distribution and functional traits of polychaetes in a CO<sub>2</sub> vent system: Winners and losers among closely related species *Marine Ecology Progress Series*, 550, pp. 121-134
- Zenone, A., Badalamenti, F., Giacalone, V.M., Musco, L., Pipitone, C., Vega Fernandez, T., D'Anna, G. (2016) Substrate preference and settlement behaviour of the megalopa of the invasive crab *Percnon gibbesi* (Decapoda, Percnidae) in the Mediterranean Sea Helgoland *Marine Research*, 70:21
- Bulleri F., Badalamenti F., Ivesa L., Mikac B., Musco L., Jaklin A., Rattray A., Vega Fernandez T., Benedetti-Cecchi L. (2016) The effects of an invasive seaweed on native communities vary along a gradient of land-based human impacts. *PeerJ* 4:e1795; DOI 10.7717/peerj.
- Schimmenti E., Musco L., Lo Brutto S., Mikac B., Nygren A., Badalamenti F. (2016) Mediterranean record of *Eulalia ornata* (Annelida) corroborating its fidelity link with the Sabellaria alveolata-reef habitat. *Mediterranean Marine Science*. 17 (2), 359-370
- Corriero G, C Pierri, S Accoroni, G Alabiso, G Bavestrello, E Barbone, M Bastianini, AM Bazzoni, F Bernardi Aubry, F Boero, MC Buia, M Cabrini, E Camatti, F Cardone, B Cataletto, R Cattaneo Vietti, E Cecere, T Cibic, P Colangelo, A De Olazabal, G D'Onghia, S Finotto, N Fiore, D Fornasaro, S Frascchetti, MC Gambi, A Giangrande, C Gravili, R Guglielmo, C Longo, M Lorenti, A Lugliè, P Maiorano, MG Mazzocchi, M Mercurio, F Mastrototaro, M Mistri, M Monti, C Munari, L Musco, C Nonnis- Marzano, BC Padedda, FP Patti, A Petrocelli, S Piraino,

- G Portacci, A Pugnetti, S Pulina, T Romagnoli, I Rosati, D Sarno, CT Satta, N Sechi, S Schiaparelli, B Scipione, L Sion, A Terlizzi, V Tirelli, C Totti, A Tursi, N Ungaro, A Zingone, V Zupo, A Basset (2015). Ecosystem vulnerability to alien and invasive species: a case study on marine habitats along the Italian coast. *Aquatic Conservation: Marine and Freshwater Ecosystems* DOI: 10.1002/aqc.2550
- Dorgham M.M., R. Hamdy, H.H. El-Rashidy, M.M. Atta, L. Musco (2014) Distribution patterns of shallow water polychaetes (Annelida) along the coast of Alexandria, Egypt (eastern Mediterranean) *Mediterranean Marine Science* 15(3):635-649
- Musco L., F. Andaloro, B. Mikac, S. Mirto, T. Vega Fernandez, F. Badalamenti (2014) Concern about the spread of the invader seaweed *Caulerpa taxifolia* var. *distichophylla* (Chlorophyta: Caulerpaceae) to the Western Mediterranean. *Mediterranean Marine Science*, 15/3, 2014, 532-538
- Giangrande A., L.P.G. Caruso, L. Musco, M. Licciano. (2014) Variability among Mediterranean populations of *Sabella pavonina* (Annelida: Sabellidae) *Italian Journal of Zoology* 81(1): 100-111
- Giangrande A., Licciano M., Schirosi R., Musco L., Stabili L. (2014) Chemical and structural defensive external strategies in six sabellid worms (Annelida). *Marine Ecology-An Evolutionary Perspective* 35(1): 36-45
- Musco L. (2012) Ecology and diversity of Mediterranean hard bottom Syllidae (Annelida): a community-level approach. *Marine Ecology Progress Series* 461: 107–119.
- Mikac B, Musco L, Đakovac T, Giangrande A, Terlizzi A. (2011) Long term changes in North Adriatic soft-bottom polychaete assemblages following a dystrophic crisis. *Italian Journal of Zoology*. 78(S1): 304-316.
- Musco L, Mikac B, Tataranni M, Giangrande A, Terlizzi A. (2011) The use of coarser taxonomy in the detection of long-term changes in polychaete assemblages, *Marine Environmental Research* 71(2): 131-138.
- Bevilacqua S, Frascetti S, Musco L., Guarnieri G, Terlizzi A. (2011). Low sensitiveness of taxonomic distinctness indices to human impacts: Evidences across marine benthic organisms and habitat types. *Ecological Indicators*, 11(2): 448–455.
- Giangrande A, Licciano M, Musco L, Stabili L. (2010). Shift in *Sabella spallanzanii* (Polychaeta, Sabellidae) spawning period in the Central Mediterranean Sea: a consequence of climate change? *Mediterranean Marine Science* 11(2): 373-379.
- Musco L, Lepore E, Gherardi M, Sciscioli M, Mercurio M, Giangrande A. (2010). Sperm ultrastructure of three Syllinae (Annelida, Phyllodoceida) species with considerations on syllid phylogeny and *Syllis vittata* reproductive biology. *Zoomorphology* 129(2): 133-139.
- Mikac B, Musco L. (2010). Faunal and biogeographic analysis of Syllidae (Polychaeta) from Rovinj (Croatia, N Adriatic Sea) *Scientia Marina* 74 (2): 353-370.
- Schirosi R, Musco L, Giangrande A. (2010). Benthic assemblage of Acquatina lake (South Adriatic Sea): present state and long-term faunistic changes. *Scientia Marina* 74 (2): 235-246.

Bevilacqua S., Frascchetti S, Musco L., Terlizzi A. (2009) Taxonomic sufficiency in the detection of natural and human-induced changes in marine assemblages: A comparison of habitats and taxonomic groups. *Marine Pollution Bulletin* 58(12): 1850–1859

Musco L, Terlizzi A, Licciano M, Giangrande A (2009). Taxonomic structure and the effectiveness of surrogates in environmental monitoring: a lesson from polychaetes. *Marine Ecology Progress Series* 383: 199–210

#### Book Chapters:

Ingrosso G, Abbiati M, Badalamenti F, Bavestrello G, Belmonte G, Cannas R, Benedetti-Cecchi L, Bertolino M, Bevilacqua S, Bianchi CN, Bo M, Boscari E, Cardone F, Cattaneo-Vietti R, Cau A, Cerrano C, Chemello R, Chimienti G, Congiu L, Corriero G, Costantini F, De Leo F, Donnarumma L, Falace A, Frascchetti S, Giangrande A, Gravina MF, Guarnieri G, Mastrototaro F, Milazzo M, Morri C, Musco L, Pezolesi L, Piraino S, Prada F, Ponti M, Rindi F, Russo GF, Sandulli R, Villamor A, Zane L, Boero F (2018) Mediterranean Bioconstructions Along the Italian Coast. *Advances in Marine Biology Vol 79*: 61-136

Stabili, L., Acquaviva, M.I., Alabiso, G., Belmonte, M., Biandolino, F., Cavallo, R.A., Giangrande, A., Licciano, M., Lo Noce, R., Merendino, A., Mola, E., Musco, L., Narracci, M., Petrocelli, A., Ricci, P., Schirosi, R., Villanova, L. & Cecere, E. (2011). Bioactive Molecules from Marine Biomasses and their Potential Employment in Pharmaceuticals and Dietetic: the Project ACTI.BIO.MAR. In: Brugnoli, E., Cavarretta, G., Mazzola, S., Trincardi, F., Ravaioli, M. & Santoleri, R. (Eds). *Marine Research at CNR. National Research Council of Italy, Department of Earth and Environment. Volume DTA/06-2011: 2043-2054 (ISSN: 2239-5172).*

Giangrande, A., Schirosi, R. & Musco, L. (2009). Il Macrozoobenthos. In Belmonte, G. (Ed) *Biodiversità ed Ecologia del lago di Acquatina. Thalassia Salentina* 31 (suppl.): 49-62 (ISSN: 0563-3745; e-ISSN: 1591-0725)

Castelli, A., Bianchi, C.N., Cantone, G., Çinar, M.E., Gambi, M.C., Giangrande, A., Iraci Sareri, D., Lanera, P., Licciano, M., Musco, L., Sanfilippo, R. & Simonini R. (2008). Annelida Polychaeta. In: Relini, G. (Ed). *Checklist della flora e fauna dei mari italiani. Biologia Marina Mediterranea*. 15 (suppl.): 323-373 (ISSN1123-4245)