

## PERSONAL INFORMATION

Salvatrice Vizzini



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Sex F | Date of birth 12/04/1973 | Nationality Italian

PRESENT POSITION  
EDUCATION QUALIFICATION

Full Professor of Ecology, University of Palermo  
Degree in Biological Sciences, PhD in Animal Biology

## CURRENT POSITION

From 2018

- Full Professor of Ecology

University of Palermo (Italy)

Scientific interests: ecology of marine ecosystems with special focus on the effects of anthropogenic pressures including contamination, eutrophication and climate change on trophic functioning and food web structure; blue carbon ecosystems; rearing of marine invertebrates; sustainable aquaculture; planning of human activities in marine coastal areas

- PI in European projects (FP7 MedSea, ASSEMBLE, INTERREG-MED), responsible of Research Units or Tasks/Activities in various projects (e.g., MIUR-PNRA; RITMARE, PON 2007-2013, FCT-Portugal)
- Participation in more than 50 research projects and agreements funded by EU, Italian Government, and University of Palermo
- Professor of numerous University courses concerning Ecology and Marine Ecology
- Tutor of numerous bachelor, master and PhD students and of Post-docs

## WORK EXPERIENCE

From 2016

- Coordinator of the Master Degree in Marine Biology

University of Palermo (Italy)

From 2015

- Representative of CoNISMa for the European Marine Biological Resource Centre (EMBRC)

From 2015 to 2017

- Associate Professor of Ecology

University of Palermo (Italy)

From 2013

- Member of the Board of the PhD course in Earth and Marine Sciences

University of Palermo (Italy)

2012

- Member of the Board ISPRA-CoNISMa-CNR on “Ocean acidification” for the implementation of the Marine Strategy Framework Directive (2008/56/CE)

2010

- Coauthor of the patent “High-performance feedstuff formulation for aquaculture of herbivorous and omnivorous species”

From 2009 to 2016

- Member of the Board of the PhD course in “Technologies for sustainability and environmental recovery”

University of Palermo (Italy)

- From 2005   ▪ Scientific responsible of the Stable Isotope Ecology Laboratory  
University of Palermo (Italy)
- From 2005 to 2014   ▪ Researcher in Ecology  
University of Palermo (Italy)
- From 2004 to present   ▪ Work activity on the characterisation of seawater, sediment and biota for monitoring programs and environmental planning (e.g., sediment dredging, beach replenishment, submarine cable laying).
- From 2002   ▪ Author of more than 90 papers published in ISI journals with Impact Factor

## EDUCATION AND TRAINING

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- From 2001 to 2004   ▪ Post-doc fellowships  
University of Palermo (Italy)
- 2001   ▪ PhD in Animal Biology  
University of Palermo (Italy)
- 1997   ▪ Degree (*cum laude*) in Biological Sciences  
University of Palermo (Italy)

## RESEARCH EXPERIENCE

List of publications of the last 5 years in journals with Impact Factor

1. **Vizzini S.**, Miccichè L., Vaccaro A., Mazzola A. (2015) Use of fresh vegetable discards as sea urchin diet: effect on gonad index and quality. *Aquaculture International*, 23:127-139. DOI 10.1007/s10499-014-9803-5
2. Signa G., Mazzola A., Costa V., **Vizzini S.** (2015) Bottom-up control of macrobenthic communities in a guanotrophic coastal system. *PLoS ONE*, 10(2): e0117544. doi:10.1371/journal.pone.0117544.
3. Ricevuto E., **Vizzini S.**, Gambi M.C. (2015) Ocean acidification effects on stable isotope signatures and trophic interactions of polychaete consumers and organic matter sources at a CO<sub>2</sub> shallow vent system. *Journal of Experimental Marine Biology and Ecology*, 468: 105-117.
4. Mancinelli G., **Vizzini S.** (2015) Assessing anthropogenic pressures on coastal marine ecosystems using stable CNS isotopes: state of the art, knowledge gaps, and community-scale perspectives. *Estuarine, Coastal and Shelf Science*, 156: 195-204.
5. Mitchell S.B., Jennerjahn T., **Vizzini S.**, Zhang W. (2015) Changes to processes in estuaries and coastal waters due to intense multiple pressures – an introduction and synthesis. *Estuarine, Coastal and Shelf Science*, 156: 1-6.
6. Signa, G., Di Leonardo, R., Vaccaro A., Tramati C.D., Mazzola A., **Vizzini S.** (2015) Lipid and fatty acid biomarkers as proxies for environmental contamination in caged mussels *Mytilus galloprovincialis*. *Ecological Indicators*, 57: 384–394.
7. Giakoumi S., Halpern B.S., Michel L.N., Gobert S., Sini M., Boudouresque C.F., Gambi M.C., Katsanevakis S., Lejeune P., Montefalcone M., Pergent G., Pergent-Martini C., Sanchez-Jerez P., Velimirov B., **Vizzini S.**, Abadie A., Coll M., Guidetti P., Micheli F., Possingham H.P. (2015) Towards a framework for assessment and management of cumulative human impacts on marine food webs. *Conservation Biology*, 29(4): 1228-1234.
8. Scopelliti G., Di Leonardo R., Tramati C.D., Mazzola A., **Vizzini S.** (2015) Premature aging in bone of fish from a highly polluted marine area. *Marine Pollution Bulletin*, 97(1-2): 333-341.
9. Catania V., Santisi S., Signa G., **Vizzini S.**, Mazzola A., S. Cappello, M.M. Yakimov, Quatrini P. (2015) Intrinsic bioremediation potential of a chronically polluted marine coastal area. *Marine Pollution Bulletin*, 99: 138-149.
10. Calabrese S., Randazzo L, Daskalopoulou K., Milazzo S., Scaglione S., **Vizzini S.**, Tramati C.D., D’Alessandro W., Brusca L., Bellomo S., Giuffrida G.B., Pecoraino G., Montana G., Salerno G., Giammanco S., Caltabiano T., Parello F. (2016) Mount Etna volcano (Italy) as a major “dust” point source in the Mediterranean area. *Arabian Journal of Geosciences*, 9: 219.
11. Gianguzza P., Di Trapani F., Bonaviri C., Agnetta D., **Vizzini S.**, Badalamenti F. (2016) Size-dependent predation of the mesopredator *Marthasterias glacialis* (L.) (Asteroidea). *Marine Biology*, 163: 64.
12. **Vizzini S.**, Signa G., Mazzola A. (2016) Guano-derived nutrient subsidies drive food web structure in coastal ponds. *PLoS ONE*. e0151018. doi:10.1371/journal.pone.0151018.
13. Mancinelli G., Glamuzina B., Petrić M., Carrozzo L., Glamuzina L., Zotti M., Raho D., **Vizzini S.** (2016) The trophic position of the Atlantic blue crab *Callinectes sapidus* Rathbun 1896 in the food web of Parila Lagoon (South Eastern Adriatic, Croatia): a first assessment using stable isotopes. *Mediterranean Marine Science*, 17/3:634-643.
14. Balzani P., **Vizzini S.**, Santini G., Masoni A., Ciofi C., Ricevuto R., Chelazzi G. (2016) Stable isotope analysis of trophic niche in two co-occurring native and invasive terrapins, *Emys orbicularis* and *Trachemys scripta elegans*. *Biological Invasions*, 18: 3611-3621.
15. Romano C., Fanelli E., D’Anna G., Pipitone C., **Vizzini S.**, Mazzola A., Badalamenti F. (2016) Spatial variability of soft-bottom macrobenthic communities in Northern Sicily (Western Mediterranean): contrasting trawled vs. untrawled areas. *Marine Environmental Research*, 122: 113-125.
16. Di Leonardo R., Mazzola A., Cundy A.B., Tramati C.D., **Vizzini S.** (2017) Trace element storage capacity of sediments in dead *P. oceanica* mat from a chronically contaminated marine ecosystem. *Environmental Toxicology and Chemistry*, 36: 49-58.
17. Gerakaris V., Panayotidis P., **Vizzini S.**, Nicolaidou A., Economou-Amilli A. (2017) Effectiveness of *Posidonia oceanica* biotic indices for assessing the ecological status of coastal waters in the Saronikos Gulf (Aegean Sea, Eastern Mediterranean). *Mediterranean Marine Science*, 18(1): 161–178.
18. Indelicato S., Orecchio S., Avellone G., Bellomo S., Ceraulo L., Di Leonardo R., Di Stefano V., Favara R., Gagliano E.C., La Pica L., Morici S., Pecoraino G., Pisciotta A., Scaletta C., Vita F., **Vizzini S.**, Bongiorno D. (2017) Effect of solid waste landfill organic pollutants on groundwater in three areas of Sicily (Italy) characterized by different vulnerability. *Environmental Science and Pollution Research*, 24: 16869-16882.
19. Nogueira P., Gambi M.C., **Vizzini S.**, Califano G., Tavares A.M., Santos R., Martínez-Crego B. (2017) Altered epiphyte community and sea urchin diet in *Posidonia oceanica* meadows in the vicinity of submarine volcanic CO<sub>2</sub> vents. *Marine Environmental Research*, 127: 102-111.

20. Signa G., Mazzola A., Kairo J., **Vizzini S.** (2017) Small-scale variability of geomorphological settings influences mangrove-derived organic matter export in a tropical bay. *Biogeosciences*, 14(3): 617-629.
21. Signa G., Mazzola A., Tramati C., **Vizzini S.** (2017) Diet and habitat use influence Hg and Cd transfer to fish and consequent biomagnification in a highly contaminated area: Augusta Bay (Mediterranean Sea). *Environmental Pollution*, 230: 394-404.
22. Visconti G., Gianguzza F., Butera E., Costa V., **Vizzini S.**, Byrne M., Gianguzza P. (2017) Morphological response of the larvae of *Arbacia lixula* to near-future ocean warming and acidification. *ICES Journal of Marine Science*, 74(4): 1180-1190.
23. **Vizzini S.**, Martínez-Crego B., Andolina C., Massa-Gallucci A., Connell S.D., Gambi M.C. (2017) Ocean acidification as a driver of community simplification via the collapse of higher-order and rise of lower-order consumers. *Scientific Reports*, 7: 4018.
24. Signa G., Mazzola A., Di Leonardo R., **Vizzini S.** (2017) Element-specific behaviour and sediment properties modulate transfer and bioaccumulation of trace elements in a highly-contaminated area (Augusta Bay, Central Mediterranean Sea). *Chemosphere*, 187: 230-239.
25. Mancinelli G., Raho D., Zotti M, Alujević K., **Vizzini S.** (2017) Trophic flexibility of the Atlantic blue crab *Callinectes sapidus* in invaded coastal systems of the Apulia region (SE Italy): A stable isotope analysis. *Estuarine, Coastal and Shelf Science*, 198: 421-431.
26. **Vizzini S.**, Visconti G., Vaccaro A., Mazzola A. (2018) Experimental rearing of the sea urchin *Paracentrotus lividus* fed with discards of the lettuce *Lactuca sativa* in a sea-based system. *Aquaculture Research*, 49(2): 631–636.
27. Mancinelli G., Papadia P., Ludovisi A., Fanizzi F.P., **Vizzini S.** (2018) Beyond the mean: a comparison of trace- and macroelement correlation profiles of two lacustrine populations of the crayfish *Procambarus clarkii*. *Science for the Total Environment*, 624: 1455–1466.
28. Brigolin D., Rabouille C., Bombled B., Colla S., **Vizzini S.**, Pastres R., Pranovi F. (2018) Modelling biogeochemical processes in sediments from the north-western Adriatic Sea: response to enhanced particulate organic carbon fluxes. *Biogeosciences*, 15, 1347–1366.
29. Mirasole A., Gillanders B.M., Reis-Santos P., Grassa F., Capasso G., Scopelliti G., Mazzola A., **Vizzini S.** (2017) The influence of high  $p\text{CO}_2$  on otolith shape, chemical and carbon isotope composition of six coastal fish species in a Mediterranean shallow  $\text{CO}_2$  vent. *Marine Biology*, 164: 191.
30. Catania V., Cappello S., Di Giorgi V., Santisi S., Di Maria R., Mazzola A., **Vizzini S.**, Quatrini P. (2018) Microbial communities of polluted sub-surface marine sediments. *Marine Pollution Bulletin*, 131: 396-406.
31. Noè, S., Badalamenti, F., Bonaviri, C., Musco L., Fernandez T.V., **Vizzini, S.**, Gianguzza, P. (2018) Food selection of a generalist herbivore exposed to native and alien seaweeds. *Marine Pollution Bulletin*, 129: 469-173.
32. Tilves U., Fuentes V.L., Milisenda G., Parrish C.C., **Vizzini S.**, Sabatés A. (2018) Trophic interactions of the jellyfish *Pelagia noctiluca* in the NW Mediterranean: evidence from stable isotope signatures and fatty acid composition. *Marine Ecology Progress Series*, 591: 101-116.
33. Noè S., Gianguzza P., Di Trapani F., Badalamenti F., Vizzini S., Fernández T.V., Bonaviri C. (2018) Native predators control the population of an invasive crab in no-take marine protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 28(5): 1229-1237.
34. Tilves U., Fuentes V.L., Milisenda G., Parrish C.C., **Vizzini S.**, Sabatés A. (2018) Trophic interactions of the jellyfish *Pelagia noctiluca* in the NW Mediterranean: evidence from stable isotope signatures and fatty acid composition. *Marine Ecology Progress Series*, 591: 101-116.
35. **Vizzini S.**, Visconti G., Vaccaro A., Mazzola A. (2018) Experimental rearing of the sea urchin *Paracentrotus lividus* fed with discards of the lettuce *Lactuca sativa* in a sea-based system. *Aquaculture Research*, 49(2): 631–636.
36. Agnetta D., Badalamenti F., D'Anna G., Sinopoli M., Andaloro F., **Vizzini S.**, Pipitone C. (2019) Sizing up the role of predators on *Mullus barbatus* populations in Mediterranean trawl and no-trawl areas. *Fisheries Research*, 213: 196-203.
37. Apostolaki E.T., **Vizzini S.**, Santinelli V., Kaberi H., Andolina C., Papathanassiou E. (2019) Exotic *Halophila stipulacea* is an introduced carbon sink for the Eastern Mediterranean Sea. *Scientific Reports*, 9(1): 9643.
38. Bellino A., Mangano M.C., Baldantoni D., Russell B.D., Mannino A.M., Mazzola A., **Vizzini S.**, Sarà G. (2019) Seasonal patterns of biodiversity in Mediterranean coastal lagoons. *Diversity and Distributions*, 25(10): 1512-1526.
39. Boncagni P., Rakaj A., Fianchini A., **Vizzini, S.** (2019) Preferential assimilation of seagrass detritus by two coexisting Mediterranean sea cucumbers: *Holothuria polii* and *Holothuria tubulosa*. *Estuarine, Coastal and Shelf Science*, 231, 106464.

40. Costa V., Mazzola A., Rossi F., **Vizzini S.** (2019) Decomposition rate and invertebrate colonization of seagrass detritus along a hydrodynamic gradient in a Mediterranean coastal basin: the Stagnone di Marsala (Italy) case study. *Marine Ecology*, 40(6), e12570.
41. Signa G., Calizza E., Costantini M.L., Tramati C., Sporta Caputi S., Mazzola A., Rossi L., **Vizzini S.** (2019) Horizontal and vertical food web structure drives trace element trophic transfer in Terra Nova Bay, Antarctica. *Environmental Pollution*, 246: 772-781.
42. **Vizzini S.**, Apostolaki E.T., Ricevuto E., Polymenakou P., Mazzola A. (2019) Plant and sediment properties in seagrass meadows from two Mediterranean CO<sub>2</sub> vents: Implications for carbon storage capacity of acidified oceans. *Marine Environmental Research*, 146:101-108.
43. **Vizzini S.**, Visconti G., Signa G., Romano S., Mazzola A. (2019) A new sustainable formulated feed based on discards from food industries for rearing the sea urchin *Paracentrotus lividus* (Lmk). *Aquaculture Nutrition*, 25(3): 691-701.
44. Andolina C., Franzoi P., Jackson A.L., Mazzola A., **Vizzini S.** (2020) Vegetated habitats trophically support early development stages of a marine migrant fish in a coastal lagoon. *Estuaries and Coasts*.
45. Beca-Carretero P., Rotini A., Mejia A., Migliore L., **Vizzini S.**, Winters G. (2020) *Halophila stipulacea* descriptors in the native area (Red Sea): a baseline for future comparisons with native and non-native populations. *Marine Environmental Research*, 153: 104828.
46. Mirasole A., Signa G., Gianguzza P., Bonaviri C., Mazzola A., **Vizzini S.** (2020) Fish assemblages cope with ocean acidification in a shallow volcanic CO<sub>2</sub> vent benefiting from an adjacent recovery area. *Marine Environmental Research*, 104851.

#### List of projects with scientific responsibility

1. 2010-2012: Comparative analysis of biodiversity and trophic structure of macrozoobenthos in *Posidonia oceanica* beds under regression. University of Palermo. Scientific Responsible.
2. 2011-2014: MEDiterranean Sea Acidification under changing climate, MedSea. EU FP7 ENV-2010-265103. PI.
3. 2012-2015: Trophodynamics analysis through stable carbon and nitrogen isotopes: evaluations of fractionation in target species. Action SP2\_WP1\_AZ2\_UO04. Project RITMARE: La Ricerca Italiana per il MARE. Ministero dell'Istruzione, dell'Università e della Ricerca, Programma Nazionale di Ricerca Scientifica e Tecnologica. Action Responsible.
4. 2012-2015: Formulation of environmental sustainable feedstuffs for the production of new invertebrate species. Azione SP2\_WP4\_AZ4\_UO01. Project RITMARE: La Ricerca Italiana per il MARE. Ministero dell'Istruzione, dell'Università e della Ricerca, Programma Nazionale di Ricerca Scientifica e Tecnologica. Action Responsible.
5. 2012-2015: Formulation of feedstuffs. Actions SA3.2.4 e SA3.2.5. Project INNOVAQUA: Technological Innovation for the improvement of productivity and competitiveness of Sicilian aquaculture. Ministero dell'Istruzione, dell'Università e della Ricerca - Programma Operativo Nazionale Ricerca e Competitività 2007-2013. PON02\_00451\_3362185. Action Responsible.
6. 2011-2013: Relationship between spatial variability of stable isotopes ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) and fatty acids in coastal marine food webs and sea ice dynamics in Terra Nova Bay (Antarctica): evaluation of trophic niche of dominant species and food web robustness. Ministero dell'Istruzione, dell'Università e della Ricerca - Programma Nazionale di Ricerche in Antartide. Leader of Research Unit.
7. 2013-2014: High-CO<sub>2</sub> effects on seagrass photosynthetic ecophysiology (HIGHGRASS). PTDC/MAR-EST/3687/2012. Fundação para a Ciência e a Tecnologia-FCT, Portugal. Leader of Research Unit.
8. 2013-2015: Effects of ocean acidification on ecological features of marine coastal ecosystems: insights from a shallow CO<sub>2</sub> vent. FFR 2012/2013, University of Palermo. Project responsible.
9. 2014-2016: ISOBIOTOX: "stable ISotope and molecular markers for the reconstruction of Antarctic trophic webs under the sea-ice influence: evaluation of robustness to Biodiversity loss and heavy metals bioaccumulation-neuroTOXicity. Ministero dell'Istruzione, dell'Università e della Ricerca - Programma Nazionale di Ricerche in Antartide. Leader of Research Unit.
10. 2016: Contribution to the implementation of the Marine Strategy Framework Directive. Italian Ministry of the Environment Protection of Land and Sea. Responsible of Actions.
11. 2016-2017: Attività di valutazione delle catture accidentali dei cetacei durante le operazioni di pesca del traino pelagico finalizzate all'adempimento degli obblighi comunitari indicati dal Regolamento (CE) 812/2004 del 26 aprile 2004 che stabilisce misure relative alla cattura accidentale di cetacei nell'ambito della pesca e che modifica il regolamento (CE) n. 88/98. Ministero delle Politiche Agricole, Alimentari e Forestali. Scientific Responsible.

12. 2017-2018: Marine food webs in Terranova Bay during different ice cover: C, N, S stable isotopes to reconstruct trophic interactions that influence biodiversity and biomagnification of trace elements. Italian Ministry of Education, University and Research, National Programme of Research in Antarctica, Call 2014. Leader of Research Unit.
13. 2017-2019: BLUEISLANDS: Seasonal variation of waste as effect of tourism. Interreg MED Cooperation Programme 2014-2020, European Community. Leader of Research Unit.
14. 2018-2019 Sea-ice cover dynamics and variations in food webs and contaminant transfer at Terranova Bay: studies of three stable isotopes (C, N, S), heavy metals and PAHs in sympagic algae, fish and birds. Italian Ministry of Education, University and Research, National Programme of Research in Antarctica, Call 2016. PNRA16\_00291-A1. Leader of Research Unit.
15. 2020-22: Influence of sea-ice cover changes on the food web structure and key species in the Ross Sea "MPA" in a context of climatic change. Italian National Research Program in Antarctica, Ministry of Education, University and Research. Call 2018. PNRA18\_00295 - B2. Leader of Research Unit.
16. 2020-2022: Exploring the fate of Mediterranean microplastics: from distribution pathways to biological effects (EMME). Project of Relevant National Interest (PRIN), Ministry of Education, University and Research. Leader of Research Unit.

Participation in more than 50 research projects and agreements.

#### TEACHING ACTIVITY

- From 2001 to nowadays she has held numerous University courses concerning Ecology and Marine Ecology for bachelor and master students of the University of Palermo
- She has been tutor of numerous bachelor and master students, PhD students and Post-docs
- She is a member of the board of professors of the PhD Course in Earth and Marine Sciences of University of Palermo
- Since 2016 she coordinates the Master Degree in Marine Biology
- Teaching activity within Erasmus+ program at University of Aveiro, Portugal (academic year 2015/2016) and Klaipeda, Lithuania (academic year 2018/2019)

#### OTHER ACTIVITIES

##### Memberships and roles in scientific Societies and Consortia

- Società Italiana di Biologia Marina (1999)
- Consorzio Nazionale Interuniversitario per le Scienze del Mare (CoNISMa) (2002)
- Società Italiana di Ecologia (2002) – Treasury since 2016
- Italian Network for Marine Research, Lagunet (2008) - Member of the Board from 2008 to 2011 and from 2014 to 2016, Vice President from 2017 to 2018
- Estuarine Coastal Sciences Association (2013)

##### Editorial Boards

- Associate Editor of the ISI journal *Estuarine, Coastal and Shelf Science*
- Associate Editor of the ISI journal *Marine Pollution Bulletin*
- Special Features & Forums Editor of *Transitional Waters Bulletin*
- Member of the Editorial Board of *Frontiers in Marine Ecosystem Ecology*
- Editor of *Scientific Reports – Ecology and Evolutionary Biology*

Palermo, 11 February 2020

