

Mirella Vazzana

Degree in Biological Science (1993); PhD in Animal biology in 1998, Zoology researcher from 2002, Assistant Professor of Comparative Anatomy and Cytology - BIO/06 from 2016, Full professor of Comparative Anatomy and Cytology - BIO/06 from 2023 at the University of Palermo.

Founder of the Italian Association of Developmental and Comparative Immunology (1996-2003), Officer of IADCI (until today).

Responsible for the "Marina immunobiology lab" Department of Scienze e Tecnologie Biologiche Chimiche e Farmaceutiche-(STEBICEF).

Teacher of comparative anatomy and immunobiology for the degree in biological sciences.

- **Responsible UNIPA of the research group of the:**

Scientific responsible, in 2023, of the Bythos extend (Biotechnologies for human health and blue growth – extend) project, italia-malta 2014-20 - CTE Cross-border INTERREG Italy-Malta 2014/2020.

Scientific responsible, in 2023, of the Corallo+Si project (Capitalization project for Smaller Islands, Natural Parks and Marine Protected Areas), ITALIA-MALTA 2014-20 - CTE Cross-border INTERREG Italy-Malta 2014/2020.

Component, in 2022, of the project "Efficient use of by-products in olive oil and wine companies" acronym SCORELINE. PON2014-20_MISE - PON Enterprises and competitiveness 2014/2020 Ministry of Economic Development, PRJ-0413. Resp. Sc. Prof V. Arizza.

Projects 1.26 of PO FEAMP 2014 - 2020 Innovations in the fishing sector. Title: Smart packing for ittic products (cosmic).

Research project of Istituto Zooprofilattico Sperimentale della Sicilia A. Mirri. Title: *Mytilus galloprovincialis* and the expression of metallothioneins as a biomarker of the state of pollution from heavy metals in the marine environment.

Research project of Istituto Zooprofilattico Sperimentale della Sicilia A. Mirri. Title: Anisakis and Aquaculture: Survey on the presence of Anisakids parasites in aquaculture and allergy prevention products in aquaculture.

Research project of UNIPA Title: "In vivo and in vitro evaluation of immune responses in marine organisms exposed to stress agents".

Research project of UNIPA Title: "In vivo and in vitro evaluation of immune responses in marine organisms in the presence of stress agents".

Research project of UNIPA Title: "Effects of confining stress on the natural immunity of *Dicentrarchus labrax*"

Research project of UNIPA Title: "Effects of cortisol and ACTH on immune system cells in *Dicentrarchus labrax*"

Research project of UNIPA Title: "Modulating action of complement on the production of reactive oxygen intermediates".

- **Component of the research group of the:**

PRIN 2010-2011: - Genes and molecules of immunity of invertebrates. Structure, functions, evolutionary precursors and transferability in applied research

PRIN 2006: - The repertoire of lectins in protochordates. Evolution of recognition mechanisms and innate immunity

PRIN 2004: - Evolution of innate immunity. Components of inflammatory reaction of ascites and molecular filogenesis of cordage.

Project POR, Title: A.ST.E.D. (Anti Staphylococcus epidermidis Devices) - Development of new orthopedic devices with anti-biofilm properties PO FESR 2007-2013 linea 4.1.1.2 Cod. 2011-NAZ-0055.

Project POR Title: "Deliver Drugs Delivering Bone Graft" 4.1.1, PO FESR 2007/2013.

National project "RITMARE - Ricerca Italiana per il Mare" of CNR "Verification of immune responses to stress and evaluation of the energy budget spent during the breeding of sea bass, as a diagnostic method of levels of wellbeing"

Project MIPAAF, - "Genetic characterization and unspecific immune resistance of aquatic species new introduction into aquaculture".

Project UNIPA - "Antimicrobial peptides of invertebrates and fish. cDNA and gene expression".

Project UNIPA "Identification, characterization, cloning and expression of antimicrobial peptides of invertebrates and fish".

Project UNIPA - "Modulazione dell'immunità innata in pesci ed invertebrati marini".

Project UNIPA - "Cells and cytotoxic mechanisms in the natural immunity of invertebrates and fish".

Project CoRI - award grants for international educational and scientific collaborations.

Project UNIPA - "Cellular and molecular aspects of inflammatory processes in animal models of phylogenetic interest".

- **Invited speaker:**

Meeting CONARGA (Consorzio Nazionale di Ricerca per la Gambericoltura), "The Crustaceans resource in the Mediterranean: research, production and market". Title: "Stress effects in shrimp breeding". 25-26 novembre 2010 Corte Benedettina Legnaro (Padova).

Workshop "The fishing and the catch: the past, present and future. Production realities and design proposals". Title: "Aquaculture as a fishing support". Hotel San Paolo Palace - Palermo 22 ottobre 2010.

Meeting "Alien species in Sicily ... what impact on biodiversity?", Title:

"Actions for the protection of macrostigma trout". Rosolini (SR), 7 dicembre 2010.

- **Reviewer:**

- Italian Journal of Zoology

- Journal of Food & Nutritional Disorders

- Journal of the World Aquaculture Society

- Fish and Shellfish Immunology.

- **Research topics:**

- Defense mechanisms in invertebrates and fish (cytotoxicity, opsonization, phagocytosis, agglutination)

- Stress response in invertebrate and fish (biochemical characterization of glucocorticoid receptors, heat shock proteins, and plasmatic stress indicators) - Wound healing in Holothuroidea (all the basic techniques of cellular and humoral biology)

The research is carried out about the study and description of the main immune responses of invertebrates and freshwater fish and saltwater in vivo and in vitro. In particular, the responses of the organisms to various types of stressors highlighting the internal defence mechanisms activated after environmental stimulation. Mussel and fish antimicrobial peptides.

- **Scientific international collaboration:**

Laboratory of Comparative Neuroimmunology, Department of Neurobiology, UCLA, Los Angeles, USA (Prof. Edwin L. Cooper).

Department of Pathobiology, School of Veterinary Medicine di Philadelphia (University of Pennsylvania, Assistant Professor J. Oriol Sunyer, Ph.D).

Center of Marine Biotechnology, University of Maryland Biotechnology Institute, Baltimore, Maryland, USA (Prof. Gerardo R. Vasta).

CNR Istituto di Biomedicina e Immunologia molecolare "Alberto Monroy" Palermo (dott. M. Cervello).

CNR Unità operativa di Capo Granitola (TP) dell'Istituto per l'Ambiente Marino Costiero (dott.ssa G. Buscaino e dott.ssa A. Cuttitta).

Oasi WWF Lago Preola e Gorgi Tondi (dott.ssa S. D'Angelo).

Istituto Zooprofilattico Area Diagnostica Specialistica (dott. V. Ferrantelli e dott. D. Vicari, dott G. Cammilleri).

- **PhD and postdoc tutor:**

Tutor of Dr. Celi Monica, Postdoc researcher, research topic " Identification and characterization of novel stress parameters and innate immunity for evaluating the welfare of farmed fish species", UNIPA;

Tutor of Dr. Francesca Giannone, thesis title: "Monitoring the state of pollution from drug residues ", UNIPA;

Tutor of Dr. Manuela Mauro, thesis title: "Assessment of the relative environmental impact of industrial activities related to mining of seabed (Deep Sea Mining, DSM)", MIUR.

Tutor of Dr. Diletta Punginelli, thesis title: "Antimicrobial and antitumor activity from aquatic species" UNIPA.

- **International publications with impact factor**

1. Dumas, F., Mauro, M., Vazzana, M., Arizza, V., & Vizzini, A. (2023). Ciona robusta macrophage migration inhibitory factor (Mif1 and Mif2) genes are differentially regulated in the LPS-challenged pharynx. *Journal of Fish Biology*.
2. De Vita, C., Mauro, M., Vazzana, M., Arculeo, M., Arizza, V., Ceraulo, M., & Buscaino, G. (2023). Acoustic Signals and Behavior of the Invasive Freshwater Crayfish *Cherax destructor* (Clark, 1936). *Journal of Marine Science and Engineering*, 11(6), 1147.
3. Abruscato, G., Chiarelli, R., Lazzara, V., Punginelli, D., Sugár, S., Mauro, M., ... & Luparello, C. (2023). In Vitro Cytotoxic Effect of Aqueous Extracts from Leaves and Rhizomes of the Seagrass *Posidonia oceanica* (L.) Delile on HepG2 Liver Cancer Cells: Focus on Autophagy and Apoptosis. *Biology*, 12(4), 616.
4. Indelicato, S., Di Stefano, V., Avellone, G., Piazzese, D., Vazzana, M., Mauro, M., ... & Bongiorno, D. (2023). HPLC/HRMS and GC/MS for Triacylglycerols Characterization of Tuna Fish Oils Obtained from Green Extraction. *Foods*, 12(6), 1193.
5. Punginelli, D., Catania, V., Abruscato, G., Luparello, C., Vazzana, M., Mauro, M., ... & Schillaci, D. (2023). New Bioactive Peptides from the Mediterranean Seagrass *Posidonia oceanica* (L.) Delile and Their Impact on Antimicrobial Activity and Apoptosis of Human Cancer Cells. *International Journal of Molecular Sciences*, 24(6), 5650.
6. Dara, M., Dioguardi, M., Vazzana, M., Vazzana, I., Carbonara, P., Alfonso, S., & Cammarata, M. (2023). The Role of Spatial Exploration and Territoriality in Establishing Gilthead Seabream (*Sparus aurata*) Hierarchies, and Their Effects upon Underlying Stress Physiology. *Fishes*, 8(3), 132.

7. La Paglia, L., Vazzana, M., Mauro, M., Dumas, F., Fiannaca, A., Urso, A., ... & Vizzini, A. (2023). Transcriptomic and Bioinformatic Analyses Identifying a Central Mif-Cop9-Nf-kB Signaling Network in Innate Immunity Response of *Ciona robusta*. *International Journal of Molecular Sciences*, 24(4), 4112.
8. Solé, M., Kaifu, K., Mooney, T. A., Nedelec, S. L., Olivier, F., Radford, A. N., ... & André, M. (2023). Marine invertebrates and noise. *Frontiers in Marine Science*, 10, 185.
9. Punginelli, D., Catania, V., Vazzana, M., Mauro, M., Spinello, A., Barone, G., ... & Schillaci, D. (2022). A Novel Peptide with Antifungal Activity from Red Swamp Crayfish *Procambarus clarkii*. *Antibiotics*, 11(12), 1792.
10. Luparello, C., Branni, R., Abruscato, G., Lazzara, V., Sugár, S., Arizza, V., ... & Vazzana, M. (2022). Biological and proteomic characterization of the anti-cancer potency of aqueous extracts from cell-free coelomic fluid of *Arbacia lixula* sea urchin in an in vitro model of human hepatocellular carcinoma. *Journal of Marine Science and Engineering*, 10(9), 1292.
11. Lazzara, V., Mauro, M., Celi, M., Cammilleri, G., Vizzini, A., Luparello, C., ... & Vazzana, M. (2022). Effects of Sulfamethoxazole on Fertilization and Embryo Development in the *Arbacia lixula* Sea Urchin. *Animals*, 12(18), 2483.
12. Queiroz V., Arizza V., Vazzana M., Custodio M.R. (2022). Comparative evaluation of coelomocytes in *Paracentrotus* sea urchins: Description of new cell types and insights on spherulocyte maturation and sea urchin physiology. *Zoologischer Anzeiger*, 300, 27-40. DOI: 10.1016/j.jcz.2022.06.008.
13. Di Stefano V., Buzzanca C., Melilli M.G., Indelicato S., Mauro M., Vazzana M., Arizza V., Lucarini M., Durazzo A., Bongiorno D. (2022). Polyphenol characterization and antioxidant activity of grape seeds and skins from Sicily: a preliminary study. *Sustainability*, 14(11), 6702. DOI: 10.3390/su14116702.
14. Celi M., Russo D., Vazzana M., Arizza, V., Manachini B. (2022). Does *Bacillus thuringiensis* affect the stress and immune responses of *Rhynchophorus ferrugineus* larvae, females, and males in the same way? *Insects*, 13(5), 437. DOI: 10.3390/insects13050437.
15. Mauro M., Pinto P., Settanni L., Puccio V., Vazzana M., Hornsby B.L., Fabbriozio A., Di Stefano V., Barone G., Arizza V. (2022). Chitosan film functionalized with grape seed oil—preliminary evaluation of antimicrobial activity. *Sustainability*, 14(9), 5410. DOI: 10.3390/su14095410.
16. Dara M., Dioguardi M., Vazzana M., Vazzana I., Accardi D., Carbonara P., Alfonso S., Cammarata M. (2022). Effects of social hierarchy establishment on stress response and cell phagocytosis in gilt-head sea bream (*Sparus aurata*). *Fishes*, 7(2), 75. DOI: 10.3390/fishes7020075.
17. Mauro M., Arizza V., Arculeo M., Attanzio A., Pinto P., Chirco P., Badalamenti G., Tesoriere L., Vazzana M. (2022). Haemolympathic parameters in two aquaculture crustacean species *Cherax destructor* (Clark, 1836) and *Cherax quadricarinatus* (Von Martens, 1868). *Animals*, 12(5), 543. DOI: 10.3390/ani12050543.
18. Queiroz V., Mauro M., Arizza V., Custódio M. R., Vazzana M. (2022). The use of an integrative approach to identify coelomocytes in three species of the genus *Holothuria* (Echinodermata). *Invertebrate Biology*, 141(1), e12357. DOI: 10.1111/ivb.12357.
19. Luparello C., Branni R., Abruscato G., Lazzara V., Drahos L., Arizza V., Mauro M., Di Stefano V., Vazzana M. (2022). Cytotoxic capability and the associated proteomic profile of cell-free coelomic fluid extracts from the edible sea cucumber *Holothuria tubulosa* on HepG2 liver cancer cells. *EXCLI journal*, 2 1, 722. DOI: 10.17179/excli2022-4825.
20. Mauro M., Cammilleri G., Celi M., Cicero A., Arizza V., Ferrantelli V., Vazzana M. (2022). Effects of diclofenac on the gametes and embryonic development of *Arbacia lixula*. *The European Zoological Journal*, 89(1), 535-545. DOI: 10.1080/24750263.2022.2059582.
21. Punginelli D., Schillaci D., Mauro M., Deidun A., Barone G., Arizza V., Vazzana M. (2022). The potential of antimicrobial peptides isolated from freshwater crayfish species in new drug development: A review. *Developmental & Comparative Immunology*, 126, 104258. DOI: 10.1016/j.dci.2021.104258.
22. Di Stefano V., Bongiorno D., Buzzanca C., Indelicato S., Santini A., Lucarini M., Fabbriozio A., Mauro M., Vazzana M., Arizza V., Durazzo A. (2021). Fatty acids and triacylglycerols profiles from Sicilian (cold pressed vs. soxhlet) grape seed oils. *Sustainability*, 13(23), 13038. DOI: 10.3390/su132313038.
23. Carbonara P., Alfonso S., Dioguardi M., Zupa W., Vazzana M., Dara M., Spedicato M.T., Lembo G., Cammarata M. (2021). Calibrating accelerometer data, as a promising tool for health and welfare monitoring in aquaculture: case study in European sea bass (*Dicentrarchus labrax*) in conventional or organic aquaculture. *Aquaculture Reports*, 21, 100817. DOI: 10.1016/j.aqrep.2021.100817.

24. Mauro M., Lazzara V., Arizza V., Luparello C., Ferrantelli V., Cammilleri G., Inguglia L. & Vazzana M. (2021). Human drug pollution in the aquatic system: the biochemical responses of *Danio rerio* adults. *Biology*, 10(10), 1064. DOI: 10.3390/biology10101064.
25. Vizzini A., Bonura A., La Paglia L., Fiannaca A., La Rosa M., Urso A., Mauro M., Vazzana M., Arizza V. (2021). Transcriptomic analyses reveal 2 and 4 family members of cytochromes P450 (CYP) involved in LPS inflammatory response in pharynx of *Ciona robusta*. *International Journal of Molecular Sciences*, 22(20), 11141. DOI: 10.3390/ijms222011141.
26. Mauro M., Queiroz V., Arizza V., Campobello D., Custódio M. R., Chiaramonte M., Vazzana M. (2021). Humoral responses during wound healing in *Holothuria tubulosa* (Gmelin, 1788). *Comparative Biochemistry and Physiology Part B: Biochemistry and Molecular Biology*, 253, 110550. DOI: 10.1016/j.cbpb.2020.110550.
27. Queiroz V., Arizza V., Vazzana M., Rozas E.E., Custódio M.R. (2021). Cyto centrifugation as an additional method to study echinoderm coelomocytes: a comparative approach combining living cells, stained preparations, and energy-dispersive x-ray spectroscopy. *Revista de Biología Tropical*, 69, 171-184. DOI: 10.15517/rbt.v69iSuppl.1.46348.
28. Luparello C., Mauro M., Arizza V., Vazzana M. (2020). Histone deacetylase inhibitors from marine invertebrates. *Biology*, 9(12), 429. DOI:10.3390/biology9120429.
29. Chiaramonte M., Arizza V., La Rosa S., Queiroz V., Mauro M., Vazzana M., Inguglia L. (2020). Allograft inflammatory factor AIF-1: early immune response in the Mediterranean sea urchin *Paracentrotus lividus*. *Zoology*, 142, 125815. DOI: 10.1016/j.zool.2020.125815.
30. Vazzana, M., Mauro, M., Ceraulo, M., Dioguardi, M., Papale, E., Mazzola, S., Arizza, V., Beltrame, F., Inguglia, L., Buscaino, G. (2020). Underwater high frequency noise: Biological responses in sea urchin *Arbacia lixula* (Linnaeus, 1758). *Comparative Biochemistry and Physiology -Part A : Molecular and Integrative Physiology*, 242, Article number 110650.
31. Mauro M., Lazzara V., Punginelli D., Arizza V., Vazzana M. (2020). Antitumoral compounds from vertebrate sister group: a review of Mediterranean ascidians. *Developmental & Comparative Immunology*, 108, 103669. DOI: 10.1016/j.dci.2020.103669.
32. Inguglia L., Chiaramonte M., Di Stefano V., Schillaci D., Cammilleri G., Pantano L., Mauro M., Vazzana M., Ferrantelli V., Nicolosi R., Arizza V. (2020). *Salmo salar* fish waste oil: fatty acids composition and antibacterial activity. *PeerJ*, 8, e9299. DOI: 10.7717/peerj.9299.
33. Mauro M., Pérez-Arjona I., Perez E.J.B., Ceraulo M., Bou-Cabo M., Benson T., Espinosa V., Beltrame F., Mazzola S., Vazzana M., Buscaino G. (2020). The effect of low frequency noise on the behaviour of juvenile *Sparus aurata*. *The Journal of the Acoustical Society of America*, 147(6), 3795-3807. DOI: 10.1121/10.0001255.
34. Luparello C., Mauro M., Lazzara V., Vazzana M. (2020). Collective locomotion of human cells, wound healing and their control by extracts and isolated compounds from marine invertebrates. *Molecules*, 25(11), 2471. DOI: 10.3390/molecules25112471.
35. Brusca I., Graci S., Barrale M., Cammilleri G., Zarcone M., Onida R., Costa A. Ferrantelli V., Buscemi M.D., Uasuf C.G., Gjomarkaj M., Vazzana M., La Chiusa S.M., Iacolino G., Vitale F., Mazzucco, W. (2020). Use of a comprehensive diagnostic algorithm for Anisakis allergy in a high seroprevalence Mediterranean setting. *European Annals of Allergy and Clinical Immunology*, 52(3), 131-141. DOI:10.23822/eurannaci.1764-1489.118.
36. Luparello C., Ragona D., Asaro D.M.L., Lazzara V., Affranchi F., Arizza V., Vazzana M. (2020). Cell-free coelomic fluid extracts of the sea urchin *Arbacia lixula* impair mitochondrial potential and cell cycle distribution and stimulate reactive oxygen species production and autophagic activity in triple-negative MDA-MB231 breast cancer cells. *Journal of Marine Science and Engineering*, 8(4), 261. DOI: 10.3390/jmse8040261.
37. Cammilleri, G., Pulvirenti, A., Costa, A., Graci, S., Collura, R., Buscemi, M.D., Sciortino, S., Vitale Badaco, V., Vazzana, M., Brunone, M., Vella, A., Di Bella, C., Ferrantelli, V., (2020). Seasonal trend of Anisakidae infestation in South Mediterranean bluefish (Article). *Natural Product Research*, 34 (1), 158-161.
38. Cammilleri, G., Galluzzo, P., Pulvirenti, A., Giangrosso, I.E., Lo Dico, G.M., Montana, G., Lampiasi, N., Mobilia, M.A., Lastra, A., Vazzana, M., Vella, A., La Placa, P., Macaluso, A., Ferrantelli, V., (2020). Toxic mineral elements in *Mytilus galloprovincialis* from Sicilian coasts (Southern Italy). *Natural Product Research*, 34 (1), 177-182.
39. Luparello, C., Ragona, D., Asaro, D.M.L., Lazzara, V., Affranchi, F., Celi, M., Arizza, V., Vazzana, M., (2019). Cytotoxic potential of the coelomic fluid extracted from the sea cucumber *holothuria tubulosa* against triplenegative MDA-MB231 breast cancer cells(Article)(Open Access) *Biology*, 8 (4), , Article number 76.

40. Lazzara, V., Arizza, V., Luparello, C., Mauro, M., Vazzana, M. (2019). Bright spots in the darkness of cancer: A review of starfishes-derived compounds and their anti-tumor action. *Marine Drugs*, 17 (11), Article number 617.
41. Chiamonte, M., Inguglia, L., Vazzana, M., Deidun, A., Arizza, V. (2019). Stress and immune response to bacterial LPS in the sea urchin *Paracentrotus lividus* (Lamarck, 1816). *Fish and Shellfish Immunology*, 92, 384-394.
42. Carbonara, P., Dioguardi, M., Cammarata, M., Zupa, W., Vazzana, M., Spedicato, M.T., Lembo, G. (2019). Basic knowledge of social hierarchies and physiological profile of reared sea bass *Dicentrarchus labrax* (L.). *PLoS ONE* 14(1), e0208688.
43. Lazzara, V., Arizza, V., Luparello, C., Mauro, M., & Vazzana, M. (2019). Bright spots in the darkness of cancer: A review of starfishes-derived compounds and their anti-tumor action. *Marine drugs*, 17(11), 617.
44. Vazzana M., Celi M., Chiaramonte M., Inguglia L., Russo D., Ferrantelli V., Battaglia D., Arizza V. (2018). Cytotoxic activity of *Holothuria tubulosa* (Echinodermata) coelomocytes. *Fish and Shellfish Immunology* 72, 334-341.
45. Cammilleri, G., Vazzana, M., Arizza, V., Giunta, F., Velia, A., Lo Dico, G., Giaccone, V., Giofrè, S.V., Giangrosso, G., Cicero, N. Ferrantelli, V. (2018). Mercury in fish products: what's the best for consumers between bluefin tuna and yellowfin tuna? *Naturai Product Research* 1-6.
46. Cammilleri, G., Calvaruso, E., Pantano, L., Cascio, G.L., Randisi, B., Macaluso, A., Vazzana, M., Caracappa, G., Giangrosso, G., Vella, A., Ferrantelli, V. (2017). Survey on the presence of non-dioxine-like PCBs (NDL-PCBs) in loggerhead turtles (*Caretta caretta*) stranded in south Mediterranean coasts (Sicily, Southern Italy). *Environmental Toxicology and Chemistry*, 36, Issue 11, 2997-3002.
47. Vazzana M., Celi M., Arizza V., Calandra G., Buscaino G., Ferrantelli V., Bracciali C. and Sarà G. (2017). Noise elicits hematological stress parameters of Mediterranean damselfish (*Chromis chromis*, Perciformes): A mesocosm study. *Fish and Shellfish Immunology*, 62, pp. 147-152.
48. Dioguardi M., Guardiola F.A., Vazzana M., Cuesta A., Esteban M. A., Cammarata M. (2017). Vitamin D3 affect innate immune status of European sea bass (*Dicentrarchus labrax*). *Fish Physiology and Biochemistry*, 43(4), pp. 1161-1174.
49. Cammilleri, G., Calvaruso, E., Pantano, L., Cascio, G.L., Randisi, B., Macaluso, A., Vazzana, M., Caracappa, G., Giangrosso, G., Vella, A., Ferrantelli, V. (2017). Survey on the presence of non-dioxine-like PCBs (NDL-PCBs) in loggerhead turtles (*Caretta caretta*) stranded in south Mediterranean coasts (Sicily, Southern Italy)
50. Costa A., Cammilleri G., Graci S., Buscemi M.D., Vazzana M., Principato D. Giangrosso G., Ferrantelli V. (2016). Survey on the presence of *A. simplex* s.s. and *A. pegreffii* hybrid forms in Central-Western Mediterranean Sea. *Parasitology International* 65 696–701.
51. Vazzana, M., Celi, M., Maricchiolo, G., Genovese, L., Corrias, V., Quinci, E. M., de Vincenzi, G., Maccarrone, V., Cammilleri, G., Mazzola, S., Buscaino, G., Filiciotto, F. (2016). Are mussels able to distinguish underwater sounds? Assessment of the reactions of *Mytilus galloprovincialis* after exposure to lab-generated acoustic signals. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 201, 61-70.
52. Filiciotto F., Vazzana M., Celi M., Maccarrone V., Ceraulo M., Buffa G., Arizza V., de Vincenzi G., Mazzola S., Buscaino G. (2016). Underwater noise from boats: measurement of its influence on the behavior and biochemistry of the common prawn. *Journal of Experimental Marine Biology and Ecology*. 478, 24-33.
53. Celi M., Filiciotto F., Maricchiolo G., Genovese L., E. M. Quinci, Maccarrone V., Mazzola S., Vazzana M., Buscaino G. (2016). Vessel noise pollution as a human threat to fish: assessment of the stress response in gilthead sea bream (*Sparus aurata*, Linnaeus 1758). *Fish Physiology and Biochemistry*, 42(2), pp. 631-641.
54. Parrinello D., Sanfratello M.A., Celi M, Vazzana M. (2015). Hemocyte types and some plasmatic properties of two edible crabs *Cancer borealis* and *Cancer pagurus*. *Invertebrate Survival Journal*, 12: 195-202.
55. Celi M., Filiciotto F., Vazzana M., Arizza V., Maccarrone V., Ceraulo M., Mazzola S., and Buscaino G. (2015). Shipping noise affecting immune responses of European spiny lobster (*Palinurus elephas*). *Canadian Journal of Zoology*, 93: 113–121.
56. Vazzana M., Siragusa T., Arizza V., Buscaino G., Celi M. (2015). Cellular responses and HSP70 expression during wound healing in *Holothuria tubulosa* (Gmelin, 1788). *Fish and Shellfish Immunology*, 42: 306-315.
57. Filiciotto F., Vazzana M., Celi, M., Maccarrone V., Ceraulo M., Buffa G., Stefano V.D., Mazzola S., Buscaino G. (2014). Behavioural and biochemical stress responses of *Palinurus elephas* after exposure to boat noise pollution in tank. *Marine Pollution Bulletin*, 84: 104-114.

58. Vazzana M., Celi M., Tramati C., Ferrantelli V., Arizza V., Parrinello N. (2014). In vitro effect of cadmium and copper on separated blood leukocytes of *Dicentrarchus labrax*. *Ecotoxicology and Environmental Safety*, 102: 113-120.
59. Nicosia A., Celi M., Vazzana M., Damiano M.A., Parrinello N., D'Agostino F., Avellone G., Indelicato S., Mazzola S., Cuttitta A. (2014). Profiling the physiological and molecular response to sulfonamidic drug in *Procambarus clarkii*. *Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology*, 166: 14-23.
60. Vazzana M., Reas G., Cammarata M., Arizza, V., Ferrantelli V., Parrinello N. (2014). Aroclor 1254 inhibits the chemiluminescence response of peritoneal cavity cells from sharpnose sea bream (*Diplodus puntazzo*). *Fish and Shellfish Immunology*, 39: 498-502.
61. Celi M., Filiciotto F., Parrinello D., Buscaino G., Damiano M.A., Cuttitta A., D'Angelo S., Mazzola S., Vazzana M. (2013). Physiological and agonistic behavioural response of *Procambarus clarkii* to an acoustic stimulus. *Journal of Experimental Biology*, 216: 709-718.
62. Schillaci D., Cusimano M.G., Cunsolo V., Saletti R., Russo D., Vazzana M., Vitale M., Arizza, V. (2013). Immune mediators of sea-cucumber *Holothuria tubulosa* (Echinodermata) as source of novel antimicrobial and anti-staphylococcal biofilm agents. *AMB Express*, 3: 35.
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