

Maria Cristina Buia



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Current Position: Ricercatore II° livello, Senior Scientist

Current Affiliation:

Stazione Zoologica Anton Dohrn di Napoli (SZN)

Integrative Marine Ecology Department (IME),

Branch office 'Villa Dohrn' – Benthic Ecology (BLAB), Ischia, (Naples, Italy).

Education/Training/Experience

Institute and Location	Degree / Function	Year	Field of Study
Department of Ethology, University of Parma (Italy)	MSc	1981	Biological sciences
Stazione Zoologica Anton Dohrn di Napoli	Fellowship (BLAB)	1983-1987	Marine benthic macrophytes
Stazione Zoologica Anton Dohrn di Napoli	Researcher (III Level) (BLAB)	1988	Ecology of marine benthic plants
Stazione Zoologica Anton Dohrn di Napoli	Head of the BLAB	1999-2008	Diversity, dynamics and functioning of seagrass systems
Stazione Zoologica Anton Dohrn di Napoli	Researcher (II Level) (BLAB)	2002-present	Responses of marine plants to environmental variability and changes

Appointments and awards

1994-1995: X Italian Scientific Expedition at Terra Nova Bay (Antarctica)

1999-present: Curator of the SZN Herbarium

1999-2002: Contract Professor of 'Systematics and biology of algae' at the Parthenope University of Naples (Italy)

2000-2004: Management Committee member of "World Seagrass Association (WSA)".

- 2000-2014: Committee member of “Seagrass 2000”, a Mediterranean seagrass organization
- 2003: Scientist visitor at Sangerdi Marine Center (Island)
- 2003-2004: Lectures for the Master in “Management of the Marine Resources” at the University of Padoa
- 2003-present: Committee Member of ‘Collegio docenti’ for the PhD in ‘Biology of Algae’, at the University of Messina (Italy)
- 2005-2008: Italian Posidonia Expert in the MED-GIG Committee (WFDirective 2000)
- 2008: Scientific visitor at UNAM (Mexico)
- 2008- 2014: Coordinator of the branch office ‘Villa Dohrn – Benthic Ecology ‘ at Ischia (Naples)
- 2008-2014: Scientific Coordinator of the Benthic Ecology Group (Ischia) in the Functional and Evolutionary Laboratory of the SZN
- 2010: Faculty member of the MEDCOAST Institute - International Training Workshop on Integrated Coastal Management in the Mediterranean and the Black Sea
- 2012: Lectures for the Master in “ Biology and biodiversity of marine algae and plants” at the ‘Università Politecnica delle Marche’
- 2014-2015: Contract Professor (‘Laurea Mare’) of ‘Biodiversity of marine plants and coastal monitoring’ at the University of Naples Federico II (Italy).
- 2015: Coordinator of the Benthic Biology and Ecology Laboratory at Villa Dohrn-Ischia, IME, SZN (Italy)

Other

- Local coordinator-partecipant in four EU-funded projects and in several projects founded by Italian Ministries, Environmental Agencies and local Authorities.
- Co-Editor of the Proceedings of two International Workshops on Seagrass Biology and Ecology and of a special volume on seagrasses on ‘Marine Ecology: an evolutionary perspective’
- Diving licenses (F.I.P.S. , CMAS and NAUI)

Students’ Supervision

- Tutor of 24 Master theses and 9 PhD theses.
- Member of national and international PhD examination panels

Publications

List of publications of the last 10 years (2005-present):

Peer-reviewed publications:

- Gambi M.C., Trani B., Buia M.C. (2005). Taxonomic diversity and distribution of polychaete and isopod borers on the sheaths of the seagrass *Posidonia oceanica*: analysis at regional scale along the coast of Sardinia (Italy). *Italian Journal of Zoology* 72: 141-151.
- Lorenti M., Buia M.C., Di Martino V., Modigh M. (2005). Occurrence of mucous aggregates and their impact on *Posidonia oceanica* beds. *Science of the Total Environment*, 353 (1-3): 369-379.
- Pergent-Martini C., Leoni V., Pasqualini V., Ardizzone G.D., Balestri E., Bedini R., Belluscio A., Belsher T., Borg J., Boudouresque C.F., Boumaza S., Bouquegneau J.M., Buia M.C., Calvo S., Cebrian J., Charbonnel E., Cinelli F., Cossu A., Di Maida G., Dural B., Francour P., Gobert S., Lepoint G., Meinesz A., Molenaar H., Mansour H.M., Panayotidis P., Peirano A., Pergent G., Piazzì L., Pirrotta M., Relini G., Romero J., Sanchez-Lizaso J.L., Semroud R., Shembri P., Shili A., Tomasello A., Velimirov B. (2005). Descriptors of *Posidonia oceanica* Meadows: Use and application. *Boindicators* 5: 213-230.

- Raniello R., Mollo E., Lorenti M., Brunet C., Gavagnin M., Buia M.C. (2005). *Caulerpa racemosa* versus *Cymodocea nodosa*: photosynthetic adaptation and chemical interaction. *Phycologia*, 44 (4), Suppl.: 15.
- Zupo V, Buia MC, Gambi MC, Lorenti M, Procaccini G (2006). Temporal variations in the spatial distribution of shoot density in a *Posidonia oceanica* meadow and patterns of genetic diversity. *Marine Ecology* 27(4): 328-338.
- Zupo V, Mazzella L, Buia MC, Gambi MC, Lorenti M, Scipione MB, Cancemi G (2006). Spatial structure of a *Posidonia oceanica* meadow off the island of Ischia (Gulf of Naples, Italy): an investigation based on the Kriging technique. *Aquatic Botany* 84 (2): 101-109.
- Raniello R, Lorenti M, Brunet C, Buia MC (2006). Photoacclimation of the invasive alga *Caulerpa racemosa* var. *cylindracea* to depth and daylight patterns and a putative new role for siphonaxanthin. *Marine Ecology*, 27:20-30.
- Raniello R., Mollo E., Lorenti M., Gavagnin M, Buia M.C. (2006). Phytotoxic activity of caulerpenyne from the mediterranean invasive variety of *Caulerpa racemosa*: a potential allelochemical . *Biological Invasions* on line first.
- Flagella MM, Soria A, Buia MC (2006). Shipping traffic and introduction of non-indigenous organisms: study case in two Italian harbours. *Ocean and Coastal Management*. 49 (12): 947-960.
- Raniello R, Mollo E, Lorenti M, Gavagnin M, Buia MC (2007). Phytotoxic activity of caulerpenyne from the Mediterranean invasive variety of *Caulerpa racemosa*: a potential allelochemical. *Biological Invasions* 9, 361-368
- Flagella MM, Verlaque M, Soria A, Buia MC (2007). Macroalgal survival in ballast water tanks. *Mar. Poll. Bull.* 54(9):1395-1401.
- Flagella MM, Lorenti M, Buia MC (2008). Temperature response in a shallow Mediterranean population of *Caulerpa racemosa* var. *cylindracea* (Caulerpales, Chlorophyta) and a possible strategy of season anticipation. *Botanica Marina* 51: 278-284.
- Hall-Spencer JM, Rodolfo-Metalpa R, Martin S, Ransome E, Fine M, Turner SM, Rowley SJ, Tedesco D, Buia MC (2008). Volcanic carbon dioxide vents show ecosystem effects of ocean acidification. *Nature* 454:96:99.
- Martin S, Rodolfo-Metalpa R, Ransome E, Rowley S, Buia MC, Gattuso JP, Hall-Spencer JM (2008) Effects of naturally acidified seawater on seagrass calcareous epibionts. *Biology Letters*, 4(6):689-692.
- Bonente G, Passarini F, Cazzaniga S, Mancone C, Buia MC, Tripodi M, Bassi R, Caffarri S (2008). The occurrence of the psbS gene product in *Chlamydomonas reinhardtii* and in other photosynthetic organisms and its correlation with energy quenching. *Photochemistry and Photobiology*, 84: 1359–1370.
- Calvo S., Di Maida G., Pirrotta M., Tomasello A., Luzzu F., Scannavano A., Orestano C., Procaccini G., Buia M.C., Cinelli F., Cormaci M., Furnari G., Giaccone G., Mazzola A., Vizzini S. (2010) Seagrasses along the Sicilian coasts. *Chemistry and Ecology* 26 (Supp 1): 249-266
- Flagella MM, Andreakis N., Hiraoka M, Verlaque M., Buia MC. (2010) Identification of cryptic *Ulva* species (Chlorophyta, Ulvales) transported by ballast water. *Journal of Biological Research-Thessaloniki* 13: 47 – 57.
- Lopez Y Royo C., Pergent G., Alcoverro T., Buia M.C., Casazza G., Martínez-Crego B., Pérez M., Silvestre F., Romero J. (2011). The seagrass *Posidonia oceanica* as indicator of coastal water quality: Experimental intercalibration of classification systems. *Ecological Indicators*, 11 (2): 557-563.
- Lorenti M, Gambi MC, Guglielmo R, Patti FP, Scipione MB, Zupo V, Buia MC (2011) Soft-bottom macrofaunal assemblages in the Gulf of Salerno, Tyrrhenian Sea, Italy, an area affected by the invasion of the seaweed *Caulerpa racemosa* var. *cylindracea*. *Marine Ecology* 32: 320-334
- Meron D, Buia MC, Fine M, Banin E (2012). Changes in microbial communities associated with the sea anemone *Anemonia viridis* in a natural pH gradient. *Microbial Ecology* 65:269-276.

- Pergent G, Bazairi H, Bianchi C N, Boudouresque C-F., Buia M-C. Calvo S, Clabaut P, Harmelin-Vivien M., Mateo M. Angel, Montefalcone M., Morri C., Orfanidis S., Pergent-Martini C., Semroud R, Serrano O, Thibaut T, Tomasello A, Verlaque M (2013) Climate change and Mediterranean seagrass meadows: a synopsis for environmental managers. *Mediterranean Marine Science*, 15/2 doi.org/10.1268/mms.621
- Porzio L, Garrard S, Buia MC (2013). The effect of ocean acidification on early algal colonization stages at natural CO₂ vents. *Marine Biology*, 160:2247-2259.
- Garrard SL, Gambi MC, Scipione MB, Patti FP, Lorenti M, Zupo V, Paterson DM, Buia MC (2014) Indirect effects may buffer negative responses of seagrass invertebrate communities to ocean acidification. *Journal of Experimental Marine Biology and Ecology* 461: 31-38.
- Maibam C, Fink P, Romano G, Buia MC, Gambi MC, Scipione MB, Patti FP, Lorenti M, Butera E, Zupo V (2014) Relevance of wound-activated compounds produced by diatoms as toxins and infochemicals for benthic invertebrates. *Marine Biology* 161: 1639-1652.
- Corriero G. PC, Accoroni S., Alabisio G., Bavestrello G., Barbone E., Bastianini M., Bazzoni A.M., Bernardi Aubry F., Boero F., Buia M.C., Cabrini M., Camatti E., Cardone F., Cataletto B., Cattaneo Vietti R., Cecere E., Cibic T., Colangelo P., De Olazabal A., D'Onghia G., Finotto S., Fiore N., Fornasaro D., Frascchetti S., Gambi M.C., Giangrande A., Gravili C., Guglielmo R., Longo C., Lorenti M., Luglie A., Maiorano P., Mazzocchi M.G., Mercurio M., Mastrototaro F., Mistri M., Monti M., Munari C., Musco L., Nonnis-Marzano C., Padedda B.M., Patti F.P., Petrocelli A., Piraino S., Portacci G., Pugnetti A., Pulina S., Romagnoli T., Rosati I., Sarno D., Satta C.T., Sechi N., Schiapparelli S., Scipione B., Sion L., Terlizzi A., Tirelli V., Totti C., Tursi A., Ungaro N., Zingone A., Zupo V. & Basset A (2015) Ecosystem vulnerability to alien and invasive species: a case study on marine habitats along the Italian coast. *Aquatic Conservation: Marine and Freshwater Ecosystems*.
- Crise A, H. Kaberi, J. Ruiz, A. Zatsepin, E. Arashkevich, M. Giani, A.P. Karageorgis, L. Prieto, M. Pantazi, D. Gonzalez-Fernandez, M. Ribera d'Alcalà, V. Tornero, V. Vassilopoulou, X. Durrieu de Madron, C. Guieu, P. Puig, A. Zenetos, B. Andral, D. Angel, D. Altukhov, S.D. Ayata, Y. Aktan, E. Balciođlu, F. Benedetti, M. Bouchoucha, M.-C. Buia, J.-F. Cadiou, M. Canals, M. Chakroun, E. Christou, M.G. Christidis, G. Civitarese, V. Coatu, M. Corsini-Foka, S. Cozzi, A. Deidun, A. Dell'Aquila, A. Dogrammatzi, C. Dumitrache, D. Edelist, O. Ettahiri, S. Fonda-Umani, S. Gana, F. Galgani, S. Gasparini, A. Giannakourou, M.-T. Gomoiu, A. Gubanova, A.-C. Gucu, O. Gurses, G. Hanke, I. Hatzianestis, B. Herut, R. Hone, E. Huertas, J.-O. Irisson, M. _Is_inibilir, J.A. Jimenez, S. Kalogirou, K. Kaporis, V. Karamfilov, S. Kavadas, C Keskin, A.E. Kideys, M. Kocak, G. Kondylatos, C. Kontogiannis, R. Kosyan, P. Koubbi, G. Kušpilić, R. La Ferla, L. Langone, S. Laroche, L. Lazar, E. Lefkaditou, I.E. Lemeshko, A. Machias, A. Malej, M.-G. Mazzocchi, V. Medinets, N. Mihalopoulos, S. Miserocchi, S. Moncheva, V. Mukhanov, G. Oaie, A. Oros, A.A. Ozturk, B. Ozturk, M. Panayotova, A. Prospathopoulos, G. Radu, V. Raykov, P. Reglero, G. Reygondeau, N. Rougeron, B. Salihoglu, A. Sanchez-Vidal, G. Sannino, C. Santinelli, D. Secrieru, G. Shapiro, N. Simboursa, T. Shiganova, M. Sprovieri, K. Stefanova, N. Streftaris, V. Tirelli, M. Tom, B. Topalogđlu, N.E. Topu, K. Tsagarakis, C. Tsangaris, G. Tserpes, S. Tugđrul, Z. Uysal, D. Vasile, K. Violaki, J. Xu, A. Yuksek, E. Papatthanassiou (2015). A MSFD complementary approach for the assesment of pressures, knowledge and data gaps in Southern European Seas: the PRESEUS experience. *Marine Pollution Bulletin* 95:2839.
- Kumar A, Castellano I, Patti FP, Palumbo A, Buia MC (2015) Nitric oxide in marine photosynthetic organisms. *Nitric Oxide* 47: 34-39.
- Lauritano C, Ruocco M, Buia MC, Silva J, Santos R, Olivè I, Costa MM & Procaccini G (2015). Response of key stress-related genes of the seagrass *Posidonia oceanica* in the vicinity of submarine volcanic vents. *biogeosciences Discuss* 12:4947-4971.

Maibam, C, Fink P, Romano G, Buia MC, Butera E, Zupo V (2015). *Centropages typicus* (Crustacea, Copepoda) reacts to volatile compounds produced by planktonic algae. *Marine Ecology* 1-16

Book Chapters:

Buia MC (2005). Le praterie sommerse: un patrimonio naturalistico ed economico. In: Carrada GC, Coiro P. Russo GF (Eds) 'Le aree marine protette: occasioni di sviluppo, recupero di memorie storiche e tutela di ecosistemi', Electa Napoli: 115-122. ISBN 88-510-0286-X

Buia MC (2006). *Posidonia oceanica*. In. F. Bentivegna e A. Travaglini (Eds), Luce nel Golfo. Considerazioni sulla pesca e gli ecosistemi del Golfo di Napoli. Milagro Napoli:66-69

Buia MC, Giaccone G (2008). Biologia delle fanerogame marine. In: Praterie a fanerogame marine. Piante con fiori nel Mediterraneo. Ministero dell'Ambiente e della Tutela del Territorio e del Mare (Roma). Museo Friulano di Storia Naturale (Udine). Quaderni Habitat (19): 11-21. ISBN 88 88192 30 1.

Buia MC, Giaccone G (2008). Seagrass biology. In: Seagrass meadows. Flowering plants in the Mediterranean Sea. Ministero dell'Ambiente e della Tutela del Territorio e del Mare (Roma). Museo Friulano di Storia Naturale (Udine). Quaderni Habitat (19): 11-21. ISBN 88 88192 39 5.

Bianchi CN, Buia MC (2008). Gli ecosistemi a fanerogame. In: Praterie a fanerogame marine. Piante con fiori nel Mediterraneo. Ministero dell'Ambiente e della Tutela del Territorio e del Mare (Roma). Museo Friulano di Storia Naturale (Udine). Quaderni Habitat (19): 23-41. ISBN 88 88192 30 1.

Bianchi CN, Buia MC (2008). Seagrass ecosystems. In: Seagrass meadows. Flowering plants in the Mediterranean Sea. Ministero dell'Ambiente e della Tutela del Territorio e del Mare (Roma). Museo Friulano di Storia Naturale (Udine). Quaderni Habitat (19): 23-41. ISBN 88 88192 39 5.

Gambi MC, Buia MC (2008). La vegetazione. In : Guida geologico ambientale dell'isola d'Ischia. L Monti Ed., Regione Campania: 147-156

Buia M.C. (2011). La biodiversità nell'area marina dei Campi Flegrei. Impiego della flora bentonica per descrivere lo stato ecologico di alcuni sistemi costieri. In: "Il fuoco dal mare", P. Coiro e G. F. Russo (eds), I Quaderni di uomo e natura.3: 113-122.

Zingone A., Buia MC (2012). 19. Golfo di Napoli. In: Bertoni, R. [Ed.] La rete italiana per la ricerca ecologica a lungo termine (LTER-ITALIA). Aracne Editrice, Roma, pp. 189-96. ISBN 978-88-548-4661-6.

Pergent G., Bazairi H., Bianchi C.N., Boudouresque C-F., Buia M.C., Clabaut P., Harmelin-Vivien M., Mateo M.A., Montefalcone M., Morri C., Orfanidis S., Pergent-Martini C., Semroud R., Serrano O., Verlaque M. (2012). Les herbiers de Magnoliophytes marines de Méditerranée: Résilience et contribution à l'atténuation des changements climatiques. Gland Switzerland and Malaga, Spain: IUCN, 80 pp. ISBN:978-2-8317-1458-5.

Buia M.C. (2014). Ischia: l'isola verde anche sotto il mare. In: Ischia Patrimonio dell'Umanità. Natura e cultura. A cura di: Leone U., P. Greco. Doppiovoce Editore, Napoli. Prima edizione 2014. ISBN 978-88-89972-44-1: 61-69.