

Alfonso Siciliano

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EDUCATION

2014-2018: PhD in Experimental Marine Ecology at the School of Biological Sciences, Marine Ecology Research Group, University of Canterbury, New Zealand.

Thesis: “*Testing when and how habitat cascades control biodiversity of marine benthic ecosystems*”.

Advisors: Dist. Prof. David Schiel, Dr. Mads Thomsen.

2012: Master of Science with honours in Biology and Ecology of Marine and Coastal Environment, University of Study of Messina, Italy.

Thesis: “*Photo-quadrats technique and use of CPCe software for the evaluation of the impact of recreational diving on the macroalgae coverage of "Zenobia" shipwreck (Cyprus - Mediterranean Sea)*”.

Advisors: Prof. Emilio De Domenico, Dr. Antonis Petrou.

2009: Bachelor degree in Biological Sciences, University of Study of Catania, Italy.

Thesis: “*Parablennius sanguinolentus (Pallas, 1814): an example of Teleost Blenniidae bioindicator*”.

Advisors: Prof. Concetta Tigano, Prof. Venera Ferlito.

EMPLOYMENT AND FURTHER RESEARCH EXPERIENCE

2018 - to date: Senior Ranger Supervisor, Taupo Fishery, Department of Conservation, New Zealand.

2012-2016: Marine biologist: responsible of scientific activities and manager of university internships. Eco Divers - Centre of Underwater Scientific Activities, Italy.

2011: Marine biologist: shipwrecks' ecology, artificial reefs and anthropogenic impact assessments. AP Marine Environmental Consultancy Ltd., Cyprus.

2009: Biologist: marine ecotoxicology, biomarkers and bioindicators. University of Study of Catania, Italy.

TEACHING AND SUPERVISORY EXPERIENCE

2017: Laboratory demonstrator (*‘Habitat formers’ effects on estuarine biodiversity*). University of Canterbury, New Zealand.

2017: MSc student mentor (L. Mondardini), University of Canterbury, New Zealand.

2016-2017: BSc student mentor (N. Ligtenbarg - Project: *‘Testing the role of primary and secondary habitat-formers in shaping habitat cascades in a soft-bottom estuary’*). University of Canterbury, New Zealand, in association with Has University Den Bosch, Netherlands.

2016: Laboratory demonstrator (*‘Biodiversity in soft-bottom estuaries’ ecosystems*). University of Canterbury, New Zealand.

- 2014:** MSc internship student mentor (S. Cunsolo - Scientific diving), University of Study of Catania in association with Eco Divers - Centre of Underwater Scientific Activities, Italy.
- 2013:** BSc internship-thesis student mentor (G. Provenzani - Thesis: *'Ecological assessment of the quality of the Isola Bella's Marine Protected Area (Sicily, Italy)'*). Alma Mater Studiorum - University of Bologna in association with Eco Divers - Centre of Underwater Scientific Activities, Italy.
- 2013:** Teaching as part of COMENIUS project (*'Phylum Mollusca - Collection and identification'*; *'Global climate change - Sea level rise in the Mediterranean Sea'*; *'Coastal pollution in the Mediterranean Sea'*). High school "Giovanni Verga", Catania, Italy.
- 2011:** Seminar at the Workshop in Marine Comparative Biochemistry (*'Dioxin, DLC and Ah-receptor: structure, mechanisms and role in marine organisms'*). University of Study of Messina, Italy.
- 2011:** Seminar at the Workshop in Elements of Environmental Law and E.I.A. Procedures (*'Study of Environmental Impact Assessment for planning an urban wastewater treatment plant for the municipalities of Terme-Vigliatore and Barcellona P.G. (ME) in the Patti's Gulf'*). University of Study of Messina, Italy.

PUBLICATIONS

- Siciliano A.**, Thomsen M.S., Schiel D.R., 2019, *"Effects of local anthropogenic stressors on an habitat cascade in a estuarine seagrass system"*, Marine and Freshwater Research.
- Siciliano A.**, Thomsen M.S., Schiel D.R., **submitted to Journal of Experimental Marine Biology and Ecology**, *"Are long habitat-formation cascades common? - A test with an estuarine 4-level interaction chain"*.
- Siciliano A.**, Jimenez C., Petrou A., 2016, *"Recreational diving and its effects on the macroalgal communities of the unintentional artificial reef Zenobia shipwreck (Cyprus)"*, Journal of Oceanography and Marine Research.
- Thomsen M.S., Hildebrand T., South P.M., Foster T., **Siciliano A.**, Oldach E., Schiel D.R., 2016, *"A sixth-level habitat cascade increases biodiversity in an intertidal estuary"*, Ecology and Evolution.
- Siciliano A.**, Thomsen M.S., Schiel D.R., **in prep.**, *"Effects of canopy forming hosts, epiphytes, latitude and season on secondary production in rocky intertidal seaweeds-dominated systems"*.
- Siciliano A.**, Jimenez C., Hadjiioannou L., Andreou V., Abu Alhaija R., Georgiou A., Petrou, A., **in prep.**, *"Review: shipwrecks as artificial reefs in the Mediterranean Sea"*.

CONFERENCES

- Siciliano A.**, 2018. *"Implementing a VAKI River-watcher fish counter in the Taupo Fishery"*. Tongariro Power Scheme Annual Consultative Hui. Genesis Tokaanu Power Station, Turangi, New Zealand.
- Siciliano A.**, Thomsen M.S., Schiel D.R., 2017. *"Host variety enhances diversity: the role of multiple secondary habitat-forming seaweeds in facilitating estuarine invertebrates' communities"*. New Zealand Marine Science Society. University of Canterbury, New Zealand, 4-7 July.
- Thomsen M.S., Metcalfe I., **Siciliano A.**, Alestra T., Lilley S., Gerrity S., Schiel D.R., 2017. *"Habitat cascades destroyed in the Kaikoura earthquake"*. New Zealand Marine Science Society. University of Canterbury, New Zealand, 4-7 July.
- Siciliano A.**, Thomsen M.S., Schiel D.R., 2016. *"Effects of seaweeds, nutrients and sedimentation on seagrass and seagrass-associated fauna"*. Annual Biology Conference. University of Canterbury, New Zealand, 20 October.
- Siciliano A.**, Thomsen M.S., Schiel D.R., 2016. *"Variability in habitat cascades across sites, environmental conditions, host and epiphyte species and underpinning mechanistic test-factors"*. Australian Marine Science

Association - New Zealand Marine Science Society. Victoria University of Wellington, New Zealand, 4-7 July.

Siciliano A., Thomsen M.S., Schiel D.R., 2016. “*Epiphytism as key driver of biodiversity in canopy-forming seaweeds-dominated systems*”. 11th International Temperate Reefs Symposium. University of Pisa, Italy, 26-30 June.

Siciliano A., Thomsen M.S., Schiel D.R., 2015. “*Cascading effects of epiphytism associated with co-occurring congeneric hosts*”. New Zealand Ecological Society. University of Canterbury, New Zealand, 16-19 November.

Siciliano A., Thomsen M.S., Schiel D.R., 2015. “*Epiphytism and cascading effects associated with co-occurring habitat formers*”. Annual Biology Conference. University of Canterbury, New Zealand, 23 October.

WORKSHOPS ATTENDANCE

2017: “*Science communication workshop*”. New Zealand Marine Science Society. University of Canterbury, New Zealand, 7 July.

2014: “*Facilitation Cascades across ecosystems and scales*”. Centre for Integrative Ecology. Christchurch, New Zealand, 29 June.

SCIENTIFIC SKILLS AND COMPETENCIES

Freshwater ecology

- Fish biology, native and non-native fish monitoring;
- Electrofishing and PIT tagging;
- VAKI RiverWatcher scanner monitoring;
- Drone surveys;
- Recreational fishing management.

Experimental ecology

- Habitat and facilitation cascade, species interactions and meta-community;
- Ecosystem functioning and biodiversity;
- Experimental designs, multi-factorial analysis and quantitative ecology;
- Canopy-forming seaweeds-dominated systems, seagrasses beds and soft-bottom estuaries;
- Fractals, morphometric analysis, 3D modelling and bioprinting;
- Software for image analysis and processing: ImageJ, Adobe Photoshop, Autodesk Memento.

Shipwrecks’ ecology, artificial reefs and Environmental/Anthropogenical Impact Assessments

- Artificial reefs and shipwreck ecology, surveys and monitorings, population dynamics;
- Biological underwater sampling and underwater video-photographic techniques;
- Benthic studies through specific software: ImageJ, CPCe;
- Extraction and reading of otoliths;
- Underwater video/photography for education and sensibilization.

Marine ecotoxicology

- Sampling and analysis of bioindicators/biomarkers and matrices;
- Cyto/histological and molecular analysis for ecotoxicology;
- Chemical analysis on matrices and biomarkers.

OTHER SKILLS AND COMPETENCIES

Outdoor Skills

- Experience in scuba diving and free diving (>15 years);
- Experience in fishing (10-year);
- Experience in hiking and strong experience in technical/minimal camping (7-year).

Department of Conservation

- Warrant Officer toward the Conservation Act 1987, Department of Conservation, New Zealand;
- First Aid certificate (NZQA 6400, 6401, 6402) for outdoor activities;
- 4WD in off-road environment (NZQA 17976, 17978, 20848) and UBCO dual electric drive motor bike;
- Drones - Advanced Remote Pilot Certificate, Part 102, Civil Aviation Authority of New Zealand;
- Wader safety, river crossing and self -rescue.

Boating and Diving Skills

- Skipper (NZQA 26542);
- VHF Marine Radio Operator and EPIRB (NZQA 19491), Maritime Restrictive Radio Operator Certificate;
- Dive master (3 stars) CMAS (>1000 dives in almost all conditions and for scientific purposes);
- I, II and III level free diving Apnea Academy;
- Basic Life Support: CPR, AED habilitation, oxygen provider;
- Nitrox EAN 40% specialty PADI;
- excellent underwater video and photographic abilities (www.alfonsosiciliano.com).

Informatic Skills

- European Computer Driving License and Advanced knowledge of MS Office, Internet and Mail;
- Statistical packages: PRIMER v6, PERMANOVA+, PAST, Minitab, SigmaPlot;
- Software for image/video analyzing and processing: ImageJ, Photoshop, Adobe Premiere, Pinnacle.

LANGUAGES

- Italian (mother tongue), English (fluent), Spanish (fluent).

AWARDS AND ACHIEVEMENTS

2017: BioSoc photo-competition 2017, University of Canterbury (New Zealand).

Winner of 'Best underwater picture' category (www.alfonsosiciliano.com).

2016: BioSoc photo-competition 2016, University of Canterbury (New Zealand).

Winner of 'Laboratory', 'Videos' and 'Others' categories (www.alfonsosiciliano.com).

2014-2017: Royal Society of New Zealand, Marsden Fund project (13-UOC-106, 20,000 NZ\$).

2013: Video-competition "*Live the Sea*", Auxiliary Coast Guard (Italy).

Video-documentary: "*The simplicity of life...*" (www.alfonsosiciliano.com).

REFEREES

Dist. Prof. David Schiel (PhD supervisor)

School of Biological Sciences, University of Canterbury, New Zealand

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Dr. Mads Thomsen (PhD supervisor)

School of Biological Sciences, University of Canterbury, New Zealand

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Dr. Carlos Jimenez (collaborator and co-author)

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Dr. Antonis Petrou (collaborator and co-author)

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David Conley (supervisor)

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