

Alfonso Siciliano

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EDUCATION

2014-2018: Ph.D. in Experimental Marine Ecology, 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: M.Sc. 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: B.Sc. 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 at Taupo Fishery, Department of Conservation, New Zealand.

Coordinator of technical projects related to trout fishery (trout traps, native and non-native population monitoring, drift diving).

VAKI RiverWatcher and morphometric studies.

Collaboration with external partners.

Presenting data at conferences for a scientific and not scientific public.

Warrant Officer toward the Conservation Act 1987.

2012-2016: Marine biologist at Eco Divers - Centre of Underwater Scientific Activities, Italy.

Responsible of scientific projects and coordinator of university internships.

Collaboration with external partners such as MPAs and diving centers.

Responsible of underwater scientific activities.

2011: Marine biologist at AP Marine Environmental Consultancy Ltd., Cyprus.

Ecological research based on shipwrecks' ecology, artificial reefs and species interaction in benthic communities.

Anthropogenic impact assessments and MPAs monitoring.

2009: Biologist at University of Study of Catania, Italy.

Ecological research based on marine ecotoxicology, biomarkers and bioindicators.

TEACHING AND SEMINARS

- 2017:** Laboratory demonstrator (*'Habitat formers' effects on estuarine biodiversity*), University of Canterbury, New Zealand.
- 2017:** M.Sc. student mentor (L. Mondardini), University of Canterbury, New Zealand.
- 2016-2017:** B.Sc. student mentor (N. Ligtenburg - 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:** M.Sc. internship student mentor (S. Cunsolo - Scientific diving), University of Study of Catania in association with Eco Divers - Centre of Underwater Scientific Activities, Italy.
- 2013:** B.Sc. 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 in Marine Comparative Biochemistry (*'Dioxin, DLC and Ab-receptor: structure, mechanisms and role in marine organisms'*), University of Study of Messina, Italy.
- 2011:** Seminar 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 an estuarine seagrass system*", Marine and Freshwater 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.**, 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.
- 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., Hadjioannou L., Andreou V., Abu Alhaja 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, New Zealand, 5 December.
- 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 and morphometric studies;
- 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

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, Peak Safety;
- 4WD in off-road environment (NZQA 17976, 17978, 20848) and UBCO dual electric drive motor bike, Safety Driving and Higher Order Driving Skills;
- Drones - Advanced Remote Pilot Certificate, Part 102, Civil Aviation Authority of New Zealand;
- Wader safety, river crossing and self -rescue.

Boating and Diving Skills

- Boat Master (500h sea time) and Day 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;
- GIS: basic knowledge of Quantum Gis;
- 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

David Conley (DOC operations manager)

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Dr. Antonis Petrou (M.Sc. supervisor, collaborator and co-author)

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Dist. Prof. David Schiel (PhD supervisor, collaborator and co-author)

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