



Lorenzo Zane

Full Professor of Ecology

Born in Venice, Italy, 05/06/1970. Italian citizen.

Married, two kids.

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Abstract

- Coordinator of the Department of Biology bachelor and master degrees
- Member of the board of CONISMA (Consorzio Universitario per le Scienze del Mare). Delegate for University of Padova.
- Teacher of Ecology, Molecular Ecology, Population Ecology and Genetics of Marine Organisms. Fully positive evaluations from students.
- Awarded with the young researcher prize "Felice Ippolito" from the Accademia dei Lincei and the Italian Program for Research in Antarctica.
- Author of over 100 papers on journals with Impact Factor, including *Nature*, *PNAS* and top journals of his field such as *Molecular Ecology*. Total IF more than 350, 4401 Scopus citations, H index = 31 (Scopus, Feb 2021)
- The paper Zane et al. (*Mol Ecol* 2002) has been "Fast Breaking Paper" ISI in the field Environment/Ecology, with over 1404 Scopus citations on January 2021.
- Reviewer for over 25 international journals and two International research foundations and MIUR. Top Reviewer for *Molecular Ecology* 2012 and 2014. Academic Editor PLoSOne, *Frontiers in Marine Science*
- PI or local PI of more than 10 National and International projects.

Training

PhD in Evolutionary Biology (University of Padua, 2000).

Graduation *cum laude* in Biological Sciences (University of Padua, 1995).

Positions

From October 2017: Full professor in Ecology, University of Padua.

2011-2017: Associate professor in Ecology, University of Padua.

2001-2011: Researcher in Ecology, University of Padua.

2000-2001: postdoc University of Padua;

1999-2000: postdoc University of Ferrara;

1996-1999: PhD University of Padua;

1995-1996: mandatory National Service.

Research

LZ research is centered on the study of marine organisms by molecular markers. Research activity includes markers development, both at the genomic and transcriptomic level, and their application in studies ranging from molecular systematics to the study of mating systems of fish. Most of LZ studies have been, and are currently being, performed on populations, with a special focus on the inference of patterns of genetic structuring and on the estimation of the effective genetic population size and historical demography of marine organisms. Starting with the estimation of connectivity between populations, LZ recent research is currently moving to the integration of empirical genetic data in population modeling approaches to achieve a better comprehension of the relative importance of recent evolutionary events (paleoclimatic changes, biogeographic events) versus contemporary factors (current mediated larval dispersal, population size drops due to global changes or human harvesting) in shaping intra-specific patterns of genetic diversity.

Current research lines are:

- *Differentiation and connectivity among populations of Antarctic marine organisms (Chaenocephalus aceratus, Pleuragramma antarctica, Chionodraco spp., Euphausia superba).*
- *Differentiation and connectivity in estuarine and coastal organisms (Carcinus*

aestuarii, *Chamelea gallina*).

- Conservation genetics and ecology of the European eel.
- Transcriptomics and environmental genomics of non-model organisms.
- Population genetics, historical and contemporary processes in commercial fish species (*Thunnus thynnus*, *Diplodus sargus sargus*, *Scomber scomber*).
- Estimates of genetic connectivity among relevant organisms of marine protected areas and bioconstructions.

Research keywords

Fish, Fishery, Marine organisms, Antarctic, Genetic connectivity among populations, Effective population size, Historical and contemporary demography, High throughput sequencing, Gene expression profiling

Teaching

LZ, starting from 2002 held classes of general and specialized content for more than 1600 hours. LZ supervised more than 50 graduate students and 10 PhD students.

Activity abroad

[In blue, activity under PNRA](#)

January 1997 - July 1997: visitor student in J.C. Avise lab, University of Georgia, Athens, GA (USA). Isolation and application of microsatellites in the peccid *Gambusia holbrooki*.

November 1997 - December 1997: research activity in Antarctica. *Geneflow cruise*, British Antarctic Survey.

February 2002 - March 2002: research activity in Antarctica. *ANTXIX/3 cruise* Alfred Wegener Institut für Polar und Meeresforschung.

Prizes

July 2004: awarded with the prize "**Felice Ippolito**" from Accademia dei Lincei and the Italian Program for Research in Antarctica to young researchers for research activity in Antarctica.

Research projects

[In blue, projects on Antarctic species](#)

1995-2007: member of the Padova Research Unit of the Italian program for Research in Antarctica.

2002-2020: local grants from Padova University (ex60%, DOR).

2001: young researcher grant from Padova University. Title: "Messa a punto di metodologie molecolari per l'identificazione genetica di specie di acipenseridi utilizzate in acquacoltura e nel ripopolamento".

2003: tutor for post-doc project. Title: "Caratterizzazione genetica dello storione cobice, *Acipenser naccarii*".

2003: participation to EEC project "Determining the genetic sex in sturgeon: application in the production of caviar" (CRAFT – 1999 - 72183).

2004: young researcher grant from Padova University: "Studio del sistema d'accoppiamento e delle strategie riproduttive di *Zosterisessor ophiocephalus* (Gobiidae, Perciformes), mediante marcatori microsatellite"

2004: PI for the research line "Bioindicatori genetici, indici di popolazione e condizioni ambientali" all'interno del progetto "Indicatori ed indici di qualità ambientale per la laguna di Venezia" from "Consorzio per la gestione del centro di coordinamento delle attività di ricerca inerenti il sistema lagunare di Venezia (CORILA)."

2005: tutor for post-doc project. Title: "Time/space patterns of microsatellite DNA variabilità in the Southern Ocean krill (*Euphausia superba*) and some of its Notothenioid predators."

2006: local PI for the project "Population genetics of the European Eel (*Anguilla anguilla*) with EST-linked microsatellites"; Italian Ministry for University and

Research PRIN2006.

2007: Marine Genomics Europe consumable grant.

2008: local grant “Linking environment to genes. Genomic and transcriptomic response to pollution and parasitism in the endangered European eel.”

2008: tutor for post-doc project. “A transcriptomic approach for investigating molecular mechanisms of cold adaptation in Antarctic fish (Perciformes, Notothenioidea).”

2009: responsible for genetic analyses in “Progetto CLODIA: interventi di formazione ambientale e riconversione della pesca per lo sviluppo sostenibile degli ambienti costieri”, PI Maria Berica Rasotto, Veneto Region.

2010: local PI for the project “Genetic estimates of population connectivity in white seabream (*Diplodus sargus sargus*) populations at two different geographic scales.” Italian Ministry for University and Research PRIN2008.

2012: task leader, on behalf of CONISMA, in the project “Towards COast to COast NETworks of marine protected areas (from the shore to the high and deep sea), coupled with sea-based wind energy potential” FP7-Environment project ref. #287844.

2013: local PI for the project “Biocostruzioni costiere: struttura, funzione, e gestione”; Italian Ministry for University and Research PRIN2010.

2015: local grant “Implementing Population Genomics of non-model marine species to enhance identification and characterization of Sites of Community Importance (SCI)”.

2016. Italian Ministry for Scientific Research, National Program for Antarctic Research (PNRA). Defining species boundaries and assessing interspecific hybridization in the crocodile icefish (*Chionodraco* spp., Perciformes, Channichthyidae) from the Weddell Sea using morphology, life history traits and genetics, Budget 45 K€.

2018. CORILA, (Conorzio per il coordinamento delle ricerche inerenti al sistema lagunare di Venezia). Venezia 2021 “Programma di ricerca scientifica per una laguna “regolata”. November 2018-December 2021. PI WP1.1.4 e 1.1.5, budget over 350 K€.

2018. EU, specific contract No. 03EASME/EMFF/2017/1.3.2.3/01/ SI2.793201 - SC03. Progetto MED_UNITS “Study on Advancing fisheries assessment and management advice in the Mediterranean by aligning biological and management units of priority species”. January 2019-December 2020. Participant, approximate budget 250 K€.

2020. Italian Ministry for Scientific Research, National Program for Antarctic Research (PNRA). RosS-MODE: Ross Sea biodiversity Monitoring through barcoding, metabarcODing and e-DNA. Participant, total budget 93.2 K€.

Other

Reviewer for: Proceedings of Royal Society London: Biological Sciences, Marine Ecology Progress Series, Marine Biology, Journal of Applied Ichthyology, Heredity, Molecular and General Genetics, Transactions of the American Fisheries Society, Journal of Sea Research, Scientia Marina, Molecular Ecology Resources, Molecular Ecology, Canadian Journal of Fisheries and Aquatic Sciences, Crustaceana, Estuarine and Coastal Shelf Science, Deep Sea Research II, Genetica, PLoS ONE, BMC Evolutionary Biology, Biological Invasions, Marine Genomics, Nature Communications, Hydrobiologia.

Top Reviewer for Molecular Ecology 2012 and 2014.

Academic Editor for PLoS ONE since 2014 and for Frontiers in Marine Science from 2019.

Referee for proposals of National Science Foundation (USA), New Zealand Antarctic program and for the Italian Ministry of University and Research (MIUR).

[In blue publications on Antarctic species](#)

1. F Poli, IAM Marino, M Santon, E Bozzetta, G Pellizzato, **L Zane**, MB Rasotto (2021). Spatial asymmetry of the paternity success in nests of a fish with alternative reproductive tactics. *Scientific reports* 11 (1), 3091
2. E Boscari, IAM Marino, C Caruso, J Gessner, M Lari, N Mugue, A Barmintseva, R Suci, D Onara, **L Zane**, L Congiu (2021). Defining criteria for the reintroduction of locally extinct populations based on contemporary and ancient genetic diversity: The case of the Adriatic Beluga sturgeon (*Huso huso*). *Diversity and Distributions*, <https://doi.org/10.1111/ddi.13230>
3. E Boissin, V Neglia, S Baksay, D Micu, L Bat, B Topaloglu, V Todorova, M Panayotova, C Kruschel, N Milchakova, E Voutsinas, S Beqiraj, I Nasto, G Aglieri, M Taviani, **L Zane**, S Planes (2020). Chaotic genetic structure and past demographic expansion of the invasive gastropod *Tritia neritea* in its native range, the Mediterranean Sea. *Scientific reports* 10 (1), 1-13
4. Bargelloni L, Babbucci M, Ferrareso S, Papetti C, Vitulo N, Carraro L, Pauletto M, Santovito G, Lucassen M, Mark FC, **Zane L**, Patarnello T (2020). Draft genome assembly and transcriptome data of the icefish *Chionodraco myersi* reveal the key role of mitochondria for a life without hemoglobin at subzero temperatures. *Communications Biology* 2, Article number: 443.
5. Riginella E, Correale V, Marino IAM, Rasotto MB, Vrbatovic A, **Zane L**, Mazzoldi C (2020) Contrasting life-history traits of two sympatric smooth-hound species: implication for vulnerability. *Journal of Fish Biology* 96: 853-857.
6. Maduna SN, Hull KL, Farrell ED, Boomer JJ, Veríssimo Ana, Marino IAM, Mazzoldi C, **Zane L**, Wintner SP, Chesalin MV, da Silva C, Gubili C, Mariani S, Bester-Van Der Merwe AE (2020). Historical biogeography of smoothhound sharks (genus *Mustelus*) of Southern Africa reveals multiple dispersal events from the Northern Hemisphere. *Systematics and Biodiversity*, 18:7, 633-645,
7. Caccavo JA, Ashford JR, Ryan S, Papetti C, Schröder M, **Zane L** (2019). Spatial structuring and life history connectivity of Antarctic silverfish along the southern continental shelf of the Weddell Sea. *Marine Ecology Progress Series* 624, 195-212. Doi: 10.3354/meps13017
8. Hull KL, Asbury TA, da Silva C, Dicken M, Verissimo A, Farrell ED, Mariani S, Mazzoldi C, Marino IAM, **Zane L**, Maduna SN, Bester-van der Merwe AE (2019). Strong genetic isolation despite wide distribution in a commercially exploited coastal shark. *Hydrobiologia* 838: 121-137. Doi: 10.1007/s10750-019-03982
9. Boscari E, Abbiati M, Badalamenti F, Bavestrello G, Benedetti-Cecchi L, Cannas R, Cau A, Cerrano C, Chimienti G, Costantini F, Frascchetti S, Ingrosso G, Marino IAM, Mastrototaro F, Papetti C, Paterno M, Ponti M, **Zane L***, Congiu L (2019). A population genomics insight by 2b-RAD reveals populations' uniqueness along the Italian coastline in *Leptopsammia pruvoti* (Scleractinia, Dendrophylliidae). *Diversity and Distributions* 25:1101-1117. Doi:10.1111/ddi.12918
10. Lopez-Marquez V, Templado J, Buckley D, Marino I, Boscari E, Micu D, **Zane L**, Machordom A (2019). Connectivity Among Populations of the Top Shell *Gibbula divaricata* in the Adriatic Sea. *Frontiers in Genetics*. 10:177 Doi:10.3389/fgene.2019.00177
11. Manuzzi A, **Zane L**, Munoz-Merida A, Griffiths AM, Verissimo A (2019). Population genomics and phylogeography of a benthic coastal shark (*Scyliorhinus canicula*) using 2b-RAD single nucleotide polymorphisms. *Biological Journal of the Linnean Society*. 126:289-303. Doi:10.1093/biolinnean/bly185
12. Caccavo JA, Papetti C, Wetjen M, Knust R, Ashford JR, **Zane L** (2018). Along-shelf connectivity and circumpolar gene flow in Antarctic silverfish (*Pleuragramma antarctica*). *Scientific Reports* 8:17856. Doi:10.1038/s41598-

13. Brooks CM, Caccavo JAC, Ashford J, Dunbar R, Goetz K, La Mesa M, [Zane L](#) (2018). Early life history connectivity of Antarctic silverfish (*Pleuragramma antarctica*) in the Ross Sea. *Fisheries Oceanography*, vol. 27:274-287, ISSN: 1054-6006, doi: 10.1111/fog.12251
14. Papetti C, Schiavon L, Milan M, Lucassen M, Caccavo JAC, Paterno M, Boscarì E, Marino IAM, Congiu L, [Zane L](#) (2018). Genetic variability of the striped venus *Chamelea gallina* in the northern Adriatic Sea. *Fisheries Research*.201:68-78, ISSN: 0165-7836, doi: 10.1016/j.fishres.2018.01.006
15. Marino IAM, Finotto L, Colloca F, Di Lorenzo M, Gristina M, Farrell ED, [Zane L](#)*, Mazzoldi C (2018). Resolving the ambiguities in the identification of two smooth-hound sharks (*Mustelus mustelus* and *Mustelus punctulatus*) using genetics and morphology. *Marine Biodiversity*. 8: 1551–1562. Doi: 10.1007/s12526-017-0701-8
16. Ingrosso, Gianmarco, Abbiati, Marco, Badalamenti, Fabio, Bavestrello, Giorgio, Belmonte, Genuario, Cannas, Rita, Benedetti-Cecchi, Lisandro, Bertolino, Marco, Bevilacqua, Stanislao, Bianchi, Carlo Nike, Bo, Marzia, Boscarì, Elisa, Cardone, Frine, Cattaneo-Vietti, Riccardo, Cau, Alessandro, Cerrano, Carlo, Chemello, Renato, Chimienti, Giovanni, Congiu, Leonardo, Corriero, Giuseppe, Costantini, Federica, De Leo, Francesco, Donnarumma, Luigia, Falace, Annalisa, Frascchetti, Simonetta, Giangrande, Adriana, Gravina, Maria Flavia, Guarnieri, Giuseppe, Mastrototaro, Francesco, Milazzo, Marco, Morri, Carla, Musco, Luigi, Pezolesi, Laura, Piraino, Stefano, Prada, Fiorella, Ponti, Massimo, Rindi, Fabio, Russo, Giovanni Fulvio, Sandulli, Roberto, Villamor, Adriana, [Zane L](#), Boero, Ferdinando (2018). Mediterranean Bioconstructions Along the Italian Coast. *Advances in Marine Biology*. 79:61-136. Doi: 10.1016/bs.amb.2018.05.001
17. Paterno M, Schiavina M, Aglieri G, Ben Souissi J, Boscarì E, Casagrandi R, Chassanite A, Chiantore MC, Congiu L, Guarnieri G, Kruschel C, Macic V, Marino IAM, Papetti C, Patarnello T, [Zane L](#)*, Melià P (2017). Population genomics meet Lagrangian simulations: Oceanographic patterns and long larval duration ensure connectivity among *Paracentrotus lividus* populations in the Adriatic and Ionian seas. *Ecology and Evolution*. 7:2463-2479. Doi:10.1002/ece3.2844
18. Carreras C, Ordóñez V, [Zane L](#), Kruschel C, Nasto I, Macpherson E, Pascual (2017). Population genomics of an endemic Mediterranean fish: differentiation by fine scale dispersal and adaptation. *Scientific Reports* 7:43417. Doi:10.1038/srep43417
19. Boscarì E, Vitulo N, Ludwig A, Caruso C, Muge NS, Suciù R, Onara DF, Papetti C, Marino IAM, [Zane L](#), Congiu L (2017). Fast genetic identification of the Beluga sturgeon and its sought-after caviar to stem illegal trade. *Food Control* 75: 145-152.
20. Jahnke M, Casagrandi R, Melià P, Schiavina M, Schultz ST, [Zane L](#), Procaccini G (2017). Potential and realized connectivity of the seagrass *Posidonia oceanica* and their implication for conservation. *Diversity and Distributions*, vol. 23, p. 1423-1434, ISSN: 1366-9516, doi: 10.1111/ddi.12633
21. Fratini S, Ragionieri L, Deli T, Harrer A, Marino IAM, Cannicci S, [Zane L](#)*, Schubart CD (2016). Unravelling population genetic structure with mitochondrial DNA in a notional panmictic coastal crab species: sample size makes the difference. *BMC Evolutionary Biology* 16:150. Doi: 10.1186/s12862-016-0720-2
22. Boissin E, Micu D, Janczyszyn-Le Goff, Neglia V, Bat L, Todorova V, Panayotova M, Kruschel C, Macic V, Milchakova N, Keskin Ç, Anastasopoulou A, Nasto I, [Zane L](#), Planes S (2016). Contemporary genetic structure and post-glacial demographic history of the black scorpionfish, *Scorpaena porcus*, in the Mediterranean and the Black Seas. *Molecular Ecology* 25: 2195-2209.

23. Pujolar JM, Vincenzi S, [Zane L](#), Crivelli AJ (2016). Temporal changes in allele frequencies in a small marble trout *Salmo marmoratus* population threatened by extreme flood events. *Journal of Fish Biology* 88:1175-1190.
24. Marino IAM, Riginella E, Gristina M, Rasotto MB, [Zane L*](#), Mazzoldi C (2015). Multiple paternity and hybridization in two smooth-hound sharks. *Scientific reports* 5: 12919.
25. Parker ML, Fraser WJ, Ashford J, Patarnello T, [Zane L](#), Torres JJ (2015). Assemblages of micronektonic fishes and invertebrates in a gradient of regional warming along the Western Antarctic Peninsula. *Journal of Marine Systems* 152: 18-41.
26. Agostini C, Patarnello T, Ashford JR, Torres JJ, [Zane L*](#), Papetti (2015). Genetic differentiation in the ice-dependent fish *Pleuragramma antarctica* along the Antarctic Peninsula. *Journal of Biogeography*, 42: 1103-1113.
27. Churcher AM, Pujolar JM, Milan M, Huertas M, Hubbard PC, Bargelloni L, Patarnello T, Marino IAM, [Zane L](#), Canario AVM (2015). Transcriptomic profiling of male European eel (*Anguilla anguilla*) livers at sexual maturity. *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics* 16: 28-35.
28. Marino IAM, Riginella E, Cariani A, Tinti F, Farrell ED, Mazzoldi C, [Zane L*](#) (2015). New Molecular Tools for the Identification of 2 Endangered Smooth-Hound Sharks, *Mustelus mustelus* and *Mustelus punctulatus*. *Journal of Heredity* 106: 123-130.
29. Almeida-Val VMF, Boscari E, Coelho MM, Congiu L, Grapputo A, Grosso AR, Jesus TF, Luebert F, Mansion G, Muller LAH, Töre D, Vidotto M, [Zane L](#) (2015). Genomic Resources Notes accepted 1 April 2015 – 31 May 2015. *Molecular Ecology Resources* 15: 1256–1257.
30. Schiavina M, Marino IAM, [Zane L*](#), Melià P (2014). Matching oceanography and genetics at the basin scale. Seascape connectivity of the Mediterranean shore crab in the Adriatic Sea. *Molecular Ecology* 23: 5496-5507.
31. Churcher AM, Pujolar JM, Milan M, Hubbard PC, Martins RST, Saraiva JL, Huertas M, Bargelloni L, Patarnello T, Marino IAM, [Zane L](#), Canário AVM (2014). Changes in the gene expression profiles of the brains of male European eels (*Anguilla anguilla*) during sexual maturation. *BMC Genomics* 15: 799. Doi: 10.1186/1471-2164-15-799
32. Aglieri G, Papetti C, [Zane L](#), Milisenda G, Boero F, Piraino S (2014). First Evidence of Inbreeding, Relatedness and Chaotic Genetic Patchiness in the Holoplanktonic Jellyfish *Pelagia noctiluca* (Scyphozoa, Cnidaria). *PLoS One* 9: e99647.
33. Polgar G, [Zane L](#), Babbucci M, Barbisan F, Patarnello T, Rüber L, Papetti C (2014). Phylogeography and demographic history of two widespread Indo-Pacific mudskippers (Gobiidae: *Periophthalmus*). *Molecular Phylogenetics and Evolution* 73:161-176.
34. Agostini C, Papetti C, Patarnello T, Mark FC, [Zane L*](#), Marino IAM (2013). Putative selected markers in the *Chionodraco* genus detected by interspecific outlier tests. *Polar Biology* 36:1509-18.
35. Marino IAM, Benazzo A, Agostini C, Mezzavilla M, Hoban SM, Patarnello T, [Zane L*](#), Bertorelle G (2013). Evidence for past and present hybridization in three Antarctic icefish species provides new perspectives on an evolutionary radiation. *Molecular Ecology* 22:5148-5161.
36. Coppe A, Agostini C, Marino IAM, [Zane L](#), Bargelloni L, Bortoluzzi S, Patarnello T (2013). Genome evolution in the cold: Antarctic icefish muscle transcriptome reveals selective duplications increasing mitochondrial function. *Genome Biology and Evolution* 5(1):45-60.
37. Pujolar JM, Schiavina M, Di Franco A, Melià P, Guidetti P, Gatto M, De Leo GA, [Zane L](#) (2013). Understanding the effectiveness of marine protected areas using

- genetic connectivity patterns and Lagrangian simulations. *Diversity and Distributions* 19:1531-1542.
38. Agostini C, Albaladejo RG, Aparicio A, ..., [Zane L](#), Zhang S-W (2013). Permanent genetic resources added to Molecular Ecology Resources database 1 April 2013-31 May 2013. *Molecular Ecology Resources* 13:966-968.
 39. Pujolar JM, Jacobsen MW, Frydenberg J, Als TD, Larsen PF, Maes GE, [Zane L](#), Jian JB, Cheng L, Hansen MM (2013). A resource of genome-wide single-nucleotide polymorphisms generated by RAD tag sequencing in the critically endangered European eel. *Molecular Ecology Resources* 13:706-714.
 40. Pujolar JM, Milan M, Marino IAM, Capoccioni F, Ciccotti E, Belpaire C, Covaci A, Malarvannan G, Patarnello T, Bargelloni L, [Zane L*](#), Maes GE (2013). Detecting genome-wide gene transcription profiles associated with high pollution burden in the critically endangered European eel. *Aquatic Toxicology* 132-133:157-164.
 41. Papetti C, Di Franco A, [Zane L](#), Guidetti P, De Simone V, Spizzotin M, Zorica B, Keč VC, Mazzoldi C (2013). Single population and common natal origin for Adriatic *Scomber scombrus* stocks: Evidence from an integrated approach. *ICES Journal of Marine Science* 70:387-398.
 42. Papetti C, Pujolar JM, Mezzavilla M, La Mesa M, Rock J, Patarnello T, [Zane L*](#) (2012). Population genetic structure and gene flow patterns between populations of the Antarctic icefish *Chionodraco rastrospinosus*. *Journal of Biogeography* 39:1361-1372.
 43. Near TJ, Dornburg A, Kuhn KL, Eastman JT, Pennington JN, Patarnello T, [Zane L](#), Fernandez DA, Jones CD (2012). Ancient climate change, antifreeze, and the evolutionary diversification of Antarctic fishes. *Proceedings of the National Academy of Sciences, USA* 109:3434-3439.
 44. Mark FC, Lucassen M, Strobel A, Barrera-Oro E, Koschnick N, [Zane L](#), Patarnello T, Portner HO, Papetti C (2012). Mitochondrial Function in Antarctic Nototheniids with ND6 Translocation. *PLOS ONE* 7:e31860 Doi: [10.1371/journal.pone.0031860](https://doi.org/10.1371/journal.pone.0031860)
 45. Di Franco A, Coppini G, Pujolar JM, de Leo GA, Gatto M, Lyubartsev V, Melià P, [Zane L](#), Guidetti P (2012). Assessing dispersal patterns of fish propagules from an effective Mediterranean marine protected area. *PLoS ONE* 7(12):e52108. Doi: [10.1371/journal.pone.0052108](https://doi.org/10.1371/journal.pone.0052108)
 46. Pujolar JM, Marino IAM, Milan M, Coppe A, Maes GE, Capoccioni F, Ciccotti E, Bervoets L, Covaci A, Belpaire C, Cramb G, Patarnello T, Bargelloni L, Bortoluzzi S, [Zane L](#) (2012). Surviving in a toxic world: Transcriptomics and gene expression profiling in response to environmental pollution in the critically endangered European eel. *BMC Genomics* 13:507. doi:10.1186/1471-2164-13-507
 47. Coppe A, Bortoluzzi S, Murari G, Marino IAM, [Zane L*](#), Papetti C (2012). Sequencing and characterization of striped venus transcriptome expand resources for clam fishery genetics. *PLOS ONE* 7:e44185, doi: [10.1371/journal.pone.0044185](https://doi.org/10.1371/journal.pone.0044185).
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 49. Pujolar JM, [Zane L](#), Congiu L (2012). Phylogenetic relationships and demographic histories of the Atherinidae in the Eastern Atlantic and Mediterranean Sea re-examined by Bayesian inference. *Molecular Phylogenetics and Evolution* 63:857-865.
 50. Arias MC, Arnoux E, ..., [Zane L](#), Zannato B, Zemlak TS, Zhang CX, Zhao Y, Zhou X, Zhu LL (2012). Permanent Genetic Resources added to Molecular Ecology Resources Database 1 December 2011-31 January 2012. *Molecular Ecology Resources* 12:570-572.

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54. Patarnello T, Verde C, Di Prisco G, Bargelloni L, **Zane L** (2011). How will fish that evolved at constant sub-zero temperatures cope with global warming? Notothenioids as a case study. *Bioessays* 33:260-268.
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56. Pujolar JM, Bevacqua D, Andrello M, Capoccioni F, Ciccotti E, De Leo GA, **Zane L** (2011). Genetic patchiness in European eel adults evidenced by molecular genetics and population dynamics modelling. *Molecular Phylogenetics and Evolution* 58:198-208.
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In faith,


Lorenzo Zane