

Curriculum vitae

M. ESTER T. A. SERRÃO

Personal: Portuguese, born in Lisbon in 1966, two children (2000, 2002)

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Education:

- 2007 “Agregação”. University of Algarve, Portugal
- 1992/96. Ph.D. in Biological Sciences, University of Maine, USA.
- 1990/92. M.Sc. in Probability and Statistics, University of Lisbon, Portugal.
- 1985/89. B.Sc.(Honors) in Biology - Animal Resources and Environment, Univ. Lisbon.

Professional experience:

Research team:

- 1997 - Coordinator with Gareth Pearson of the team MAREE – Marine Ecology and Evolution, in CCMAR - Centre of Marine Sciences, Portugal.
Further information in: <http://ccmar.ualg.pt/maree/publications.php>
<http://www.researcherid.com/rid/C-6686-2012>

Positions:

- 2007- Tenured Assistant Professor with Aggregation. University of Algarve, Portugal.
- 2002-2007. Tenured Assistant Professor. University of Algarve, Portugal.
- 1997-2002. Assistant Professor. University of Algarve, Portugal.
- 1993-1997. Instructor. University of Algarve, Portugal.
- 1990-1993. Teaching Assistant. University of Algarve, Portugal.
- 1989-1990. Research Assistant at INIP (National Institute for Fisheries Research); Portugal.
- 1988-1989. Research Assistant at Dept. Plant Biology, University of Lisbon, Portugal.
- 1987-1988. Research Assistant at LNETI (National Laboratory for Engineering and Industrial Technology), Lisbon, Portugal.

Other:

- 2007-2009. Member of the board of directors of CCMAR.

Areas of Interest:

Evolutionary ecology, reproductive ecology, biogeography, adaptation. marine biology

Summary of achievements:

In June 2013: h index 24; total number of citations: 1771; average citations per paper: 16,71; in 115 international indexed papers. Total external funding (my team): 6 018 314 Euros – provided first research work experience opportunities for >30 young biologists as research technicians in projects. Graduate students (completed and ongoing): 14 PhD, 25 MSc.

Publications

in press (in May 2013)

1. Assis J, Coelho N, Alberto F, Varelo M, Raimondi P, Reed D, **Serrao EA** (2013) High and distinct range edge genetic diversity despite local bottlenecks. PLOS ONE
2. Aires, T, **Serrao EA**, Kendrick G, Duarte CM, Arnaud-Haond S (2013). Invasion is a community affair: clandestine followers in the bacterial community associated with the green alga *Caulerpa racemosa* track the invasion source. PLOS ONE
3. Teixeira S, Olu K, Decker C, Cunha RL, Fuchs S, Hourdez S, **Serrao EA**, Arnaud-Haond S (2013) High connectivity across the fragmented chemosynthetic ecosystems of the deep Atlantic Equatorial Belt: efficient dispersal mechanisms or questionable endemism? Molecular Ecology
4. Cunha AH, Varela-Álvarez E, Paulo DS, Sousa I, **Serrão EA** (2013) The rediscovery of *Caulerpa prolifera* in Ria Formosa, Portugal, 70 years after being undetected. Cahiers de Biologie Marine.

2013

5. Arnaud-Haond S, Candeias R, **Serrao EA**, Teixeira SJL (2013) Microsatellite markers developed through pyrosequencing allow clonal discrimination in the invasive alga *Caulerpa taxifolia*. Conservation Genetics Resources DOI 10.1007/s12686-013-9878-8
6. Marquet N, Nicastro KR, Gektidis M, McQuaid CD, Pearson GA, **Serrão EA**, Zardi GI (2013) Comparison of phototrophic shell-degrading endoliths in invasive and native populations of the intertidal mussel *Mytilus galloprovincialis*. Biological Invasions. 15:1253-1272, DOI 10.1007/s10530-012-0363-1
7. Cunha AF, Assis JF, **Serrao EA** (2013) Seagrasses in Portugal: a most endangered marine habitat. Aquatic Botany 104:193-203
<http://dx.doi.org/10.1016/j.aquabot.2011.08.007>
8. Assis J, Claro B, Ramos A, Boavida J, **Serrao EA** (2013) Performing fish counts with a wide-angle camera, a promising approach reducing divers' limitations. Journal of Experimental Marine Biology and Ecology 445:93-98

2012

9. Monteiro C, **Serrão EA**, Pearson GA (2012) Prezygotic barriers to hybridization in marine broadcast spawners: reproductive timing and mating system variation. PLoS ONE 7(4): e35978. doi:10.1371/journal.pone.0035978
10. Nicastro KR, Zardi GI, Teixeira S, Neiva J, **Serrão EA**, Pearson GA. (2013) Shift happens: trailing edge contraction associated with recent warming trends threatens a distinct genetic lineage in the marine macroalga *Fucus vesiculosus*. BMC Biology doi:10.1186/1741-7007-11-6
11. Masucci AP, Arnaud-Haond S, Eguiluz VM, Hernandez-Garcia E, **Serrao EA** (2012) Genetic flow directionality and geographical segregation in a *Cymodocea nodosa* genetic diversity network. European Physical Journal (EPJ) Data Science. 1:11
doi:10.1140/epjds11

12. Teixeira S, **Serrao EA**, Arnaud-Haond S (2012) Panmixia in a fragmented and unstable environment: the hydrothermal shrimp *Rimicaris exoculata* disperses extensively along the Mid-Atlantic Ridge. PLoS ONE 7(6): e38521. doi:10.1371/journal.pone.0038521
13. Diekmann O, **Serrao EA** (2012) Range-edge genetic diversity: locally poor extant southern patches maintain a regionally diverse hotspot in the seagrass *Zostera marina*. Molecular Ecology, 21: 1647-1657
14. Neiva J, Pearson GA, Valero M, **Serrao EA** (2012). Fine scale genetic breaks driven by historical range dynamics and ongoing density barriers-effects in the estuarine seaweed *Fucus ceranoides* L. BMC Evolutionary Biology 12: 78
15. Varela-Álvarez E, Gómez Garreta A, Rull Lluch J, Salvador Soler N, **Serrao EA**, and M.A. Ribera Siguán (2012) Mediterranean species of *Caulerpa* are polyploid with smaller genomes in the invasive ones. PLoS ONE 7(10): e47728. doi:10.1371/journal.pone.0047728
16. Nicastro KR, Zardi GI, McQuaid CD, Pearson GA, **Serrão EA** (2012) Love thy neighbour: group properties of gaping behaviour in mussel aggregations. PLoS ONE 7(10): e47382. doi:10.1371/journal.pone.0047382
17. Neiva J, Hansen G, Pearson GA, Vliet M, Maggs C, **Serrao EA** (2012) *Fucus cottonii* (Fucales, Phaeophyceae) is not a single genetic entity but a convergent salt-marsh morphotype with multiple independent origins. European Journal of Phycology 47:461-468. doi: 10.1080/09670262.2012.736536.
18. Arnaud-Haond S, Duarte CM, Diaz-Almela E, Marba N, **Serrao EA** (2012) Implications of extreme life span in clonal organisms: millenary clones in meadows of the threatened seagrass (*Posidonia oceanica*). PLoS ONE 7(2): e30454 doi:10.1371/journal.pone.0030454
19. Neiva J, Pearson GA, Valero M, **Serrao EA** (2012) Drifting fronds and drifting alleles: range dynamics, local dispersal and habitat isolation shape the population structure of the estuarine seaweed *Fucus ceranoides* L. Journal of Biogeography 39: 1167-1178
20. Philippart CJ, Amaral A, Asmus R, Bleijswijk J, Bremner J, Bucholz F, Cabanellas-Reboredo M, Catarino D, Cattrijsse A, Charles F, Comtet T, Cunha A, Deudero S, Duchene JC, Fraschetti S, Gentil F, Gittenberger A, Guizien K, Gonçalves J, Guarnieri G, Hendriks I, Hüssel B, Vieira RP, Reijnen BT, Sampaio I, **Serrao EA**, Sousa-Pinto I, Thiebaut E, Viard F, Zuur AF (2012) Spatial synchronies in the seasonal occurrence of larvae of oysters (*Crassostrea gigas*) and mussels (*Mytilus edulis/galloprovincialis*) in European coastal waters. Estuarine, Coastal and Shelf Science. 108:52-63. doi: 10.1016/j.ecss.2012.05.014
21. Araújo R, Arenas, F, Aberg P, Sousa-Pinto I, **Serrao EA** (2012) The role of disturbance in differential regulation of co-occurring brown algae species: interactive effects of sediment deposition, abrasion and grazing on algae recruits. Journal of Experimental Marine Biology and Ecology, 422-423: 1-18
22. Aires T, Marba N, **Serrao EA**, Duarte CM, Arnaud-Haond S (2012) Selective elimination of chloroplastial DNA for metagenomics of bacteria associated to green algae (*Caulerpa taxifolia*, Bryopsidophyceae). Journal of Phycology, 48: 483-490
23. Araújo R, Sousa-Pinto I, **Serrao EA**, Aberg P (2012) Recovery after trampling disturbance in a canopy-forming seaweed population. Marine Biology 159:697-707. doi:10.1007/s00227-011-1847-8
24. Teixeira S, Candeias R, Klein M, **Serrao EA**, Borges R (2012) Characterization of 15 polymorphic microsatellite loci in the temperate reef fish *Lepadogaster lepadogaster*,

developed using 454-sequencing. Conserv Genetics Resources, DOI 10.1007/s12686-012-9732-4

25. Lourenço CR, Nicastro KR, **Serrao EA**, Zardi GI (2012) First record of the brown mussel (*Perna perna*) from the European Atlantic coast. Marine Biodiversity Records 5: e39. doi:10.1017/S1755267212000280
26. Coelho NV, Zardi GI, Pearson GA, **Serrao EA**, Nicastro KR (2012) Characterization of ten highly polymorphic microsatellite loci for the intertidal mussel *Perna perna*, and cross species amplification within the genus. BMC Research Notes 5:2101791285670501. doi:10.1186/1756-0500-5-2101791285670501

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27. Cánovas F, Mota CF, **Serrao EA**, Pearson GA (2011) Driving south: a multi-gene phylogeny of the brown algal family Fucaceae reveals relationships and recent drivers of a marine radiation. BMC Evolutionary Biology 11:371 doi:10.1186/1471-2148-11-371
28. Zardi GI, Nicastro KR, Cánovas F, Costa JF, **Serrao EA**, Pearson GA (2011) Adaptive traits are maintained on steep selective gradients despite gene flow and hybridization in the intertidal zone. PLoS ONE, 6(6): e19402. doi:10.1371/journal.pone.0019402
29. Cánovas F, Mota CF, Costa JF, **Serrao EA**, Coyer JA, Olsen JL, Pearson GA (2011) Development and characterization of 35 single nucleotide polymorphism markers for the brown alga *Fucus vesiculosus* L. European Journal of Phycology 46: 342-351
30. Massa SI, Pearson GA, Aires T, Kube M, Olsen JL, Reinhardt R, **Serrao EA**, Arnaud-Haond S (2011) Expressed sequence tags from heat-shocked seagrass *Zostera noltii* (Hornemann) from its southern distribution range. Marine Genomics, 4: 181-188
31. Alberto F, Raimondi PT, Reed DC, Watson JR, Siegel DA, Mitarai S, Coelho N, **Serrao EA**. (2011) Isolation by oceanographic distance explains genetic structure for *Macrocystis pyrifera* in the Santa Barbara Channel. Molecular Ecology, 20:2543-2554
32. Coyer JA, Hoarau G, Costa J, Hogerdijk B, **Serrao EA**, Billard E, Valero M, Pearson GA, Olsen J. (2011). Evolution and diversification within the intertidal brown macroalgae *Fucus spiralis*/*F. vesiculosus* species complex in the North Atlantic. Molecular Phylogenetics and Evolution, 58:283-296
33. Araujo R, **Serrao EA**, Sousa-Pinto I, Aberg P (2011) Phenotypic differentiation at southern limit borders: the case-study of two fucoid macroalgal species with different life-history traits. Journal of Phycology, 47: 451-462
34. Aires T, Marbà N, Cunha RL, Kendrick GA, Walker DI, **Serrao EA**, Duarte CM, Arnaud-Haond S (2011) Evolutionary history of the seagrass genus *Posidonia*. Marine Ecology Progress Series 421: 117-130
35. Moalic Y, Arnaud-Haond S, Perrin C, Pearson GA, **Serrao EA** (2011) Travelling in time with networks: revealing present day hybridization versus ancestral polymorphism between two species of brown algae, *Fucus vesiculosus* and *F. spiralis*. BMC Evolutionary Biology, 11:33. doi:10.1186/1471-2148-11-33
36. Teixeira S, Cambon-Bonavita M, **Serrao EA**, Desbruyeres D, Arnaud-Haond S. (2011) Recent population expansion and connectivity in the hydrothermal shrimp *Rimicaris exoculata* along the Mid Atlantic Ridge. Journal of Biogeography, 38:564-574
37. Teixeira S, **Serrão EA**, Arnaud-Haond S. (2011) Characterization of 15 polymorphic microsatellite loci in *Rimicaris exoculata*, and cross-amplification in other hydrothermal-vent shrimp. Conservation Genetics Resources, DOI 10.1007/s12686-011-9479-3

38. Varela-Alvarez E, Rindi F, Cavas L, **Serrao EA**, Duarte CM, Marbá N (2011). Molecular identification of *Halophila stipulacea* from Turkey. Cahiers de Biologie Marine, 52: 227-232
39. Varela-Alvarez E, Glenn TC, **Serrao EA**, Duarte CM, Martínez-Daranas B, Valero M, Marbá N (2011) Dinucleotide microsatellite markers in the genus *Caulerpa*. Journal of Applied Phycology, 23: 715-719
40. Barradas A, Alberto F, Engelen AH, **Serrao EA** (2011) Fast sporophyte replacement after removal suggests banks of latent microscopic stages of *Laminaria ochroleuca* (Phaeophyceae) in tide pools in northern Portugal. Cahiers de Biologie Marine, 52:435-439
41. Pereira TR, Engelen AH, Pearson GA, **Serrao EA**, Destombe C, Valero M. (2011) Temperature effects on spore development of *Laminaria ochroleuca* and *Saccorhiza polyschides*, kelps with contrasting life histories. Cahiers de Biologie Marine, 52:395-403

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42. Neiva J, Pearson GA, Valero M, **Serrao EA**. (2010). Surfing the wave on a borrowed board: range expansion and spread of introgressed organellar genomes in the seaweed *Fucus ceranoides* L. Molecular Ecology, 19:4812-4822
43. Alberto F, Raimondi PT, Reed DC, Coelho NC, Leblois R, Whitmer A, **Serrão EA** (2010) Habitat continuity and geographic distance predict population genetic differentiation in giant kelp. Ecology, 91:49-56
44. Billard E, **Serrão EA**, Pearson GA, Destombe C, Valero M. (2010) *Fucus vesiculosus* and *spiralis* species complex: a nested model of local adaptation at the shore level. Marine Ecology Progress Series, 405:163-174
45. Pearson GA, Hoarau G, Lago-Leston A, Coyer JA, Kube M, Henckel K, **Serrão EA**, Corre E, Stam WT, Olsen JL (2010). An Expressed Sequence Tag (EST) Analysis of the Intertidal Brown Seaweeds *Fucus serratus* (L.) and *F. vesiculosus* (L.) (Heterokontophyta, Phaeophyceae) in Response to Abiotic Stressors. Marine Biotechnology, 12: 195-213
46. Diekmann OE, Gouveia L, Perez JA, Gil-Rodriguez C, **Serrao EA** (2010). The possible origin of *Zostera noltii* in the Canary Islands and guidelines for restoration. Marine Biology, 157:2109-2115
47. Serra IA, Innocenti AM, Di Maida G, Calvo S, Migliaccio M, Zambianchi E, Pizzigalli C, Arnaud-Haond S, Duarte CM, **Serrão EA**, Procaccini G (2010) Genetic structure in the Mediterranean seagrass *Posidonia oceanica*. Disentangling past vicariance events from contemporary patterns of gene flow. Molecular Ecology, 19: 557-568
48. Arnaud-Haond S, Marbá N, Diaz-Almela E, **Serrão EA**, Duarte CM (2010). Comparative analysis of stability - genetic diversity in seagrass (*Posidonia oceanica*) meadows yields unexpected results. Estuaries and Coasts 33: 878-889.

2009

49. Arnaud-Haond S, Duarte CM, Teixeira S, Massa SI, Terrados J, Tri NH, Hong PN, **Serrao EA** (2009) Genetic recolonization of mangrove: genetic diversity still increasing in the Mekong Delta 30 years after Agent Orange. Marine Ecology Progress Series 390: 129-135

50. Alberto F, Whitmer A, Coelho N, Zippay M, Varela-Alvarez E, Raimondi PT, Reed D, **Serrao EA**. (2009) Microsatellite markers for the giant kelp *Macrocystis pyrifera*. Conservation Genetics, 10:1915-1917.
51. Araújo R, Vaselli S, Almeida M, **Serrao EA**, Sousa-Pinto I. (2009) Disturbance on marginal populations: effects of human trampling on *Ascophyllum nodosum* assemblages at its southern distribution limit. Marine Ecology Progress Series 378:81-92
52. Monteiro C, Engelen AH, **Serrao EA**, Santos R. (2009) Habitat differences in the timing of reproduction of the invasive alga *Sargassum muticum* (Phaeophyta, Sargassaceae) over tidal and lunar cycles. Journal of Phycology, 45:1-7.
53. Borges R, Vaz J, **Serrao EA**, Gonçalves EJ (2009). Short-term temporal fluctuation of very-nearshore larval fish assemblages at the Arrábida Marine Park. Journal of Coastal Research, SI 56: 376-380.
54. Diekmann OE, Gouveia L, **Serrao EA**, Van de Vliet MS (2009) Highly polymorphic microsatellite markers for the black striped pipefish, *Syngnathus abaster*. Molecular Ecology Resources 9(6): 1460-1466.
55. Assis J, Tavares D, Tavares JT, Cunha AH, Alberto F, **Serrão EA** (2009) Findkelp, a GIS-based community participation project to assess Portuguese kelp conservation status. Journal of Coastal Research, SI 56:1469-1473
56. Cunha AH, Assis J, **Serrão EA** (2009) Estimation of available seagrass meadow area in Portugal for transplanting purposes. Journal of Coastal Research, SI 56:1100-1104
57. Massa SI, Arnaud-Haond S, Pearson GA, **Serrao EA** (2009) Temperature tolerance and survival of intertidal populations of the seagrass *Zostera noltii* (Hornemann) in Southern Europe (Ria Formosa, Portugal) Hydrobiologia. 619: 195-201
58. van de Vliet MS, Diekmann OE, **Serrão ETA**, Beja P. (2009) Highly polymorphic microsatellite loci for the Parsley frog (*Pelodytes punctatus*): characterization and testing for cross-species amplification. Conservation Genetics, 10:665-668
59. van de Vliet MS, Diekmann OE, **Serrão ETA** (2009) Highly polymorphic microsatellite markers for the short-snouted seahorse (*Hippocampus hippocampus*), including markers from a closely related species the long-snouted seahorse (*Hippocampus guttulatus*) Conservation Genet Resour 1 : 93–96. DOI 10.1007/s12686-009-9022-y
60. van de Vliet MS, Diekmann OE, **Serrão ETA** (2009) Development and characterization of highly polymorphic loci for the western spadefoot toad, *Pelobates cultripes*. Conservation Genetics 10: 993-996
61. van de Vliet MS, Diekmann OE, **Serrão EA**, Beja P. (2009) Isolation of highly polymorphic microsatellite loci for a species with a large genome size: Sharp-ribbed Salamander (*Pleurodeles waltl*). Molecular Ecology Resources 9: 425-428.

2008

62. Rozenfeld AF, Arnaud-Haond S, Hernández-García E, Eguíluz VM, **Serrao EA**, Duarte CM. (2008) Network analysis identified weak and strong links in a metapopulation system. Proceedings of the National Academy of Sciences of the USA 105: 18824-18829
63. Schmidt PS, **Serrao EA**, Pearson GA, Riginos C, Rawson PD, Hibish TJ, Brawley SH, Trussell GC, Carrington E, Wethey DS, Grahame JW, Bonhomme F, Rand DM (2008) Ecological genetics in the North Atlantic intertidal: environmental gradients, replicated clines, and adaptation at specific loci. Ecology, 89(11) S91-S107
64. Alberto F, Massa S, Manent P, Diaz-Almela E, Arnaud-Haond S, Duarte CM, **Serrão EA** (2008) Genetic differentiation and secondary contact zone in the seagrass *Cymodocea*

nodosa across the Mediterranean-Atlantic transition region. Journal of Biogeography 35: 1279-1294

65. Ladah L, Feddersen F, **Serrão EA**, Pearson GA (2008) Egg release and settlement patterns of a dioecious and hermaphrodite fucoid algae during the tidal cycle. Marine Biology 155: 583-591
66. Fonseca PJ, **Serrão EA**, Pina-Martins F, Silva P, Mira S, Quartau JA, Paulo OS, Cancela ML (2008) The evolution of cicada songs contrasted with the relationships inferred from mitochondrial DNA (Insecta, Hemiptera). Bioacoustics 18: 17-34
67. Engelen A, Espirito-Santo C, Simões T, Monteiro C, **Serrão EA**, Pearson GA, Santos R. (2008) Periodicity of propagule expulsion and settlement in the competing native and invasive brown seaweeds, *Cystoseira humilis* and *Sargassum muticum* (Phaeophyta). Eur J Phycol 43: 275-282

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68. Rozenfeld AF, Arnaud-Haond S, Hernández-García E, Eguíluz VM, Matías MM, **Serrão EA**, Duarte CM (2007) Spectrum of genetic diversity and networks of clonal organisms. J R Soc Interface 4: 1093-1102
69. Arnaud-Haond S, Duarte CM, Alberto F, **Serrão EA** (2007) Standardizing methods to address clonality in population studies. Molecular Ecology 16: 5115-5139
70. Perrin C, Daguin C, Van de Vliet M, Engel CR, Pearson GA, **Serrão EA** (2007). Implications of mating system for genetic diversity of sister algal species: *Fucus spiralis* and *Fucus vesiculosus* (Heterokontophyta, Phaeophyceae). European Journal of Phycology 42: 219-230
71. Arnaud-Haond S, Migliaccio M, Diaz-Almela E, Teixeira S, van de Vliet MS, Alberto F, Procaccini G, Duarte CM, **Serrão EA** (2007) Vicariance patterns in the Mediterranean Sea: East-West cleavage and low dispersal in the endemic seagrass *Posidonia oceanica*. Journal of Biogeography, 34: 963-976
72. Billingham MR, Simões T, Reusch TBH, **Serrão EA** (2007) Genetic substructure and intermediate optimal outcrossing distance in the marine angiosperm *Zostera marina*. Marine Biology 152: 793-801
73. Diaz-Almela E, Arnaud-Haond S, Vliet MS, Alvarez E, Marbà N, Duarte CM, **Serrão EA** (2007) Feed-backs between genetic structure and perturbation-driven decline in seagrass (*Posidonia oceanica*) meadows. Conservation Genetics 8: 1377-1391

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74. Pearson GA, **Serrão EA** (2006). Revisiting synchronous gamete release by fucoid algae in the intertidal zone: fertilization success and beyond? Integrative and Comparative Biology 46: 587-597
75. Coyer JA, Hoarau G, Pearson GA, **Serrão EA**, Stam WT, Olsen JL (2006). Convergent adaptation to a marginal habitat by homoploid hybrids and polyploid ecads in the seaweed genus *Fucus*. Biology Letters 2: 1744-9561
76. Arnaud-Haond S, Teixeira S, Massa S, Billot C, Saenger P, Coupland G, Duarte CM, **Serrão EA** (2006). Genetic structure at range-edge: low diversity and high inbreeding in SE Asia mangrove (*Avicennia marina*) populations. Molecular Ecology 15: 3515-3525
77. Alexandre A, Cabaço S, Santos R, **Serrão EA** (2006). Timing and success of reproductive stages in the seagrass *Zostera noltii*. Aquatic Botany. 85: 219-223

78. Engel CR, Daguin C, **Serrão EA** (2006). When is a hybrid a hybrid? (a counter-reply to Wallace et al.). Molecular Ecology 15: 3481-3482
79. Varela-Alvarez E, Andreakis N, Lago-Lestón A, Pearson GA, **Serrão EA**, Procaccini G, Duarte CM, Marba N (2006). Genomic DNA isolation in green and brown algae (Caulerpales and Fucales) for microsatellite library construction. Journal of Phycology 42: 741-745
80. Pearson GA, Lago-Leston A, Valente M, **Serrão EA** (2006). Simple and rapid RNA extraction from lyophilized tissue of brown algae and seagrasses. European Journal of Phycology. 41:97-104
81. Alberto F, Arnaud-Haond S, Duarte CM, **Serrão EA** (2006). Genetic diversity of a clonal angiosperm near its range limit: the case of *Cymodocea nodosa* in the Canary Islands. Marine Ecology Progress Series 309: 117-129

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82. Alexandre A, Santos R, **Serrão E** (2005). Effects of clam harvesting on sexual reproduction of the seagrass *Zostera noltii*. Marine Ecology Progress Series 298: 115-122
83. Billard E, **Serrão EA**, Pearson GA, Engel CR, Destombe C, Valero M (2005). Analysis of sexual phenotype and prezygotic fertility in natural populations of *Fucus spiralis*, *F. vesiculosus* (Fucaceae, Phaeophyceae) and their putative hybrids. European Journal of Phycology 40: 397-407
84. Alberto F, Gouveia L, Arnaud-Haond S, Pérez-Lloréns JL, Duarte CM, **Serrão EA**. (2005). Within population genetic structure, neighbourhood size and clonal subrange in the seagrass *Cymodocea nodosa*. Molecular Ecology 14: 2669-2681
85. Billard E, Daguin C, Pearson GA, **Serrão EA**, Engel C, Valero M (2005). Genetic isolation between the three closely related taxa: *Fucus vesiculosus*, *F. spiralis* and *F. ceranoides*. Journal of Phycology 41: 900-905.
86. Engel CR, Daguin C, **Serrão EA** (2005). Genetic entities and mating system in hermaphroditic *Fucus spiralis* and its close dioecious relative *F. vesiculosus* (Fucaceae, Phaeophyceae). Molecular Ecology 14: 2033-2046.
87. Diekmann OE, Coyer JA Ferreira J, Olsen JL, Stam WT, Pearson GA, **Serrão EA** (2005). Population genetics of *Zostera noltii* along the west Iberian coast: consequences of small population size, habitat discontinuity and nearshore currents. Marine Ecology Progress Series 290: 89-96.
88. Arnaud-Haond, S., Alberto F, Procaccini G, **Serrão EA**, Duarte CM (2005). Assessing genetic diversity in clonal organisms: low diversity or low resolution? Combining power and cost-efficiency in selecting markers. Journal of Heredity 96: 1-7.
89. Tatarenkov A, Bergström L, Jönsson R, **Serrão EA**, Kautsky L, Johannesson K (2005) Intriguing asexual life in the brown seaweed *Fucus vesiculosus*. Molecular Ecology, 14: 647-651.

2004

90. Coyer JA, Diekmann OE, **Serrão EA**, Procaccini G, Milchakova N, Pearson G, Stam WT, Olsen L (2004) Population genetics of dwarf eelgrass *Zostera noltii* throughout its biogeographic range. Marine Ecology Progress Series 281: 51-62

91. Coyer JA, Reusch TBH, Stam WT, **Serrão EA**, Pearson G, Procaccini G, Olsen JL (2004). Characterization of microsatellite loci in the dwarf eelgrass, *Zostera noltii* (Zosteraceae) and cross reactivity with *Z. japonica*. Molecular Ecology Notes 4: 497-499
92. Olsen JL, Stam WT, Coyer JA, Reusch TBH, Billingham M, Bostrom C, Calvert E, Christie H, Granger S, La Lumiere R, Milchakova N, Oudot-Le Secq M-P, Procaccini G., Sanjabi B, **Serrão E**, Veldsink J, Widdecombe S, Wyllie-Echeverria S (2004). North Atlantic phylogeography and large-scale populations differentiation of the seagrass *Zostera marina* L. Molecular Ecology, 13: 1923-1941
93. Pearson GA, **Serrão EA**, Dring M, Schmid R (2004). Blue and green-light signals for gamete release in the brown alga *Silvetia compressa*. Oecologia 138: 193-201

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94. Billingham M, Reusch TB, Alberto F, **Serrão EA** (2003) Is asexual reproduction more important at geographical limits? A genetic test of the seagrass *Zostera marina* in the Ria Formosa, Portugal. Marine Ecology Progress Series 265: 77-83
95. Ladah L, Bermudez R, Pearson G, **Serrão E** (2003) Fertilization success and recruitment of dioecious and hermaphroditic fucoid seaweeds with contrasting distributions near their southern limit. Marine Ecology Progress Series. 262: 173-183
96. Teixeira S, Arnaud-Haond S, Duarte CM, **Serrão E** (2003). Polymorphic microsatellite DNA markers in the mangrove tree *Avicennia alba*. Molecular Ecology Notes, 3:544-546.
97. Alberto F, Correia L, Billot C, Duarte CM, **Serrão E** (2003). Isolation and characterization of microsatellite markers for the seagrass *Cymodocea nodosa*. Molecular Ecology Notes 3: 397-399
98. Alberto F, Correia L, Arnaud S, Billot C, Duarte CM, **Serrão E**. (2003). New microsatellite markers for the endemic Mediterranean seagrass *Posidonia oceanica*. Molecular Ecology Notes. 3:253-255
99. Engel CR, Brawley SH, Edwards KJ, **Serrão E**. (2003). Isolation and cross-species amplification of microsatellite loci from the fucoid seaweeds *Fucus vesiculosus*, *F. serratus* and *Ascophyllum nodosum* (Heterokontophyta, Fucaceae). Molecular Ecology Notes. 3: 180-182
100. Alves FMA, Chicharo LM, **Serrão E**, Abreu AD (2003). Grazing by *Diadema antillarum* (Philippi) upon algal communities on rocky substrates. Scientia Marina 67: 307-311

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101. Pearson GA, **Serrão EA**, Cancela ML (2001) Suppression subtractive hybridization used to study gene expression during areal exposure and desiccation in fucoid algae. European Journal of Phycology 36: 359-366
102. Gomes MC, **Serrão E**, Borges, MF (2001) Spatial patterns of groundfish assemblages on the continental shelf of Portugal. ICES Journal of Marine Science. 58: 633-647
103. Alves FMA, Chicharo LM, **Serrão E**, Abreu AD (2001) Algal cover and sea urchin spatial distribution and ecology at Madeira Island (NE Atlantic). Scientia Marina. 65: 383-392

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104. Pearson GA, Kautsky L, **Serrão EA** (2000) Recent evolution in Baltic *Fucus vesiculosus*: Reduced tolerance to emersion stresses compared to intertidal (North Sea) populations. Marine Ecology Progress Series .202: 67-79
105. **Serrão EA**, Alice LA, Brawley SH (1999). Evolution of the Fucaceae (Phaeophyta) inferred from nrDNA-ITS. Journal of Phycology. 35: 382-394
106. **Serrão EA**, Brawley SH, Hedman J, Kautsky L, Samuelsson G (1999). Reproductive success in *Fucus vesiculosus* in the Baltic Sea. Journal of Phycology. 35: 254-269.
107. Brawley SH, Johnson L, Pearson GA, Speransky V, Li R, **Serrão E.** (1999). Gamete release at low tide in fucoid algae: maladaptive or advantageous? American Zoologist. 39: 218-229
108. Pearson GA, **Serrão EA**, Brawley SH (1998). Sensing hydrodynamic conditions via carbon acquisition: control of gamete release in fucoid algae. Ecology 79: 1725-1739
109. **Serrão EA**, Pearson GA, Kautsky L, Brawley SH (1996). Successful external fertilization in turbulent environments. Proceedings of the National Academy of Sciences of the USA 93: 5286-5290
110. **Serrão EA**, Kautsky L, Brawley SH (1996). Distributional success of the marine seaweed *Fucus vesiculosus* L. in the brackish Baltic Sea correlates with osmotic capabilities of gametes. Oecologia. 107:1-12
111. Haroun RJ, Prud'homme van Reine WF, Müller DG, **Serrão E**, Herrera R (1993). Deep-water macroalgae from the Canary Islands: new records and biogeographical relationships. Helgoländer Meeresunters 47 :125-143

Book chapters

112. **Serrão EA**, Havenhand J (2009) *Fertilization strategies*. Chapter 10 in: Wahl M (ed.) Marine Hard Bottom Communities. Ecological Studies 206, Springer Verlag. Berlin, Heidelberg (DOI: 10.1007/978-3-540-92704-4_10)
113. Kennedy H, Papadimitriou S, Marba N, Duarte C, **Serrão EA**, Arnaud-Haond S (2004) How are seagrass processes, genetics and chemical composition monitored? Chapter 9 in: Borum J, Duarte CM, Krause-Jensen D (Eds) European seagrasses: an introduction to ecology monitoring and management. Published by the EU project EVK3-CT-2000-00044 (ISBN 87-89143-21-3).

In congress proceedings

114. Hernández-García E, Herrada EA, Rozenfeld AF, Tessone CJ, Eguíluz VM, Duarte CM, Arnaud-Haond S, **Serrão E** (2007). Evolutionary and Ecological Trees and Networks. in Nonequilibrium Statistical Mechanics and Nonlinear Physics, Ed. by O. Descalzi, O.A. Rosso and H.A. Larrondo. AIP Conference Proceedings Volume 913, American Institute of Physics (New York, 2007), pp. 78-83
115. **Serrão EA** (1998). Methods to study algal propagules, their settlement and recruitment. In Biodiversity Conservation and New Technologies, vol II., Proc. IV Latin-American Phycology Congress, Soc. Ficol. Amer. Lat. e Caribe, São Paulo. (Invited review)

In national journals or books

116. Assis J, Tavares JT, **Serrão EA**, Alberto F, Ferreira C, Tavares D, Paulos L, Tempera F (2011). Florestas marinhas. As espécies de algas castanhas gigantes de Portugal. Edição do Centro de Ciências do Mar e Mundo Góbius Comunicação e Ciência Lda, no âmbito do Prémio BES Biodiversidade. ISBN 978-989-97260-0-C

117. Cunha AH, **Serrao EA** (2011) Tools for seagrass conservation and management in Portugal. *Ecologi@* 3: 23-26.
118. Fredericq S, **Serrão E**, Norris J (1992). New records of marine red algae from the Azores. *Arquipelago* 10: 1-5.

Prizes:

2010. Fundação EDP - award for proj. FINDKELP of PhD student Jorge Assis– 35000 €.
2010. Honorary mention -BES-Biodiversidade - proj FINDKELP – 3000 €.
2010. InAqua Prize - project Deep Reefs of PhD student Joana Boavida – 25000 €.
2009. Honorary mention of Green Project Awards (GCI) for project BIOMARES
2009. Honorary mention BES-Biodiversidade awarded to SECIL for project BIOMARES
- 3 prizes for best presentations at meetings (2001, 1997, 1994)

Scientific communications:

- 12 Invited Presentations at International Meetings
- 97 other presentations at international meetings

Research funding:

National projects funded by FCT (as coordinator):

(FCT = Portuguese Foundation for Science and Technology)

1. EXCL/AAG-GLO/0661/2012. Extant or extinct tipping points – climate changes drive genetic diversity and dynamics of range edge populations as evolutionary hotspots (EXTANT) Jul 2013-May 2016 (499.557 €)
2. PTDC/AAC-CLI/109108/2008. Making edges meet: genetic signatures of climate-driven range shifts (EDGES) Jan 2010-Apr 2013 (182.328 €)
3. POCI/MAR/57499/2004. Ecology and evolution of mating systems in fucoid algae (MATING) Jan 2006-Dec 2008 (89 100 €)
4. POCTI/39431/BSE/2001. Signals for gamete release by intertidal species with external fertilization (GAMETE) Mar 2002-Feb 2005 (45 000 €).
5. POCTI/BSE/35045/99. Local adaptation and population genetic structure in intertidal algae (GENFUCUS) Dec 2001-Nov 2004 (150 000 €)
6. PNAT/1999/BIA/15003/C. Resilience and genetic diversity of seagrasses affected by anthropogenic perturbations in the Natural Park of Ria Formosa (SEAGRASSRIA) Apr 2001-Mar 2004 (75 000 €)
7. PDCTM/P/MAR/5292/1999. The Portuguese coast as a biogeographic boundary: consequences for reproductive success, local adaptation and genetic structure of populations living at their distributional limits (BIOPORT) Feb 2001-Jan 04 (225 000 €)

European Union projects (as national coordinators):

8. FP7-ENV-2008-1-226248. Arctic Tipping Points (ATP) – 2009-2012, global PI Paul Wassmann, Univ. Tromsø, Norway, co-PI at CCMAR: G. Pearson, Mar 2009-Feb 2012 (190 672 € for CCMAR)
9. NEST-2005-Path-COM/043251, Ecological diversity and evolutionary networks (EDEN) - Jan 2007-Dec 2009, global PI: E. Hernandez, CSIC, Spain, co-PI at CCMAR: G. Pearson (295 908 € for CCMAR)

10. EU (LIFE 06 NAT/P/000192) “Restoration and management of biodiversity in the marine Park Site Arrabida-Espichel (PTCON0010)” – (BIOMARES). co-PI with K. Erzini, Jan 2007-Dec 2010 (1 145 548 € for CCMAR; co-financed in 1 000 000 € by the cement company SECIL)
11. EVK3-CT-2000-00044. Monitoring and Management of European Seagrass Beds (M&MS). Feb 2001-Aug 2005. global PI: J. Borum, FBL, Denmark (330 000 € for Univ. Algarve)
12. INCO- ERB IC18-CT98-0292. Prediction of the resilience and recovery of disturbed coastal communities in the tropics (PREDICT). Oct 1998-Apr 2002, global PI: C. Duarte, CSIC, Spain (80 750 € for IMAR)

National projects coordinated by my team:

1. PTDC/MAR/119363/2010. Sea cucumbers: the new resource for a hungry fishery (CUMFISH), Feb 2012-Jan 2015. PI Mercedes Wanguemert (163.728€)
2. PTDC/MAR/110251/2009. Adaptive potential at range edges: testing relationships between fitness-related traits and population structure near ecophysiological limits (FUDGE), Apr 2011-Mar 2013. PI Katy Nicastró (181.752€)
3. PTDC/MAR/115226/2009. Understanding temperate reef fish connectivity (MATRIX), Mar 2011-Feb 2014, PI Rita Borges (178.488 €)
4. PTDC/MAR/108105/2008. Drivers of co-existence of sympatric species with incomplete reproductive isolation: testing roles of hybridization barriers in marine broadcast spawners (HYBRID), Jan 2010-Apr 2013. PI Gareth Pearson (198.240 €)
5. PTDC/MAR/099887/2008, Landscape genetics of a coastal lagoon; an empirical and modelling approach using the seagrass *Zostera noltii* in the Ria Formosa (RIASCAPEGEN) Mar 2010-Feb 2013 PI Filipe Alberto (160.473 €)
6. PTDC/MAR/108013/2008 The sexual and asexual balance of a marine clonal plant: the case of the seagrass *Cymodocea nodosa* in the Canary islands (CANARYGRASS) Mar 2010 - Feb 2013 PI Filipe Alberto (157.834 €)
7. PTDC/MAR/099698/2008, Molecular taxonomy, population genetics and phylogenomics of the red algal genus *Porphyra* spp. from the Iberian peninsula (NORIGENOMICS) 4Apr 2010 -3Apr 2013 PI Elena Varela (199.810 €)
8. PTDC/BIA-BEC/103916/2008, Adaptation in action: comparing invasive and native populations to understand processes influencing species boundaries. (PERMYT) 17Jan 2010 -16Jan 2013 PI Gerardo Zardi (141.370 €)
9. PTDC/MAR/104477/2008, Polyandry levels in *Fucus vesiculosus* (POLYANDRY) Feb 2010 -Jan 2013. PI Sara Teixeira (185.410 €)
10. PTDC/MAR/72630/2006, Environmental Genomics of Southern Ocean Phytoplankton Communities (SOPA), Nov 2008 -Oct 2011, PI Gareth Pearson (198.404 €)
11. PTDC/MAR/65461/2006, Molecular ecology of the giant kelp *Macrocystis pyrifera* (MEGIKELP), Oct 2008 -Sep 2011, PI Filipe Alberto (191.441 €)
12. PTDC/MAR/70921/2006, Population genetic structure, molecular phylogeny and historical biogeography in species of the genus *Caulerpa*, present in the Mediterranean Sea and the Atlantic Ocean (CAULERPA), Nov 2008-Oct 2011. PI Elena Varela (182.630 €)
13. PTDC/MAR/64749/2006, The success of invasive species: exploring the joint role of biotic interactions and of founder effect in *Caulerpa* species (IBISA), Sep 2008-Aug 2011 PI Sophie Arnaud (187.140 €)

14. POCI/MAR/61105/2004. Adaptive Population Divergence, and Comparative Population Structure in the Brown Algal Genus *Fucus* (ADAPT). Feb 2006 – Jan 2009, PI Gareth Pearson (86 400 €)
15. POCI/MAR/60179/2004. Neutral and Non-Neutral Genes: Population Diversity and Stability (DIVSTAB). Feb 2006-Jan 2009. PI Sophie Arnaud (82 800 €)
16. POCI/MAR/57342/2004. Genetic Networks and Evolution: from individuals to populations. Jul 2005-Jun 2007 (NETWORK). PI Sophie Arnaud (45 000 €)
17. POCI/MAR/60044/2004. Genetic diversity and differentiation in the seagrass species *Zostera noltii* and *Cymodocea nodosa* across the Atlantic-Mediterranean divide (DIVIDE). Nov 2005-Oct 2008. PI Onno Diekmann (41 400 €)
18. POCTI/BSE/48317/2002. The molecular basis for differential stress-tolerance in sympatric, ecologically similar algal species (STRESSREG), Apr 2004-Mar 2007, PI Gareth Pearson (105 491 €)
19. POCTI / 38863 / BSE / 2001 - Chloroplast gene expression in intertidal macroalgae (CHLORGEN). Sept 2002-Aug 2005. PI: Gareth Pearson (61 632 €)

As subcontractor:

20. Dynamics of kelp forest biodiversity in northern and southern hemispheres: ecological, social and economic aspects (EKOKELP), Agence Nationale Recherche (ANR), France, Institut Français - Biodiversité, Jan 2007-Dec 2009, PI: M. Valero (30 000 € for CCMAR)
21. Conservación y Gestión de Seadales, Fundación Universitaria Las Palmas, ICCM – Instituto Canario de Ciencias Marinas, funded by “Gobierno de Canarias”, Spain. 2006-2009, PI: Nieves González Henriquez (8500 € for CCMAR)

As partner (coordinated by other teams):

22. MarinERA 189570. Marine phylogeographic structuring during climate change: the signature of leading and rear edge of range shifting populations (SHIFTING). 2008-2011, PI Vítor Almada, ISPA (78 000 € for CCMAR)
23. PTDC/BIA-BDE/68730/2006. Spatial structure of amphibian (meta)populations in Mediterranean farmland: implications for conservation management. Jan2008-Dec2010. PI P.Beja, CIBIO (53 648 € for CCMAR)
24. POCI/MAR/56149/2004. Population dynamics, geographical distribution and genetic diversity of macroalgal species at their southern distribution limits (LIMITS). Sept 2006-Aug 2009. PI Isabel Sousa Pinto (25020 € for CCMAR)
25. POCI/MAR/55377/2004. The invasive theory of the pest seaweed *Sargassum muticum* in Southern Portugal (SARGASSUM). Jul 2006-Jun2009. PI Aschwin Engelen. (85 500 €)
26. EU (EVK3-CT2001-00062). “Algal introductions to European shores” (ALIENS). Jan 2002-Dec 2005, coordinator: J. Rico, Un. Oviedo, Spain, (177 205 € for Univ. Algarve)
27. PRAXIS/P/BIO/12203/1998. Molecular responses to water stress in highly salt- and desiccation-tolerant algae (ALGSTRESS). May2000-Apr2002, PI L Cancela (≈ 100 000 €).

As external collaborator:

28. Conservation of marine meadows: causes of the regression and effects on ecosystem function: CSIC, Fundación BBVA, Spain. 2005-2008, PI: Carlos Duarte.
29. Expansion de *Caulerpa prolifera*, *C. taxifolia*, *C. racemosa* en el Mediterráneo español: dinámica clonal, producción y destino de la producción. REN2002-00701, CSIC, Spanish Ministry of Education. 2003-2005, PI N. Marbá.
30. EU-Q5RS-2001-02456 Effects of nutrient release from Mediterranean fish farms on

benthic vegetation in coastal ecosystems (MedVeg), 2001-2004. PI:C. Duarte.

31. ANR 06-BDIV-005-02-DEEPOASES, PI D.Desbruyères, IFREMER

Other:

32. Core partner in: A return to the sea: the seagrass *Zostera marina* as a new semi-model for ecological and functional genomics (sequencing the full genome of *Zostera marina*), PI J.Olsen, Joint Genome Institute (JGI)-Community Sequencing Program (CSP2009).
33. FINDKELP – Distribution, ecology and population genetics of Portuguese kelp forests (3200 €) AWARE Foundation (2008); (2500 €) BES-Biodiversidade, Banco Espírito Santo (2010); (35000 €) EDP - Fundo Biodiversidade (2011). PhD proj of Jorge Assis.
34. DEEP REEFS – Mapping Biodiversity of Deep Marine Habitats (10032 €) National Geographic Society (2011); (14688 €) Fundo InAqua, Oceanário de Lisboa e National Geographic Channel (2010). PhD project of Joana Boavida.

Main partner in 3 Networks of Excellence:

- CORONA - *Research Coordination Network, NSF, USA*
- MARBEF (Marine Biodiversity and Ecosystem Function), EU
- MGE (Marine Genomics Europe) - EU

7 Bilateral agreements for joint research with Spain, France and the UK

Referee work:

Journals: - “Referee” of manuscripts for 46 international scientific journals

2004-current. *Editorial Board member*, European Journal of Phycology, British Phycological Society.

2002-2004. *Editorial Board member*, Journal of Phycology, Phycological Society of America

Evaluation of International Research proposals:

- 2012. FP7-PEOPLE grants of the European Commission, Environment Panel.
- 2012. Fondecyt (Conicyt) Initiation into Research proposals, Chile.
- 2012. Assemble marine station network - proposals.
- 2010-2011. Starting Grants of the European Research Council (ERC), panel Evolutionary, population and environmental biology.
- 2003-2009. National Science Foundation, USA, program “Biological Oceanography”.
- 2004. EU FP6, Global Change and Environment, and Life Pannels, for Short Targeted Research Projects (STREP’s) and Research Training Networks (RTN’s).

National Research fellowships:

- 2007, 2011, 2012. Evaluator of fellowships, FCT, Portugal.
- 2011- Member of the juri for the Prize BES-Biodiversidade

European Infrastructures:

- Sep 2009-March 2011 National representative in the ESFRI (European Strategy Forum on Research Infrastructures) Biological and Medical Sciences Thematic Working Group.

Academic activities:

Supervision of students:

Completed: 12 undergraduate students, 23 MSc students, 8 PhD students

Ongoing: 2 undergraduate students, 2 MSc students, 6 PhD students

Academic management :

Jun 2008-current: co-coordinator of the Erasmus-Mundus MSc degree in Marine Biodiversity and Conservation (coord. by Univ. Ghent)

Jun 2006-Oct 2009: coordinator of the MSc degree in Marine Biology, Univ. Algarve.

Jun 2006-2008: coordinator of the (BSc) degree in Marine Biology, Univ. Algarve.

Teaching:

Coordination of undergraduate courses:

Marine Botany, Experimental Design, Applied Statistics, Statistics, Biological Diversity, Animal Diversity, Botany, Coastal and Marine Botany, Nature Conservation, Ecosystem Dynamics, Topics in Applied Biology, Topics in Marine Biology

Partial teaching in undergraduate courses:

Introductory Biology, Molecular Biology, Cell Biology

Coordination of graduate courses:

Marine Population Biology, Molecular Ecology, Biodiversity of Marine Plants and Algae, Scientific Writing,

Coordination of graduate courses based on practical work:

Experimental Work in Marine Biology, Laboratory Methods, Field Methods