

CURRICULUM VITAE, Salvatore Cozzolino

Research interests and scientific profile:

General: evolutionary biology, pollination biology, molecular ecology, molecular evolution, conservation genetics

Specific: plant speciation, genetic bases of reproductive isolation, plant hybridization, genome evolution, plant population genetics, plant molecular phylogeny and phylogeography, signal-evolution in plant-pollinator interactions.

Teaching interests: Plant biology, Evolutionary biology, plant population genetics, Biodiversity and Evolution

Date of birth Citizenship Marital status Current Address	<p>Personal data</p> <p>20 October 1965 Italian Married, three children</p> <p>Department of Biology University of Naples Federico II Complesso Universitario di Monte S. Angelo Via Cinthia, 80126, Napoli, Italia Building 7, room 0D-09 Phone:+39-081679186 (room); +39-081679185 (lab) Fax:+39-081679233 e-mail: cozzolin@unina.it</p>
12/89 12/94	<p>Academic education</p> <p>Laurea degree in Biological Sciences with full marks and honours, University of Naples.</p> <p>PhD at University of Naples, Faculty of Veterinary Sciences; PhD Thesis: Effect of <i>Encephalartos altensteinii</i> extracts and methylazoxymethanol (MAM) on erythroid commitment in mouse erythroleukemia (MEL) cells. (supervisors: Prof. Luciano Gaudio, Prof. Gaetano Pelagalli)</p>
07/95- 10/00 11/00- 31/11 01/12 up now 01/17- 1/20	<p>Academic jobs</p> <p>Assistant researcher at the Botanical Garden of Naples</p> <p>Associate Professor of Botany at the Department of Plant Biology</p> <p>Full Professor of Botany at the Department of Biology</p> <p>Vice Dean of the Department of Biology</p>
<p>Last five years PhD supervision</p> <p>Rosita Rinaldi (PhD)</p>	

Maddalena Gammella(PhD)
Hendrick Breitkoff (PhD)
Luca Roma (PhD)
Daniela Scaccabarozzi (PhD, cotutorship University of Curtin (Australia))
Francesco di Meo (PhD)
Terera Galise (PhD ongoing)
Ylenia De Luca (PhD ongoing)
Anna D'aria (PhD ongoing)
Enrica Scaudone (PhD ongoing)
Delia Terranova (PhD ongoing)

Permanence in foreign institutions with short mobility programs for visiting professor

02-03/2002	Department of Biology, University of Bloomington , Indiana, USA
10-11/2003	Department of Biology, University of Bloomington , Indiana, USA
02-03/2004	Geobotanical Institute ETH, Zurich, Switzerland
02-03/2005	Kew Botanical Garden, London, UK
09-10/2006	University of Zurich, Switzerland

Associate Editor:

Perspectives in Plant Ecology, Evolution and Systematics (up to 2017)
Plant Biosystems 2017- now

ISI Journals referee: Molecular Ecology, American Journal of Botany, Trends in Ecology and evolution, Trends in plant science, Biological Journal of Linnaean Society, Proceedings of the Royal Society, Oecologia, Evolution, Annals of Botany, Plant Systematics and Evolution, Journal of Functional Ecology, Biological conservation, International Journal of plant Sciences, Evolutionary ecology, Diversity and Distribution, Journal of Biogeography, Genetica, Journal of evolutionary biology, New Phytologist, Taxon, Plant ecology, Plant biology,

External Referee for foreign Grant Agencies:

NSF- USA
SNF- Switzerland
FWF- Austria
NRF- South Africa
Fund for Scientific Research FNRS- Belgium
Ministry of Science and Innovation-New Zealand
NWO - Niederlande
Estonian Science Foundation-Estonia
National Science Centre (Narodowe Centrum Nauki)-Poland
French National Research Agency (ANR)

International Panel Member for Grant Agencies:

European Research Council Executive Agency, ERC.B.3 – LS8 Advanced Grant 2011-2017

Finnish Academy of Science EC3 panel 2013-2015

FCT - Fundação para a Ciência e a Tecnologia, Portugal 2017

Research Council of Lithuania (RCL) 2015-2023

Czech Science Foundation 2018-2020

Society membership

European Society of Evolutionary Biology (ESEB)

International organization plant biosystematics (IOPB)

Italian Botanical Society (SBI) (Vice-president from 2015 to 2020)

Invited speaker with plenary lecture at international conferences (selection):

IX IOPB Meeting “Plant evolution in the Mediterranean climate zones”. May 16-19, **2004**. Valencian University, Spain

International Workshop on Orchid population dynamics. June 27 - July 29, **2004** Estonian Agricultural University, Tartu, Estonia

XVII International Botanical Congress. 17-23 July **2005**, University of Vienna, Austria.

American Genetic Association, Annual Meeting. “Genetic of Speciation” Symposium. July 21-24, **2006**. The University of British Columbia, Vancouver, Canada.

European Orchid Conference. 15-19 February **2006**, Padua conference centre, Italy

“Origin And Evolution Of Biota In Mediterranean Climate Zones: An Integrative vision”. 14-15 July, **2007** University of Zurich, Switzerland

6th Biennial Meeting of Systematic Association. Speciation Symposium. 28th-31st August **2007**, Royal Botanic Garden, Edinburgh, Scotland.

XII OPTIMA Meeting. 10-16 September **2007**. University of Pisa, Italy

“Orchid evolutionary biology and conservation – from Linnaeus to the 21st century”. 31 October-2 November **2007**. Linnaean Society and Royal Botanic Gardens, Kew, Richmond, UK

“Evolutionary biology 2009: phylogeny, speciation, co-evolution, development, genomes, life histories, plasticity... What is new?” 8 June- 12 June **2009** Rennes, Brittany, France

60° Congresso Nacional de Botanica- 28 Junho-3 Julho **2009** Feira de Santana, Brazil

IX IOPB Meeting Aurangabad, India 1-5 September **2010**

XVIII International Botanical Congress. Melbourne Australia 23-29 July **2011**

The 8th International Workshop for Asian Orchid Biodiversity and Conservation. Shenzhen, China 19-22 Nov **2012**

30TH MEETING ON GENETICS AND BREEDING THEMES [MGBT], Piracicaba, State of São Paulo, Brazil, October 08 and 09, **2013**

66° Congresso Nacional de Botanica- 25-30 Octobre **2015** Santos, Brazil

Invited seminars at foreign institutions in the last 10 years:

February 2011- School Biological Sciences. University of Bristol. UK

November 2013 - Institute of Experimental Ecology, University of Ulm; Germany

June 2014 - Institute of Biochemistry and Biology. University of Potsdam, Germany

November 2014 - University of Hainan, China

December 2014 - Unesp, Rio Claro, Brazil

March 2015 - University of Zurich, Switzerland

June 2016 – University of Vienna, Austria

International PhD jury member of:

Dr. Charlotte Saltzmann - University of Zurich - 2005

Dr. Philipp Schlüter– Univeristy of Vienna- 2005

Dr. Aria Minder – ETH Zurich -2006

Dr. Dion Devey – University of Reading -2007

Dr. Nicolas Vereecken – Free University of Brussels- 2008

Dr. Isabel Marques- University of Lisbon -2010

Dr. Shuqing Xu – University of Zurich-2011

Dr. Michael Robert Whitehead - University of Canberra - 2012

Dr. Anis Zitari - University of Monastir - 2013

Dr. Khalid Sedeek- University of Zurich-2015

Dr. Marie Kristine Brandrud- Univeristy of Vienna- 2019

Authors of about 150 full papers on Impact factor journals and 10 book chapters.

Last ten years paper list:

1. Ghirlanda M., Segreto R., Cafasso D., Liebel H., Rodda M., Ercole E., **Cozzolino S.**, Gebauer G., Perotto S. 2011. Photosynthetic Mediterranean meadow orchids feature partial myco-heterotrophy and specific mycorrhizal associations. *American Journal of Botany* 98(7): 1148-1163
2. Tranchida-Lombardo V., Cafasso D., Cristaudo A., **Cozzolino S.** 2011. Phylogeographic patterns, genetic affinities and morphological differentiation between *Epipactis helleborine* and related lineages in a Mediterranean glacial refugium. *Annals of Botany*, 107(3): 427-436
3. Zitari A., Tranchida-Lombardo V., Cafasso D., Helal A.N., Scopece G., **Cozzolino S.** 2011. The disjointed distribution of *Anacamptis longicornu* in the West-Mediterranean: the role of vicariance versus long-distance seed dispersal. *Taxon* 60(4): 1041–1049
4. Pinheiro F., de Barros F., Palma-Silva C., Fay M.F., Lexer C., **Cozzolino S.** 2011. Phylogeography and genetic differentiation along the distributional range of the orchid *Epidendrum fulgens*: a Neotropical coastal species not restricted to glacial refugia. *Journal of Biogeography* 38:1923–1935
5. Palma-Silva C., Wendt T., Pinheiro F., Barbara T., Fay M.F., **Cozzolino S.** Lexer C. 2011. Sympatric bromeliad species (*Pitcairnia* spp.) facilitate tests of mechanisms involved in species cohesion and reproductive isolation in Neotropical “inselbergs”. *Molecular Ecology* 20(15): 3185-3201
6. S. Xu, P.M. Schlüter, G. Scopece, H. Breitkopf, K. Gross, **S. Cozzolino**, F.P. Schiestl 2011. Floral isolation is the main reproductive barrier among closely related sexually deceptive orchids. *Evolution* 65(9): 2606–2620
7. Pavarese G., Tranchida-Lombardo V., Cogoni A., Cristaudo A., **Cozzolino S.** 2011. Where do Sardinian orchids come from: a putative African origin for the insular population of *Platanthera bifolia* var. *kuenkelei*? *Botanical Journal of Linnean Society* 167: 466–475
8. Zitari A., Scopece G., Helal A.N., Widmer A., **Cozzolino S.** 2012. Is floral divergence sufficient to maintain species boundaries upon secondary contact in Mediterranean food-deceptive orchids? *Heredity*, 108: 219-228
9. Gargano D., Scotti N., Vezzi A., Bilardi A., Valle G., Grillo S., **Cozzolino S.**, Cardi T. 2012. Genome-wide analysis of plastome sequence variation and development of plastidial CAPS markers in common potato and related *Solanum* species. *Genetic Resources and Crop Evolution*, 59(3):419-430.
10. P. Carotenuto, C. Roma, **S. Cozzolino**, F. Fenizia, A. Rachiglio, F. Tatangelo, A. Iannaccone, L. Baron, G. Botti, N. Normanno. 2012. Detection of KRAS mutation in colorectal cancer with Fast COLD-PCR. *International Journal of Oncology*, 40: 378-384.
11. F. Pinheiro, **S. Cozzolino**. 2013. *Epidendrum* (Orchidaceae) as a model system in ecological and evolutionary studies in Neotropics. *Taxon* 62 (1): 77-88
12. Fábio Pinheiro, **Salvatore Cozzolino**, Fábio de Barros, Tiago M.Z.M. Gouveia, Rogério M. Suzuki, Michael F. Fay, and Clarisse Palma-Silva. 2013. Phylogeographic structure and outbreeding depression

reveal early stages of reproductive isolation in the Neotropical orchid species *Epidendrum denticulatum*. *Evolution* 67 (7): 2024-2039.

13. G. Scopece, A. Croce, C. Lexer, **S. Cozzolino**. 2013. Components of reproductive isolation between *Orchis mascula* and *O. pauciflora*. *Evolution* 67 (7): 2083-2093.
14. G. Pavarese, V. Tranchida-Lombardo, R. Galesi, S. D'emerico, R. Casotti A. Cristaudo, **S. Cozzolino**. 2013. When polyploidy and hybridization produce a fuzzy taxon: the complex origin of the insular neoendemic *Neotinea commutata* (Orchidaceae). *Botanical Journal of Linnean Society*, 173(4): 707-720.
15. H. Breitkopf, P.M. Schlüter, S. Xu., F.P. Schiestl, **S. Cozzolino**, G. Scopece. 2013. Pollinator shifts between *Ophrys sphegodes* populations: might adaptation to different pollinators drive population divergence? *Journal of Evolutionary Biology*, 26 (10): 2197–2208.
16. Barone Lumaga MR, **Cozzolino S**, Kocyan A, Menale B, Rudall PJ. 2014. Exine micromorphology and ultrastructure in Neottieae (Epidendroideae, Orchidaceae), *Plant Systematic and evolution*, 300(3): 505-515.
17. F. Pinheiro, **S. Cozzolino**, D. Draper, F. Barros, L. Félix, M. Fay, C. Palma da Silva. 2014. Rock outcrop orchids reveal the genetic connectivity and diversity in inselbergs of Northeast Brazil. *BMC Evolutionary Biology*, 14 (1): 49-64.
18. F.P. Schiestl, H. Kirk, L. Bigler, **S. Cozzolino**, G. Desurmont. 2014. Herbivory and floral signaling: phenotypic plasticity and tradeoffs between reproduction and indirect defense. *New Phytologist*, 203: 257-266
19. Desurmont G., Harvey J., van Dam N., Cristescu S., Schiestl F., **Cozzolino S.**, Anderson P., Larsson M., Kindlmann P., Danner H., Turlings T. 2014. Alien interference: Disruption of infochemical networks by invasive insect herbivores. *Plant, Cell & Environment*, 37 (8): 1854-1865
20. R.M. Bateman, P.J. Rudall, M.I. Bidartondo, **S. Cozzolino**, V. Tranchida-Lombardo, M.A. Carine, M. Moura. 2014. Speciation via floral heterochrony and presumed mycorrhizal host switching of endemic butterfly-orchids on the Azorean archipelago. *American Journal of Botany*, 101(6): 979–1001.
21. M-X. Ren, D. Cafasso, M.R. Barone Lumaga, **S. Cozzolino**. 2014. Low pollination success of hybrids between nectar-rewarding and food-deceptive orchids. *Plant Systematics and Evolution*, 300(9): 1985-1993.
22. K. E. M. Sedeek, G. Scopece, Y.M. Staedler, J. Schönenberger, **S. Cozzolino**, F. P. Schiestl, P. M. Schlüter. 2014. Genic rather than genome-wide differences between sexually deceptive *Ophrys* orchids with different pollinators. *Molecular Ecology* 23: 6192-6205.
23. H. Breitkopf, R.E. Onstein, D. Cafasso, P.M. Schlüter, **S. Cozzolino**. 2015. Multiple shifts to different pollinators fuelled rapid diversification in sexually deceptive *Ophrys* orchids. *New Phytologist* 207: 377-389.
24. G. Scopece, F. Schiestl, **S. Cozzolino**. 2015. Pollen transfer efficiency and its effect on inflorescence size in deceptive pollination strategies. *Plant Biology*, 17:545-550.
25. M. Litto, G. Scopece, J. Trunschke, S. Fineschi, **S. Cozzolino**, F. P. Schiestl. 2015 Herbivory affects male and female reproductive success differently in dioecious *Silene latifolia* (Caryophyllaceae). *Entomologia Experimentalis et Applicata*. 157 (1): 60-67
26. F. Pinheiro, D. Cafasso, **S. Cozzolino**, G. Scopece. 2015. Transitions between self-compatibility and self-incompatibility and the evolution of reproductive isolation in the large and diverse tropical genus *Dendrobium* (Orchidaceae). *Annals of Botany*. 116 (3):457-467.
27. Palma-Silva C., **Cozzolino S.**, Bered F., Lexer C., Wendt T. 2015. Mating system variation and assortative mating of sympatric bromeliads (*Pitcairnia* ssp.) endemic to Neotropical inselbergs. *American Journal of Botany*, 102:758-764.
28. J. Göglér, J. Stökl, P. Cortis, H. Beyrle, M.R. Barone Lumaga, **S. Cozzolino**, M. Ayasse. 2015. Increased divergence in floral morphology strongly reduces gene flow in sympatric sexually deceptive orchids with the same pollinator. *Evolutionary Ecology*, 29 (5): 703-717.

29. **S. Cozzolino**, S. Fineschi, M. Litto, G. Scopece, J. Trunschke, F. P. Schiestl. 2015 Herbivory increases fruit set in *Silene latifolia*: a consequence of induced pollinator-attracting floral volatiles? *Journal of Chemical Ecology* 41 (7): 622-630.
30. Gögler J., Zitari A., Paulus H., **Cozzolino S.**, Ayasse M. 2016 Species boundaries in the *Ophrys iricolor* group in Tunisia: do local endemics always matter? *Plant Systematics and Evolution*, 302 (4), pp. 481-489.
31. F. Pinheiro, T. Manuel Zanfra de Melo Gouveia, S. **Cozzolino**, D. Cafasso, P. Cardoso-Gustavson, R. Mamoru Suzuki, F.M. Cestari Magalhães, C. Palma-Silva. 2016. Strong but permeable barriers to gene exchange between *Epidendrum secundum* and *E. xanthinum* (Orchidaceae). *American Journal of Botany* 103 (8), 1472-1482
32. L. Pegoraro, D. Cafasso, R. Rinaldi, S. **Cozzolino**, G. Scopece. 2016. Habitat preference and flowering-time variation contribute to reproductive isolation between diploid and autotetraploid *Anacamptis pyramidalis*. *Journal of Evolutionary Biology* 29 (10): 2070-2082.
33. M.X. Ren, D. Cafasso, S. **Cozzolino**, F. Pinheiro. 2017. Extensive genetic differentiation at a small geographical scale: reduced seed dispersal in a narrow endemic marsh orchid, *Anacamptis robusta*. *Botanical Journal of Linnean Society* 183: 429-438.
34. G. Scopece, N. Juillet, C. Lexer, **S. Cozzolino**. 2017. Fluctuating selection across years and phenotypic variation in food-deceptive orchids. *PeerJ*, 8: e3704
35. DL Gervasi, M-A Selosse, M Sauve, W Francke, NJ Vereecken, **S Cozzolino**, FP Schiestl. 2017. Floral scent and species divergence in a pair of sexually deceptive orchids. *Evolutionary Ecology*, 7:6023-6034.
36. G. Scopece, B. Gravendeel, **S. Cozzolino**. 2017. The effect of different chiral morphs on visitation rates and fruit set in the orchid *Spiranthes spiralis*. *Plant Ecology and Diversity*, 10: 97-104
37. G. Scopece, L. Campese, K. Duffy, **S. Cozzolino**. 2018. The relative contribution of diurnal and nocturnal pollinators to plant female fitness in a specialized nursery pollination system. *AoB Plants*, 10(1) ply002
38. D. Scaccabarozzi, **S. Cozzolino**, L. Guzzetti, A. Galimberti, L. Milne, K. W. Dixon, R. D. Phillips. 2018. Masquerading as pea plants: behavioural and morphological evidence for mimicry of multiple models in an Australian orchid. *Annals of Botany*, 122(6):1061–1073.
39. L. Roma, **S. Cozzolino**, P.M. Schlüter, G. Scopece, D. Cafasso. 2018. The complete plastid genomes of *Ophrys iricolor* and *O. sphegodes* (Orchidaceae) and comparative analyses with other orchids. *PLoS ONE* 13(9): e0204174.
40. N. D'Agostino, R. Tamburino, C. Cantarella, V. De Carluccio, L. Sannino, **S. Cozzolino**, T. Cardi, N. Scotti. 2018. The complete plastome sequences of eleven *Capsicum* genotypes: insights into DNA variation and molecular evolution. *Genes*, 9(10), 503
41. **S. Cozzolino**, G. Scopece, L. Roma, P.M. Schlüter. 2019. Different filtering strategies of Genotyping-By-Sequencing data provide complementary resolutions of species boundaries and relationships in a clade of sexually deceptive orchids. *Journal of Systematics and Evolution*, 58:133-144
42. Scopece G., Frachon L., **Cozzolino, S.** 2019. Do native and invasive herbivores have an effect on *Brassica rapa* pollination? *Plant Biology* 21 (5), 927-934
43. L. Pegoraro, J.M. de Vos, **S. Cozzolino**, G. Scopece. 2019. Shift in flowering time allows diploid and autotetraploid *Anacamptis pyramidalis* (Orchidaceae) to coexist by reducing competition for pollinators. *Botanical Journal of Linnean Society* 191 (2), 274-284
44. Sanae Sujii, P., **Cozzolino, S.**, Pinheiro, F. 2019 Hybridization and geographic distribution shapes the spatial genetic structure of two co-occurring orchid species. *Heredity* (123): 458–469
45. F. Di Meo, R. Aversano, G. Diretto, O. Costantina Demurtas, C. Villano, S. **Cozzolino**, S. Filosa, D. Carputo, S. Crispi. 2019. Anti-cancer activity of grape seed semi-polar extracts in human mesothelioma cell lines. *Journal of Functional Foods* 61 (2019): 103515

46. Barone Lumaga MR., Scopece G., **Cozzolino** S. 2019. The effect of seasonality on developmental stages of anthetic ovule integuments in Mediterranean orchids. *Protoplasma* 257(2), 613-618.
47. G. Scopece, C. Palma Silva, D. Cafasso, C. Lexer, S. **Cozzolino**. 2020. Phenotypic expression of floral traits in hybrid zones provides insights into their genetic architecture. *New Phytologist* 227 (3): 967-975
48. Scaccabarozzi D., Guzzetti L., Phillips R.D., Milne L., Tommasi N., **Cozzolino** S., Dixon KW. 2020. Ecological factors driving pollination success in an orchid that mimics a range of pea plant species. *Botanical Journal of Linnean Society* 194(2), 253-269.
49. Duffy K., Cafasso D., Ren M.X, **Cozzolino** S. 2020. High haplotype diversity with fine-scale structure in a recently established population of an endangered orchid. *Plant Species Biology* 35: 224–232
50. Scaccabarozzi, D., Galimberti, A. Dixon K., **Cozzolino** S. 2020. Rotating arrays of orchid flowers: a strategy for studying pollination in food deceptive plants. *Diversity* 12(8), 286; doi:10.3390/d12080313
51. D. Scaccabarozzi, K.W. Dixon, S. Tomlinson, L. Milne, B. Bohman, R.D. Phillips, S. **Cozzolino**. 2020. Pronounced differences in visitation by potential pollinators to co-occurring species of Fabaceae in the Southwest Australian biodiversity hotspot. *Botanical Journal of Linnean Society* 194(3): 308-325
52. C. Martel, G. Scopece, S. **Cozzolino**, M. Ayasse, F. Pinheiro, D. Cafasso. 2020. Habitat fragmentation and genetic diversity in natural populations of the endangered Neotropical orchid *Telipogon peruvianus*. In press, *Plant Species Biology*
53. R. Tamburino, L. Sannino, D. Cafasso, C. Cantarella, L. Orrù, T. Cardì, S. **Cozzolino**, N. D'Agostino, N. Scotti. 2020. Cultivated tomato (*Solanum lycopersicum* L.) suffered a severe cytoplasmic bottleneck during domestication: implications from chloroplast genomes. *Plants MPDI*, 9, 1443; doi:10.3390/plants9111443
54. Walter G, Clark J, Cristaudo A, Nevado B, Catara S, Paunov M, Velikova V, Filatov D, **Cozzolino** S, Hiscock S, Bridle J. Adaptation to contrasting habitats underlies distinct plastic responses to environmental variation in two closely related *Senecio* species. In press *Evolution*
55. G. Scopece, N. Criscuolo, S. **Cozzolino**. In nomen omen: the effect of flower distance on the reproductive success of the lax-flowered orchid *Anacamptis laxiflora* (Orchidaceae). In press, *Journal of Plant Ecology*
56. S. **Cozzolino**, G. Scopece, M. Lussu, P. Cortis, F.P. Schiestl. Do floral and ecogeographic isolation allow the co-occurrence of two ecotypes of *Anacamptis papilionacea* (Orchidaceae)? In press *Ecology and Evolution*
57. Charlotte Watteyn, Daniela Scaccabarozzi, Bart Muys, Nele Van Der Schueren, Koenraad Van Meerbeek, Maria Fernanda Guizar Amador, James D. Ackerman, Marco Cedeño-Fonseca, Isler F. Chinchilla, Bert Reubens, Ruthmery Pillco Huarcaya, Salvatore **Cozzolino**, Adam P. Karremans. 2011 Trick or Treat? Evidence for a dual pollinator attraction mechanism in *Vanilla*. In press *Biotropica*
58. Aghayeva P, **Cozzolino** S, Cafasso D, Ali-zade V, Fineschi S, Aghayeva D 2021 DNA barcoding of native Caucasus herbal plants: potentials and limitations in complex groups and implications for phylogeographic patterns. *Biodiversity Data Journal* 9: e61333.
59. S. **Cozzolino**, G. Scopece, M.R. Barone Lumaga, D. Cafasso, P. Cortis, M. Ayasse. 2021. Reproductive character displacement allows two sexually deceptive orchids to coexist and attract the same specific pollinator. In press *Evolutionary Ecology*