

CURRICULUM VITAE

Dr. Eva E.R. Philipp



PERSONAL DATES

Address: Vattenfall Europe Windkraft GmbH
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22297 Hamburg

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EDUCATION

October 1994 - June 2000 Biology at the University "Christian-Albrechts Universität zu Kiel" in the fields Zoology, Biochemistry, Marine Biology, Marine Chemistry

June 1999 - June 2000 Diploma thesis at the Alfred-Wegener-Institute for Polar and Marine Research (AWI), Bremerhaven.

July 2000 Master Degree in Biology (grade: 1.0)

August 2001 - February 2005 PhD Thesis at the Alfred-Wegener-Institute for Polar and Marine Research (AWI), Bremerhaven.

14. April 2005 PhD in Biology (magna cum laude)

EMPLOYMENT

June - August 1998 and
July - September 1999 Scientific diver for the Marine Botany and Ecophysiology of the Alfred-Wegener-Institute for Polar and Marine Research (AWI) at the field station "Koldewey" on Spitsbergen, Arctic.

December 2000 - May 2001 Visiting scientist at the Australian Institute for Marine Sciences, Townsville (financed by the "Deutscher Akademischer Austausch Dienst, DAAD).

August 2001 - February 2005 PhD thesis at the Alfred- Wegener-Institute for Polar and Marine Research in Bremerhaven.

June 2005 – February 2008 PostDoc at the AWI in Bremerhaven.

February 2008-April 2012 Post Doc at the University Kiel, Institute for Clinical Molecular Biology (ICMB) within the Cluster of Excellence "Future Ocean".

April 2012 – September 2015 Package manager for permit and environmental topics for the OWPs DanTysk and Sandbank. Project Manager Environmental Systems for German Offshore Wind development projects (OWPS) in the North Sea at Vattenfall Europe Windkraft GmbH in Hamburg.

Since September 2015 Environmental Lead for Onshore and Offshore Wind projects in the Business Area Wind of Vattenfall for GER, UK, SWE, DK & NL

PROJECTS IN SCIENCE / INDUSTRY

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| 2006 - 2009 | DFG project within the research topic „Antarctic Research”; Part of IPY Activity 34, ClicOPEN, 2years personal salary for E. Philipp – changed to PhD funding in 2008 |
| 2007 - 2009 | DAAD/Mexican state. 2 years PhD scholarship at AWI and CIBNOR in Mexico. |
| 2007 | International Bureau. 2x3 month PhD scholarship and travel grand to St. Petersburg in 2007/2008 |
| 2009 - 2011 | Cluster of Excellence “Future Ocean”, 2 years PHD funding, start July 2009 |
| 2010 | Medical Faculty Kiel, 1 year Start-up Funding 2011 (50k€) |
| 2012 | Vattenfall Research & Development, 3 years funding for University Aarhus. Title: Predicting population-level effects of anthropogenic disturbances on Harbour Porpoises in the North Sea (DEPONS) |
| 2013 | Vattenfall Research & Development: Development of an prediction model for piling-noise mitigation using the Big Bubble Curtain – Novicos (TUHH) |
| 2014 - 2016 | Project of the effect of piling noise on harbour porpoise – AK Schallschutz (working group noise mitigation) |

EXPERIENCE IN INDUSTRY

- Consenting regime and application processes for offshore wind farms in Germany
- Insight in environmental, site assessment and consent constrains in DK, NL, UK and GER
- Work on all phases of offshore-wind projects, from start of development to construction
- Construction Releases
- Management of multi-national project teams and projects
- Coordinating role between technical project teams, authorities and NGOs in a highly political environment
- General stakeholder management & lobbying
- The Renewable Energy Sector
- Problem solving, analysis and strategic thinking
- Management of consultants
- Budgeting
- Regulatory affairs (e.g. subsidy schemes, environmental regulations)

OFFSHORE EXPERIENCE / EXPEDITIONS

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| February/March 1998 | Research Vessel (RV) “Sonne”, Muscat – Dubai, Geomar, Kiel. |
| December 1998 - January 1999 | RV “Meteor”, Las Palma – Cadiz, Geomar, Kiel. |
| June - August 1998 | Scientific diver, Koldewey Station, Ny Ålesund Spitsbergen, AWI. |
| July - September 1999 | Scientific diver, Koldewey Station, Ny Ålesund Spitsbergen, AWI. August 2000 RV “Heinke” Hamburg – Sylt, MPI - Bremen. |
| December 2000 - May 2001 | Visiting scientist & scientific diver, Australian Institute for Marine Sciences, Townsville, Australia. |

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| August/September 2003 | Port Erin Marine Laboratory, Isle of Man, PhD Project. |
| October 2002 - March 2003 | Dallmann Station, King George Island, Antarctica |
| December 2006 – April 2007 | Dallmann Station, King George Island, Antarctica |
| 2008 | RV "Heinke", North Sea, AWI, Project: FINO 1 sampling, |
| 2008/2009/2010/2011 | Several cruises with the RV Littorina, Baltic Sea, IFM-Geomar / ICMB. |
| 2010 | Iceland Sandgerdi Marine station |
| 2013 | Coordination offshore work for noise mitigation at Windfarm DanTysk (North Sea) |
| 2015 | Coordination offshore work for noise mitigation at Windfarm Sandbank (North Sea) |

SUPERVISION

7x Diploma thesis, 5x PhD thesis, 1 Bachelor Thesis, 1 Master Thesis in the area of marine biology and ecology

6x Internships and working students within the field of offshore wind energy

TEACHING

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| August 2000-November 2000 | Student course "Ecophysiology of marine invertebrates". Department ecophysiology and ecotoxicology, AWI, Bremerhaven |
| Mai 2004 | Student course University Bremen/AWI Bremerhaven, Department „Oxidative stress and ageing research“ Dr. Doris Abele, AWI, Bremerhaven |
| February 2006 | Student course „ Physiological and biochemical investigations on isolated mitochondria“ University Bremen/AWI Bremerhaven |
| April 2006 | German/ Italian student course „ Oxygen radicals in marine systems“ University Bremen/AWI on Helgoland |
| November 2009-Januar 2010 | Student internship of Flavio Sacco (University Sardinian) am ICMB "High throughput sequencing and data mining" |
| August-September 2010 | Student internship of Daniel Kunze (CAU Kiel) at ICMB "Characterization of <i>Mytilus edulis</i> hemocytes" |
| April 2013 - May 2016 | Six internship Students in the Area of Offshore Windenergy and Environmental strategy |

GRANTS / AWARDS

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| 2001 | DAAD-scholarship and travel fellowship, to work as a guest scientist at AIMS, Australia |
| 2001 - 2005 | PhD-scholarship from the University of Bremen for 3 years PhD at the AWI in Bremerhaven |
| 2004 | Travel fellowship from the University of Bremen, to attend at the Biennial meeting of the Society for Free Radical Research (SFRR) in Buenos Aires |
| 2004 | Travel fellowship from the Society for Free Radical Research International, to attend at the Biennial meeting of the SFRR in Buenos |

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| 2004 | Young Investigator Award by the SFRR-Europe in Buenos Aires 2004 |
| 2006 | DFG travel Grand to the SFRR Summerschool in Spetses, Greece |
| 2006 | Young Investigator Award by the SFRR in Spetses, Greece |
| 2009 | Poster prize of the Cluster of excellence "Inflammation at Interfaces" |
| 2011 | 2 years Post-Doc funding – Future Ocean IMAP |

FORMER AND RECENT COOPERATION PARTNERS – SCIENCE & INDUSTRY

Dr. M. Clark and Dr. S. Morley, British Antarctic Survey (BAS), Cambridge, UK
 Dr. S. Wohlgemut and Prof. C. Leeuwenburgh, University of Florida, USA

Dr. A. Maeda Martinez, Centro de Investigaciones Biológicas del Noroeste (CIBNOR), La Paz, Mexico

Dr. R. Schaible, Dr. A. Scheuerlein, Dr. F. Colchero, MPI for Demography Rostock, Germany

Dr. D. Abele and Prof. T. Brey: Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven, Germany

Prof. F. Melzner, A. Eisenhauer, IFM-Geomar, Kiel, Germany

Prof. Rimbach, Institute of Human Nutrition and Food Science, CAU, Kiel, Germany

Dr.-Ing. Marian Markiewicz, Technical University Hamburg Harburg / Novicos, Hamburg, Germany

Dr. Jonas Teilmann, Dr. Jacob Tougaard, Aarhus University, Denmark

SUPPLEMENTARY EDUCATION

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| 2011 | Team leading course, 3 day |
| 2012 | Project Management course, 2 day |
| 2013 | Negotiation course, 3 day |
| 2014 | Project Management course, 3 day |
| Since start 2014 | Member of the Vattenfall Young Management Talent Group |
| Since end 2014 | Member of the Vattenfall mentoring Program |
| March 2015 | Vattenfall Development Center |
| Sept. 2015 | Vattenfall Leadership course |

LANGUAGES / LICENCES

Licenses: Scientific Diver License
 Motorboat License (Sportbootführerschein See)
 Offshore training: Helicopter Unterwater escape training (HUET) , Basic Offshore
 Safety Induction Emergency Training (BOSIET); Climbing at heights

Languages: English (fluently), Spanish (fair), French (basics)

PUBLICATIONS

1. Aguilera, J., Karsten, U., Lippert, H., Voegelé, B., Philipp, E., Hanelt, D., & Wiencke, C. (1999). Effects of solar radiation on growth, photosynthesis and respiration of marine macroalgae from the Arctic Marine Ecology Progress Series 191: 109-119.
2. Philipp, E., & Fabricius, K. (2003). Photophysiological stress in scleractinian corals in response to short-term sedimentation. *Journal of Experimental Marine Biology and Ecology*, 287(1): 57-78.
3. Smith, L. D., Negri, A. P., Philipp, E., Webster, N. S., & Heyward, A. J. (2003). The effects of antifoulant-paint-contaminated sediments on coral recruits and branchlets. *Marine Biology*, 143(4): 651-657
4. Philipp, E., Brey, T., Poertner, H. O., & Abele, D. (2005). Chronological and physiological ageing in a polar and a temperate mud clam. *Mechanisms of Ageing and Development*, 126(5): 598-609.
5. Philipp, E., Pörtner, H. O., & Abele, D. (2005). Mitochondrial ageing of a polar and a temperate mud clam. *Mechanisms of Ageing and Development*, 126(5): 610-619.
6. Philipp, E., Heilmayer, O., Brey, T., Abele, D., & Poertner, H. O. (2006). Physiological ageing in a temperate and a polar swimming scallop. *Marine Ecology Progress Series*, 307: 187-198.
7. Philipp, E. E. R., Schmidt, M., Gsottbauer, C., Sängler, A. M., & Abele, D. (2008). Size- and age-dependent changes in adductor muscle swimming physiology of the scallop *Aequipecten opercularis*. *The Journal of Experimental Biology*, 211(Pt 15): 2492-2501.
8. Strahl, J., Philipp, E., Brey, T., Broeg, K., & Abele, D. (2007). Physiological aging in the Icelandic population of the ocean quahog *Arctica islandica*. *Aquat. Biol.*, 1: 77-83.
9. Dick, D., Philipp, E., Kriews, M., & Abele, D. (2007). Is the umbo matrix of bivalve shells (*Laternula elliptica*) a climate archive? *Aquatic Toxicology*, 84: 450-456.
10. Abele, D., Philipp, E., Gonzalez, P. M., & Puntarulo, S. (2007). Marine invertebrate mitochondria and oxidative stress. *Frontiers In Bioscience*, 12: 933-946.
11. Abele, D., Strahl, J., Brey, T., & Philipp, E. E. R. (2008). Imperceptible senescence: ageing in the ocean quahog *Arctica islandica*. *Free Radical Research*, 42(5): 474-480.
12. Philipp, E., Brey, T., Voigt, M., & Abele, D. (2008). Growth and age of *L. elliptica* populations in Potter Cove, King George Island Reports on Polar and Marine Research, 571: 216-222.
13. Schmidt, M., Philipp, E. E. R., & Abele, D. (2008). Size and age-dependent changes of escape response to predator attack in the Queen scallop *Aequipecten opercularis*. *Mar Biol Res*, 4(6): 442-450.
14. Abele, D., Brey, T., & Philipp, E. E. R. (2009). Bivalve models of aging and the determination of molluscan lifespans *Experimental Gerontology*, 44(5): 307-315.
15. Rosenstiel, P., Philipp, E. E. R., Schreiber, S., & Bosch, T. C. G. (2009). Evolution and Function of Innate Immune Receptors - Insights from Marine Invertebrates. *Journal of Innate Immunity*, 1: 291-300.
16. Begum, S., Basova, L., Strahl, J., Sukhotin, A., Heilmayer, O., Philipp, E. E. R., Brey, T., & Abele, D. (2009). A Metabolic Model for the Ocean Quahog *Arctica islandica*—Effects of Animal Mass and Age, Temperature, Salinity, and Geography on Respiration Rate. *Journal of Shellfish Research*, 28(3): 533-539.
17. Abele, D., Kruppe, M., Brey, T., & Philipp, E. E. R. (2010). Mantle cavity water oxygen partial pressure (PO₂) in marine molluscs aligns with lifestyle. *Canadian Journal of Fisheries and Aquatic Sciences* 67: 977-986.
18. Karlsen, T. H., Franke, A., Melum, E., Kaser, A., Hov, J. R., Balschun, T., Lie, B. A., Bergquist, A., Schramm, C., Weismüller, T. J., Gotthardt, D., Rust, C., Philipp, E. E. R., Fritz, T., Henckaerts, L.,

- Weersma, R. K., Stokkers, P., Ponsioen, C. Y., Wijmenga, C., Sterneck, M., Nothnagel, M., Hampe, J., Teufel, A., Runz, H., Rosenstiel, P., Stiehl, A., Vermeire, S., Beuers, U., Manns, M. P., Schrupf, E., Boberg, K. M., & Schreiber, S. (2010). Genome-Wide Association Analysis in Primary Sclerosing Cholangitis. *Gastroenterology*, 138(3): 1102-1111.
19. Ungvari, Z., & Philipp, E. E. R. (2010). Comparative Gerontology—From Mussels to Man. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, doi:10.1093/gerona/gdq198.
20. Begum, S., Basova, L., Heilmayer, O., Philipp, E. E. R., Abele, D., & Brey, T. (2010). Growth and Energy Budget Models of the Bivalve *Arctica islandica* at Six Different Sites in the Northeast Atlantic Realm. *Journal of Shellfish Research*, 29(1): 107-115.
21. Philipp, E., & Abele, D. (2010). Masters of Longevity: Lessons from Long-Lived Bivalves - A Mini-Review. *Gerontology*, 56: 55 - 65.
22. Philipp, E. E. R., Husmann, G., & Abele, D. (2011). The impact of sediment deposition and iceberg scour on the Antarctic soft shell clam *Laternula elliptica* at King George Island, Antarctica. *Antarctic Science*.
23. Husmann, G., Philipp, E. E. R., Rosenstiel, P., Vazquez, S., & Abele, D. (2011). Immune response of the Antarctic bivalve *Laternula elliptica* to physical stress and microbial exposure. *Journal of Experimental Marine Biology and Ecology*, 398(1-2): 83-90.
24. Ungvari, Z., Ridgway, I., Philipp, E. E. R., Campbell, C. M., McQuary, P., Chow, T., Coelho, M., Didier, E. S., Gelino, S., Holmbeck, M. A., Kim, I., Levy, E., Sosnowska, D., Sonntag, W. E., Austad, S. N., & Csiszar, A. (2011). Extreme Longevity Is Associated With Increased Resistance to Oxidative Stress in *Arctica islandica*, the Longest-Living Non-Colonial Animal. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, 66A: 741-750
25. Csiszar, A., Podlutzky, A., Podlutzkaya, N., Sonntag, W.E., Merlin, S., Philipp, E.E.R., Doyle, K., Davila, A., Recchia, F., Praveen, B., Pinto, J.T., Ungvari, Z., (2012). Testing the oxidative stress hypothesis of aging in primate fibroblast cell lines: inverse correlation between species longevity and cellular ROS production. *Journal of Gerontology: Biological Sciences*, 67: 841-852
26. Guerra, C., Maeda-Martínez, A., Hernandez-Llamas, A., Sicard, M. T., Koenigstein, S., Abele, D., & Philipp, E. E. R. (2012). The influence of temperature and presence of predators on growth, survival and energy allocation for reproduction in the Pacific scallop *Argopecten ventricosus*. *Aquaculture Research*; 43: 756-766
27. Basova, L., Begum, S., Strahl, J., Sukhotin, A., Brey, T., Philipp, E., Abele, D., 2012. Age dependent patterns of antioxidants in *Arctica islandica* from six regionally separate populations with different life spans. *Aquatic Biology*, 14 (141-152)
28. Strahl, J., Brey, T., Philipp, E.E.R., Thorarinsdottir, G.G., Fischer, N., Wessels, W., Abele, D., (2011). Physiological responses to self-induced burrowing and metabolic rate depression in the ocean quahog *Arctica islandica*. *J Exp Biol.*, 214: 4223-4233
29. Hiebenthal, C., Philipp, E.E.R., Eisenhauer, A., Wahl, M., (2012). Interactive effects of temperature and salinity on shell formation and general condition in Baltic Sea *Mytilus edulis* and *Arctica islandica*. *Aquatic Biology*, 14: 289-298
30. Philipp, E.E.R., Kraemer, L., Mountfort, D., Schilhabel, M., Schreiber, S., Rosenstiel, P. (2012). The Transcriptome Analysis and Comparison Explorer – T-ACE: a platform-independent, graphical tool to process large RNAseq data sets of non-model organisms. *Bioinformatics*, 28: 777-783
31. Philipp, E.E.R., Kraemer, L., Melzner, F., Pouska, A.J., Thieme, S., Findeisen, U., Schreiber, S., Rosenstiel, P. (2012). Massively parallel RNA sequencing identifies a complex immune gene repertoire in the lophotrochozoan *Mytilus edulis*. *Plos One*. DOI: 10.1371/journal.pone.0033091
32. Husmann, G., Abele, D., Kriews, M., Monien, P., Philipp, E.E.R., (2012). The influence of

sedimentation on metal accumulation and cellular oxidative stress markers in the Antarctic bivalve *Laternula elliptica*. *Estuar Coast Shelf Sci.*, 111: 48-59

33. Guerra, C., Zenteno-Savin, T., Maeda-Martinez, A.N., Philipp, E.E.R., Abele, D., (2012).

Changes in oxidative stress parameters in relation to age, growth and reproduction in the short-lived catarina scallop *Argopecten ventricosus* reared in its natural environment. *Comparative Biochemistry and Physiology Part A*, 162: 421-430

34. Philipp, E.E.R., Wessels, W., Gruber, H., Strahl, J., Wagner, A.E., Ernst, I.M.A., Rimbach, G., Kraemer, L., Schreiber, S., Abele, D., Rosenstiel, P. (2012) Gene Expression and Physiological Changes of Different Populations of the Long-Lived Bivalve *Arctica islandica* under Low Oxygen Conditions. *Plos One* DOI: 10.1371/journal.pone.0044621

35. Harper, E.M., Clark, M.S., Hoffman, J.I., Philipp, E.E.R., Peck, L.S., Morley, S.A. (2012). Iceberg Scour and Shell Damage in the Antarctic Bivalve *Laternula elliptica*. *PlosOne*, 28: DOI: 10.1371/journal.pone.0046341

36. Bartel, M., Hartmann, S., Lehmann, K., Postel, K., Quesada, H., Philipp, E.E.R., Heilmann, K., Micheel, B., Stuckas, H. (2013). Identification of sperm proteins as candidate biomarkers for the analysis of reproductive isolation in *Mytilus*: a case study for the *enkurin* locus. *Marine Biology*, 159:2195-2207

37. Hiebenthal, C., Philipp, E.E.R., Eisenhauer, A., Wahl, M., (2013). Effects of seawater pCO₂ and temperature on shell growth, shell stability, condition and cellular stress of Western Baltic Sea *Mytilus edulis* (L.) and *Arctica islandica* (L.). *Marine Biology*, 160: 2073-2087

38. Abele, D., & Philipp, E. (2013). Environmental Control and Control of the Environment: The Basis of Longevity in Bivalves. *Gerontology*, 59: 261-266

39. Kremer, N., Philipp, E.E.R., Carpentier, M-C., Brennan, C.A., Kraemer, L., Altura, M.A., Augustin, R., Häsler, R., Heath-Heckman, E.A.C., Peyer, S.M., Schwartzman, J., Rader, B.A., Ruby, E.G., Rosenstiel, P., McFall-Ngai, M.J. (2013). Initial Symbiont Contact Orchestrates Host-Organ-wide Transcriptional Changes that Prime Tissue Colonization. *Cell Host & Microbe*, 14: 183-194

40. Bolte, S., Roth, O., Philipp, E.E.R., Saphörster, J., Rosenstiel, J., Reusch, T.B.H. (2013). Specific immune priming in the invasive ctenophore *Mnemiopsis leidyi*. *Biology letters*, 9.

41. Clark, M.S., Husmann, G., Thorne, M.A.S., Burns, G., Truebano, M., Peck, L.S., Abele, D., Philipp, E.E.R. (2013). Hypoxia impacts large adults first: consequences in a warming world. *Global Change Biology*, 19: 2251-2263

42. Hüning, A.K., Melzner, F., Thomsen, J., Gutowska, M.A., Kraemer, L., Frickenhaus, S., Rosenstiel, P., Poertner, H-O., Philipp, E.E.R., Lucassen, M. (2013). Impacts of seawater acidification on mantle gene expression patterns of the Baltic Sea blue mussel: implications for shell formation and energy metabolism. *Marine Biology*, 160: 1845-1861

43. Husmann, G., Abele, D., Rosenstiel, P., Clark, M.S., Kraemer, L., Philipp, E.E.R. (2014). Age-dependent expression of stress and antimicrobial genes in the hemocytes and siphon tissue of the Antarctic bivalve, *Laternula elliptica*, exposed to injury and starvation. *Cell Stress and Chaperones*, 19: 15-32

44. Gruber, H., Schaible, R., Ridgway, I.D., Chow, T.T., Held, C., Philipp, E.E.R. (2014). Telomere-independent ageing in the longest-lived non-colonial animal, *Arctica islandica*. *Experimental Gerontology*, 51: 38-45

45. Gruber, H., Wessels, W., Xu, J., Wolgemuth, S., Leeuwenburgh, C., Qui, W., Austad, S., Rosenstiel, P., Schaible, R., Philipp, E.E.R. (2015). Age-related cellular changes in the long-lived bivalve *A. islandica*, *AGE*, 37-90, 1-12

46. Husmann, G., Philipp, E.E.R., Abele, D. (2016). Seasonal proliferation rates and the capacity to express genes involved in cell cycling and maintenance in response to seasonal and experimental

food shortage in *Laternula elliptica* from King George Island. Mar. Env. Res. 118: 57-68

BOOKS:

1. Abele, D., Atencio, A., Dick, D., Gonzalez, O., Kriews, M., Meyer, S., Philipp, E., Stölting, V.

I.(2008). Iron, copper and manganese discharge from glacial melting into Potter Cove and metal concentrations in *Laternula elliptica* shells., The Antarctic Ecosystem of Potter Cove, King George Island. Synopsis of Research from 1999-2006. Eds: C. Wiencke, G. A: Frerreyra, D. Abele, S. Marensi, 39-46.

2. Welker A.F., Ramos-Vasconcelos G. R., Philipp E., Hermes-Lima M. (2008) Vida animal nos extremos ambientais: papel de radicais livres e antioxidantes; in: Radicales libres y estres oxidativo en la salud y la enfermedad, Ed. Mina Königsberg.

3. Philipp, E.E.R, Lipinski, S., Rast, J., Rosenstiel, P. (2011). Immune defence of marine invertebrates - the role of reactive oxygen and nitrogen species. Chapter in "Oxidative Stress in Aquatic Ecosystem" Editor: Zenteno, T., Abele, D.

4. Philipp, E.E.R., Strahl, J., Sukhotin, A. (2011). Aging in marine animals. Chapter in "Oxidative Stress in Aquatic Ecosystem" Editor: Zenteno, T., Abele, D.