

About the author

Maria Anouk Goedknecht was born on 6 Februari 1986 in Emmen, The Netherlands. Indecisive of what to study after pre-university college, she went to work and travel in New Zealand for 9 months (2004-2005) and decided here to become a marine biologist. Back in the Netherlands, she started studying at the University of Utrecht and proceeded her bachelor with a minor in Marine Biology and a minor in Ecology at the University of Groningen. After finishing her bachelor degree in 2008, she continued with the master Marine Biology at the same university. Her first research project was on the relationship between the immune system, hormones and growth of Barnacle goslings in the Arctic. Dr. Maarten Loonen was her supervisor during this project and his frequent communication to the general public inspired her to pursue an additional master in Education and Communication in Mathematics and Natural Sciences (RUG), in which she graduated with the distinction *cum laude* (2011). During her second internship of the Marine Biology master she went to the Royal Netherlands Institute for Sea Research (NIOZ) to work with Dr. David Thieltges on the effect of climate change on parasite transmission, which resulted in a first peer reviewed publication. She graduated as a marine biologist in 2012 and was offered a PhD position at the Parasite Ecology group at NIOZ. On 3 November 2017 she will defend her thesis entitled *Pacific oysters and parasites: Species invasions and their impact on parasite-host interactions*. Currently she is applying for grant proposals to continue her scientific work as a post-doc.

Over de auteur

Maria Anouk Goedknecht werd geboren op 6 februari 1986 in Emmen. In twijfel over de juiste studiekeuze, ging ze eerst voor 9 maanden naar Nieuw-Zeeland om daar te werken en reizen (2004-2005). Hier besloot ze uiteindelijk om mariene bioloog te worden. Terug in Nederland begon ze te studeren aan de Universiteit Utrecht en vervolgde haar bacheloropleiding met een minor in Mariene Biologie en een minor in Ecologie aan de Rijksuniversiteit Groningen. Toen ze slaagde voor haar bacheloropleiding in 2008, volgde ze een masteropleiding Mariene Biologie aan dezelfde universiteit. Haar eerste onderzoeksproject ging over de relatie tussen het immuunsysteem, hormonen en de groei van jonge brandganzen op Spitsbergen. Dr. Maarten Loonen was haar begeleider gedurende dit project en zijn veelvuldige communicatie met het algemene publiek inspireerde haar om een tweede master te volgen in de wetenschapscommunicatie: de master Educatie en Communicatie in de Wiskunde en Natuurwetenschappen aan de Rijksuniversiteit Groningen. Deze master sloot ze in 2011 met *cum laude* af. Tijdens haar tweede stage van de master Mariene Biologie, ging ze naar het Koninklijk Nederlands Instituut voor Zeeonderzoek (NIOZ). Hier werkte ze onder supervisie van Dr. David Thieltges aan het effect van klimaatsverandering op de overdracht van parasieten. Dit werk mondde uit in een eerste publicatie in een wetenschappelijk tijdschrift. Ze slaagde als mariene bioloog in 2012 en kreeg een promotieplek aangeboden bij de Parasieten Ecologie groep bij het NIOZ. Op 3 November 2017 verdedigt ze haar proefschrift getiteld *Japanse oesters en parasieten: Soorteninvasies en de impact op parasiet-gastheer relaties*. Op dit moment schrijft ze projectvoorstellen voor beurzen om uiteindelijk haar wetenschappelijk werk voort te zetten als een post-doc.

List of publications

Peer reviewed publications

Goedknecht, M. A., Shoesmith, D., Jung, A. S., Luttikhuisen, P. C., van der Meer, J., Philippart, C. J. M., van der Veer, H. W., Thieltges, D. W. (2017) Trophic relationship between the invasive parasitic copepod *Mytilicola orientalis* and its native blue mussel (*Mytilus edulis*) host. Parasitology (in press)

Goedknecht, M. A., Havermans, J., Waser, A. M., Luttikhuisen, P. C., Velilla, E., Camphuysen, K. (C. J.), van der Meer, J., Thieltges, D. W. (2017) Cross-species comparison of parasite richness, prevalence, and intensity in a native compared to two invasive brachyuran crabs. Aquatic Invasions 12:201-202.

Goedknecht, M. A., Schuster, A.-K., Buschbaum, C., Gergs, R., Jung, A. S., Luttikhuisen, P. C., van der Meer, J., Troost, K., Wegner, K. M., Thieltges, D. W. (2017) Spillover but no spillback of two invasive parasitic copepods from invasive Pacific oysters (*Crassostrea gigas*) to native hosts. Biological Invasions 19:365-379.

Waser, A. M., **Goedknecht, M. A.**, Dekker, R., McSweeney, N., Witte, J. IJ., van der Meer, J., Thieltges, D. W. (2016) Tidal elevation and parasitism: patterns of infections of the rhizocephalan parasite *Sacculina carcini* in shore crabs *Carcinus maenas*. Marine Ecology Progress Series 545:215-225.

Buschbaum, C., Cornelius, A., **Goedknecht, M. A.** (2016) Deeply hidden inside introduced biogenic structures – Pacific oyster reefs reduce detrimental barnacle overgrowth on native blue mussels. Journal of Sea Research 117:20-26.

Feis, M. E., **Goedknecht, M. A.**, Thieltges, D. W., Buschbaum, C., Wegner, K. M. (2016) Biological invasions and host–parasite coevolution: different coevolutionary trajectories along separate parasite invasion fronts. Zoology 119:366-374.

Goedknecht, M. A., Feis, M. E., Wegner, K. M., Luttikhuisen, P. C., Buschbaum, C., Camphuysen, K. (C. J.), van der Meer, J., Thieltges, D. W. (2016) Parasites and marine invasions: Ecological and evolutionary perspectives. Journal of Sea Research 113:11-27.

Lokmer, A., **Goedknecht, M. A.**, Thieltges, D. W., Kuenzel, S., Fiorentino D., Baines, J., Wegner, K. M. (2016) Spatial and temporal dynamics of Pacific oyster hemolymph microbiota across multiple scales. Frontiers in Microbiology 7:1-18.

Goedknecht, M. A., Welsh, J. E., Drent, J., Thieltges, D. W. (2015) Climate change and parasite transmission: how temperature can decrease parasite infectivity via increased predation on infective stages. Ecosphere 6:96, doi: 10.1890/ES15-00016.1.

Submitted manuscripts

Boussellaa, W., Neifar, L., **Goedknecht, M. A.**, Thieltges, D. W. Lessepsian migration and parasitism: richness, prevalence and intensity of parasites in an invasive fish compared to its native congener in Tunesian coastal waters.

Goedknecht, M. A., Bedolfe, S., Drent, J., van der Meer, J., Thieltges, D. W. Impact of the invasive parasitic copepod *Mytilicola orientalis* on native blue mussels *Mytilus edulis* in the western European Wadden Sea.

Goedknecht, M. A., Thieltges, D. W., van der Meer, J., Wegner, K. M., Luttkhuizen, P. C. Cryptic invasion of two parasitic copepods: compromised identification when morphologically similar invaders co-occur in invaded ecosystems.

Thieltges, D. W., **Goedknecht, M. A.**, Kamiya, T. Stable isotopes and parasitism: a comparative analysis of discrimination factors ($\Delta^{13}\text{C}$ and $\Delta^{15}\text{N}$) in parasitic trophic interactions.

Manuscripts in preparation

Goedknecht, M. A., Buschbaum, C., van der Meer, J., Wegner, K. M., Thieltges, D. W. Invasive ecosystem engineers and parasitism: trait-mediated indirect interactions initiated by invasive oysters alter infection levels in native mussels.

Other publications

Goedknecht, M. A. (2011) Blog: De voorbereiding is het hele werk. www.zeeinzicht.nl

Goedknecht, M. A., Welsh, J., Thieltges, D. W. (2012) Parasites as Prey. eLS. DOI: 10.1002/9780470015902.a0023604

Author affiliations and addresses

John F. Baines

Max-Planck Institute for Evolutionary Biology, August-Thienemann Strasse 2, 24306 Plön, Germany

Institute for Experimental Medicine, Christian-Albrechts-University of Kiel, Arnold-Heller-Str. 3, 24105 Kiel, Germany

Sarah Bedolfe

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Wiem Boussellaa

Laboratory of biodiversity and aquatic ecosystems, Faculty of Sciences of Sfax, Sfax University, BP 1171, 3000 Sfax, Tunisia

Christian Buschbaum

Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Wadden Sea Station Sylt, Hafenstrasse 43, 25992 List/Sylt, Germany

Kees (C. J.) Camphuysen

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Annika Cornelius

Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Wadden Sea Station Sylt, Hafenstrasse 43, 25992 List/Sylt, Germany

Rob Dekker

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Jan Drent

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Marieke E. Feis

Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Wadden Sea Station Sylt, Hafenstrasse 43, 25992 List/Sylt, Germany

Dario Fiorentino

Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Wadden Sea Station Sylt, Hafenstrasse 43, 25992 List/Sylt, Germany

Eelke Folmer

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

René Gergs

Institute of Environmental Sciences, University of Koblenz-Landau, Fortstraße 7, 76829 Landau, Germany

Jarco Havermans

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

A. Sarina Jung

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Tsukushi Kamiya

Department of Ecology and Evolutionary Biology, University of Toronto, 25 Willcocks Street, Toronto, Canada

Sven Künzel

Max-Planck Institute for Evolutionary Biology, August-Thienemann Strasse 2, 24306 Plön, Germany

Ana Lokmer

Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Wadden Sea Station Sylt, Hafenstrasse 43, 25992 List/Sylt, Germany

Pieterella C. Luttikhuizen

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Niamh McSweeney

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Reinier Nauta

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Lassad Neifar

Laboratory of biodiversity and aquatic ecosystems, Faculty of Sciences of Sfax, Sfax University, BP 1171, 3000 Sfax, Tunisia

Catharina J. M. Philippart

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Anne-Karin Schuster

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Institute of Environmental Sciences, University of Koblenz-Landau, Fortstraße 7, 76829 Landau, Germany

David Shoosmith

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

David W. Thielges

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Karin Troost

IMARES Wageningen UR, P.O. Box 77, 4400 AB Yerseke, The Netherlands

Jaap van der Meer

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Henk W. van der Veer

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Estefania Velilla

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Andreas M. Waser

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

K. Mathias Wegner

Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Wadden Sea Station Sylt, Hafenstrasse 43, 25992 List/Sylt, Germany

Jennifer E. Welsh

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands

Johannes IJ. Witte

NIOZ Royal Netherlands Institute for Sea Research, Department of Coastal Systems, and Utrecht University, P.O. Box 59, 1790 AB Den Burg Texel, The Netherlands