

Univ.-Prof. Dr. Matthias Horn

Deputy Head Division of Microbial Ecology
Deputy Head Research Network “Chemistry meets Microbiology”

University of Vienna
Division of Microbial Ecology
Department of Microbiology and Ecosystem Research
Althanstr. 14, 1090 Wien, Austria
Homepage: <http://www.microbial-ecology.net/horn>
ResearcherID: G-1136-2011
ORCID ID: 0000-0002-8309-5855

Research Interests

- Microbial symbioses, with emphasis on bacterial symbionts of protozoa and insects
- Evolution of intracellular bacteria
- Microbial genome evolution
- Molecular biology of intracellular bacteria and their interaction with eukaryotic host cells

Professional experience

since 1/2015	Deputy Head of the Research Network “Chemistry meets Microbiology” Deputy Head of the Division of Microbial Ecology
since 9/2007	Full Professor for Microbial Symbioses, University of Vienna
9/2007 - 3/2013	Deputy Head of the Department of Microbial Ecology
2/2006	Associate Professor for Microbial Symbioses (“Vertragsprofessor”) at the Department of Microbial Ecology, University of Vienna
6/2005	“Habilitation” (venia docendi) in Microbiology (thesis “Symbiotic interactions between pro- and eukaryotes”) obtained at the University of Vienna
2/2003 - 1/2006	Assistant Professor (“Universitätsassistent”) at the Department of Microbial Ecology, University of Vienna, Austria
9/2001 - 1/2003	Postdoctoral position at the Department of Microbiology, Technische Universität München, Germany
8/1998 - 11/1998	Research visit at the Department of Clinical Microbiology, University of Washington, Seattle, WA, USA

Education

14.08.2001	Dissertation (Dr. rer. nat.), grade achieved: “summa cum laude” (with distinction)
27.05.1998	Diploma in Biology degree (Dipl. Biol. Univ.)

Honors and Awards

2011	ERC Starting Grant (Consolidator track)
since 2009	Member of the Young Academy of the Austrian Academy of Sciences (ÖAW)
2005	START Award of the Austrian Science Fund (FWF)
2001	Federation of European Microbiological Societies (FEMS) Young Scientist Grant
1998	Scholarship from the Deutsche Gesellschaft für Hygiene und Mikrobiologie e.V. (DGHM)

Funding

Projects as principal investigator

- FWF I1628-B22. Project in the ERA-NET InfectERA consortium “EUGENPATH – Eukaryotic genes in vacuolar pathogens and symbionts”, €240,000, 2014-2016.
- ERC StG (consolidator track) EVOCHLAMY “The evolution of chlamydiae – an experimental approach”, €1,500,000, 2012-2016.

- ITN-GA-2010-264774. Project in the Marie Curie Initial Training Network “SYMBIOMICS – Molecular ecology and evolution of bacterial symbionts”, €283,000, 2010-2014
- FWF P22533-B17. The bacterial symbionts of mealybugs, €269,000, 2010-2014
- FWF I291-B09. Project in the ERA-NET consortium “Pathogen-host metabolomics and interactomics (Pathomics)” (ERA-NET Pathogenomics), €358,000, 2009-2013
- Comparative genomics of chlamydiae – a phylum-level approach (subproject in the Graduate School “Symbiotic Interactions” at the University of Vienna), €120,000, 2007-2010
- JGI/DOE NPUSR007089. The genomes of the amoeba symbiont '*Candidatus Amoebophilus asiaticus*' and the insect symbiont '*Candidatus Cardinium hertigii*', 2007-2011
- Molecular adaptations of environmental chlamydiae to their amoeba hosts (University of Vienna), €140,000, 2007-2009
- FWF Y277-B03 (START Award). The evolution of symbiosis and pathogenicity – a case study using environmental chlamydiae and amoebae, €1,200,000, 2005-2012

Projects as co-PI

- FWF TRP 209-B20. Amoebae as vehicles for bacteria, €130,000, 2011-2014.
- FWF P22703-B17. *Amoebophilus asiaticus* mechanisms for host cell interaction, €132,000, 2010-2013
- bm:bwk 200.100/1-VI/1/2004. Environmental chlamydia proteomics (in the framework of the GEN-AU program), €388,000, 2004-2007
- FWF P16566-B14. The Environmental Chlamydia Transcriptome Project, €324,000, 2004-2007
- Comparative analysis of *C. pneumoniae* and chlamydia-like endosymbionts from a genomic perspective (bmb+f Kompetenznetzwerk „Genomforschung an pathogenen Bakterien – PathoGenoMik”), 2001-04
- Detection and in situ identification of members of the *Chlamydiaceae* and *Parachlamydiaceae* as pulmonary pathogens. (bmb+f Kompetenznetzwerk “CapNetz”), 2001-2004

Projects as host

- Marie Skłodowska-Curie Individual Fellowship. SymPathInfect - Symbiont-mediated defense of amoebae against *Legionella pneumophila* – molecular mechanisms and pathogen ecology (Stipend to Cecilia Wentrup), 2015-2017
- Austrian Academy of Sciences (ÖAW) Doc-FORTE. Life inside the nucleus – an unusual symbiont of amoebae related to rickettsiae (Stipend to Frederik Schulz), €90,000, 2012-2014
- Austrian Academy of Sciences (ÖAW) Doc-fORTE. Interactions of chlamydial symbionts of amoebae with the cellular suicide machinery in invertebrate and vertebrate host cells (Stipend to Barbara Sixt), €75,000, 2010-2012
- FWF P19252-B17. Illuminating the evolution of symbiosis in the phylum *Bacteroidetes* – whole genome analysis of the amoeba symbiont '*Candidatus Amoebophilus asiaticus*' (PI Stephan Schmitz-Esser), €130,000, 2006-2008

Teaching activities and supervision of graduate students

Over 60 courses in bachelor and master curricula at the University of Vienna since 2003.

Lectures: Biodiversity of microorganisms, Microbial communities and symbioses

Seminars: Current topics in molecular microbial ecology and evolution, Current topics in symbiosis research, Molecular processes of early evolution, Field trips in microbiology

Lab courses: Fluorescence in situ hybridization, Phylogeny of prokaryotes

Served as main supervisor for 17 diploma/master students and 6 PhD students, 6 additional PhD students have not yet completed their studies.

Awards and fellowships of lab members

- Cecilia Wentrup: Marie Skłodowska-Curie Individual Fellowship 2015-2017
- Elena Toenshoff: Austrian Science Fund (FWF) Erwin Schrödinger Fellowship 2014-16
- Frederik Schulz: Austrian Academy of Sciences (ÖAW) Doc-FORTE stipend 2013-2015
- Karin Aistleitner: Winner of Pecha Kucha Contest „Biology on Stage - 400 Seconds of Life” at the University of Vienna, 2012
- Barbara S. Sixt: San-Pin Wang Award at the CRBS Meeting 2011 (best oral presentation by a PhD student)
- Karin Aistleitner: Jane E. Raulston Award at the CRBS Meeting 2011 (best poster presentation by a PhD student)
- Barbara S. Sixt: Austrian Academy of Sciences (ÖAW) Doc-FORTE stipend, 2009-2012

Other scientific activities / services to the community

- Referee for diverse journals including *Nature*, *Proc. Natl. Acad. Sci. U. S. A.*, *Trends in Microbiology*, *PLoS Genetics*, *Genome Research*, *Molecular Microbiology*, *Journal of Bacteriology*, *Nucleic Acids Research*, *Nature Communications*, and funding agencies including DFG, SNF, NERC UK
- since 2015 Editorial Board Member *Scientific Reports*
- 2014 Member of the organising committee for the 13. German Chlamydia Workshop, Vienna, Austria
- since 2013 Member of the Scientific Advisory Board for Genetic Engineering (“Gentechnikkommission”) of the Austrian Federal Minister for Health
- 2013 Member of the organising committee for the Free Living Amoeba Meeting 2013, Vienna, Austria
- since 2012 Academic Editor of *PLoS One*
- since 2012 Editorial board member of *Pathogens and Disease*
- 2010/11 Member of the program committee of the Chlamydia Basic Research Society, 2011 Biennial Meeting, Redondo Beach CA, USA
- 2010-2014 Editorial board member *Journal of Eukaryotic Microbiology*
- since 2010 Associate Editor of *Frontiers in Evolutionary and Genomic Microbiology*
- since 2009 Advisory Board member of the section “Symbiotic Interactions” of the German Association for General and Applied Microbiology (VAAM)
- 2008-2012 National representative of the COST Action FA0701 “Arthropod Symbioses”
- since 2008 Developer and webmaster of the online tool probeCheck (www.microbial-ecology.net/probecheck); 4,000 page views per month in 2012
- 2006 Member of the local organising committee for the International Symposium on Microbial Ecology (ISME-11) 2006, Vienna, Austria
- 2006 Member of the organising committee for the Fifth International Symbiosis Society (ISS) Congress 2006, Vienna, Austria
- 2004 - 2010 Member of the organising committee for the annual German Chlamydia Workshop, Berlin/Jena/Düsseldorf/Hannover/Ulm/Lübeck/Munich, Germany
- 2001, 2002, 2004 Co-organiser and lecturer at the “Corso Di Identificazione Di Microrganismi Tramite Ibridazione Fluorescente In Situ (FISH)”, Centro Nazionale Ricerche Istituto Ricerca Sulle Acque (CNR IRSA), Perugia, Italy
- since 2001 Co-organiser, lecturer and supervisor at the annual “International FISH Course”, Technische Universität München, Germany, and University of Vienna, Austria
- since 2001 Developer and webmaster of the public online-database probeBase (www.microbial-ecology.net/probebase); more than 13,000 page views per month in 2012
- 3/2001 Co-organiser and lecturer at the international workshop “Molecular microbial ecology: the rRNA approach and beyond”, Genoscope, Evry, France

Invited lectures and invited conference presentations

More than 30 invited lectures and invited conference presentations at national and international meetings including the 1st Gordon Research Conference on Animal Microbe Symbioses, a State-of-the-Art Lecture at the 5th Meeting of the European Society for Chlamydia Research, a plenary lecture at the Annual Conference of the German Association for General and Applied Microbiology (VAAM), and invited talks at the 9th Symposium of the International Society of Endocytobiology, the 5th Congress of the International Symbiosis Society (ISS), the XII. International Congress of Bacteriology and Applied Microbiology, the 3rd and 5th FEMS Congress of European Microbiologists, the ASM General Meeting 2014.

Served as session chair at several international conferences including the 11th and 15th Symposium of the International Society for Microbial Ecology (ISME), the 5th Congress of the International Symbiosis Society (ISS), the 3rd FEMS Congress of European Microbiologists, the 2009 and 2011 Meetings of the Chlamydia Basic Research Society, and the 15th International Meeting on the Biology and Pathogenicity of Free-Living Amoebae.

Public outreach

Over 30 newspaper and magazine articles, among others in the German national news magazine *Der Spiegel* (Germany) and the Austrian national newspapers *Der Standard* and *Die Presse* (Austria). Appeared on several radio features and served as interview partner in the main news show (ZIB2) on national TV (ORF) in Austria.

Publications

Author on **83 papers** in peer-reviewed journals (including 2 papers in *Nature*, 1 paper in *Science*, *Nature Communications*, *PLoS Biology*, and *PNAS*, respectively); 73% of these papers appeared in the top 20% journals of the field). His papers have received **4,950 citations**; **H-index 38** (ISI Web of Knowledge).

A complete list of publications and citation data is available at:

<http://www.microbial-ecology.net/horn> and <http://www.researcherid.com/rid/G-1136-2011>

1. Fritsche TR, **Horn M**, Seyedirashti S, Gautom RK, Schleifer KH, Wagner M. 1999. In situ detection of novel bacterial endosymbionts of *Acanthamoeba* spp. phylogenetically related to members of the Rickettsiales. **Appl. Environ. Microbiol.** 65: 206-212.
2. **Horn M**, Fritsche TR, Gautom RK, Schleifer KH, Wagner M. 1999. Novel Bacterial Endosymbionts of *Acanthamoeba* isolates related to the *Paramecium* Symbiont *Caedibacter caryophilus*. **Environ. Microbiol.** 1: 357-367.
3. Fritsche TR, **Horn M**, Wagner M, Herwig RP, Schleifer KH, Gautom RK. 2000. Phylogenetic diversity among geographically dispersed *Chlamydiales* endosymbionts recovered from clinical and environmental isolates of *Acanthamoeba* spp. **Appl. Environ. Microbiol.** 66: 2613-2619.
4. **Horn M**, Wagner M, Muller KD, Schmid EN, Fritsche TR, Schleifer KH, Michel R. 2000. *Neochlamydia hartmannellae* gen. nov. sp. nov. (*Parachlamydiaceae*), an endoparasite of the amoeba *Hartmannella vermiformis*. **Microbiology** 146: 1231-1239.
5. Kanagawa T, Kamagata Y, Aruga S, Kohno T, **Horn M**, Wagner M. 2000. Phylogenetic relationships of filamentous bacteria of the Eikelboom Type 021N isolated from bulking activated sludge and development of an encompassing set of 021N-specific oligonucleotide probes. **Appl. Environ. Microbiol.** 66: 5043-5052.
6. **Horn M**, Harzenetter MD, Linner T, Schmid EN, Muller KD, Michel R, Wagner M. 2001. Members of the *Cytophaga-Flavobacterium-Bacteroides* phylum as intracellular bacteria of acanthamoebae: proposal of '*Candidatus* Amoebophilus asiaticus'. **Environ. Microbiol.** 3: 440-449.
7. **Horn M**, Wagner M. 2001. Evidence for additional genus-level diversity of *Chlamydiales* in the environment. **FEMS Microbiol. Lett.** 204: 71-74.
8. Beier CL, **Horn M**, Michel R, Schweikert M, Gortz HD, Wagner M. 2002. The genus *Caedibacter* comprises endosymbionts of *Paramecium* spp. related to the *Rickettsiales* (*Alphaproteobacteria*) and to *Francisella tularensis* (*Gammaproteobacteria*). **Appl. Environ. Microbiol.** 68: 6043-6050.
9. Hentschel U, Hopke J, **Horn M**, Friedrich AB, Wagner M, Hacker J, Moore BS. 2002. Molecular evidence for a uniform microbial community in sponges from different oceans. **Appl. Environ. Microbiol.** 68: 4431-4440.
10. **Horn M**, Fritsche TR, Linner T, Gautom RK, Harzenetter MD, Wagner M. 2002. Obligate bacterial endosymbionts of *Acanthamoeba* spp. related to the β -subclass of *Proteobacteria*: proposal of '*Candidatus* Procabacter acanthamoebae' gen. nov., sp. nov. **Int. J. Syst. Evol. Microbiol.** 52: 599-605.
11. Poppert S, Essig A, Marre R, Wagner M, **Horn M***. 2002. Detection and differentiation of chlamydiae by fluorescence in situ hybridization (FISH). **Appl. Environ. Microbiol.** 68: 4081-4089.
12. Skriwan C, Fajardo M, Hagele S, **Horn M**, Wagner M, Michel R, Krohne G, Schleicher M, Hacker J, Steinert M. 2002. Various bacterial pathogens and symbionts infect the amoeba *Dictyostelium discoideum*. **Int. J. Med. Microbiol.** 291: 615-624.
13. Adamczyk J, Hesselsoe M, Iversen N, **Horn M**, Lehner A, Nielsen PH, Schlöter M, Roslev P, Wagner M. 2003. The isotope array, a new tool that employs substrate-mediated labeling of rRNA for determination of microbial community structure and function. **Appl. Environ. Microbiol.** 69: 6875-6887.

14. Hutter G, Schlagenhaut U, Valenza G, **Horn M**, Burgemeister S, Claus H, Vogel U. 2003. Molecular analysis of bacteria in periodontitis: evaluation of clone libraries, novel phylotypes and putative pathogens. **Microbiology** 149: 67-75.
15. Loy A, **Horn M***, Wagner M. 2003. probeBase - an online resource for rRNA-targeted oligonucleotide probes. **Nucleic Acids Res.** 31: 514-516.
16. Thoms C, **Horn M**, Wagner M, Hentschel U, Proksch P. 2003. Monitoring microbial diversity and natural products profiles of the sponge *Aplysina cavernicola* following transplantation. **Marine Biology** 142: 685-692.
17. Wagner M, **Horn M**, Daims H. 2003. Fluorescence in situ hybridisation for the identification and characterisation of prokaryotes. **Curr. Opin Microbiol.** 6: 302-309.
18. Collingro A, Walochnik J, Baranyi C, Michel R, Wagner M, **Horn M**, Aspöck H. 2004. Chlamydial endocytobionts of free-living amoebae differentially affect the growth rate of their hosts. **Europ. J. Protist.** 40: 57-60.
19. Fieseler L, **Horn M**, Wagner M, Hentschel U. 2004. Discovery of the novel candidate phylum "Poribacteria" in marine sponges. **Appl. Environ. Microbiol.** 70: 3724-3732.
20. Fokin SI, Przybos E, Chivilev SM, Beier CL, **Horn M**, Skotarczak B, Wodecka B, Fujishima M. 2004. Morphological and molecular investigations of *Paramecium schewiakoffi* sp. nov. (Ciliophora, Oligohymenophorea) and current status of distribution and taxonomy of *Paramecium* spp. **Europ. J. Protist.** 40: 225-243.
21. Schmitz-Esser S, Linka N, Collingro A, Beier CL, Neuhaus HE, Wagner M, **Horn M***. 2004. ATP/ADP translocases: A common feature of obligate intracellular amoebal symbionts related to chlamydiae and rickettsiae. **J. Bacteriol.** 186: 683-691.
22. **Horn M***, Collingro A, Schmitz-Esser S, Beier CL, Purkhold U, Fartmann B, Brandt P, Nyakatura GJ, Droege M, Frishman D, Rattei T, Mewes HW, Wagner M. 2004. Illuminating the evolutionary history of chlamydiae. **Science** 304: 728-730.
23. Haferkamp I, Schmitz-Esser S, Linka N, Urbany C, Collingro A, Wagner M, **Horn M**, Neuhaus HE. 2004. A candidate NAD⁺ transporter in an intracellular bacterial symbiont related to chlamydiae. **Nature** 432: 622-625.
24. **Horn M***, Wagner M. 2004. Bacterial endosymbionts of free-living amoebae. **J. Euk. Microbiol.** 51: 509-514.
25. Collingro A, Poppert S, Heinz E, Schmitz-Esser S, Essig A, Schweikert M, Wagner M, **Horn M***. 2005. Recovery of an environmental chlamydia strain from activated sludge by co-cultivation with *Acanthamoeba* sp. **Microbiology** 151: 301-309.
26. Collingro A, Toenshoff ER, Taylor MW, Fritsche TR, Wagner M, **Horn M***. 2005. 'Candidatus Protochlamydia amoebophila', an endosymbiont of *Acanthamoeba* spp. **Int. J. Syst. Evol. Microbiol.** 55: 1863-1866.
27. Everett KDE, Thao M, **Horn M**, Dyszynski GLE, Baumann P. 2005. Novel chlamydiae in whiteflies and scale insects: endosymbionts 'Candidatus Fritschea bemisiae' strain Falk and 'Candidatus Fritschea eriococci' strain Elm. **Int. J. Syst. Evol. Microbiol.** 55: 1581-1587.
28. Molmeret M, **Horn M**, Wagner M, Santic M, Abu Kwaik Y. 2005. Amoeba as training grounds for intracellular bacterial pathogens. **Appl. Environ. Microbiol.** 71: 20-28.
29. Rinke C, Schmitz-Esser S, Stoecker K, Nussbaumer AD, Molnár DA, Vanura K, Wagner M, **Horn M**, Ott J, Bright M. 2006. 'Candidatus Thiobios zoothamnicoli', an ectosymbiotic bacterium covering the giant marine ciliate *Zoothamnium niveum*. **Appl. Environ. Microbiol.** 72: 2014-2021.
30. Strous M, Pelletier E, Mangenot S, Rattei T, Lehner A, Taylor MW, **Horn M**, Daims H, Bartol-Mave D, Wincker P, Barbe V, Fonknechten N, Vallenet D, Segurens B, Schenowitz-Truong C, Médigue C, Collingro A, Snel B, Dutilh BE, Op den Camp HJM, van der Drift C, Cirpus I, van de Pas-Schoonen KT, Harhangi HR, van Niftrik L, Schmid M, Keltjens J, van de Vossenberg J, Kartal B, Meier H, Frishman D, Huynen MA, Mewes HW, Weissenbach J, Jetten MSM, Wagner

- M, Le Paslier D (2006). Deciphering the evolution and metabolism of an anammox bacterium from a community genome. **Nature** 440: 790-794.
31. Haferkamp I, Schmitz-Esser S, Wagner M, Neigel N, **Horn M***, Neuhaus HE. 2006. Tapping the nucleotide pool of the host: novel nucleotide carrier proteins of *Protochlamydia amoebophila*. **Mol. Microbiol.** 60: 1534-1545.
 32. Wagner M, **Horn M.** 2006. The *Planctomycetes*, *Verrucomicrobia*, *Chlamydiae* and sister phyla comprise a superphylum with biotechnological and medical relevance. **Curr. Opin. Biotechnol.** 17: 241-249.
 33. Loy A, Maixner F, Wagner M, **Horn M***. 2007. probeBase - an online resource for rRNA-targeted oligonucleotide probes: new features 2007. **Nucleic Acids Res.** 35: D800-D804.
 34. Heinz E, Kolarov I, Kästner C, Toenshoff ER, Wagner M, **Horn M***. 2007. An *Acanthamoeba* sp. containing two phylogenetically different bacterial endosymbionts **Environ. Microbiol.** 9: 1604-1609.
 35. Trentmann O, **Horn M**, van Scheltinga AC, Neuhaus HE, Haferkamp I. 2007. Enlightening energy parasitism by analysis of an ATP/ADP transporter from chlamydiae. **PLoS Biol.** 9: e231.
 36. Haider S, Collingro A, Walochnik J, Wagner M, **Horn M***. 2008. Chlamydia-like bacteria in respiratory samples of community-acquired pneumonia patients. **FEMS Microbiol. Lett.** 281: 198-202.
 37. **Horn M.** 2008. Chlamydiae as symbionts in eukaryotes. **Ann. Rev. Microbiol.** 62: 113-131.
 38. Loy A, Arnold R, Tischler P, Rattei T, Wagner M, **Horn M***. 2008. probeCheck - a central resource for evaluating oligonucleotide probe coverage and specificity. **Environ. Microbiol.** 10: 2894-2896.
 39. Schmitz-Esser S, Haferkamp I, Knab S, Penz T, Ast M, Kohl C, Wagner M, **Horn M***. 2008. *Lawsonia intracellularis* encodes a functional rickettsia-like ATP/ADP translocase for host exploitation. **J. Bacteriol.** 190: 5746-5752.
 40. Schmitz-Esser S, Toenshoff ER, Haider S, Heinz E, Hoenninger VM, Wagner M, **Horn M***. 2008. Diversity of bacterial endosymbionts of environmental *Acanthamoeba* isolates. **Appl. Environ. Microbiol.** 74: 5822-5831.
 41. Rinke C, Schmitz-Esser S, Loy A, **Horn M**, Wagner M, Bright M. 2009. High genetic similarity between two geographically distinct strains of the sulfur-oxidizing symbiont '*Candidatus Thiobios zoothamnicoli*' **FEMS Microbiol. Ecol.** 67: 229-41.
 42. Arnold R, Brandmaier S, Kleine F, Tischler P, Heinz E, Behrens S, Niinikoski A, Mewes HW, **Horn M**, Rattei T. 2009. Sequence-based prediction of type III secreted proteins. **PLoS Pathogens** 5: e1000376.
 43. Ast M, Gruber A, Schmitz-Esser S, Neuhaus HE, Kroth PG, **Horn M**, Haferkamp I. 2009. Diatom plastids depend on nucleotide import from the cytosol. **PNAS** 106: 3621-3626.
 44. Heinz E, Tischler P, Rattei T, Myers G, Wagner M, **Horn M***. 2009. Comprehensive in silico prediction and analysis of chlamydial outer membrane proteins reflects evolution and life style of the Chlamydiae. **BMC Genomics** 10: 634.
 45. Schmitz-Esser S, Tischler P, Arnold R, Montanaro J, Wagner M, Rattei T, **Horn M.** 2010. The genome of the amoeba symbiont '*Candidatus Amoebophilus asiaticus*' reveals common mechanisms for host cell interaction among amoeba-associated bacteria. **J. Bacteriol.** 192: 1045-1057.
 46. Berry D, **Horn M**, Xi C, Raskin L. 2010. Mycobacterium avium infections of Acanthamoeba strains: host strain variability, grazing-acquired infections, and altered dynamics of inactivation with monochloramine. **Appl. Environ. Microbiol.** 76: 6685-6688.
 47. Haider S, Wagner M, Schmid MC, Sixt BS, Christian JG, Häcker G, Pichler P, Mechtler K, Müller A, Baranyi C, Toenshoff ER, Montanaro J, **Horn M.** 2010. Raman microspectroscopy reveals long-term extracellular activity of chlamydiae. **Mol. Microbiol.** 77: 687-700.

48. Webster NS, Taylor MW, Behnam F, Lückner S, Rattei T, Whalan S, **Horn M**, Wagner M. 2010. Deep sequencing reveals exceptional diversity and modes of transmission for bacterial sponge symbionts. **Environ. Microbiol.** 12: 2070-2082.
49. Heinz E, Rockey DD, Montanaro J, Aistleitner K, Wagner M, **Horn M**. 2010. Inclusion membrane proteins of Protochlamydia amoebophila UWE25 reveal a conserved mechanism for host cell interaction among the Chlamydiae. **J. Bacteriol.** 192: 5093-5102.
50. Heinz E, Pichler P, Heinz C, op den Camp HJM, Toenshoff ER, Ammerer G, Mechtler K, Wagner M, **Horn M***. 2010. Proteomic analysis of the outer membrane of Protochlamydia amoebophila elementary bodies. **Proteomics** 10: 4363-4376.
51. Penz T, **Horn M**, Schmitz-Esser S. 2010. The genome of the amoeba symbiont "Candidatus Amoebophilus asiaticus" encodes an afp-like prophage possibly used for protein secretion. **Virulence**: 1-5.
52. Knab S, Mushak TM, Schmitz-Esser S, **Horn M***, Haferkamp I. 2011. Nucleotide parasitism by Simkania negevensis (Chlamydiae). **J. Bacteriol.** 193: 225-235.
53. Sixt BS, Heinz C, Pichler P, Heinz E, Montanaro J, Op den Camp HJM, Ammerer G, Mechtler K, Wagner M, **Horn M**. 2011. Proteomic analysis reveals a virtually complete set of proteins for translation and energy generation in elementary bodies of the amoeba symbiont Protochlamydia amoebophila. **Proteomics** 11: 1868-1892.
54. Collingro A, Tischler P, Weinmaier T, Penz T, Heinz E, Brunham RC, Read TD, Bavoil PM, Sachse K, Kahane S, Friedman MG, Rattei T, Myers GSA, **Horn M**. 2011. Unity in variety - the pan-genome of the Chlamydiae. **Mol. Biol. Evol.** 28: 3253-3270.
55. Gruber-Vodicka HR, Dirks U, Leisch N, Baranyi C, Stoecker K, Bulgheresi S, Heindl NR, **Horn M**, Lott C, Loy A, Wagner M, Ott J. 2011. Paracatenula, an ancient symbiosis between thiotrophic Alphaproteobacteria and catenulid flatworms. **Proc. Natl. Acad. Sci. USA** 108: 12078-12083.
56. Steger D, Berry D, Haider S, **Horn M**, Wagner M, Stocker R, Loy A. 2011. Systematic spatial bias in DNA microarray hybridization is caused by probe spot position-dependent variability in lateral diffusion. **PLOS One** 6: e23727.
57. Schmitz-Esser S, Penz T, Spang A, **Horn M**. 2011. A bacterial genome in transition - an exceptional enrichment of IS elements but lack of evidence for recent transposition in the symbiont Amoebophilus asiaticus. **BMC Evol. Biol.** 11: 270.
58. Toenshoff ER, Penz T, Narzt T, Collingro A, Schmitz-Esser S, Pfeiffer S, Klepal W, Wagner M, Weinmaier T, Rattei T, **Horn M**. 2012. Bacteriocyte-associated gammaproteobacterial symbionts of the Adelges nordmannianae/piceae complex (Hemiptera: Adelgidae) **ISME J.** 6: 384-396.
59. Sixt BS, Hiess B, König L, **Horn M**. 2012. Lack of effective anti-apoptotic activities restricts growth of Parachlamydiaceae in insect cells. **PLoS One** e29565
60. Toenshoff ER, Gruber D, **Horn M**. 2012. Coevolution and symbiont replacement shaped the symbiosis between adelgids (Hemiptera: Adelgidae) and their bacterial symbionts. **Environ. Microbiol.** 14: 1284-1295.
61. Toenshoff ER, Kvellestad A, Mitchell SO, Steinum T, Falk K, Colquhoun DJ, **Horn M**. 2012. A novel betaproteobacterial agent of gill epitheliocystis in seawater farmed Atlantic salmon (Salmo salar). **PLoS One** 7: e32696.
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Last updated: 3.8.2015