

CURRICULUM VITAE - THOMAS BØHN

Nationality: Norwegian.

Born in Oslo the 7th of April 1969. Live in Tromsø.

Present positions:

Scientific Director Ph.D,
GenØk – Centre for Biosafety
Professor of Gene Ecology,
Institute of Pharmacy
Faculty of Health Sciences
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Research interests

My research interests are focused on the impact of modern biotechnologies, especially genetically modified organisms (GMOs) on experimental model systems and on real food-webs. With my institution, GenØk, I am particularly interested in effect studies of modern biotechnological products. We use multiple model systems from viruses and bacteria to *Daphnia magna* and rodents in the laboratory. One focus has been on the food quality and ecotoxicity of GM plants (e.g. Bt-maize and Roundup Ready soy) in a feeding model using the waterflea *Daphnia magna*, also in combination with chemical stressors (herbicides and other chemical pollutants). In the field I work with impacts of modern biotechnologies on biodiversity and food-webs, both in terrestrial and aquatic systems. I also have great interest in evolution, biodiversity, ecological interactions and invasion biology.

Scientific publications in peer review journals: 1998 –

(26) Johnsen, P.J., Townsend, J.P., **Bøhn, T.**, Simonsen, G.S., Sundsfjord, A., Nielsen, K.M. 2011. Retrospective evidence for a biological cost of vancomycin resistance determinants in the absence of glycopeptide selective pressures *Journal of Antimicrobial Chemotherapy*; doi: 10.1093/jac/dkq512.

(25) Kahilainen, K.K., Siwertsson, A., Gjelland, K.Ø., Knudsen, R., **Bøhn, T.**, Amundsen, P.-A. 2010. The role of gill raker number variability in adaptive radiation of coregonid fish. *Evolutionary Ecology* DOI 10.1007/s10682-010-9411-4.

- (24) **Bøhn, T.**, Traavik, T. and Primicerio, R. 2010. Demographic responses of *Daphnia magna* fed transgenic *Bt*-maize. *Ecotoxicology* **19**: 419-430. DOI 10.1007/s10646-009-0427-x. (Open Access).
- (23) Johnsen, P.J., Townsend, J.P., **Bøhn, T.**, Simonsen, G.S., Sundsfjord, A., Nielsen, K.M. 2009. Factors affecting the reversal of antimicrobial drug resistance. *Lancet Infectious Diseases* **9**: 357-364.
- (22) Gjelland, K.Ø., **Bøhn, T.**, Horne, J.K., Jensvoll, I., Knudsen, F.R. & Amundsen, P.-A. 2009. Planktivore vertical migration and shoaling under a subarctic light regime. *Canadian Journal of Fisheries and Aquatic Sciences* **66**: 525-539. DOI: 10.1139/F09-014.
- (21) Amundsen, P.-A., Siwertsson, A., Primicerio, R. & **Bøhn, T.** 2009. Long-term responses of zooplankton to invasion by a planktivorous fish in a subarctic watercourse. *Freshwater Biology* **54**: 24-34.
- (20) Jensen, H., Kahilainen, K., Amundsen, P.-A., Gjelland, K.Ø., Toumaala, A., Malinen, T. & **Bøhn, T.** 2008. Predation by brown trout (*Salmo trutta*) along a diversifying prey community gradient. *Canadian Journal of Fish and Aquatic Sciences* **65**: 1831-1841. DOI: 10.1139/F08-096
- (19) **Bøhn, T.**, Primicerio, R., Hessen, D.O. and Traavik, T. 2008. Reduced fitness of *Daphnia magna* fed a *Bt*-transgenic maize variety. *Archives of Environmental Toxicology and Chemistry*. **55**. 584-592.: DOI 10.1007/s00244-008-9150-5. (Recommended by Faculty of 1000 Expert guide to the most important advances in biology as New Finding - <http://f1000biology.com>)
- (18) **Bøhn, T.**, Amundsen, P.-A. & Sparrow, A. 2008. Competitive exclusion after invasion? *Biological Invasions* **10**: 359-368. DOI: 10.1007/s10530-007-9135-8.
- (17) Salonen, E., Amundsen, P.-A. & **Bøhn, T.** 2007. Boom and bust development by invading vendace *Coregonus albula* in the subarctic Inari-Pasvik watershed (Finland, Norway and Russia). *Arch. Hydrobiol. Spec. Issues Advanc. Limnol.* **60**: 331-342.
- (16) Gjelland, K.Ø., **Bøhn, T.** and Amundsen, P.-A. 2007. Is coexistence mediated by microhabitat segregation? An in-depth exploration of a fish invasion. *Journal of Fish Biology* **71**: (Supplement D), 196-209. DOI: 10.1111/j.1095-8649.2007.01678.x
- (15) Jensen, H., Amundsen, P.-A., Elliott, J.M., **Bøhn, T.** & Aspholm, P.E. 2006. Prey consumption rates and growth of piscivorous brown trout in a subarctic watercourse. *Journal of Fish Biology* **68**: 838-848.
- (14) Falk-Petersen, J., **Bøhn, T.** & Sandlund, O.T. 2006. On the numerous concepts in invasion biology. *Biological Invasion* **00**: 1-16.

- (13) Pettersen, A.K., **Bøhn, T.**, Primicerio, R., Shorten, P., Soboleva, T. & Nielsen, K.M. 2005. Modeling suggests frequency estimates are not informative for predicting the long-term effect of horizontal gene transfer in bacteria. *Environmental Biosafety Research* **4**: 223-233.
- (12) **Bøhn, T.** & Amundsen, P.-A. 2004. Ecological interactions and evolution – forgotten parts of biodiversity? Viewpoint *Bioscience* **54** (9): 804-805. (Recommended by Faculty of 1000 Expert guide to the most important advances in biology as a Must Read - <http://f1000biology.com>)
- (11) **Bøhn, T.**, Sandlund, O.T., Amundsen, P.-A. & Primicerio, R. 2004. Rapidly changing life history during a fish invasion. *Oikos* **106**: 138-150 .
- (10) Jensen, H., **Bøhn, T.**, Amundsen, P.-A. & Aspholm, P.E. 2004. Diet and predator-prey relationship of piscivorous brown trout (*Salmo trutta* L.) in a subarctic watercourse. *Annales Zoologici Fennici* **41**: 319-328.
- (9) Gjelland, K.Ø., **Bøhn, T.**, Knudsen, F.R. & Amundsen, P.-A. 2004. Influence of light on the swimming speed of coregonids in subarctic lakes. *Annales Zoologici Fennici* **41**: 137-146.
- (8) Amundsen, P.-A., **Bøhn, T.** & Våga, G. 2004. Gill raker morphology and feeding ecology of two sympatric whitefish (*Coregonus lavaretus*) morphs. *Annales Zoologici Fennici*. **41**: 291-300.
- (7) **Bøhn, T.** & Amundsen, P.-A. 2004. Invasion-mediated life history changes in a dimorph whitefish *Coregonus lavaretus* population. *Annales Zoologici Fennici* **41**: 125-136.
- (6) Amundsen, P.-A., **Bøhn, T.**, Popova, O.A., Staldvik, F. J., Reshetnikov, Y. S., Kashulin, N., Lukin, A. 2003. Ontogenetic niche shifts and resource partitioning in a subarctic piscivore fish guild. *Hydrobiologia* **497**: 109-119.
- (5) **Bøhn, T.**, Amundsen, P.-A., Popova, O., Reshetnikov, Y.S. & Staldvik, F.J. 2002. Predator avoidance of coregonids: Habitat choice explained by size-related prey vulnerability? *Arch. Hydrobiol. Spec. Issues Advanc. Limnol. Ergebnisse der Limnologie* **57**:183-197.
- (4) **Bøhn, T.** 2002. Following a fish invasion – ecological interactions transforming a native ecosystem. Dr. scient. thesis in ecology/freshwater biology, University of Tromsø. 111 p.
- (3) **Bøhn, T.** & Amundsen, P.-A. 2001. The competitive edge of an invading specialist. *Ecology* **82** (8): 2150-2163
- (2) Amundsen, P.-A., Staldvik, F. J., Reshetnikov, Y. S., Kashulin, N., Lukin, A., **Bøhn, T.**, Sandlund, O. T. & Popova, O. A. 1999. Invasion of vendace *Coregonus albula* in a subarctic watercourse. *Biological Conservation* **88**, 405-413.

(1) **Bøhn, T.** & Amundsen, P.-A. 1998. Effects of invading vendace (*Coregonus albula* L.) on species composition and body size in two zooplankton communities of the Pasvik River System, northern Norway. *Journal of Plankton Research* **20**: 243-256

Books and Book Chapters:

Lövei, G.L., **Bøhn, T.** and Hilbeck, A. 2010. Biodiversity, ecosystem services and genetically modified organisms. TWN Biotechnology & Biosafety Series 10. Third World Network, Penang, Malaysia. ISBN: 978-967-5412-13-4.

Bøhn, T. 2007. Invasion of exotic species. P. 189-204 In: Traavik, T. and Lim, L.C. (eds.) Biosafety First: Holistic Approaches to Risk and Uncertainty in Genetic Engineering and Genetically Modified Organisms. Tapir Academic Press, Trondheim.

Lövei, G., **Bøhn, T.** & Hilbeck, A. 2007. Biodiversity, ecosystem services and genetically modified organisms. P. 169-188 In: Traavik, T. and Lim, L.C. (eds.) Biosafety First: Holistic Approaches to Risk and Uncertainty in Genetic Engineering and Genetically Modified Organisms. Tapir Academic Press, Trondheim.

Traavik, T. & **Bøhn, T.** 2007. Life on Earth. P. 25-40 In: Traavik, T. and Lim, L.C. (eds.) Biosafety First: Holistic Approaches to Risk and Uncertainty in Genetic Engineering and Genetically Modified Organisms. Tapir Academic Press, Trondheim.

Other publications (1995-):

Kristiansen, G. & Bøhn, T. 1995. Fugleregistreringer i Ofoten. Report, 15 p. (in norwegian).

Bøhn, T., Kristiansen, G. & Andersen, J. 1996. Tamokelva - naturperle eller jordbruksproblem? En naturmessig konsekvensutredning. 29 p. (in norwegian).

Bøhn, T. og Kristiansen, G. 1997. Fugleregistreringer i Ofoten - en oppfølging. Report, 21 p. (in norwegian).

Bøhn, T. 1996. Næringsinteraksjoner mellom planktonsik (*Coregonus lavaretus*) og nyinnvandret lagesild (*Coregonus albula*) i Pasvikvassdraget. Cand. scient. thesis, Norwegian College of Fishery Science, University of Tromsø, 61p. (in norwegian).

Bøhn, T., Amundsen, P.-A. & Staldvik, F. 1996. Invasjon av lagesild i Pasvikvassdraget -status og konsekvenser pr. 1995. Norges Fiskerihøgskole, Universitetet i Tromsø. Report, 42 p. (in norwegian)

Bøhn, T. & Amundsen, P.-A. 1998. Invasjon av lagesild i Pasvikvassdraget - oppfølgende studier 1997. Norges fiskerihøgskole, Universitetet i Tromsø. Report, 29 p. (in norwegian)

Jensen, H., Amundsen, P.-A., Bøhn, T. & Aspholm, P. E. 2000. Storørreten i Pasvik - utsettinger viktige for bestanden? Norges fiskerihøgskole, Universitetet i Tromsø. Report, 16 p. (in norwegian)

Bøhn, T. 2000. Er biologiske introduksjoner katastrofer? www.viten.com (in norwegian)

Bøhn, T., Jensen, H., Amundsen, P.-A. & Aspholm, P. E. 2001. Pasvikvassdraget i endring - utfordrende forvaltning i møtet mellom innvandrende lagesild og utsatt ørret. Norges fiskerihøgskole, Universitetet i Tromsø. Report, 39 p. (in norwegian)

Gjelland, K.Ø., Balk, H. & Bøhn, T. 2002. Laksetelling i Reisaelva med ekkolodd sommeren 2002 - et prøveprosjekt, Norges fiskerihøgskole, Universitetet i Tromsø. Report, 6 p.

Bøhn, T. & Johansen, M. 2003. Laks med livets rett i Pasvik? Norges fiskerihøgskole, Universitetet i Tromsø. Report, 17 p. (in norwegian).

Kashulin, N.A., Amundsen, P.-A., Bøhn, T., Dalsbø, L., Korolova, I.M., Kudrevtcheva, L.P., Sandimirov, S.S. & Terentev, P.M. 2003. Environmental monitoring in the Pasvik watercourse. Norwegian College of Fishery Science, University of Tromsø. Report, 23 p.

Amundsen, P.-A. & Bøhn, T. 2003. Fisk i Pasvik – og lagesildas innvandring. Norges fiskerihøgskole, Universitetet i Tromsø. Report, 30 p. (in norwegian).

Amundsen, P.-A., Kashulin, N.A., Gjelland, K.Ø., Sandimirov, S.S., Jensen, H., Shirokov, V.A., Kudrevtcheva, L.P., Bøhn, T. & Aspholm, P.E. 2004. Brown trout in the Pasvik watercourse: population status and potentials and limitations for recruitment, production and management. Norwegian College of Fishery Science, University of Tromsø & Institute of North Industrial Ecology Problems, Kola Science Centre. Report, 41 p.

Amundsen, P.-A., Kashulin, N.A., Gjelland, K.Ø., Sandimirov, S.S., Jensen, H., Shirokov, V.A., Kudrevtcheva, L.P., Bøhn, T. & Aspholm, P.E. 2004. Ørreten i Pasvikvassdraget: Populasjonsstatus samt muligheter og begrensninger for rekruttering, produksjon og forvaltning. Norges fiskerihøgskole, Universitetet i Tromsø. Report, 39 p. (in norwegian).

Heinemann, J.A., Beltran, C.R., Goven, J., Moore, B., Turner, L., Bøhn, T., Gerrard, J.A., Cretenet, M., Traavik, T. 2005. Submission of Application A549 food derived from high lysine corn LY038: to permit the use in food of high lysine corn. Report submitted to Food Standards Australia/New Zealand (FSANZ) by the New Zealand Institute of Gene Ecology, p. 1-68.

Tråvik, T. & Bøhn, T. 2005. Genenes detronisering – ouverturen til noe nytt?. *Cogito* 10: 5-12. (In norwegian).

Tråvik, T. & Bøhn, T. 2005. Genenes detronisering – ouverturen til noe nytt?. Forord til bok: Trond Skaffnesmo: *Gentroens fall*, Antropos Forlag. (In norwegian).

Bøhn, T. & Tråvik, T. 2006. Høyt spill med genmodifisering. *Kronikk Dagbladet* (31.mars). (In norwegian).

Noer Lie, S.A., Bøhn, T. & Tråvik, T. 2006. Er genetikk en teknologi? Om genteknologiens kunnskapsgrunnlag. Kronikk *Dagbladet* (10. Juli). (In norwegian).

Bøhn, T. 2007. Klimaendringene får fuglene til å misforstå våren. Kronikk *Nordlys* (26. sept.) (In norwegian).

Quist, D. & Bøhn, T. 2009. Lukk øynene og gap opp. Kronikk *Nordlys* (6. jan.) (In norwegian).

Bøhn, T. & Quist, D. 2009. Historisk avgjørelse om GM mais. Debatt. *Nordlys* (17. jan.) (In norwegian).

Bøhn, T. et al. 2009. Monitoring GMOs in Norway. GenØk Report. 23 pages.

Education

- 1996 Cand. scient. (Master) degree in freshwater ecology, including studies in philosophy, mathematics, statistics and chemistry, University of Oslo and Tromsø.
- 2002 Dr. scient (Ph.D) in invasion biology / freshwater biology, University of Tromsø.

Teaching and supervision

- At the University of Tromsø lecturing and leading seminars/fieldcourses in Zoology (BIO-102 and BIO-224), Aquatic Biodiversity (BIO-115), Freshwater Biology (BIO-221) for about 10 years.
- Main responsibility for the course Ecological Interactions (BIO-308) in 2000.
- 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011: Main responsibility for Ecology part of "Biosafety capacity building course" by UNEP (United Nations Environmental Program), GenØk – Centre for Biosafety, Third World Network, Centre for Integrated Research in Biosafety, New Zealand, in Tromsø, with talks on invasion biology/ biodiversity/ ecosystems/ food-webs/mathematical modelling.
- 2008 Lecturing at Biol-434 Molecular Biology for Biosecurity, University of Canterbury, Christchurch, New Zealand with Professor Jack Heinemann.
- Supervisor/co-supervisor for five master students and four PhD-students (two ongoing).

International symposiums, workshops and courses

- 1999 Participation at the "VII International Symposium on the Biology and Management of Coregonid Fishes", Ann Arbor, Michigan, USA, with talk: "Predator avoidance of Coregonids: Habitat choice explained by size-related prey vulnerability?".
- 2002 Participation at the "VIII International Symposium on the Biology and Management of Coregonid Fishes", Rovaniemi, Finland with talk: "Competition mediated life-history changes in a dimorph whitefish *Coregonus lavaretus* population"; and poster: "Following a fish invasion online – ecological interactions transforming a native ecosystem."
- 2003 Participation at workshop by Institute of Marine Research, Tromsø: "General knowledge on alien species –an applicable basis in managing the introduced species. Red King Crab in the Barents Sea" with talk: "'Online' recording of ecosystem effects after a fish invasion in the Pasvik watercourse, northern Norway".

- 2003 Resource person and lecturer on “Biosafety capacity building course” by UNEP (United Nations Environmental Program) Norwegian Institute of Gene Ecology, Third World Network, New Zealand Institute of Gene Ecology, in Tromsø.
- 2004 Resource person and lecturer on “Biosafety capacity building course” by UNEP (United Nations Environmental Program) Norwegian Institute of Gene Ecology, Third World Network, New Zealand Institute of Gene Ecology, in Tromsø.
- 2005 Resource person and lecturer on “Biosafety capacity building course” by UNEP (United Nations Environmental Program) Norwegian Institute of Gene Ecology, Third World Network, New Zealand Institute of Gene Ecology, in Tromsø.
- 2005 Participation at Conference, Biotechnology Havana, Cuba, November 27 – December 2. Talk: “Fitness of transgenic fish in the wild – and an Invasion Biology perspective on Biodiversity”.
- 2006 Resource person and lecturer on “Biosafety capacity building course” by UNEP (United Nations Environmental Program) Norwegian Institute of Gene Ecology, Third World Network, New Zealand Institute of Gene Ecology, in Tromsø.
- 2007 Participation at “Evolutionary change in human altered ecosystems” in Los Angeles, US, Feb. 8-10 with poster: “The role of genetically engineered traits in future evolution” by Thomas Bøhn and Raul Primicerio.
- 2007 Resource person and lecturer on “Biosafety capacity building course” by UNEP (United Nations Environmental Program) Norwegian Institute of Gene Ecology, Third World Network, New Zealand Institute of Gene Ecology, in Tromsø.
- 2007 Workshop on Ecological Modeling in Suffolk, UK, 12-16. Aug. Organized by John Pope.
- 2008 Symposium in Winnipeg, Canada with poster: “Prey selection by brown trout (*Salmo trutta*) along a diversifying coregonid gradient” by Jensen, H., Kahilainen, K.K., Amundsen, P-A., Gjelland, K.Ø., Tuomaala, A., Malinen, T. and Bøhn, T.
- 2009 Symposium: International Conference Evolutionary Ecology of Fishes in Berlin with poster: **Significance of gill rakers in *Coregonus* radiation** by Kahilainen, K.K., Siwertsson, A., Gjelland, K.Ø., Knudsen, R., Bøhn, T., & Amundsen, P-A.

Referee for the following journals

Ecology, Ecography, Environmental Science and Technology, Hydrobiologia, Journal of Animal Ecology, Oikos, Archive für Hydrobiologie, Annales Zoologici Fennici

Scientific co-operation and network

- Terje Tråvik, prof., Norwegian Institute of Gene Ecology / Univ. of Tromsø
- Kaare Nielsen, prof., University of Tromsø
- Pål Johnsen, ass. Prof., University of Tromsø
- Raul Primicerio, ass. Prof., University of Tromsø
- Dag Coucheron, ass. Prof., University of Tromsø
- Steinar Johansen, Prof., University of Tromsø
- Jeff Townsend, ass. Prof., Yale University, New Haven, USA
- Per-Arne Amundsen, prof., University of Tromsø
- Roy Dalmo, dr., University of Tromsø
- Rolf Anker Ims, prof. University of Tromsø
- Nigel Yoccoz, prof. University of Tromsø

- Odd Terje Sandlund, dr., NINA, Trondheim.
- Dag Hessen, prof., University of Oslo
- Yuri Reshetnikov, prof., Russian Academy of Science, Moscow
- Olga Popova, prof., Russian Academy of Science, Moscow
- Nikolay Kashulin, dr., Kola Science Center, Apatity
- Anatoly Lukin, dr., Karelian Science Centre, Russian Academy of Science, Petrozavodsk
- Ashley Sparrow, Ass. Prof., University of Reno, USA
- Jack Heinemann, Prof., University of Canterbury, New Zealand
- Angelika Hilbeck, dr., Swiss Federal Institute of Technology, Geobotanical Institute, Zurich, Switzerland.
- Gabor Lövei, Senior Scientist, Danish Institute of Agricultural Sciences, Flakkebjerg, Denmark.

External grants

- 1998-2002 PhD individual research grant from the Norwegian Research Council (Program on Biodiversity)
- 2003-2007 Post doc individual research grant from the Norwegian Research Council (Program on Biodiversity)
- 2008-2012 Research grant (two positions) from the Norwegian Research Council (Miljø2015)

Positions held

- 1998-2002 Ph.D. at Norwegian College of Fishery Sciences, University of Tromsø
- 1999-2000 Member of the board, Norwegian College of Fishery Sciences.
- 2002-2009 Senior researcher: Leader of Section for Ecology and Ecosystem modeling, GenØk – Centre for Biosafety, Norway.
- 2004-2005. Visiting Professor (6 months), University of Canterbury, Christchurch, New Zealand.
- 2008-2010 Member of the Norwegian Scientific Committee for Food Safety
- 2009-2010 Leader Department of Biology, GenØk (25-30 researchers).
- 2011- Scientific Director, GenØk – Centre for Biosafety, Tromsø, Norway
- 2011- Professor of Gene Ecology, University of Tromsø, Norway