



Publications

Stress responses upon starvation and exposure to bacteria in the ant *Formica exsecta*

Stucki, D., Freitak, D., Bos, N. & Sundstrom, L., 18 Feb 2019, In: PeerJ. 7, 17 p., 6428.

The role of Vitellogenin in the transfer of immune elicitors from gut to hypopharyngeal glands in honey bees (*Apis mellifera*)

Harwood, G., Amdam, G. & Freitak, D., Jan 2019, In: Journal of Insect Physiology. 112, p. 90-100 11 p.

Comparison of twelve ant species and their susceptibility to fungal infection

Bos, N., Kankaanpää-Kukkonen, V., Freitak, D., Stucki, D. & Sundström, L., 2019, In: Insects. 10, 9, 10/271.

Induced immune responses in *Formica fusca* (Hymenoptera: Formicidae)

Fuchs, S-A., Sundström, L., Bos, N., Stucki, D. & Freitak, D., 10 Dec 2018, In: Myrmecological news. 28, p. 53-66 14 p.

Ecological conditions alter cooperative behaviour and its costs in a chemically defended sawfly

Lindstedt, C., Miettinen, A., Freitak, D., Ketola, T., Lopez-Sepulcre, A., Mäntylä, E. & Pakkanen, H., 15 Aug 2018, In: Proceedings of the Royal Society B. Biological Sciences. 285, 1884, 10 p., 20180466.

Increased survival of honeybees in the laboratory after simultaneous exposure to low doses of pesticides and bacteria

Dickel, F., Munch, D., Amdam, G. V., Mappes, J. & Freitak, D., 31 Jan 2018, In: PLoS One. 13, 1, 18 p., 0191256.

Deconstructing Superorganisms and Societies to Address Big Questions in Biology

Kennedy, P., Baron, G., Qiu, B., Freitak, D., Helanterä, H., Hunt, E. R., Manfredini, F., O'Shea-Wheller, T., Patalano, S., Pull, C. D., Sasaki, T., Taylor, D., Wyatt, C. D. R. & Sumner, S., Nov 2017, In: Trends in Ecology & Evolution. 32, 11, p. 861-872 12 p.

Caste-specific expression of constitutive and *Beauveria bassiana* induced immunity in the ant *Formica exsecta* (Hymenoptera: Formicidae)

Stucki, D., Sundstrom, L. & Freitak, D., Oct 2017, In: Myrmecological news. 25, p. 83-93 11 p.

Survival and gene expression under different temperature and humidity regimes in ants

Stucki, D., Freitak, D. & Sundstrom, L., 31 Jul 2017, In: PLoS One. 12, 7, 15 p., 0181137.

Sources of variance in immunological traits: evidence of congruent latitudinal trends across species

Meister, H., Tammaru, T., Sandre, S-L. & Freitak, D., 15 Jul 2017, In: Journal of Experimental Biology. 220, 14, p. 2606-2615 10 p.

Lepidopteran species have a variety of defence strategies against bacterial infections

Mikonranta, L., Dickel, F., Mappes, J. & Freitak, D., Mar 2017, In: Journal of Invertebrate Pathology. 144, p. 88-96 9 p.

Long-Term Prophylactic Antibiotic Treatment: Effects on Survival, Immunocompetence and Reproduction Success of *Parasemia plantaginis* (Lepidoptera: Erebidae)

Dickel, F., Freitak, D. & Mappes, J., 7 Jun 2016, In: Journal of Insect Science. 16, 1, 7 p., 46.

Starvation resistance and tissue-specific gene expression of stress-related genes in a naturally inbred ant population
Bos, N., Pulliainen, U., Sundström, L. & Freitak, D., Apr 2016, In: Royal Society Open Science. 3, 4, 9 p., 160062.

Ancient Duplications Have Led to Functional Divergence of Vitellogenin-Like Genes Potentially Involved in Inflammation and Oxidative Stress in Honey Bees

Salmela, H., Stark, T., Stucki, D., Fuchs, S., Freitak, D., Dey, A., Kent, C. F., Zayed, A., Dhaygude, K., Hokkanen, H. & Sundstrom, L., Mar 2016, In: Genome Biology and Evolution. 8, 3, p. 495-506 12 p.

Transfer of Immunity from Mother to Offspring Is Mediated via Egg-Yolk Protein Vitellogenin

Salmela, H., Amdam, G. V. & Freitak, D., Jul 2015, In: PLoS Pathogens. 11, 7, 12 p., 1005015.

Ants medicate to fight disease

Bos, N. P. M., Sundström, L., Fuchs, S-A. & Freitak, D., 2015, In: Evolution. 69, 11, p. 2979-2984 6 p.

Insect immunity: oral exposure to a bacterial pathogen elicits free radical response and protects from a recurring infection
Mikonranta, L., Mappes, J., Kaukoniitty, M. & Freitak, D., 7 Mar 2014, In: Frontiers in Zoology. 11, 7 p., 23.

Inbreeding-related trade-offs in stress resistance in the ant *Formica exsecta*

Freitak, D., Bos, N., Stucki, D. & Sundström, L., 2014, In: Biology Letters. 10, 11, 4 p., 20140805.

The maternal transfer of bacteria can mediate trans-generational immune priming in insects

Freitak, D., Dickel, F., Schmidtberg, H. & Vilcinskis, A., 2014, In: Virulence.

Gender- and stressor-specific microRNA expression in *Tribolium castaneum*

Freitak, D., Knorr, E., Vogel, H. & Vilcinskis, A., 23 Oct 2012, In: Biology Letters. 8, 5, p. 860-863 4 p.

Complexity and Variability of Gut Commensal Microbiota in Polyphagous Lepidopteran Larvae

Tang, X., Freitak, D., Vogel, H., Ping, L., Shao, Y., Cordero, E. A., Andersen, G., Westermann, M., Heckel, D. G. & Boland, W., 17 Jul 2012, In: PLoS One. 7, 7, p. e36978 9 p.

Phylogenetic relatedness and host plant growth form influence gene expression of the polyphagous comma butterfly (*Polygonia c-album*)

Heidel-Fischer, H. M., Freitak, D., Janz, N., Soderlind, L., Vogel, H. & Nylin, S., 31 Oct 2009, In: BMC Genomics. 10, 9 p.

The phytohormone precursor OPDA is isomerized in the insect gut by a single, specific glutathione transferase

Dabrowska, P., Freitak, D., Vogel, H., Heckel, D. G. & Boland, W., 22 Sep 2009, In: Proceedings of the National Academy of Sciences of the United States of America. 106, 38, p. 16304-16309 6 p.

Dietary-dependent trans-generational immune priming in an insect herbivore

Freitak, D., Heckel, D. G. & Vogel, H., 22 Jul 2009, In: Proceedings of the Royal Society B. Biological Sciences. 276, 1667, p. 2617-2624 8 p.

Bacterial feeding induces changes in immune-related gene expression and has trans-generational impacts in the cabbage looper (*Trichoplusia ni*)

Freitak, D., Heckel, D. G. & Vogel, H., 7 May 2009, In: Frontiers in Zoology. 6, 11 p.

GLUCANASE ACTIVITY IN A GLUCAN-BINDING PROTEIN FAMILY FROM LEPIDOPTERA

Pauchet, Y., Freitak, D., Heidel-Fischer, H. M., Heckel, D. G. & Vogel, H., 23 Jan 2009, In: Journal of Biological Chemistry. 284, 4, p. 2214-2224 11 p.

The effect of microorganisms in the food on the growth rate and immune system of cabbage looper (*Trichoplusia ni*)

Freitak, D., Heckel, D. & Vogel, H., 4 May 2007, In: Journal of Insect Science. 7, 2 p.

Projects

PrimeBEE - first ever insect vaccine

Dalial Freitak, D.

01/07/2017 → 31/12/2018

The Centre of Excellence in Biological Interactions (BIOINT)

Sundström, L., Kokko, H., Bos, N., Freitak, D., Salmela, H., Helanterä, H., Johansson, H., Laakso, J., Seppä, P., Lindström, S., Morandin, C., Paviola, J., Pekkonen, M., Pulliainen, U., Ozan, M., Schultner, E., Stucki, D., Wolf, J., Galarza, J., Kulmuni, J., Hakala, S. M. & Dhaygude, K.

01/01/2012 → 31/12/2017

Activities

Nordic Baltic Beekeepers Council Meeting

Dalial Freitak (Attendee)

25 Jan 2018 → 26 Jan 2018

Arizona State University

Dalial Freitak (Visiting researcher)

15 Nov 2017 → 16 Dec 2017

2015 Winter Meeting of the International Union for the Study of Social Insects (NW European Section)

Dalial Freitak (Attendee)

17 Dec 2015 → 18 Dec 2015

Social Insect Research Group Seminar

Dalial Freitak (Speaker: Presenter)

20 Nov 2015

Arizona State University

Dalial Freitak (Visiting researcher)

12 Nov 2015 → 9 Dec 2015

Toomas Esperk

Dalial Freitak (Host)

21 Oct 2015

Minisymposium on Ecology and Genomics of Insects

Dalial Freitak (Speaker: Presenter)

10 Sep 2015

15th Congress of the European Society for Evolutionary Biology

Dalial Freitak (Poster Presentation)

10 Aug 2015 → 15 Aug 2015

Patent application

Dalial Freitak (Participant)

26 Jun 2015

Norwegian University of Life Sciences

Dalial Freitak (Visiting researcher)

18 Jun 2015 → 20 Jun 2015

Graduate seminar on Insect Evolutionary Ecology

Dalial Freitak (Speaker: Presenter)

18 May 2015

Nordic Oikos Meeting

Dalial Freitak (Attendee)

9 Feb 2015 → 11 Feb 2015

BMC Veterinary Research (Journal)

Dalial Freitak (Reviewer)

2015 → 2016

Immunology of Formica fusca

Dalial Freitak (Co-supervisor)

2015 → 2017

9th International Workshop on the Molecular Biology and Genetics of the Lepidoptera

Dalial Freitak (Speaker: Presenter)

17 Aug 2014 → 23 Aug 2014

Advisor

Dalial Freitak (Member of thesis committee / follow-up group)

2014 → 2018

Ecological Entomology (Journal)

Dalial Freitak (Reviewer)

2014 → 2016

Functional Ecology (Journal)

Dalial Freitak (Reviewer)

2014 → 2016

Journal of Animal Ecology (Journal)

Dalial Freitak (Reviewer)

2014 → 2016

PLoS One (Journal)

Dalial Freitak (Reviewer)

2014 → 2016

Oecologia (Journal)

Dalial Freitak (Reviewer)

17 Dec 2013

IUSSI Winter Meeting

Dalial Freitak (Attendee)

16 Dec 2013 → 17 Dec 2013

Congress of the European Society for Evolutionary Biology

Dalial Freitak (Poster Presentation)

19 Aug 2013 → 24 Aug 2013

Advisor

Dalial Freitak (Member of thesis committee / follow-up group)
2013 → 2017

Immunology of *Parasemia plantaginis*

Dalial Freitak (Co-supervisor)
2013 → 2017

5th MEETING OF THE EUROPEAN SECTIONS OF THE IUSSI

Dalial Freitak (Attendee)
26 Aug 2012 → 30 Aug 2012

ISBE

Dalial Freitak (Attendee)
12 Aug 2012 → 17 Aug 2012

Biology Letters (Journal)

Dalial Freitak (Reviewer)
15 Jun 2012

Immunology of *Formica exsecta*

Dalial Freitak (Co-supervisor)
2012 → 2016

Current zoology (Journal)

Dalial Freitak (Reviewer)
1800 → 2016