

CV incl. List of publications for Christer Björkman

Current position

Professor in Forest entomology at the Department of Ecology, Swedish University of Agricultural Sciences, Uppsala, Sweden.

Born in Köping, Västmanlands län, Sweden, 7 December, 1959.

Married with three **children** (f 90, f 94, f 00).

Degrees

BSc in Biology 1984.

PhD in Forest Entomology 1991. Title: Interactions between a pine sawfly, its host and natural enemies as mediated by plant chemicals. Supervisor: prof. Stig Larsson, SLU, Uppsala.

Associate professor (docent) in Forest Entomology 1998.

Professor in Entomology (spec. Ecology) 2008.

Postdoctoral training

Six months (October 1994 - March 1995) at the Department of Entomology, University of Maryland, College Park, MD, USA in prof. Robert F. Denno's lab.

Visiting scientist

One month at the Department of Entomology, University of Maryland, College Park, MD, USA.

Sabbatical

UC Irvinve, CA, USA at Dr. Kailen Mooney's lab, end of January – early March 2019.

Post docs and visiting scientists in our lab

Post docs: Gaétan Moraeu 2006, Enric Vila 2006-2007, Anna Lehrman 2008-2010, Johan Stenberg 2008-2010, Maartje Klapwijk 2009-2012, Mikaela Torp 2010-2012, Tea Ammunét 2011-2013, Adriana Puentes 2014-2016. Of which two have received the Royal Award for young scientists in Environmental Sciences.

Visiting scientists: Colin Orians 2008-2009. Matthew P. Ayres (August T. Larsson funding) 2013-2014.

PhD students (with me as main supervisor)

Peter Dalin, Freddy Miranda, Ida Kollberg, Anna-Sara Liman, Jörg Stephan, Davide Bellone, Michelle Nordkvist, Yayuan Chen and Kristina Berggren.

Teaching and education

Graduate level

Main supervisor to five and assistant supervisor to three PhD students at the Swedish University of Agricultural Sciences, Uppsala, Sweden. Assistant supervisor to one PhD student at Lund University.

Teaching at a course on *Social Insects* (1997 and 1998).

Teaching at a course in *Writing Scientific Research Articles* during several years (2009-2015).

Teaching at course on *Advances in Ecology* (2012-2015).

Organized and taught at a PhD-course in *Tropical Insect Ecology*, in Kenya January-February 1999.

Organized a PhD-course on *Upgrading Your Ecological Toolbox* with Rick Karban and Mikaela Huntzinger as teachers in April 2010.

Organized a PhD-course together with Mattias Jonsson on *Food-web Interactions and Stability* with Jason Tylianakis and Elisa Thébault as teachers in August 2011.

Organized a PhD-course on *Practicum in combining theories, models, and data in ecological research* with Matthew P. Ayres and Nina Laney as teachers in November 2013.

Organized a PhD-course on *Resilience and response of ecological systems to climatic variation* with Matthew P. Ayres and Lauren Culler as teachers in November 2014.

Undergraduate level

Supervised eleven Master student theses ("examensarbete") in Ecology/Entomology of which three have obtained Hampus von Posts award for best thesis that year.

Participated in the planning of and been a main teacher of a new course at the Swedish University of Agricultural Sciences in *Entomology*.

Participated in the planning of a new course at the Swedish University of Agricultural Sciences in *Applied Population Biology*.

Is responsible for the course *Ecological Methods* (D-level) at SLU, which I also organized the planning of. 2000-2011 (ongoing).

Teaching on population biology, plant/insect interactions, plant resistance, entomology etc. as part of various courses at the Swedish University of Agricultural Sciences and at Uppsala University, Uppsala, Sweden.

Organized and taught at a Masters-course in *Plant/Insect Interactions*, in Chile November-December 1999.

Other

Arranged a workshop on "What does it take to be scientist" at a conference about Quality in Higher Education arranged by The Swedish National Agency for Higher Education 13 May, 2009 in Stockholm, Sweden.

Own further education

Pedagogics for teaching – undergraduate level mainly (4 weeks)

Pedagogics for supervision – graduate level mainly (4 weeks)

Project leading course

Course in Leadership at SLU

Course in Grading

Information to the public

Informed about Insects, Ecology and Research at schools (ages 8-12) and at activities arranged for the public at several occasions (e.g. ‘Stadsskogens dag’), including a public seminar celebrating Darwin and Linneaus in Thunbergsalen, Uppsala University in 2009, interviewed by high school students at Rosendalsgymnasiet for a science assignment and gave feedback to their popular summary of a scientific paper 2018.

Attention in media etc.

New Scientist summarised one of our papers (Ecol Entom 1991) over half a page; New Sci. 2 Nov. 1991.

Swedish National Television has brought up my research in a Science program, including showing a picture of our study organisms.

My research has been referred to in Swedish newspapers (e.g. SvD, DN, Göteborgsposten, UNT), national and local, as well as in trade journals (e.g. SkogsEko and ATL).

Swedish National Science Radio and local radio stations have interviewed me regarding plant/insect-interactions, and insects and climate change.

One paper (J Ecol 2011) was “headline news” in the British Ecological Society’s BES e-Bulletin February 2011.

Swedish television (SVT) covered an insect outbreak on an island September 2012 with interview about the causes and consequences.

Awards

Encyclopedia of Insects (Academic Press), which I have contributed to, has been awarded Best Reference by the New York Public Library (2004), Outstanding Academic Title by CHOICE (2003), and AAP/PSP 2003 Best Single Volume Reference/Sciences by Association of American Publishers' Professional Scholarly Publishing Division.

Had the privilege of being Head of Department when the Department of Entomology was awarded “best Department for PhD students” at the Faculty of Natural Resources and Agricultural Sciences, SLU.

Nominated for the pedagogics prize for teachers at SLU 2007.

Received SLUs pedagogical prize as one of the teachers in the Department of Ecology’s team of teachers, Sept 2014.

Received price for best poster at the annual Oikos meeting in Umeå 2015 together with Davide Bellone and Maartje Klapwijk.

Symposia (organized and attended in selection) and seminars

Organized a workshop on *Plant-animal interactions in complex habitats: ecology and evolution*, 2-6 October 2001 together with Dr Peter Hambäck.

Organized the 13th *Symposium on Insect Plant relationships (SIP13)* together with Dr Stig Larsson and Dr Barbara Ekbom, July 29 – August 2, 2007.

Organized a workshop on *Invasive forest pests and pathogens*, 26-28 October, 2011, together with Jan Stenlid, Maartje Klapwijk, Jonas Oliva, Johanna Boberg, Anna Hopkins and Tea Ammunét.

Participated with papers and posters at several international and national symposia on ecology and/or entomology; the most recent as invited speaker are:

“Climate change and risk for insect outbreaks” at symposium on “Climate change – effects on natural resources and biodiversity” at Wik castle, Uppsala, Sweden, 2008.

“Outcome of enemy-enemy interactions: role of behaviour, life-history and scale” at International Congress of Entomology, Durban, South Africa, 2008.

“Conservation biological control via unharvested enemy refugia: coppicing willows, leaf beetles and predatory bugs” at International Congress of Entomology, Durban, South Africa, 2008.

Recent meetings: Talks at IUFRO conference in Italy 2010, Gordon conference in Galveston, TX, USA 2011, SIP14 conference in Wageningen, Holland, 2011 (incl. 2 posters), IBFRA 2013 in Edmonton, Canada.

Invited as Discussion leader at the GRC conference “Plant/Herbivore Interactions” in Ventura, CA, USA, February 2013.

Invited speaker at a bilateral workshop on *Climate change effects* in Brasilia, Brazil, arranged by VR and SCAPES, April 7-9, 2014.

Invited speaker – two talks – at the IUFRO world congress in Salt Lake city, Utah October 2014.

Organized a workshop together with Pekka Niemelä on *Climate Change and Insect Pests*, October 2014.

Invited as seminar speaker at

the Department of Conservation Biology, SLU, Uppsala, Sweden;

the Department of Zoological Ecology, Lund University, Sweden;

the Department of Entomology, University of Maryland, College Park, MD, USA;

the Department of Entomology, Michigan State University, East Lansing, MI, USA;

the Department of Agroecology, University of Goettingen, Germany;

the Department of Environmental Sciences, Osaka Women’s University, Japan;

the Population Ecology Group, University of New Brunswick, Fredericton, N.B., Canada;

the Swedish Forest Agency (Skogsstyrelsens) local office at Gotland, Sweden;

the Swedish Forest Agency (Skogsstyrelsen), Sweden.

Assignments and other activities

Acted as referee on research grant applications for The Swedish Research Council FORMAS (3 years in the Terrestrial Ecology group), The Research Council of Norway, The Israel Science Foundation (Israel), The Wellcome Trust (UK), Netherlands Organisation for Scientific Research and The Natural Environment Research Council (UK).

Acted as referee on manuscripts sent to journals such as *Ecology Letters*, *Ecology*, *Oecologia*, *Oikos*, *Scandinavian Journal of Forest Research*, *Ecological Entomology*, *Agricultural and Forest Entomology*, *Acta Oecologica*, *Canadian Journal of Forest Research*, *Silva Fennica*, *Forest Ecology and Management*, *Journal of Applied Ecology*, *Canadian Entomologist*, *Annals of Forest Science*, *Entomologia Experimentalis et Applicata*, *Basic and Applied Ecology*, *Journal of Animal Ecology*, *PLoS ONE*, *BMC Ecology*, *Planta*, *iForest* and *Forest Policy and Economics*.

Acted as Editor for Special Feature volumes in the journals *Oikos* and *Entomologia Experimentalis et Applicata*.

Acted as opponent (external examiner) at a doctorate-degree defence at the Population Ecology Group, Faculty of Forestry and Environmental Management, University of New Brunswick, Fredericton, N.B.

Acted as opponent at a licentiate-degree defence at the Department of Zoology, Stockholm University.

Acted as opponent at a half-time PhD evaluation the Department of Ecology, Environment and Plant Sciences, Stockholm University.

Acted as external examiner of a tenure promotion at the Department of Multidisciplinary Studies, York University, Canada.

External examiner of a tenure promotion at Eastern Finland University.

Been a member of the evaluation committee at nine doctorate-degree defences; Swedish University of Agricultural Sciences, Uppsala University, University of Turku, Finland and University of Lund.

Participated in an Environmental Impact Analysis (EIA) on the effects of large scale introduction of *Pinus contorta* to Sweden in March 1998.

Member of a national committee with the task to work on issues concerning "Climate and the Forest" organised by KSLA.

Director of PhD education at the Forestry faculty, Swedish University of Agricultural Sciences, Uppsala, Sweden, 1999-2003.

In charge of a committee with the mission to design the cover of PhD theses produced at SLU by direction of Rector.

Head of Department of Entomology 2004-2006.

Head of Department of Ecology 20070101-20070331.

Member of the board of the Faculty of Natural Resources and Agricultural Sciences 2007-2013.

Chairman of the Postgraduate committee at the Faculty of Natural Resources and Agricultural Sciences 2007 – 2013.

Deputy leader of the research group insect/plant-interactions at the Department of Ecology, SLU, October 2008 – 2013.

Deputy Head of Department of Ecology February 2010 – June 2010.

Member of steering committees: Uppsala Linnean Centre for Plant Biology; Research school in Ecology; AgResource; Plant Protection – Invasive Species; Future Foods platform; Strategic partnership between SLU and StoraEnso.

Chairman of the steering committee for the Research school in Ecology 2013-2017.

Member of the advisory board of CABI's InfoTree.

Member of the board of the Faculty of Forest Sciences, SLU 2014—(ongoing).

Pro-Dean at the Faculty of Forest Sciences, SLU 2016—(ongoing).

External evaluator for professorship in Forest entomology at LUKE, Finland, 2019.

Member of a national committee with the task to work on issues concerning "Forest pests and pathogens" organised by KSLA, 2019-2021.

Grant support (selection since 1998). Main applicant unless otherwise stated.

Wind – a neglected factor in plant/insect-interactions?
The Lamm foundation. 1998. 75 kSEK.

Insect outbreaks: role of plant and insect quality.
Carl Trygger foundation. 1999. 350 kSEK.

Diversity and stability (PhD position)
Forestry faculty. 1999-2004. 1,500 kSEK.

Ecological Methods (course planning)
International bureau. SLU. 2000-01. 190 kSEK.

Population biology of leaf beetles.
STEM. 2000-01. 1,215 kSEK.

Diversity and stability in energy forests: natural enemies
STEM. 2001-04. 1,148 kSEK.

Insect pests in willow plantations (information project)
SLU contact. 2001. 100 kSEK.

Induced hairiness in plants.
Carl Trygger foundation. 2001. 250 kSEK.

Population biology of leaf beetles.
STEM. 2002-05. 2,546 kSEK.

Ecological processes in biological control.
FORMAS. 2006-08. 1,674 kSEK.

High and sustainable biomass production of willows (co-applicant).
STEM, NL-fac. 2007-2010. approx 4,000 kSEK out of a total 34,373 kSEK.

Boreal forest ecosystem dynamics (co-applicant).
VR. 2008-10. 1,620 kSEK.

Biodiversity and climate change. A risk analysis. BACCARA (co-applicant).
EU. 2008-11. Approx. 110 k€ out of a total of 4,052 k€.

Future Forests (co-applicant).

Mistra et al. 2008-11. Approx. 1,600 kSEK out of total of 150,000 kSEK.

Forest insects and climate change.

FORMAS. 2008-11. 3,048 kSEK.

Enemy-enemy interactions and efficiency of biological control.

The Lamm foundation. 2009-12. 2,000 kSEK.

Causes and consequences of herbivore aggregation: insect outbreak risk in a climate change perspective.

STEM after recommendation by VR. 2011-13. 2,400 kSEK.

Molecular breeding of Salix - SAMBA2 (co-applicant).

STEM, NL-fac. 3,000 kSEK out of a total of 24,909 kSEK.

Importance of plant sex for ecosystem functions.

STEM after recommendation by VR. 2013-16. 3,400 kSEK.

Future Forests 2 (co-applicant).

Mistra et al. 2013-15. Approx. 1,600 kSEK out of total of ~100,000 kSEK.

Forest management to mitigate the risk of insect damage.

FORMAS. 2014-2016. 5,400 kSEK.

‘Stimulans-medel’ (co-applicant) – funding to stimulate research activities at the Department of Ecology bridging agricultural and forestry activities.

SLU, 2014-2018. 5,400 kSEK.

Variation in predation pressure in time and space. Developing a general method.

CBC, SLU, 2015. Pilot project. 190 kSEK.

Unifying research approaches in pest control and conservation biology

(co-applicant) Unifying Ecology 461 kSEK

Medför restaurering av frivilliga avsättningar, inriktat på att gynna den biologiska mångfalden, en ökad risk för skador av barkborrar och märgborrar? (co-applicant).

Kempestiftelsen, post doc project, 2016-2017, 700 kSEK.

Combined effects of moose browsing and insect herbivory on tree growth.

FORMAS. 2016-18. 5,100 kSEK.

CLINF: Climate-change effects on the epidemiology of infectious diseases and the impacts on Northern societies (co-applicant)

NordForsk; Nordic Centre of Excellence. 3 M€.

Managing insect damage on planted spruce and pine seedlings by exploiting variation in genetic resistance (PI after taking over project from N. Björklund)

FORMAS. 2016-2020. 7,650 kSEK.

EU Horizon 2020 (HOMED) Holistic Management of Emerging Forest Pests and Diseases. 2018-2022

List of Publications

Refereed journal articles

- Nilsson, S.G., Björkman, C., Forslund, P. & Höglund, J. 1985. Egg predation in forest bird communities on islands and mainland. *Oecologia*, 66: 511-515.
- Nilsson, S.G., Björkman, C., Forslund, P. & Höglund, J. 1985. Nesting holes and food supply in relation to forest bird densities on islands and mainland. *Oecologia*, 66: 516-521.
- Larsson, S., Björkman, C. & Gref, R. 1986. Responses of *Neodiprion sertifer* (Hym., Diprionidae) larvae to variation in needle resin acid concentration in Scots pine. *Oecologia*, 70: 77-84.
- Björkman, C. & Anderson, D.B. 1990. Trade-off among antiherbivore defences in a South American blackberry (*Rubus bogotensis*). *Oecologia* 85:247-249.
- Björkman, C., Larsson, S. & Gref, R. 1991. Effects of nitrogen fertilization on pine needle chemistry and sawfly performance. *Oecologia*, 86: 202-209.
- Björkman, C. & Larsson, S. 1991. Pine sawfly defence and variation in host plant resin acids: a trade-off with growth. *Ecological Entomology*, 16: 283-289.
- Larsson, S. & Björkman, C. 1993. Performance of chewing and phloem-feeding insects on stressed trees. *Scandinavian Journal of Forest Research*, 8: 550-559.
- Björkman, C. & Gref, R. 1993. Survival of pine sawflies in the cocoon stage in relation to the resin acid content of larval food. *Journal of Chemical Ecology*, 19:2881-2890.
- Björkman, C. 1997. A dome-shaped relationship between host plant allelochemical concentration and insect size. *Biochemical Systematics and Ecology*, 25: 521-526.
- Björkman, C., Larsson, S. & Bommarco, R. 1997. Oviposition preferences in pine sawflies: a trade-off between larval growth and defence against natural enemies. *Oikos*, 79:45-52.
- Björkman, C. 1998. Opposite, linear and non-linear effects of plant stress on a galling aphid. *Scandinavian Journal of Forest Research*, 13: 521-526.
- Björkman, C., Kytö, M., Larsson, S. & Niemelä, P. 1998. Different responses of two carbon-based defences in Scots pine needles to nitrogen fertilization. *EcoScience*, 5: 502-507.
- Björkman, C. 2000. Interactive effects of host resistance and drought stress on the performance of a gall-making aphid living on Norway spruce. *Oecologia*, 123: 223-231.
- Larsson, S., Ekbom, B. & Björkman, C. 2000. Influence of plant quality on pine sawfly population dynamics. *Oikos*, 89: 440-450.
- Björkman, C. Bengtsson, B. & Häggström, H. 2000. Localised outbreak in a willow leaf beetle: high plant vigour or low enemy impact? *Population Ecology*, 42: 91-96.
- Björkman, C., Höglund, S., Eklund, K. & Larsson, S. 2000. Effects of leaf beetle damage on stem wood production in coppicing willow. *Agricultural and Forest Entomology*, 2: 131-139.
- Lindelöw, Å. & Björkman, C. 2001. Insects on lodgepole pine in Sweden - current knowledge and potential risk. *Forest Ecology and Management*, 141: 107-116.
- Engelmark, O., Sjöberg, K., Andersson, B., Rosvall, O., Ågren, G.I., Baker, W.L., Barklund, P., Björkman, C., Despain, D.G., Elfving, B., Ennos, R.A., Karlman, M., Knecht, M.F., Knight, D.H., Ledgard, N.J., Lindelöw, Å., Nilsson, C., Peterken, G.F., Sörlin, S. &

- Sykes, M.T. 2001. Ecological effects and management aspects of an exotic tree species; the case of lodgepole pine in Sweden. *Forest Ecology and Management*, 141: 3-13.
- Hambäck, P. & Björkman, C. 2002. Estimating the consequences of apparent competition: a method for host-parasitoid interactions. *Ecology*, 83: 1591-1596.
- Dalin, P. & Björkman, C. 2003. Adult beetle grazing induces willow trichome defence against subsequent larval feeding. *Oecologia*, 134: 112-118.
- Björkman, C., Dalin, P. & Eklund, K. 2003. Generalist natural enemies of a willow leaf beetle (*Phratora vulgatissima*): abundance and feeding habits. *Journal of Insect Behaviour*, 16: 747-764.
- Dalin, P., Björkman, C. & Eklund, K. 2004. Leaf beetle grazing does not induce willow trichome defence in the coppicing willow *Salix viminalis*. *Agricultural and Forest Entomology*, 6: 1-5.
- Björkman, C., Bommarco, R., Eklund, K. & Höglund, S. 2004. Harvesting disrupts biological control of herbivores in a short-rotation coppice system. *Ecological Applications*, 14: 1624-1633.
- Björkman, C. & Liman, A.-S. 2005. Foraging behaviour influences the outcome of predator-predator interactions. *Ecological Entomology*, 30: 164-169.
- Björkman, C. & Ahrné, K. 2005. Influence of leaf trichome density on the efficiency of two polyphagous insect predators. *Entomologia Experimentalis et Applicata*, 115: 179-186.
- Dalin, P., Kindvall, O. & Björkman, C. 2006. Predator foraging strategy influences prey population dynamics: arthropods preying on a gregarious leaf beetle. *Animal Behaviour*, 72: 1025-1034.
- Björkman, C. & Eklund, K. 2006. Factors affecting willow leaf beetles (*Phratora vulgatissima*) when selecting overwintering sites. *Agricultural and Forest Entomology*, 8: 97-101.
- Fernandez, P.C., Meiners, T., Björkman, C. & Hilker, M. 2007. Electrophysiological responses of the blue willow leaf beetle, *Phratora vulgatissima*, to volatiles of different *Salix viminalis* genotypes. *Entomologia Experimentalis et Applicata*, 125: 157-164.
- Björkman, C., Dalin, P. & Ahrné, K. 2008. Leaf trichome responses to herbivory in willows: induction, relaxation and costs. *New Phytologist*, 179: 176-184.
- Weih, M., Didon, U.M.E., Rönnberg-Wästljung, A.-C. & Björkman, C. 2008. Integrated agricultural research and crop breeding: Allelopathic weed control in cereals and long-term productivity in perennial biomass crops. *Agricultural Systems*, 97: 99-107.
- Berggren, Å., Björkman, C., Bylund, H. & Ayres, M. 2009. The distribution and abundance of animal populations in a climate of uncertainty. *Oikos*, 118: 1121-1126.
- Dalin, P., Kindvall, O. & Björkman, C. 2009. Reduced population control of an insect pest in managed willow monocultures. *PLoS ONE*, 4: e5487.
- Orians, C.M. & Björkman, C. 2009. Associational resistance to a tropical leaf-miner: does neighbour identity matter? *Journal of Tropical Ecology*, 25: 551-554.
- Björkman, C., Maisonnasse, A. & Eklund, K. 2009. Biology and performance on different diets of an omnivorous insect predator, *Psallus haematodes* (Heteroptera: Miridae). *Entomologisk Tidskrift*, 130: 145-153.

- Stenberg, J.A., Lehrman, A. & Björkman, C. 2010. Uncoupling direct and indirect plant defences: Novel opportunities for improving crop security in willow plantations. *Agriculture, Ecosystems and Environment*, 139: 528-533.
- Björkman, C., Berggren, Å. & Bylund, H. 2011. Causes behind insect folivory patterns in latitudinal gradients. *Journal of Ecology*, 99: 367-369.
- Björkman, C., Kindvall, O., Höglund, S., Lilja, A., Barring, L. & Eklund, K. 2011. High temperature triggers latent variation among individuals: Oviposition rate and probability for outbreaks. *PLoS ONE*, 6: e16590.
- Miranda, F., Bylund, H., Grönberg, L., Larsson, L. & Björkman, C. 2011. Population density and killing capacity by predators of eggs and larvae of the diamondback moth in Nicaragua. *Environmental Entomology*, 40: 333-341.
- Björkman, C., Bylund, H., Klapwijk, M.J., Kollberg, I. & Schroeder, M. 2011. Insect pests in future forests: More severe problems? *Forests*, 4: 474-485.
- Stenberg, J.A., Lehrman, A. & Björkman, C. 2011. Host-plant genotype mediates supply and demand of animal food in an omnivorous insect. *Ecological Entomology*, 36: 442-449.
- Bognounou, F., Morton, R., Ayangma, S., Jonkers, L., Björkman, C., Bylund, H., Orians, C.M., Vega, A. & Odén, P.C. 2011. Stand structure of monocotyledons and dicotyledons in different successional stages in Corcovado national park, Costa Rica. *Bois et Forêts des Tropiques*, 307: 33-40.
- Bommarco, R., Miranda, F., Bylund, H. & Björkman, C. 2011. Insecticides suppress natural enemies and increase pest damage in cabbage. *Journal of Economic Entomology*, 104: 782-791.
- Björkman, C., Johansson, H. & Snäll, T. 2011. Spatial distribution of interacting predators: Possible roles of intraguild predation and the surrounding habitat. *Basic and Applied Ecology*, 12: 516-522.
- Dalin, P., Demoly, T., Kabir, Md. F. & Björkman, C. 2011. Global land-use change and the importance of zoophytophagous bugs in biological control: coppicing willows as a timely example. *Biological Control*, 59: 6-12.
- Stenberg, J.A., Lehrman, A. & Björkman, C. 2011. Plant defence: Feeding your bodyguards can be counter-productive. *Basic and Applied Ecology*, 12: 629-633.
- Moreau, G. & Björkman, C. 2012. Nonadditive interactions between trophic levels bias the appraisal of the strength of mortality factors. *Population Ecology*, 54: 125-133.
- Lehrman, A., Torp, M., Stenberg, J.A., Julkunen-Tiitto, R. & Björkman, C. 2012. Estimating direct resistance in willows against a major insect pest, *Phratora vulgatissima*, by comparing life history traits. *Entomologia Experimentalis et Applicata*, 144: 93-100.
- Ågren, G.I., Stenberg, J.A. & Björkman, C. 2012. Omnivores as plant bodyguards – A model of the importance of plant quality. *Basic and Applied Ecology*, 13: 441-448.
- Björkman, C., Eklund, K., Lehrman, A. & Stenberg, J.A. 2013. Food conditioning affects expression of insect resistance in diploid willows (*Salix* spp.). *American Journal of Plant Sciences*, 4: 48-52.
- Lehrman, A., Boddum, T., Stenberg, J.A., Orians, C.M. & Björkman, C. 2013. Constitutive and herbivore-induced systemic volatiles differentially attract an omnivorous biocontrol agent to contrasting *Salix* species. *AoB Plants*, doi: 10.1093/aobpla/plt005 (selected article for Special Flyer).

- Kollberg, I., Bylund, H., Schmidt, A., Gershenson, J. & Björkman, C. 2013. Multiple effects of temperature, photoperiod and food quality on the performance of a pine sawfly. *Ecological Entomology*, 38: 201-208.
- Torp, M., Lehrman, A., Stenberg, J.A., Julkunen-Tiitto, R. & Björkman, C. 2013. Performance of an herbivorous leaf beetle (*Phratora vulgatissima*) on *Salix* F2 hybrids: The importance of phenolics. *Journal of Chemical Ecology*, 39: 516-524.
- Björkman, C., Lindelöw, Å., Eklund, K., Kyrk, S., Klapwijk, M.J., Fedderwitz, F. & Nordlander, G. 2013. A rare event – an isolated outbreak of the pine-tree lappet moth (*Dendrolimus pini*) in the Stockholm archipelago. *Entomologisk Tidskrift*, 130: 145-153.
- Felton, A., Boberg, J., Björkman, C. & Widenfalk, O. 2013. Identifying and managing the ecological risks of using introduced tree species in Sweden's production forestry. *Forest Ecology and Management*, 307: 165-177.
- Klapwijk, M.J., Csòka, G., Hirka, A. & Björkman, C. 2013. Forest insects and climate change: long-term trends in herbivore damage. *Ecology and Evolution*, 3: 4183-4196.
- Austel, N., Björkman, C., Hilker, M. & Meiners, T. 2014. Phenotypic plasticity in host plant preference of the willow leaf beetle *Phratora vulgatissima*: the impact of experience made by adults. *Agricultural and Forest Entomology*, 16: 417-425.
- Kollberg, I., Bylund, H., Huitu, O. & Björkman, C. 2014. Regulation of forest defoliating insects through small mammal predation: reconsidering the mechanisms. *Oecologia*, 176: 975-983.
- Austel, N., Reinecke, A., Björkman, C., Hilker, M. & Meiners, T. 2015. Phenotypic plasticity in a willow leaf beetle depends on host plant species: Release and recognition of beetle odors. *Chemical Senses*, 40: 109-124.
- Stephan, J., Stenberg, J.A. & Björkman, C. 2015. How far away is the next basket of eggs? Spatial memory and perceived cues shape aggregation patterns in a leaf beetle. *Ecology*, 96: 908-914.
- Kollberg, I., Bylund, H., Jonsson, T., Schmidt, A., Gershenson, J. & Björkman, C. 2015. Temperature affects insect outbreak risk through tritrophic interactions mediated by plant secondary compounds. *Ecosphere*, 6:102. <http://dx.doi.org/10.1890/ES15-000021.1>
- Liman, A.-S., Dalin, P. & Björkman, C. 2015. Detectability of landscape effects on recolonization increases with regional population density. *Ecology and Evolution*, 5: 2694-2702.
- Puentes, A., Torp, M., Weih, M. & Björkman, C. 2015. Direct effects of elevated temperature on a tri-trophic system: *Salix*, leaf beetles and predatory bugs *Arthropod-Plant Interactions*, 9: 567-575.
- Stenberg, J.A., Heil, M., Åhman, I. & Björkman, C. 2015. Optimizing crops for biocontrol of pests and disease. *Trends in Plant Science*, 20: 698-712.
- Roberge, J.-M., Laudon, H., Björkman, C., Ranius, T., Sandström, C., Felton, A., Sténs, A., Nordin, A., Granström, A., Widemo, F., Bergh, J., Sonesson, J., Stenlid, J. & Lundmark, T. 2016. Socio-ecological implications of modifying rotation lengths in forestry. *Ambio*, 45(Suppl. 2): S109-S123.

- Felton, A., Nilsson, U., Sonesson, J., Felton, A.M., Roberge, J.-M., Ranius, T., Ahlström, M., Bergh, J., Björkman, C., Boberg, J., Drössler, L., Fahlvik, N., Gong, P., Holmström, E., Keskitalo, C.H., Klapwijk, M.J., Laudon, H., Lundmark, T., Niklasson, M., Nordin, A., Pettersson, M., Stenlid, J., Sténs, A. & Wallertz, K. 2016. Replacing monocultures with mixed-species stands: Ecosystem service implications of two production forest alternatives in Sweden. *Ambio*, 45(Suppl. 2): S124-139.
- Keskitalo, C.H., Bergh, J., Felton, A., Björkman, C., Berlin, M., Axelsson, P., Ring, E., Ågren, A., Roberge, J.-M., Klapwijk, M.J. & Boberg, J. 2016. Adaptation to climate change in Swedish forestry. *Forests*, 7(2), 28; doi:10.3390/f7020028.
- Moritz, K.K., Björkman, C., Parachnowitsch, A.L. & Stenberg, J.A. 2016. Female *Salix viminalis* are more severely infected by *Melampsora* spp. but neither sex experiences associational effects. *Ecology and Evolution*, 6: 1154-1162.
- Marquardt, K., Vico, G., Glynn, C., Weih, M., Eksvärd, K., Dalin, P. & Björkman, C. 2016. Farmer perspectives on introducing perennial cereal in Swedish farming systems: a sustainability analysis of plant traits, farm management, and ecological implications. *Agroecology and Sustainable Food Systems*, 40: 432-450.
- Klapwijk, M.J., Bylund, H., Schroeder, M. & Björkman, C. 2016. Forest management and biocontrol of insect pests. *Forestry*, 89: 253-262.
- Liman, A.-S., Eklund, K. & Björkman, C. 2016. Predator refuges for conservation biological control in intermediately disturbed systems: the rise and fall of a simple solution. *Journal of Applied Ecology*, 53: 1823-1830. (Selected for blog post at J Appl Ecol)
- Stephan, J., Low, M., Stenberg, J.A. & Björkman, C. 2016. Predator hunting mode and host plant quality shape attack-abatement patterns of predation risk in an insect herbivore. *Ecosphere*, 7: e01541.
- Liman, A.-S., Dalin, P. & Björkman, C. 2017. Enhanced leaf nitrogen status stabilizes omnivore population density. *Oecologia*, 183: 57-65.
- Birkhofer, K., Bylund, H., Dalin, P., Ferlian, O., Gagic, V., Hambäck, P.A., Klapwijk, M., Mestre, L., Roubinet, E., Schroeder, M., Stenberg, J.A., Porcel, M., Björkman, C. & Jonsson, M. 2017. Methods to identify the prey of invertebrate predators in terrestrial field studies. *Ecology and Evolution*, 7: 1942-1953.
- Puentes, A. & Björkman, C. 2017. Costs and benefits of omnivore-mediated plant protection: effects of plant-feeding on *Salix* growth more detrimental than expected. *Oecologia*, 184: 485-496.
- Kärvemo, S., Björkman, C., Johansson, T., Weslien, J. & Hjältén, J. 2017. Forest restoration as a double-edged sword: the conflict between biodiversity conservation and pest control. *Journal of Applied Ecology*, 54: 1658-1668.
- Stephan, J.G., Stenberg, J.A. & Björkman, C. 2017. Consumptive and nonconsumptive effect ratios depend on interaction between plant quality and hunting behavior of omnivorous predators. *Ecology and Evolution*, 7: 2327-2339.
- Moritz, K.K., Björkman, C., Parachnowitsch, A.L. & Stenberg, J.A. 2017. Plant sex effects on insect herbivores and biological control in a Short Rotation Coppice willow. *Biological Control*, 115: 30-36.
- Bellone, D., Klapwijk, M.J. & Björkman, C. 2017. Habitat heterogeneity affects predation of European pine sawfly cocoons. *Ecology and Evolution*, DOI: 10.1002/ece3.3632.

- Moritz, K.K., Parachnowitsch, A.L., Julkunen-Tiitto, R., Björkman, C., Ayres, M.P. & Stenberg, J.A. 2018. Roe deer prefer mixed-sex willow stands over monosexual stands but do not discriminate between male and female plants. *Environmental and Experimental Botany*, 146: 62-67.
- Eriksson, L., Björkman, C. & Klapwijk, M.J. 2018. General public acceptance of forest risk management strategies in Sweden: Comparing three approaches to acceptability. *Environment and Behavior*, 50: 159-186.
- Klapwijk, M.J. & Björkman, C. 2018. Mixed forests to mitigate increased risks for insects outbreaks. *Scandinavian Journal of Forest Research*, doi.org/10.1080/02827581.2018.1502805.
- Klapwijk, M.J., Walter, J., Hirka, A., Csóka, G., Björkman, C. & Liebhold, A. 2018. Transient synchrony among populations of five foliage-feeding Lepidoptera. *Journal of Animal Ecology*, 87: 1058-1068.
- Klapwijk, M.J., Boberg, J., Bergh, J., Bishop, K., Björkman, C., Ellison, D., Felton, A., Lidskog, R., Lundmark, T., Keskitalo, E.C.H., Sonesson, J., Nordin, A., Nordström, E-M., Stenlid, J. & Mårald, E. 2018. Capturing complexity: Forests, decision-making and climate change mitigation action. *Global Environmental Change*, 52: 238-247.
- Kalinkat, G., Ammunét, T., Barton, M., Battisti, A., Eigenbrode, S.D., Jepsen, J.U., Lehmann, P., Neuvonen, S., Niemelä, P., Okland, B., Terblanche, J.S. & Björkman, C. 2018. Inadequate assumptions undermine efforts to forecast climate change-induced crop losses to pests. *Science eLetters*, <http://science.sciencemag.org/content/361/6405/916/tab-e-letters>.
- Puentes, A., Stephan, J. & Björkman, C. 2018. A systematic review on the effects of plant-feeding by omnivorous arthropods: time to catch-up with the mirid-tomato bias? *Frontiers in Ecology and Evolution*, doi: 10.3389/fevo.2018.00218.
- Nordkvist, M., Klapwijk, M., Edenius, L., Gershenson, J., Schmidt, A. & Björkman, C. 2019. Trait-mediated indirect interactions: Moose browsing increases sawfly fecundity through plant-induced responses. *Ecology and Evolution*, DOI: 10.1002/ece3.5581.
- Felton, A., Petersson, L., Nilsson, O., Witzell, J., Cleary, M., Felton, A.M., Björkman, C., Ode Sang, Å., Jonsell, M., Holmström, E., Nilsson, U., Rönnberg, J., Kalén, C. & Lindbladh, M. 2019. The tree species matters: Biodiversity and ecosystem service implications of replacing Scots pine production stands with Norway spruce. *Ambio*, DOI 10.1007/s13280-019-01259-x.
- Lehmann, P., Ammunét, T., Barton, M., Battisti, A., Eigenbrode, S.D., Jepsen, J.U., Kalinkat, G., Neuvonen, S., Niemelä, P., Økland, B., Terblanche, J.S. & Björkman, C. 2019. Complex responses of global insect pests to climate warming. *Frontiers in Ecology and The Environment*, (accepted).
- Abdala-Roberts, L., Puentes, A., Finke, D.L., Marquis, R.J., Montserrat, M., Poelman, E.H., Rasmann, S., Sentis, A., van Dam, N.M., Wimp, G., Mooney, K. & Björkman, C. 2019. Tri-trophic interactions: bridging species, communities and ecosystems. *Ecology Letters*, DOI: 10.1111/ele.13392.
- Bellone, D., Björkman, C. & Klapwijk, M.J. 2019. Top-down pressure by generalist and specialist natural enemies in relation to habitat heterogeneity and resource availability. *Basic and Applied Ecology*, (in press).

Omazic, A., Bylund, H., Boqvist, S., Högberg, A., Björkman, C., Tryland, M., Evengård, B., Koch, A., Berggren, C., Malogolovkin, A., Kolbasov, D., Pavelko, N., Thierfelder, T. & Albiñ, A. 2019. Identifying climate-sensitive infectious diseases in animals and humans in Northern regions. *Acta Veterinaria Scandinavica*, (in press).

Books, book chapters, proceedings, popular and other publications

- Björkman, C. & Larsson, S. 1991. Host plant specialization in needle-eating insects of Sweden. In: Baranchikov, Y.N., Mattson, W.J., Hain, F.P. & Payne, T.L. (eds) *Forest Insect Guilds: Patterns of Interaction with Host Trees*. U.S. Dep. Agric. For. Serv. Gen. Tech. Rep. NE-153, pp. 1-20.
- Larsson, S., Björkman, C. & Kidd, N.A.C. 1993. Outbreaks in diprionid sawflies: why some species and not others? In: Wagner, M. & Raffa, K.F. (eds) *Sawfly life history adaptations to woody plants*. Academic Press, San Diego, pp. 453-483.
- Björkman, C. 1994. Hartssyror och tallars motståndskraft mot insekter. *Skogsfakta*, nr 3, 1994.
- Björkman, C. & Glynn, C. 1995. Gall - tillväxt orsakad av parasit. *Skogseko*, 2:18-19.
- Björkman, C. 1998. Book review. Schoonhoven, L.M., Jermy, T. & Loon, J.J.A. van: *Insect-Plant Biology: From physiology to evolution*. *Agronomie*, 18: 241-242.
- Björkman, C. 1998. Book review. Schoonhoven, L.M., Jermy, T. & Loon, J.J.A. van: *Insect-Plant Biology: From physiology to evolution*. SLU. *Växtskyddsnotiser*, 62: 35-36.
- Höglund, S., Eklund, K. & Björkman, C. 1999. Insect pests in willow plantations - leaf beetles. *Växtskyddsnotiser*, 63: 20-26. (In Swedish with English summary.)
- Lindelöw, Å. & Björkman, C. 1999. Skogsinsekter på contortatall. *Skog & Forskning*, 4:12-14.
- Björkman, C. & Larsson, S. 1999. Insects on drought-stressed trees: four feeding guilds in one experiment. In: *Physiology and Genetics of Tree-Phytophage Interactions* ed. by Lieutier, F., Mattson, W.J. & Wagner, M.R. INRA editions, Paris, pp. 323-335.
- Näsholm, T., Nohrstedt, H.-Ö., Kårén, O., Kytö, M. & Björkman, C. 2000. Hur påverkas träden? In: *Effekter av kvävenedfall på skogsekosystem* ed. by Bertills, U. & Näsholm, T. *Naturvårdsverket Rapport 5066*, Trelleborg, pp. 53-74.
- Näsholm, T., Nohrstedt, H.-Ö., Kårén, O., Kytö, M. & Björkman, C. 2000. How are forest trees affected? In: *Effects of nitrogen deposition on forest ecosystems* ed. by Bertills, U. & Näsholm, T. *Swedish Environmental Protection Agency Report 5067*, Trelleborg, pp. 53-75.
- Niemeyer, H.M. & Björkman, C. 2002. Curso de campo internacional sobre interacciones planta-insecto. In: *Historia natural de la reserva nacional Rio Clarillo: un espacio para aprender ecología* ed. by Niemyer, H.M. et al. Impresos Socias, Santiago Chile, pp. 3-63—64.
- Niemeyer, H.M. & Björkman, C. 2002. Curso internacional de ecología de campo 2000. In: *Historia natural de la reserva nacional Rio Clarillo: un espacio para aprender ecología* ed. by Niemyer, H.M. et al. Impresos Socias, Santiago Chile, pp. 3-85—86.
- Björkman, C. & Pettersson, M.W. 2003. Body size. In: *Encyclopedia of Insects* ed. by Resch, V.H. & Cardé, R.T., Academic Press, San Diego, pp. 130-132.

- Björkman, C. & Hambäck, P. 2003. Context-dependence in plant-herbivore interactions. Introduction to the symposium. *Oikos*, 101: 3-5.
- Bergh, J., Björkman, C., Blennow, K. et al. 2004. Climate change and forestry in Sweden – a literature review. *Kungliga Skogs- och Lantbruksakademiens Tidskrift*, 143(18): 1-42.
- Björkman, C., Dalin, P. & Eklund, K. 2004. Skinnbaggar som predatorer på insekter i *Salix*-odlingar. *Entomologisk Tidskrift*, 125:13-19.
- Björkman, C. & Eklund, K. 2004. Skörd stör biologisk kontroll av skadeinsekter. *Fakta Skog*, Nr 11, 2004.
- Björkman, C. & Eklund, K. 2004. Skörd stör biologisk kontroll av skadeinsekter. *Fakta Jordbruk*, Nr 3, 2004.
- Dalin, P. & Björkman, C. 2006 Native insects colonizing introduced tree species – patterns and potential risks. In: *Invasive Forest Insects, Introduced Forest Trees, and Altered Ecosystems: Ecological Pest Management in Global Forests of a Changing World*. Springer, Dordrecht, pp. 63-77.
- Björkman, C., Barklund, P., Bergh, J., Bergström, R. & Hansson, L. 2006. Klimatet och Skogen – underlag för nationell forskning. *Kungliga Skogs- och Lantbruksakademiens Tidskrift*, 145(9): 19-34.
- Björkman, C., Schroeder, M., Bylund, H. & Henriksson, K. 2007. Osäkert om insektsskador på skogen ökar. *Miljötrender*, 3: 10.
- Björkman, C. 2008. Krig på kvist – sörplande stinkflyn. *En Tugga SLU*, 3.
- Dalin, P., Ågren, J., Björkman, C., Huttunen, P. & Kärkkäinen, K. 2008. Leaf trichome formation and plant resistance to herbivory. In: *Induced Plant Resistance to Herbivory* ed. By Schaller, A., Springer, pp. 89-105.
- Weih, M., Rönnberg-Wästljung, A-C., Björkman, C., Larsson, S., Stenlid, J., Åhman, I. and v. Arnold, S. 2008. Breeding for high and sustainable biomass production of *Salix*: Bridging molecular genetics, ecophysiology and ecology. In: *Proc. 23rd Session International Poplar Commission, Poplars, willows and people's wellbeing*, Beijing, China, 27 - 30 Oct. 2008, p. 200.
- Björkman, C., Gotthard, K. & Pettersson, M.W. 2009. Body size. In: *Encyclopedia of Insects* (2nd revised edition) ed. by Resch, V.H. & Cardé, R.T., Academic Press, San Diego, pp. 114-116.
- Berlin Kolm, S., Björkman, C., Bonosi, L., Ghelardini, L., Lehrman, A., Nordh, N.-E., Rönnberg-Wästljung, A.C., Samils, B., Stenberg, J.A., Stenlid, J., Weih, M., Åhman, I. & von Arnold, S. 2011. Nya salixsorter med modern växtförädlingsteknik. *Fakta Jordbruk*, Nr 3.
- Björkman, C. Bylund, H. & Berggren, Å. 2011. Insekter och klimatförändringar – vad vi vet, tror oss veta och inte vet. *Fakta Jordbruk*, Nr. 4. Även som *Fakta Skog*, Nr. 6.
- Koricheva, J., Klapwijk, M.J. & Björkman, C. 2012. Life history traits and host plant use in defoliators and bark beetles: implications for population dynamics. In: *Insect Outbreaks Revisited* ed. by Barbosa, P., Schultz, J.C. & Letourneau, D., Blackwell Publishing Ltd., Oxford, pp. 177-196.
- Björkman, C., Felton, A., Boberg, J. & Widenfalk, O. 2013. Ekologiska risker med exotiska trädslag. *Fakta Skog*, Nr 12.

- Björkman, C. & Stenlid, J. (editors) 2013. Svampar och insekter. Rapport från Future Forests 2009-2012. *Future Forests Rapportserie* 2013:5, 44 pp.
- Björkman, C., Felton, A., Boberg, J. & Widenfalk, O. 2013. Ekologiska risker med nya trädslag. *Future Forests Rapportserie* 2013(5): 9-11.
- Björkman, C. & Klapwijk, M. 2013. Ekologisk teori och modellering som verktyg för skogsskyddet mot insekter. *Future Forests Rapportserie* 2013(5): 14-15.
- Ammunét, T. & Björkman, C. 2013. Enkla åtgärder kan rädda hästkastanjen. *Future Forests Rapportserie* 2013(5): 20-21.
- Boberg, J., Klapwijk, M., Stenlid, J. & Björkman, C. 2014. Skadegörarna utmanar skogen. *Future Forests – Syntes*, Juni 2014.
- Björkman, C. & Niemelä, P. (eds) 2015. *Climate Change and Insect Pests*. CABI Climate Change Series 8.
- Björkman, C., Bylund, H., Nilsson, U., Nordlander, G. & Schroeder, M. 2015. Forest management to mitigate insect damage in a changing climate: possibilities and uncertainties. In *Climate Change and Insect Pests* edited by C. Björkman and P. Niemelä. CABI. pp. 248-266.
- Björkman, C. & Stenberg, J.A. 2015. Svensk växtförädling kan blomstra igen. *SvD Näringsliv Debatt*, 2015-10-11.
- Stenberg, J.A., Åhman, I. & Björkman, C. 2015. Nytänkande inom växtförädlingen kan revolutionera växtskyddet. *Nyheter från SLU* 2105-10-05.
- Karlsson Moritz, K., Björkman, C., Parachnowitsch, A.L. & Stenberg, J.A. 2016. Könsdiskriminerande svampsjukdomar hos tvåbyggande växter. *Svensk Botanisk Tidskrift*, 110: 388-390.
- Björkman, C. 2016. Fienderna är inte enda faran. *Forskning och Framsteg* 8: 65-66.
- Björkman, C. 2019. Book review. Forest Insect Population Dynamics, Outbreaks, and Global Warming Effects. By A. S. Isaev, V. G. Soukhovolsky, O. V. Tarasova, E. N. Palnikova, and A. V. Kovalev. *The Quarterly Review of Biology*, 94: 306.
- Björkman, C. & Puentes, A. 2019. Naturliga fiender till skadeinsekter – hur stor betydelse har det när de äter växter också? *SLUs kunskapsbank* 2019-08-22.