

## **Julkaisut vuonna 2011 – Publications in 2011**

### **Väitöskirjat/Doctoral dissertations**

Ammunét, T. 2011: Trophic interactions of invasive forest herbivores and consequences for the resident ecosystem. – Doc. thesis, Annales Universitatis Turkuensis A II 259, 112 pp.

### **Pro gradu -tutkielmat/Master's theses**

Piirtola, P. 2011: Autumnal moth (*Epirrita autumnata*) induced volatile organic compounds of nordic mountain birch (*Betula pubescens* spp. *Czerepanovii*). – M. Sc. thesis, Department of Environmental Science, University of Eastern Finland. 47 pp.

### **Muut julkaisut/Other publications**

Alho, P., Hyypä, H., Hyypä, J., Flener, C., Kasvi, E., Vaaja, M., Kukko, A., Lotsari, E., Hohenthal, J., Kurkela, M., Kaartinen, H. & Haggrén, H. 2011: Uudet mittausmenetelmät jokiympäristön kartoituksessa. – The Photogrammetric Journal of Finland 22(3): 115-127.

Alho, P., Vaaja, M., Kukko, A., Kasvi, E., Kurkela, M., Hyypä, J., Hyypä, H. & Kaartinen, H. 2011: Mobile laser scanning in fluvial geomorphology: mapping and change detection of point bars. – Zeitschrift für Geomorphologie, Supplementary Issues 55(2): 31-50.

Ammunét, T., Klemola, T. & Saikkonen, K. 2011: Impact of host plant quality on geometrid moth expansion on environmental and local population scales. – Ecography 34(5): 848-855. doi: 10.1111/j.1600-0587.2011.06685.x

Franke, A.K., Aatsinki, P., Hallikainen, V., Huhta, E., Hyppönen, M., Juntunen, V., Mikkola, K., Neuvonen, S. & Rautio, P. 2015: Quantifying changes of the coniferous forest line in Finnish Lapland during 1983-2009. *Silva Fennica* 49(4) article id 1408. dx.doi.org/10.14214/sf.1408

Gagen, M., Finsinger, W., Wagner-Cremer, F., McCarroll, D., Loader, N., Robertson, I., Jalkanen, R., Young, G. & Kirchhefer, A. 2011: Evidence of changing intrinsic water-use efficiency under rising atmospheric CO<sub>2</sub> concentrations in Boreal Fennoscandia from subfossil leaves and tree ring  $\delta^{13}\text{C}$  ratios. – *Global Change Biology* 17(2): 1064-1072. doi: 10.1111/j.1365-2486.2010.02273.x

Gibbons, S.J., Schweitzer, J., Ringdal, F., Kværna, T., Mykkeltveit, S. & Paulsen, B. 2011: Improvements to seismic monitoring of the European arctic using three-component arrayprocessing at SPITS. – *Bulletin of the Seismological Society of America* 101(6): 2737-2754. dx.doi.org/10.1785/0120110109

Helama, S. 2011: Climate and Scots pine tree-rings in Utsjoki-Kevo district (North-East Finnish Lapland) during the 20<sup>th</sup> century, with special emphasis on mid-summer coonexions. – *Reports from the Kevo Subarctic Research Institute* 24: 129-138.

Helama, S., Tuomenvirta, H. & Venäläinen A. 2011: Boreal and subarctic soils under climatic change. – *Global and Planetary Change* 79 (1-2): 37-47. doi.org/10.1016/j.gloplacha.2011.08.001

- Hjort, J. & Luoto, M. 2011: Novel theoretical insights into geomorphic process-environment relationships using simulated response curves. – *Earth Surface Processes and Landforms* 36(3): 363-371. doi: 10.1002/esp.2048
- Holtmeier, F.-K. & Broll, G. 2011: Response of Scots pine (*Pinus sylvestris*) to warming climate at its altitudinal limit in northernmost subarctic Finland. – *Arctic* 64(3): 269-280.
- Koponen, S. 2011: Spider fauna and diversity at northern latitudes in Europe. – *Euroasian Entomological Journal* 11(1): 53-58.
- Kultti, S., Nevalainen, L., Luoto, T.P. & Sarmaja-Korjonen, K. 2011: Subfossil chydroid (Cladocera, Chydoridae) ehippia as paleoenvironmental proxies: evidence from boreal and subarctic lakes in Finland. – *Hydrobiologia* 676(1): 23-37. doi: 10.1007/s10750-011-0869-z
- Laaksonen, O., Sandell, M., Järvinen, R. & Kallio, H. 2011: Orosensory contributing compounds in crowberry (*Empetrum nigrum*) press-byproducts. – *Food Chemistry* 124(4): 1514-1524. doi.org/10.1016/j.foodchem.2010.08.005
- Leinonen, T., Cano, J.M. & Merilä J. 2011: Genetic basis of sexual dimorphism in the threespine stickleback *Gasterosteus aculeatus*. – *Heredity* 106(2): 218-227. doi: 10.1038/hdy.2010.104
- Linderborg, K., Laaksonen, O., Kallio, H. & Yang, B. 2011: Flavonoids, sugars and fruits acids of alpine bearberry (*Arctostaphylos alpina*) from Finnish Lapland. – *Food Research International* 44(7): 2027-2033. doi.org/10.1016/j.foodres.2010.10.036
- Liu, P., Kallio, H. & Yang, B. 2011: Phenolic compounds in hawthorn (*Crataegus grayana*) fruits and leaves and changes during fruit ripening. – *Journal of Agricultural and Food Chemistry* 59(20): 11141-11149. doi: 10.1021/jf202465u
- Marushchak, M.E., Pitkämäki, A., Koponen, H., Biasi, C., Seppälä, M. & Martikainen, P.J. 2011: Hot spots for nitrous oxide emissions found in different types of permafrost peatlands. – *Global Change Biology* 17(8): 2601-2614. doi: 10.1111/j.1365-2486.2011.02442.x
- Mishin V.M., Förster, M., Kurikalova, M.A. & Mishin, V.V. 2011: The generator system of field-aligned currents during the April 06, 2000, superstorm. – *Advances in Space Research* 48 (7): 1172-1183. doi.org/10.1016/j.asr.2011.05.029
- Mäkinen, Y., Laine, U., Heino, S., Iso-livari, L. & Nurmi, J. 2011: Vascular flora of Inari Lapland. 8. Rosaceae and Fabaceae. – *Reports from the Kevo Subarctic Research Station* 24: 3-126.
- Ruuskanen, S., Siitari, H., Eeva, T., Belskii, E., Järvinen, A., Kerimov, A., Krams, I., Moreno, J., Morosinotto, C., Mänd, R., Möstl, E., Orell, M., Qvarnström, A., Salminen, J.-P., Slater, F., Tilgar, V., Visser, M.E., Winkel, W., Zang, H. & Laaksonen, T. 2011: Geographical variation in egg mass and egg content in a passerine bird. – *PLoS ONE* 6(11): 1-10. doi: 10.1371/journal.pone.0025360
- Salminen, P., Aalto, S., Honkanen, M., Leskinen, E., Mähönen, M., Nyroos, H., Päivinen, J., Raunio, A., Kotiharju, S., Suominen, O., Kontula, T. & Tonteri, T. 2011: Toimintasuunnitelma uhanalaisten luontotyyppien tilan parantamiseksi. Suomen ympäristö. Ympäristöministeriö, 112 p.

Santonen, T. (2011): Mittarituhot pohjoisen Utsjoen alueella ja sen vaikutukset alueen kasvillisuuteen ja poronhoitoon. Opinnäyte, Jyväskylän ammattikorkeakoulu. 35pp. Stable URN: <http://urn.fi/URN:NBN:fi:amk-2012092113804>

Seppälä, M. 2011: Synthesis of studies of palsa formation underlining the importance of local environmental and physical characteristics. – *Quaternary Research* 75(2): 366-370. [doi.org/10.1016/j.yqres.2010.09.007](https://doi.org/10.1016/j.yqres.2010.09.007)

Tellenbach, C., Grünig, C.R. & Sieber, T.N. 2011: Negative effects on survival and performance of Norway spruce seedlings colonized by dark septate root endophytes are primarily isolate-dependent. – *Environmental Microbiology* 13(9): 2508-2517. doi: 10.1111/j.1462-2920.2011.02523.x

Wagner-Cremer, F. & Lotter, A.F. 2011: Spring-season changes during the Late Pleniglacial and Bølling/Allerød interstadial. – *Quaternary Science Reviews* 30(15-16): 1825-1828. [doi.org/10.1016/j.quascirev.2011.05.003](https://doi.org/10.1016/j.quascirev.2011.05.003)

Zaffrano, L.P., Queloz, V., Duò, A. & Grünig, C.R. 2011: Sex in the PAC: A hidden affair in dark septate endophytes? – *BMC Evolutionary Biology* 11: 282. doi: 10.1186/1471-2148-11-282

## **Julkaisut vuonna 2012 – Publications in 2012**

### **Väitöskirjat/Doctoral dissertations**

Lotsari, E. 2012: Fluvial processes and their future magnitudes: combined field observation and simulation approaches. – Doc. thesis, *Annales Universitatis Turkuensis, A II* 270. pp.

### **Pro gradu -tutkielmat/Master's theses**

Jährling, F. 2012: Response of shrub ecosystems to environmental drivers in subarctic Finland. – Diplomarbeiten, Institut für Botanik und Landschaftsökologie, Universität Greifswald.

Raippalinna, T.-A. 2012: Pulmankijoen meanderikaarten pintasedimentit ja virtausolosuhteiden vaikutus sedimenttien mediaaniraekokojen muutokseen. – M. Sc. thesis, Department of Geography and Geology, University of Turku. 77 pp.

### **Muut julkaisut/Other publications**

Ammunét, T., Kaukoranta, T., Saikkonen, K., Repo, T. & Klemola, T. 2012: Invading and resident defoliators in a changing climate: cold tolerance and predictions concerning extreme winter cold as a range-limiting factor. – *Ecological Entomology* 37 (3): 212-220. doi: 10.1111/j.1365-2311.2012.01358

Ertl, C., Pessi, A.-M., Huusko, A., Hicks, S., Kubin, E. & Heino, S. 2012: Assessing the proportion of "extra-local" pollen by means of modern aerobiological and phenological records – An example from Scots pine (*Pinus sylvestris* L.) in northern Finland. – *Review of Palaeobotany and Palynology* 185: 1-12. [doi.org/10.1016/j.revpalbo.2012.07.014](https://doi.org/10.1016/j.revpalbo.2012.07.014)

Fletcher, B.J, Gornall, J.L., Poyatos, R., Press, M.C., Stoy, P.C., Huntley, B., Baxter, R. & Phoenix, G.K. 2012: Photosynthesis and productivity in heterogeneous arctic tundra: consequences for ecosystem function of mixing vegetation types at stands edges. – *Journal of Ecology* 100(2): 441-451. doi: 10.1111/j.1365-2745.2011.01913.x

Gong, J., Wang, K., Kellomäki, S., Zhang, C., Martikainen P.J. & Shurpali, N. 2012: Modeling water table changes in boreal peatlands of Finland under changing climate conditions. – *Ecological Modelling* 244: 65-78. doi.org/10.1016/j.ecolmodel.2012.06.031

Graae, J.G., De Frenne, P., Kolb, A., Brunet, J., Chabrierie, O., Verheyen, K., Pepin, N., Heinken, T., Zobel, M., Shevtsova, A., Nijs, I. & Milbau, A. 2012: On the use of weather data in ecological studies along altitudinal and latitudinal gradients. – *Oikos* 121(1): 3-19. doi: 10.1111/j.1600-0706.2011.19694.x

Haviola, S., Neuvonen, S., Rantala, M.J., Saikkonen, K., Salminen J.-P., Saloniemi, I., Yang, S. & Ruuhola, T. 2012: Genetic and environmental factors behind foliar chemistry of the mature mountain birch. – *Journal of Chemical Ecology* 38(7): 902-913. doi: 10.1007/s10886-012-0148-0

Hjort, J. & Luoto, M. 2012: Can geodiversity be predicted from space? – *Geomorphology* 153-154: 74-80. doi.org/10.1016/j.geomorph.2012.02.010

Huttunen, L., Niemelä, P., Ossipov, V., Rousi, M. & Klemola, T. 2012: Do warmer growing seasons ameliorate the recovery of mountain birches after winter moth outbreak. – *Trees – Structure and Function* 26(3): 809-819. doi: 10.1007/s00468-011-0652-9

Jook, J.-W., Eckstein, D. & Jalkanen, R. 2012: Screening various variables of cellular anatomy of scots pine in subarctic Finland for climatic signals. – *IAWA Journal* 33: 417-429. doi: 10.1163/22941932-90000104

Kaitaniemi, P., Scheiner, A., Klemola, T. & Ruohomäki, K. 2012: Multi-objective optimization shapes ecological variation. – *Proceedings of the Royal Society B: Biological Sciences* 279(1729): 820-825. doi: 10.1098/rspb.2011.1371

Klemola, T., Ammunét, T., Andersson, T., Klemola, N. & Ruohomäki, K. 2012: Larval parasitism rate increases in herbivore-damaged trees: a field experiment with cyclic birch feeding moths. – *Oikos* 121(10): 1525-1531. doi: 10.1111/j.1600-0706.2011.20096.x

Lehto, J., Rätty, T., Hou, X., Paatero, J., Aldahan, A., Possnert, G., Flinkman, J. & Kankaanpää, H. 2012: Speciation of <sup>129</sup>I in sea, lake and rain waters. – *Science of The Total Environment* 419: 60-67. doi.org/10.1016/j.scitotenv.2011.12.061

McGuire, A. D., Christensen, T. R., Hayes, D., Heroult, A., Euskirchen, E., Kimball, J.S., Koven, C., Lafleur, P.A., Miller, P., Oechel, W., Peylin, P., Williams, M. & Yi, Y. 2012: An assessment of the carbon balance of Arctic tundra: comparisons among observations, process models, and atmospheric inversions. – *Biogeosciences* 9(8): 3185-3204. doi: 10.5194/bg-9-3185-2012

van Ooik, T., Rantala, M.J., Salminen J.-P. Yang, S., Neuvonen, S. & Ruuhola, T. 2012: The effects of simulated acid rain and heavy metal pollution on the mountain birch-autumnal moth interaction. – *Chemoecology* 22(4): 251-262. doi: 10.1007/s00049-012-0114-x

- Palmer, K. & Horn, M.A. 2012: Actinobacterial nitrate reducers and proteobacterial denitrifiers are abundant in N<sub>2</sub>O-metabolizing palsa peat. – *Applied and Environmental Microbiology* 78(16): 5584-5596. doi: 10.1128/AEM.00810-12
- Persson, I.-L., Julkunen-Tättö, R., Bergström, R., Wallgren, M., Suominen, O. & Danell, K. 2012: Simulated moose (*Alces alces* L.) browsing increases accumulation on secondary metabolites in bilberry (*Vaccinium myrtillus* L.) along gradients of habitat productivity and solar radiation. – *Journal of Chemical Ecology*: 38(10): 1225-1234. doi: 10.1007/s10886-012-0209-4
- Pike, G., Pepin, N.C. & Schaefer M. 2012: High latitude local scale temperature complexity: the example of Kevo Valley, Finnish Lapland. – *International Journal of Climatology* 33(8): 20150-2067. doi: 10.1002/joc.3573
- Poyatos, R., Gornall, J., Mencuccini, M., Huntley, B. & Baxter, R. 2012: Seasonal controls on net branch CO<sub>2</sub> assimilation in sub-Arctic Mountain Birch (*Betula pubescens* ssp. *czerepanovii* (Orlova) Hamet-Ahti). – *Agricultural and Forest Meteorology* 158-159: 90-100. doi.org/10.1016/j.agrformet.2012.02.009
- Systra, Y. J. 2012: The influence of geochemistry on biological diversity in Fennoscandia and Estonia. – In: Lameed, G.A. (ed.), *Biodiversity Enrichment in a Diverse World*. InTech. pp. 439-472.
- Tabuchi, H. & Seppälä, M. 2012: Surface temperature inversion in the palsa and pounu fields of northern Finland. – *Polar Science* 6(3-4): 237-251. doi.org/10.1016/j.polar.2012.10.001
- Vesterlund, S.-R., Suominen, O., Bergström, R., Danell, K. & Persson, I.-L. 2012: The impact of simulated moose densities on conifer aphids along a productivity gradient. – *Ecography* 35(2): 105-112. doi: 10.1111/j.1600-0587.2011.06534.x
- Ween, G. 2012: Resisting the imminent death of wild salmon: local knowledge of Tana fishermen in arctic Norway. – In: Carothers, C., Criddle, K.R., Chambers, C.P., Cullenberg, P.J., Fall, J.A., Himes-Cornell, A.H., Johnsen, J.P., Kimball, N.S., Menzies, C.R. & Springer, E.S. (eds.), *Fishing People of the North: Cultures, Economies, and Management Responding to Change*. Alaska Sea Grant, University of Alaska Fairbanks. pp. 153-170. doi: 10.4027/fpncemrc.2012.12
- Ween, G. 2012: NerVEI. Om sted som praksis og sted i bevegelse. – In Bringslid, M.B. (ed.), *Bygdeutviklingas Paradoks*. Spartacus, Oslo. pp. 227-250.
- Ween, G.B. 2012: Domestiseringens natur. Laks, fenomenologi og ANT. – *Norsk Antropologisk Tidsskrift* 3-4: 261-274.
- Ween, G.B. 2012: Enacting human and non-human indigenous: salmon, Sami and Norwegian natural resource management. – In: Ellefsen, R., Sollund, R. & Larsen, G. (eds.), *Eco-global Crimes: Contemporary Problems and Future Challenges*. Ashgate, London. pp. 295-313.
- Ween, G.B. 2012: World heritage and indigenous rights: Norwegian examples. – *International Journal of Heritage Studies* 18(3): 257-270. doi: 10.1080/13527258.2012.663779

Ween, G.B. & Lien, M. E. 2012: Decolonialization in the Arctic? Nature practices and land rights in the Norwegian high north. – *Journal of Rural and Community Development* 7(1): 93-109.

Zheng, J., Yang, B., Ruusunen, V., Laaksonen, O., Tahvonen, R., Hellsten, J. & Kallio, H. 2012: Compositional differences of phenolic compounds between black currant (*Ribes nigrum* L.) cultivars and their response to latitude and weather conditions. – *Journal of Agricultural and Food Chemistry* 60(26): 6581-6593. doi: 10.1021/jf3012739

## **Julkaisut vuonna 2013 – Publications in 2013**

### **Väitöskirjat/Doctoral dissertations**

Haviola, S. 2013: Herbivory-related variation in the foliar chemistry of the mountain birch (*Betula pubescens* spp. *Czerepanovii*). – Doc. thesis, *Annales Universitatis Turkuensis A II* 277. 129 pp.

Pike, G. 2013: Understanding temporal and spatial temperature variation at a local scale in a high latitude environment. – Doc. thesis, University of Portsmouth. 232 pp.

Tripp, E.J. 2013: Nitrogen deposition and the sustainability of lowland heathlands in Britain. – Doc. thesis, University of Nottingham. 203 pp.

### **Pro gradu -tutkielmat/Master's theses**

Ng, W.-T. 2013: Recent spatio-temporal changes in aspen (*Populus tremula* L.) distribution in Utsjoki region northern Finland. – M. Sc. thesis, Department of Geography and Geology, University of Turku. 99 pp. + 8 app.

### **Muut julkaisut/Other publications**

Flener, C.; Vaaja, M.; Jaakkola, A.; Krooks, A.; Kaartinen, H.; Kukko, A.; Kasvi, E.; Hyyppä, H.; Hyyppä, J. & Alho, P. 2013: Seamless mapping of river channels at high resolution using LiDAR and UAV-photography. *Remote Sensing* 5: 6382-6407. doi: 10.3390/rs5126382

Hancock, S., Baxter, R., Evans, J. & Huntley, B. 2013: Evaluating global snow water equivalent products for testing land surface models. – *Remote Sensing of Environment* 128: 107-117. doi.org/10.1016/j.rse.2012.10.004

Hobbie, E.A., Ouimette, A. P., Schuur, E.A.G., Kierstead, D., Trappe, J.M., Bendiksen, K. & Ohenoja, E. 2013: Radiocarbon evidence for the mining of organic nitrogen from soil by mycorrhizal fungi. – *Biogeochemistry* 114(1-3): 381-389. doi: 10.1007/s10533-012-9779-z.

Huttunen, L., Blande, J.D., Li, T., Rousi, M. & Klemola, T. 2013: Effects of warming climate on early-season carbon allocation and height growth of defoliated mountain birches. – *Plant Ecology* 214(3): 373-383. doi: 10.1007/s11258-013-0175-0

Karhunen, M., Merilä, J., Leinonen, T., Cano, J.M. & Ovaskainen, O. 2013: DRIFTSEL: an R package for detecting signals of natural selection in quantitative traits. – *Molecular Ecology Resources* 13(4): 746-754. doi: 10.1111/1755-0998.12111

Kasvi, E., Vaaja, M., Alho, P., Hyyppä, H., Hyyppä, J., Kaartinen, H. & Kukko, A. 2012: Morphological changes on meander point bars associated with flow structure at different discharges. – *Earth Surface Processes and Landforms* 38(6): 577-590. doi: 10.1002/esp.3303

Kaukonen, M., Ruotsalainen, A.L., Wäli, P.R., Männistö, M.K., Setälä, H., Saravesi, K., Huusko, K. & Markkola, A. 2013: Moth herbivory enhances resource turnover in subarctic mountain birch forest. – *Ecology* 94(2): 267-272. dx.doi.org/10.1890/12-0917.1

Korpela, K., Delgado, M., Henttonen, H., Korpimäki, E., Koskela, E., Ovaskainen, O., Pietiläinen, H. Sundell, J. & Huitu, O. 2013: Nonlinear effects of climate on boreal rodent dynamics: mild winters do not negate high-amplitude cycles. *Global Change Biology* 19(3): 697-710. doi: 10.1111/gcb.12099

Kotiranta, H. & Shiryayev, A. 2013: Notes on Aphyllorphoroid fungi (Basidiomycota) in Kevo, collected in 2009. – *Kevo Notes* 14: 1-22.

Manninen, S., Sassi, M.-K. & Lovén, K. 2013: Effects of nitrogen oxides on ground vegetation, *Pleurozium schreberi* and the soil beneath it in urban forest. – *Ecological Indicators* 24: 485-493. doi.org/10.1016/j.ecolind.2012.08.008

Nikinmaa, M., McCairns, R.J.S, Nikinmaa, M.W., Vuori, K.A., Kanerva, M., Leinonen, T., Primmer, C.R., Merilä, J. & Leder, E.H. 2013: Transcription and redox enzyme activities: comparison of equilibrium and disequilibrium levels in the three-spined sticklebacks. – *Proceedings of the Royal Society of London B: Biological Sciences* 280(1755): 20122974. doi: 10.1098/rspb.2012.2974

Ozerov, M., Vasemägi, A., Wennevik, V., Diaz-Fernandez, R., Kent, M., Gilbey, J., Prusov, S., Niemelä, E. & Vähä, J.-P. 2013: Finding markers that make difference: DNA pooling and SNP-arrays identity population informative markers for genetic stock identification. – *PLoS ONE* 8(12): 1-12. doi: 10.1371/journal.pone.0082434

Ozerov, M., Vasemägi, A., Wennevik, V., Niemelä, E., Prusov, S., Kent, M. & Vähä, J.-P. 2013: Cost-effective genome-wide estimation of allele frequencies from pooled DNA in Atlantic salmon (*Salmo salar* L.). – *BMC Genomics* 14 (1): 1-9. doi: 10.1186/1471-2164-14-12

Ozerov, M.Y., Veselov, A.E., Lumme, J. & Primmer, C.R. 2013: Temporal variation of genetic composition in Atlantic salmon populations from the Western White Sea Basin: influence of anthropogenic factors? – *BMC Genetics* 14:88. doi: 10.1186/1471-2156-14-88

Pike, G., Pepin, N.C. & Schaefer, M. 2013: High latitude local scale temperature complexity: the example of Kevo Valley, Finnish Lapland. – *International Journal of Climatology* 33(8): 2050-2067. doi: 10.1002/joc.3573

Ruohomäki, K., Klemola, T., Shaw, M.R., Snäll, N., Sääksjärvi, I.E., Veijalainen, A. & Wahlberg, N. 2013: Microgastrinae (Hymenoptera: Braconidae) parasitizing *Epirrita autumnata* (Lepidoptera: Geometridae) larvae in Fennoscandia with description of *Cotesia autumnatae* Shaw, sp. n. – Entomologica Fennica 24: 65-80.

Ruuhola, T., Salminen, P., Salminen J.-P. & Ossipov, V. 2013: Ellagitannins: defences of *Betula nana* against *Epirrita autumnata* folivory? – Agricultural and Forest Entomology 15(2): 187-196. doi: 10.1111/afe.12001

Sloan, V.L., Fletcher, B.J., Press, M.C., Williams, M. & Phoenix, G.K. 2013: Leaf and fine root carbon stocks and turnover are coupled across Arctic ecosystems. – Global Change Biology 19(12): 3668-3676. doi: 10.1111/gcb.12322

Sorvari, J. 2013: Social wasp (Hymenoptera: Vespidae) beer trapping in Finland 2008-2012: a German surprise. – Entomologica Fennica 24(3): 156-164.

Tellenbach, C., Sumarah, M.W., Grünig, C.R. & Miller, J.D. 2013: Inhibition of *Phytophthora* species by secondary metabolites produced by the dark septate endophyte *Phialocephala europaea*. – Fungal Ecology 6(1): 12-18. doi.org/10.1016/j.funeco.2012.10.003

Ween, G.B. & Colombi, B.J. 2013: Two rivers: the politics of wild salmon, indigenous rights and natural resource management. – Sustainability 5(2): 478-495. doi: 10.3390/su5020478.

Zabalgoeazcoa, I., Gundel, P.E., Helander, M. & Saikkonen, K. 2013: Non-systemic fungal endophytes in *Festuca rubra* plants infected by *Epichloë festucae* in subarctic habitats. – Fungal Diversity 60(1): 25-32. doi: 10.1007/s13225-013-0233-x

## **Julkaisut vuonna 2014 – Publications in 2014**

### **Väitöskirjat/Doctoral dissertations**

Vihakas, M. 2014: Flavonoids and other phenolic compounds: characterization and interactions with lepidopteran and sawfly larvae. – Doc. thesis, Annales Universitatis Turkuensis A1 496. 135 pp.

### **Pro gradu -tutkielmat/Master's theses**

Koivuniemi, H. 2014: Tunturi- ja hallamittarin massaesiintymien vaikutukset varpujen kasvuun ja lisääntymiseen subarktisessa koivikossa. – M. Sc. thesis, Department of Biology, University of Oulu. 43 pp.

Kosonen, K. 2014: Tunturialueen paikallisilmasto ja sen vaikutus mittariperhosten tunturikoivutuhoihin – tutkimuskohteina Utsjoki ja Härremačohkkatunturi. – M. Sc. thesis, Department of Geography and Geology, University of Turku. 95 pp. + 2 app.

Männistö, E. 2014: Field test for the adaptive value of red autumn leaves: no support for coevolution hypothesis. – M. Sc. thesis, Department of Biology, University of Turku. 39 pp. + 2 app.



Skog, A. 2014: Porolaidunnuksen vaikutukset kasviyhteisöihin pitkällä aikavälillä Utsjoella. – M. Sc. thesis, Department of Biology, University of Oulu. 51 pp.

### **Muut julkaisut/Other publications**

Ammunét, T., Klemola, T. & Parvinen K. 2014: Consequences of asymmetric competition between resident and invasive defoliators: A novel empirically based modelling approach. – *Theoretical Population Biology* 92: 107-117. doi.org/10.1016/j.tpb.2013.12.006

Biuw, M., Jepsen, J.U., Cohen, J., Ahonen, S.H., Tejesvi, M., Aikio, S., Wäli, P.R., Vindstad, O.P.L., Markkola, A., Niemelä, P. & Ims, R.A. 2014: Long-term impacts of contrasting management of large ungulates in the arctic tundra-forest ecotone: ecosystem structure and climate feedback. – *Ecosystems* 17(5): 890-905. doi: 10.1007/s10021-014-9767-3

Cräutlein, M. von, Korpelainen, H., Helander, M., Öhberg, A. & Saikkonen, K. 2014: Development and characterization of nuclear microsatellite markers in the endophytic fungus *Epichloë festucae* (Clavicipitaceae). – *Applications in Plant Sciences* 2(12): 1400093. doi: org/10.3732/apps.1400093

Dutkiewicz, V.A., DeJulio, A.M., Ahmed, T., Laing, J., Hopke, P.K., Skeie, R.B., Viisanen, Y., Paatero, J. & Husain, L. 2014: Forty-seven years of weekly atmospheric black carbon measurements in the Finnish Arctic: Decrease in black carbon with declining emissions. – *Journal of Geophysical Research: Atmospheres* 119(12): 7667-7683. doi: 10.1002/2014JD021790

Gundel, P., Garibaldi, L.A., Wäli, P.R., Helander, M., Dirihan, S. & Saikkonen, K. 2014: Fungal endophyte mediated occurrence of seminiferous and pseudoviviparous panicles in *Festuca rubra*. – *Fungal Diversity* 66(1): 69-76. doi: 10.1007/s13225-014-0290-9

Hjort, J., Ujanen, J., Parviainen, M., Tolgensbakk, J. & Etzelmüller, B. 2014: Transferability of geomorphological distribution models: Evaluation using solifluction features in subarctic and Arctic regions. – *Geomorphology* 204: 165-176. doi: 10.1016/j.geomorph.2013.08.002

Klemola, T., Andersson, T. & Ruohomäki, K. 2014: Delayed density-dependent parasitism of eggs and pupae as a contributor to the cyclic population dynamics of the autumnal moth. – *Oecologia* 175(4): 1211-1225. doi: 10.1007/s00442-014-2984-9

Korpela, K., Helle, P., Henttonen, H., Korpimäki, E., Koskela, E., Ovaskainen, O., Pietiäinen, H., Sundell, J., Valkama, J. & Huitu, O. 2014: Predator-vole interactions in northern Europe: the role of small mustelids revised. – *Proceedings of the Royal Society – B: Biological Sciences* 281(1797): 20142119. doi: 10.1098/rspb.2014.2119

Kortesniemi, M., Sinkkonen, J., Yang, B & Kallio, H. 2014: H NMR spectroscopy reveals the effect of genotype and growth conditions on composition of sea buckthorn (*Hippophaë rhamnoides* L.) berries. – *Food Chemistry* 147: 138-146. doi.org/10.1016/j.foodchem.2013.09.133

Laing, J.R., Hopke, P.K., Hopke, E.F., Husain, L., Dutkiewicz, V.A., Paatero, J. & Viisanen, Y. 2014: Long-term particle measurements in Finnish Arctic: Part I – Chemical composition and trace metal solubility. – *Atmospheric Environment* 88: 275-284. doi:10.1016/j.atmosenv.2014.03.002

Laing, J.R., Hopke, P.K., Hopke, E.F., Husain, L., Dutkiewicz, V.A., Paatero, J. & Viisanen, Y. 2014: Long-term particle measurements in Finnish Arctic: Part II – Trend analysis and source location identification. – *Atmospheric Environment* 88: 285-296. doi:10.1016/j.atmosenv.2014.01.015

Leder, E.H., McCairns, R.J.S., Leinonen, T., Cano, J.M., Viitaniemi, H.M., Nikinmaa, M., Primmer, C.R. & Merilä, J. 2014: The evolution and adaptive potential of transcriptional variation in sticklebacks – signatures of selection and widespread heritability. – *Molecular Biology and Evolution*. doi: 10.1093/molbev/msu328

Liu, J., Shikano, T., Leinonen, T., Cano, J.M., Li, M-H. & Merilä, J. 2014: Identification of major and minor QTL for ecologically important morphological traits in three-spined sticklebacks (*Gasterosteus aculeatus*). – *G3. Genes| Genomes| Genetics* 4(4): 595-604. doi: 10.1534/g3.114.010389

Liu, P., Kallio, H. & Yang, B. 2014: Flavonol glycosides and other phenolic compounds in buds and leaves of different varieties of black currant (*Ribes nigrum* L.) and changes during growing season. – *Food Chemistry* 160: 180-189. doi: 10.1016/j.foodchem.2014.03.056

Lotsari, E., Vaaja, M., Flener, C., Kaartinen, H., Kukko, A., Kasvi, E., Hyypä, H., Hyypä, J. & Alho, P. 2014: Annual bank and point bar morphodynamics of a meandering river determined by high-accuracy multitemporal laser scanning and flow data. – *Water Resources Research* 50(7): 5532-5559. doi: 10.1002/2013WR014106

Lotsari, E., Wainwright, D., Corner, G.D., Alho, P. & Käyhkö, J. 2014: Surveyed and modelled one-year morphodynamics in the braided lower Tana River. – *Hydrological Processes* 28(4): 2685-2716. doi: 10.1002/hyp.9750

Markkula, I. 2014: Permafrost dynamics structure species compositions of oribatid mite (Acari: Oribatida) communities in sub-Arctic tundra mires. – *Polar Research* 33(1): 22926. doi: 10.3402/polar.v33.22926

Matthews, J.A. & Seppälä, M. 2014: Holocene environmental change in subarctic aeolian dune fields: The chronology of sand dune re-activation events in relation to forest fires, palaeosol development and climatic variations in Finnish Lapland. – *The Holocene* 24(2): 149-164. doi: 10.1177/0959683613515733

Matías, L. & Jump, A.S. 2014: Impacts of predicted climate change on recruitment at the geographical limits of Scots pine. – *Journal of Experimental Botany* 65(1): 299-310. doi:10.1093/jxp/ert376

Matías, L., González-Díaz, P. & Jump, A.S. 2014: Larger investment in roots in southern range-edge populations of Scots pine is associated with increased growth and seedling resistance to extreme drought in response to simulated climate change. – *Environmental and Experimental Botany* 105: 32-38. doi: 10.1016/j.envexpbot.2014.04.003

Mäntylä, E., Blande, J.D. & Klemola, T. 2014: Does application of methyl jasmonate to birch mimic herbivory and attract insectivorous birds in nature? – *Arthropod-Plant Interactions* 8(2): 143-153. doi: 10.1007/s11829-014-9296-1

Ohenoja, E. & Ruotsalainen, A.L. 2014: Arktisten alueiden sienitutkijat Kevolla (ISAM 9). – Sienilehti 66(2): 41-45.

Ossipov, V., Klemola, T., Ruohomäki, K. & Salminen J.-P. 2014: Effects of three years' increase in density of the geometrid *Epirrita autumnata* on the changes in metabolome of mountain birch trees (*Betula pubescens* ssp. *czerepanovii*). – Chemoecology 24(5): 201- 214. doi: 10.1007/s00049-014-0164-3

Rao, J., Partamies, N., Amariutei, O., Syrjäsoo, M. & van de Sande, E.A. 2014: Automatic auroral detection in color all-sky camera images. – IEEE Journal of Selected Topic in Applied Earth Observations and Remote sensing 7(12): 4717-4725. doi: 10.1109/JSTARS.2014.2321433

Seo, J.-W., Smiljanić, M. & Wilmking, M. 2014: Optimizing cell-anatomical chronologies of Scots pine by stepwise increasing the number of radial tracheid rows included – Case study based on three Scandinavian sites. – Dendrochronologia 32(3): 205-209. doi:10.1016/j.dendro.2014.02.002

Suominen, O. 2014: Outreach and marketing 8.1.1 Kevo Subarctic Research Station. – In: Topp-Jørgensen, E. et al. (eds.), INTERACT 2014. INTERACT Management planning for arctic and northern alpine research stations – Examples of good practices. DCE – Danish Centre for Environment and Energy, Aarhus University, Denmark. Printed in Denmark. pp. 182-184.

Suominen, O. Staff 3.1 Kevo Subarctic Research Station, Finland. – In: Topp-Jørgensen, E. et al. (eds.), INTERACT 2014. INTERACT Management planning for arctic and northern alpine research stations – Examples of good practices. DCE – Danish Centre for Environment and Energy, Aarhus University, Denmark. Printed in Denmark. pp. 57-58.

Wäli, P.P., Huhtinen, S., Pino-Bodas, R. & Stenroos, S. 2014: Three common bryophilous fungi with merismatic anamorphs and phylogenetic alliance to *Teratosphaeriaceae*, *Capnodiales*. – Fungal Biology 118(12): 956-969. doi: 10.1016/j.funbio.2014.08.007

## **Julkaisut vuonna 2015 – Publications in 2015**

### **Pro gradu -tutkielmat/Master's theses**

Nurmi, M. 2015: Ilmastonmuutoksen vaikutus pohjoisten varpuslintujen pesintään. – M. Sc. thesis, Department of Biology, University of Turku. 28 pp.

### **Muut julkaisut/Other publications**

Chiu, K. & Snyder, D.B. 2015: Regional seismic wave propagation (Lg & Sn phases) in the Amerasia and High Arctic. – Polar Science 9(1): 130-145. doi: 10.1016/j.polar.2014.09.001

Eeva, T.; Andersson, T.; Berglund, Å.M.M.; Brommer, J.E.; Hyvönen, R.; Klemola, T.; Laaksonen, T.; Loukola, O.; Morosinotto, C.; Rainio, K.; Sirkiä, P. & Vesterinen, E.J. 2015: Species and abundance of ectoparasitic flies (Diptera) in pied flycatcher nests in Fennoscandia. – Parasites & Vectors 8: 648. doi: 10.1186/s13071-015-1267-6

Flener, C., Wang, Y., Laamanen, L., Kasvi, E., Vesakoski, J.-M. & Alho, P. 2015: Empirical modeling of spatial 3D flow characteristics using a remote-controlled ADCP system: monitoring a spring flood. – *Water* 7(1): 217-247. doi: 10.3390/w7010217

Franke, A.K., Aatsini, P., Hallikainen, V., Huhta, E., Hyppönen, M., Juntunen, V., Mikkola, K., Neuvonen, S. & Rautio, P. 2015: Quantifying changes of the coniferous forest line in Finnish Lapland during 1983-2009. – *Silva Fennica* 49(4): article id 1408. dx.doi.org/10.14214/sf.1408

Hartley, I.P., Hill, C.H., Wade, T.J., Clement, J., Moncrieff, J.B., Prieto-Blanco, A., Disney, M.I., Huntley, B., Williams, M. Howden, N.J.K, Wookey, P.A. & Baxter, R. 2015: Quantifying landscape-level methane fluxes in subarctic Finland using a multiscale approach. – *Global Change Biology* 21(10): 3712-3725. doi: 10.1111/gcb.12975.

Kasvi, E., Alho, P., Lotsari, E., Wang, Y., Kukko, A., Hyppä, H. & Hyppä, J. 2015: Two-dimensional and three-dimensional computational models in hydrodynamic and morphodynamic reconstructions of a river bend: sensitivity and functionality. – *Hydrological Processes* 29(6): 1604-1629. doi: 10.1002/hyp.10277

Koski, T.-M., Laaksonen, T., Mäntylä, E., Ruuskanen, S., Li, T., Girón-Calva, P.S., Huttunen, L., Blandet, J.D., Holopainen, J.K. & Klemola, T. 2015: Do insectivorous birds use volatile organic compounds from plants as olfactory foraging cues? Three experimental tests. – *Ethology* 121(12): 1131-1144. doi: 10.1111/eth.12426

Laing, J.R., Hopke, P.K., Hopke, E.F., Husain, L., Dutkiewicz, V.A., Paatero, J. & Viisanen, Y. 2015: Positive Matrix Factorization of 47 years of particle measurements in Finnish arctic. – *Aerosol and Air Quality Research* 15(1): 188-207. doi: 10.4209/aaqr.2014.04.0084

Matías, L. & Jump, A.S. 2015: Asymmetric changes of growth and reproductive investment herald altitudinal and latitudinal range shifts of two woody species. – *Global Change Biology* 21(2): 882-896. doi: 10.1111/gbc.12683

Storchak, D.A., Di Giacomo, D., Engdahl, E.R., Harris, J., Bondár, I., Bormann, P. & Villaseñor, A. 2015: The ISC-GEM global instrumental earthquake catalogue (1900-2009): introduction. – *Physics of the Earth and Planetary Interiors* 239: 48-63. doi: 10.1016/j.pepi.2014.06.009

Terraube, J., Villers, A., Ruffino, L., Iso-livari, L., Henttonen, H., Oksanen, T. & Korpimäki, E. 2015: Coping with fast climate change in northern ecosystems: mechanism underlying the population-level response of a specialist avian predator. – *Ecography* 38(7): 690-699. doi:10.1111/ecog.01024

Vuorinen, A.L., Markkinen, N., Kalpio, M., Linderborg, K.M., Yang, B. & Kallio, H.P. 2015: Effect of growth environment on the gene expression and lipids related to triacylglycerol biosynthesis in sea buckthorn (*Hippophae rhamnoides*) berries. – *Food Research International* 77(3): 608-619. doi: 10.1016/j.foodres.2015.08.023

Williams, R. & Thorp, T. 2015: Characteristics of springtime nocturnal temperature inversions in a high latitude environment. – *Weather* 70 (Issue Supplement S1): S37-S43. doi: 10.1002/wea.2554

Yang, W., Alanne, A.-L., Liu, P., Kallio, H. & Yang, B. 2015: Flavonol Glycosides in currant leaves and variation with growth season, growth location, and leaf position. – *Journal of Agricultural and Food Chemistry* 60(42): 9269-9276. doi: 10.1021/acs.jafc.5b04171