

## REFEROIDUT JULKAISUT

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Adamczyk, B., Kitunen, V. & Smolander, A. Protein precipitation by tannins in soil organic horizon and vegetation in relation to tree species. *Biology and Fertility of Soils* 45: 55-64.

Adame, P., Hynynen, J., Canellas, I. & del Rio, M. Individual-tree growth model for rebollo oak (*Pinus pyrenaica* Willd.) coppices. *Forest Ecology and Management* 255(3-4): 1011-1022.

Aherne, J., Posch, M., Forsius, M., Vuorenmaa, J., Tamminen, P., Holmberg, M. & Johansson, M. Modelling the hydro-geochemistry of acid-sensitive catchments in Finland under atmospheric deposition and biomass harvesting scenarios. *Biogeochemistry* 88(3): 233-256.

Ahtikoski, A., Heikkilä, J., Alenius, V. & Siren, M. Economic viability of utilizing biomass energy from young stands - The case of Finland. *Biomass & Bioenergy* 32(11): 988-996.

Ahtikoski, A., Kojola, S., Hökkä, H. & Penttilä, T. Ditch network maintenance in peatland forest as a private investment: short- and long-term effects on financial performance at stand level. *Mires and Peat* (<http://www.mires-and-peat.net/>) 3(3): 1-11.

Bergvall, U.A., Rautio, P., Sirén, H., Tuomi, J. & Leimar, J. The effect of spatial scale on plant associational defences against mammalian herbivores. *Ecoscience* 15(3): 343-348.

Cao, T., Valsta, L., Härkönen, S., Saranpää, P. & Mäkelä, A. Effects of thinning and fertilization on wood properties and economic return for Norway spruce. *Forest Ecology and Management* 256: 1280-1289.

Charbonnel, N., Deter, J., Chaval, Y., Laakkonen, J., Henttonen, H., Voutilainen, L., Vapalahti, O., Vaheri, A., Morand, S. & Cosson, J.-F. Serological evidence of viruses naturally associated with the montane water vole (*Arvicola scherman*) in Eastern France. *Vector Borne and Zoonotic Diseases* 8: 763-768.

Cienciala, E., Tomppo, E., Snorrason, A., Broadmeadow, M., Colin, A., Dunger, K., Exnerova, Z., Lasserre, B., Petersson, H., Priwitzer, T., Sanchez, G. & Ståhl, G. Preparing emission reporting from forests: use of National Forest Inventories in European countries. *Silva Fennica* 42(1): 73-88.

Dahlin, P., Ågren, J., Björkman, C., Huttunen, P. & Kärkkäinen, K. Leaf trichome formation and plant resistance to herbivory. In: Schaller, A. (ed.). *Induced plant resistance to herbivory*. Springer. s. 89-105.

Darbah, J.N.T., Kubiske, M.E., Nelson, N., Oksanen, E., Vapaavuori, E. & Karnosky, D.F. Effects of decadal exposure to interacting elevated CO<sub>2</sub> and/or O<sub>3</sub> on paper birch (*Betula papyrifera*) reproduction. *Environmental Pollution* 155: 446-452.

Deter, J., Bryja, J., Chaval, Y., Galan, M., Henttonen, H., Laakkonen, J., Voutilainen, L., Vapalahti, O., Vaheri, A., Ribas Salvador, A., Morand, S., Cosson, J.-F. & Charbonnel, N. Association between the DQA MHC class II gene and Puumala virus infection in *Myodes glareolus*, the bank vole. *Infection, Genetics and Evolution* 8: 450-458.

Deter, J., Chaval, Y., Galan, M., Gauffre, B., Morand, S., Henttonen, H., Laakkonen, J.,

Voutilainen, L., Charbonnel, N. & Cosson, J.-F. Kinship, dispersal and hantavirus transmission in bank and common voles. *Archives of Virology* 153: 435-444.

Domisch, T., Ohashi, M., Finér, L., Risch, A.C., Sundström, L., Kilpeläinen, J. & Niemelä, P. Decomposition of organic matter and nutrient mineralisation in wood ant (*Formica rufa* group) mounds in boreal coniferous forests of different age. *Biology and Fertility of Soils* 44(3): 539-545.

Duursma, K.A., Kolari, P., Perämäki, M., Nikinmaa, E., Hari, P., Delzon, S, Loustau, D., Ilvesniemi, H., Pumpanen, J. & Mäkelä, A. Predicting the decline in daily maximum transpiration rate of two pine stands during drought based on constant minimum leaf water potential and plant hydraulic conductance. *Tree Physiology* 28: 265-276.

Eriksson, M., Neuvonen, S. & Roininen, H. *Ips typographus* (L.) attack on patches of felled trees: "Wind-felled" vs. cut trees and the risk of subsequent mortality. *Forest Ecology and Management* 255: 1336-1341.

Fauria, M., Helle, T., Niva, A., Posio, H. & Timonen, M. Removal of the lichen mat by reindeer enhances tree growth in a northern Scots pine forest. *Canadian Journal of Forest Research* 38: 2981-2993.

Fehrmann, L., Lehtonen, A., Kleinn, C. & Tomppo, E. Comparison of linear and mixed-effect regression models and a k-nearest neighbour approach for estimation of single-tree biomass. *Canadian Journal of Forest Research* 38(1): 1-9.

Flykt, E., Timonen, S. & Pennanen, T. Variation of ectomycorrhizal colonization of spruce seedlings in Finnish forest nurseries. *Silva Fennica* 42(4): 571-585.

von Gadow, K., Nuutinen, T. & Kellomäki, S. Adaptive design of forested landscapes. In: von Gadow, K. & Pukkala, T. (eds.). *Designing green landscapes. Managing Forest Ecosystems* 15: 3-30.

Gagen, M.H., McCarroll, D., Robertson, I., Loader, N.J. & Jalkanen, R. Do tree ring  $^{13}\text{C}$  series from *Pinus sylvestris* in northern Fennoscandia contain long-term non-climatic trends? *Chemical Geology* 252(1-2): 42-51.

Gerasimov, Y. & Karjalainen, T. Development program for improving wood procurement in Northwest Russia based on SWOT analysis. *Baltic Forestry* 14(1): 87-92.

Haapanen, R. & Tuominen, S. Data combination and feature selection for multi-source forest inventory. *Photogrammetric Engineering and Remote Sensing* 74(7): 869-880.

Hakkarainen, H., Korpimäki, E., Laaksonen, T., Nikula, A. & Suorsa, P. Survival of male Tengelmalm's owl increases with cover of old forest in their territory. *Oecologia* 155: 479-486.

Hamberg, L., Lehvävirta, S., Malmivaara-Lämsä, M., Rita, H. & Kotze, D.J. The effects of habitat edges and trampling on understorey vegetation in urban forests in Helsinki, Finland. *Applied Vegetation Science* 11: 83-98.

Hardman, M. & Hardman, L.M. The relative importance of body size and paleoclimatic change as explanatory variables influencing lineage diversification rate: An evolutionary analysis of bullhead

catfishes (Siluriformes: Ictaluridae). *Systematic Biology* 57: 116-130.

Haukisalmi, V., Hardman, L.M., Hardman, M., Rausch, R.L. & Henttonen, H. Molecular systematics of the Holarctic *Anoplocephaloides variabilis* (Douthitt, 1915) complex, with the proposal of *Microcephaloides* n. g. (Cestoda: Anoplocephalidae). *Systematic Parasitology* 70: 15-26.

Heijari, J., Nerg, A.-M., Kainulainen, P., Noldt, U., Levula, T., Raitio, H. & Holopainen, J.K. Effect of long-term forest fertilization on Scots pine xylem quality and wood borer performance. *Journal of Chemical Ecology* 34: 26-31.

Heijari, J., Nerg, A.-M., Kainulainen, P., Vuorinen, M. & Holopainen, J.K. Long-term effects of exogenous methyl jasmonate application on Scots pine (*Pinus sylvestris* L.) needle chemical defence and diprionid sawfly performance. *Entomologia Experimentalis et Applicata* 128: 162-171.

Heikura, T., Terho, M., Perttunen, J. & Sievänen, R. A computer-based tool to link decay information to 3D architecture of urban trees. *Urban Forestry & Urban Greening* 7: 233-239.

Helama, S., Mielikäinen, K., Timonen, M. & Eronen, M. Finnish supra-long tree-ring chronology extended to 5634 BC. *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography* 62(4): 271-277.

Helama, S., Salminen, H., Timonen, M. & Varmola, M. Dendroclimatological analysis of seeded and thinned Scots pine (*Pinus sylvestris* L.) stands at the coniferous timberline. *New Forests* 35(3): 267-284.

Helle, S., Laaksonen, T., Adamsson, A., Paranko, J. & Huitu, O. Female field voles with high testosterone and glucose levels produce male-biased litters. *Animal Behaviour* 75(3): 1031-1039.

Helle, T. & Jaakkola, L. Transitions in herd management of semidomesticated reindeer in northern Finland. *Annales Zoologici Fennici* 45: 81-101.

Helle, T. & Kojola, I. Demographics in an alpine reindeer herd: effects of density and winter weather. *Ecography* 2(31): 221-230.

Henttonen, H., Buchy, P., Suputtamongkol, Y., Jittapalapong, S., Herbreteau, V., Laakkonen, J., Chaval, Y., Galan, M., Charbonnel, N., Michaux, J., Cosson, J.-F., Morand, S. & Hugot, J.-P. Recent discoveries of new hantaviruses widen their range and question their origins. In: Sparagano, O.A.E., Maillard, J.-C. & Figueroa, J.V. (eds.). *Animal biodiversity and emerging diseases: Prediction and prevention*. John Wiley & Sons, Inc. *Annals of the New York Academy of Sciences* 1149: 84-89.

Hilli, A., Hokkanen, T., Hyvönen, J. & Sutinen, M.-L. Long-term variation in Scots pine seed crop size and quality in northern Finland. *Scandinavian Journal of Forest Research* 23(5): 395-403.

Hilli, S., Stark, S. & Derome, J. Carbon quality and stocks in organic horizons in boreal forest soils. *Ecosystems* 11: 270-282.

Hilli, S., Stark, S. & Derome, J. Qualitative and quantitative changes in water-extractable organic compounds in the organic horizon of boreal coniferous forests. *Boreal Environment Research*

13(suppl.B): 107-119.

Hilli, S., Stark, S. & Derome, J. Water-extractable organic compounds in different components of the litter layer of boreal coniferous forest soils along a climatic gradient. *Boreal Environment Research* 13(suppl.B): 92-106.

Hintikka, S., Paasonen-Kivekäs, M., Koivusalo, H., Nuutinen, V. & Alakukku, L. Role of macroporosity in runoff generation on a sloping subsurface drained clay field - a case study with MACRO model. *Hydrology Research* 39(2): 143-155.

Holopainen, M., Haapanen, R., Tuominen, S. & Viitala, R. Performance of airborne laser scanning- and aerial photograph-based statistical and textural features in forest variable estimation. In: Hill, R.A., Rosette, J. & Suárez, J. (eds.). *Proceedings of SilviLaser 2008: 8th International Conference on LiDAR Applications in Forest Assessment and Inventory*, September 17-19, 2008, Heriot-Watt University, Edinburgh, UK. s. 105-112.

Holopainen, M., Hujala, T. & Nieminen, J. Blended GIS Studies Model the Work of a Forest Expert. In: Gervasi, O., Murgante, B., Laganà, A., Taniar, D, Mun, Y. & Gavrilova, M.L. (eds.). *Computational Science and Its Applications - ICCSA 2008: International Conference, Perugia, Italy, June 30 - July 3, 2008. Proceedings, Part II. Lecture Notes in Computer Science* 5073: 181-190.

Hottola, J. & Siitonen, J. Significance of woodland key habitats for polypore diversity and red-listed species in boreal forests. *Biodiversity and Conservation* 17(11): 2559-2577.

Huitu, O., Helander, M., Lehtonen, P. & Saikkonen, K. Consumption of grass endophytes alters the ultraviolet spectrum of vole urine. *Oecologia* 156(2): 333-340.

Huitu, O., Laaksonen, J., Klemola, T. & Korpimäki, E. Spatial dynamics of *Microtus vole* populations in continuous and fragmented agricultural landscapes. *Oecologia* 155(1): 53-61.

Hujala, T. & Tikkanen, J. Boosters of and barriers to smooth communication in family forest owners' decision making. *Scandinavian Journal of Forest Research* 23(5): 466-477.

Huotari, N., Tillman-Sutela, E., Pasanen, J. & Kubin, E. Ash-fertilization improves germination and early establishment of birch (*Betula pubescens* Ehrh.) seedlings on a cut-away peatland. *Forest Ecology and Management* 255: 2870-2875.

Hurme, E., Mönkkönen, M., Reunanen, P., Nikula, A. & Nivala, V. Temporal patch occupancy dynamics of the Siberian flying squirrel in a boreal forest landscape. *Ecography* 31(4): 469-476.

Huttunen, L., Niemelä, P., Julkunen-Tiitto, R., Heiska, S., Tegelberg, R., Rousi, M. & Kellomäki, S. Does defoliation induce chemical and morphological defenses in the leaves of silver birch seedlings under changing climate? *Chemoecology* 18(2): 85-98.

Huuskonen, S., Hynynen, J. & Ojansuu, R. Stand characteristics and external quality of young Scots pine stands in Finland. *Silva Fennica* 42(3): 397-412.

Hytönen, J. & Jylhä, P. Fifteen-year response of weed control intensity and seedling type on Norway spruce survival and growth on arable land. *Silva Fennica* 42(3): 355-368.

- Hyytiäinen, K. & Penttinen, M. Applying portfolio optimisation to the harvesting decisions of non-industrial private forest owners. *Forest Policy and Economics* 10(3): 151-160.
- Häikiö, E., Freiwald, V., Julkunen-Tiitto, R., Beuker, E., Holopainen, T. & Oksanen, E. Differences in leaf characteristics between ozone-sensitive and ozone-tolerant hybrid aspen (*Populus tremula* x *populus tremuloides*) clones. *Tree Physiology* 29(1): 53-66.
- Härkönen, S., Eerikäinen, K., Lähteenmäki, R. & Heikkilä, R. Does moose browsing threaten European aspen regeneration in Koli National Park, Finland? *Alces* 44: 31-40.
- Härkönen, S., Miina, J. & Saksa, T. Effect of cleaning methods in mixed pine-deciduous stands on moose damage to Scots pines in southern Finland. *Scandinavian Journal of Forest Research* 23(6): 491-500.
- Hökkä, H., Repola, J. & Laine, J. Quantifying the interrelationship between tree stand growth rate and water table level in drained peatland sites within Central Finland. *Canadian Journal of Forest Research* 38(7): 1775-1783.
- Ikonen, A.T.K., Aro, L. & Leppänen, V. Forecasts of future terrain and vegetation types at Olkiluoto and implications to spatial and temporal aspects of biosphere modelling. *Applied Radiation and Isotopes* 66(11): 1754-1758.
- Ikonen, V.-P., Peltola, H., Wilhelmsson, L., Kilpeläinen, A., Väisänen, H., Nuutinen, T. & Kellomäki, S. Modelling the distribution of wood properties along the stems of Scots pine (*Pinus sylvestris* L.) and Norway spruce (*Picea abies* (L.) Karst.) as affected by silvicultural management. *Forest Ecology and Management* 256: 1356-1371.
- Jaakola, L., Koskimäki, J., Riihinen, K.R., Tolvanen, A. & Hohtola, A. Effect of wounding on chalcone synthase and pathogenesis related PR-10 gene expression and content of phenolic compounds in bilberry leaves. *Biologia Plantarum* 52(2): 391-395.
- Jaatinen, K., Laiho, R., del Castillo, U., Vuorenmaa, A., Minkkinen, K., Pennanen, T., Penttilä, T. & Fritze, H. Responses of aerobic microbial communities and soil respiration to water-level drawdown in a northern boreal fen. *Environmental Microbiology* 10: 339-353.
- Jalkanen, R., Hicks, S., Aalto, T. & Salminen, H. Past pollen production reconstructed from needle production in *Pinus sylvestris* at the northern timberline: a tool for evaluating palaeoclimate reconstructions. *Silva Fennica* 42(4): 499-513.
- Juntunen, M.-L. & Kitunen, V. Leaching of pesticides through container peat medium in forest seedling production. *Acta Horticulturae* 779: 221-229.
- Juottonen, H., Tuittila, E.-S., Juutinen, S., Fritze, H. & Yrjälä, K. Seasonality of rDNA- and rRNA-derived archaeal communities and methanogenic potential in a boreal mire. *The ISME Journal* 2: 1157-1168.
- Jurgensen, M.F., Finér, L., Domisch, T., Kilpeläinen, J., Punttila, P., Ohashi, M., Niemelä, P., Sundström, L., Neuvonen, S. & Risch, A. Organic mound-building ants: their impact on soil properties in temperate and boreal forests. *Journal of Applied Entomology* 132: 266-275.

- Juutinen, A., Luque, S., Mönkkönen, M., Vainikainen, N. & Tomppo, E. Cost-effective forest conservation and criteria for potential conservation targets: a Finnish case study. *Environmental Science and Policy* 11(7): 613-626.
- Jyske, T., Mäkinen, H. & Saranpää, P. Wood density within Norway spruce stems. *Silva Fennica* 42(3): 439-455.
- Kahle, H.-P., Karjalainen, T., Schuck, A., Ågren, G.I., Kellomäki, S., Mellert, K., Prietzel, J., Rehfuess, K.-E. & Spiecker, H. (eds.). Causes and consequences of forest growth trends in Europe - Results of the recognition project. *EFI Research Report* 21. 261 s.
- Kaisanlahti-Jokimäki, M.-L., Jokimäki, J., Huhta, E., Ukkola, M., Helle, P. & Ollila, T. Territory occupancy and breeding success of the Golden Eagle (*Aquila chrysaetos*) around tourist destinations in northern Finland. *Ornis Fennica* 85: 2-12.
- Kaitera, J. & Nuorteva, H. Inoculations of eight *Pinus* species with *Cronartium* and *Peridermium* stem rusts. *Forest Ecology and Management* 255(3-4): 973-981.
- Kallio, A.M.I., Hänninen, R., Vainikainen, N. & Luque, S. Biodiversity value and the optimal location of forest conservation in Southern Finland. *Ecological Economics* 67(2): 232-243.
- Kalliokoski, T., Nygren, P. & Sievänen, R. Coarse root architecture of three boreal tree species growing in mixed stands. *Silva Fennica* 42(2): 189-210.
- Kanerva, S. & Smolander, A. How do coniferous needle tannins influence C and N transformations in birch humus layer? *European Journal of Soil Biology* 44: 1-9.
- Kanerva, S., Kitunen, V., Lojonen, J. & Smolander, A. Phenolic compounds and terpenes in soil organic horizon layers under silver birch, Norway spruce and Scots pine. *Biology and Fertility of Soils* 44: 547-556.
- Kangas, A., Haapakoski, R. & Tyrväinen, L. Integrating place-specific social values into forest planning - Case of UPM-Kymmene forests, Hyrynsalmi, Finland. *Silva Fennica* 42(5): 773-790.
- Kangas, A., Kangas, J. & Kurttila, M. Decision support for forest management. *Managing Forest Ecosystems* 16. Springer. 222 s.
- Kangas, S., Takkinen, J., Hakkinen, M., Nakari, U.-M., Johansson, T., Henttonen, H., Virtaluoto, L., Siitonen, A., Ollgren, J. & Kuusi, M. *Yersinia pseudotuberculosis* O:1 traced to raw carrots, Finland. *Emerging Infectious Diseases* 14: 1059-1061.
- Kantola, A., Härkönen, S., Mäkinen, H. & Mäkelä, A. Predicting timber properties from tree measurements at felling: Evaluation of the RetroSTEM model and TreeViz software for Norway spruce. *Forest Ecology and Management* 255: 3524-3533.
- Karlsen, S.-R., Tolvanen, A., Kubin, E., Poikolainen, J., Hogda, K.A., Johansen, B., Danks, F.S., Aspholm, P., Wielgolaski, F.-E. & Makarova, O. MODIS-NDVI-based mapping of the length of the growing season in northern Fennoscandia. *International Journal of Applied Earth Observation* 10: 253-266.

- Karppanen, O., Venäläinen, M., Harju, A.M. & Laakso, T. The effect of brown-rot decay on water adsorption and chemical composition of Scots pine heartwood. Effet des pourritures brunes sur l'adsorption de l'eau et la composition chimique du bois de Coeur du pin sylvestre (DOI: 10.1051/forest:2008035). *Annals of Forest Science* 65(6). 8 s.
- Kellomäki, S., Peltola, H., Nuutinen, T., Korhonen, K.T. & Strandman, H. Sensitivity of managed boreal forests in Finland to climate change, with implications for adaptive management. *Philosophical Transactions of the Royal Society B, Biological Sciences* 363: 2341-2351.
- Kilpeläinen, J., Punttila, P., Finér, L., Niemelä, P., Domish, T., Jurgensen, M., Neuvonen, S., Ohashi, M., Risch, A. & Sundström, L. Distribution of ant species and mounds (*Formica*) in different-aged managed spruce stands in eastern Finland. *Journal of Applied Entomology* 132: 315-325.
- Koistinen, P., Holmström, L. & Tomppo, E. Smoothing methodology for predicting regional averages in multi-source forest inventory. *Remote Sensing of Environment* 112: 862-871.
- Koivisto, E., Huitu, O., Sundell, J., & Korpimäki, E. Species-specific limitation of vole population growth by least weasel predation: facilitation of coexistence? *Oikos* 117(1): 6-12.
- Koivusalo, H., Ahti, E., Laurén, A., Kokkonen, T., Karvonen, T., Nevalainen, R. & Finér, L. Impacts of ditch cleaning on hydrological processes in a drained peatland forest. *Hydrology and Earth System Sciences* 12(5): 1211-1227.
- Korhonen, L., Peuhkurinen, J., Malinen, J., Suvanto, A., Maltamo, M., Packalén, P. & Kangas, J. The use of airborne laser scanning to estimate sawlog volumes. *Forestry* 81(4): 499-510.
- Korkalainen, T., Laurén, A., Koivusalo, H. & Kokkonen, T. Impacts of peatland drainage on the properties of typical water flow paths determined from a digital elevation model. *Hydrology Research* 39(5-6): 359-368.
- Korkama-Rajala, T., Müller, M.M. & Pennanen, T. Decomposition and fungi of needle litter from slow- and fast-growing Norway spruce (*Picea abies*) clones. *Microbial Ecology* 56: 76-89.
- Korpela, K., Ylén, M., Tyrväinen, L. & Silvennoinen, H. Determinants of restorative experiences in everyday favourite places. *Health & Place* 14(4): 636-652.
- Korpela, M., Mäkinen, H., Sulkava, M., Nöjd, P. & Hollmén, J. Smoothed prediction of the onset of tree stem radius increase based on temperature patterns. In: Boulicaut, J.-F., Berthold, M.R. & Horváth, T. (eds.). *Discovery Science, 11th International Conference, DS 2008, Budapest, Hungary, October 13-16, 2008. Proceedings. Lecture Notes in Artificial Intelligence* 5255: 100-111.
- Kostiainen, K., Kaakinen, S., Warsta, E., Kubiske, M.E., Nelson, N.D., Sober, J., Karnosky, D.F., Saranpää, P. & Vapaavuori, E. Wood properties of trembling aspen and paper birch after five years of exposure to elevated CO<sub>2</sub> and O<sub>3</sub>. *Tree Physiology* 28: 805-813.
- Krywult, M., Smykla, J., Kinnunen, H., Martz, F., Sutinen, M.-L., Lakkala, K. & Turunen, M. Influence of solar UV radiation on the nitrogen metabolism in needles of Scots pine (*Pinus sylvestris* L.). *Environmental Pollution* 156: 1105-1111.

- Kublin, E., Augustin, N.H. & Lappi, J. A flexible regression model for diameter prediction. *European Journal of Forest Research* 127(5): 415-428.
- Kukkola, E., Saranpää, P. & Fagerstedt, K. Juvenile and compression wood cell wall layers differ in lignin structure in Norway spruce and Scots pine. *IAWA Journal* 29(1): 47-54.
- Kärkkäinen, L., Matala, J., Härkönen, K., Kellomäki, S. & Nuutinen, T. Potential recovery of industrial wood and energy wood raw material in different cutting and climate scenarios for Finland. *Biomass & Bioenergy* 32(10): 934-943.
- Laaksonen, M., Peuhu, E., Várkonyi, G. & Siitonen, J. Effects of habitat quality and landscape structure on saproxylic species dwelling in boreal spruce-swamp forests. *Oikos* 117(7): 1098-1110.
- Laiho, R., Minkkinen, K., Anttila, J., Vávcová, P. & Penttilä, T. Dynamics of litterfall and decomposition in peatland forests: Towards reliable carbon balance estimation? In: Vymazal, J. (ed.). *Wastewater treatment, plant dynamics and management in constructed and natural wetlands*. Springer Science + Business Media, Dordrecht. s. 53-64.
- Laiho, R., Sarkkola, S., Kaunisto, S., Laine, J. & Minkkinen, K. Macroscale variation in peat element concentrations in drained boreal peatland forests. *Silva Fennica* 42(4): 555-570.
- Laitila, J. Harvesting technology and the cost of fuel chips from early thinnings. *Silva Fennica* 42(2): 267-283.
- Laitila, J., Ranta, T. & Asikainen, A. Productivity of stump harvesting for fuel. *International Journal of Forest Engineering* 19(2): 37-46.
- Laitinen, J., Kukko-oja, K. & Huttunen, A. Stability of the water regime forms a vegetation gradient in minerotrophic mire expanse vegetation of a boreal aapa mire. *Annales Botanici Fennici* 45(5): 342-358.
- Laturi, J., Mikkola, J. & Uusivuori, J. Carbon reservoirs in wood products-in-use in Finland: current sinks and scenarios until 2050. *Silva Fennica* 42(2): 307-324.
- Laurén, A., Sikanen, L., Asikainen, A., Koivusalo, H., Palviainen, M., Kokkonen, T., Kellomäki, S. & Finér, L. Impacts of logging residue and stump removal on nitrogen export to a stream: A modelling approach. *Scandinavian Journal of Forest Research* 23(3): 227-235.
- Lavikainen, A., Haukisalme, V., Lehtinen, M.J., Henttonen, H., Oksanen, A. & Meri, S. A phylogeny of members of the family Taeniidae based on the mitochondrial *cox1* and *nad1* gene data. *Parasitology* 135: 1457-1467.
- Lehto, T., Brosinsky, A., Heinonen-Tanski, H. & Repo, T. Freezing tolerance of ectomycorrhizal fungi in pure culture. *Mycorrhiza* 18: 385-392.
- Lehtonen, A., Lindholm, M., Hokkanen, T., Salminen, H. & Jalkanen, R. Testing dependence between growth and needle litterfall in Scots pine - a case study in northern Finland. *Tree Physiology* 28(11): 1741-1749.



- Leinonen, A., Harju, A.M., Venäläinen, M., Saranpää, P. & Laakso, T. FT-NIR spectroscopy in predicting the decay resistance related characteristics of solid Scots pine (*Pinus sylvestris* L.) heartwood. *Holzforschung* 62(3): 284-288.
- Leinonen, T., Sungurov, R., Kolström, T., Sokolov, A., Zhigunov, A. & Doroshin, A. Forest regeneration in Northern and Northwestern Russia in 1993-2004 - Methods, results and development needs. *Forest Ecology and Management* 255: 383-395.
- Leppälä, M., Kukko-oja, K., Laine, J. & Tuittila, E.-S. Seasonal dynamics of CO<sub>2</sub> exchange during primary succession of boreal mires as controlled by phenology of plants. *Ecoscience* 15(4): 460-471.
- Leskinen, P. Numerical scaling of ratio scale utilities in multi-criteria decision analysis with geometric model. *Journal of the Operational Research Society* 59: 407-415.
- Lilja-Rothsten, S., de Chantal, M., Peterson, C., Kuuluvainen, T., Vanha-Majamaa, I. & Puttonen, P. Regeneration and microsites before and after restoration with partial cutting, dead wood creation and fire in *Picea abies* stands. *Silva Fennica* 42(2): 165-176.
- Lindroos, A.-J., Derome, J., Mustajärvi, K., Nöjd, P., Beuker, E. & Helmisaari, H.-S. Fluxes of dissolved organic carbon in stand throughfall and percolation water in 12 boreal coniferous stands on mineral soils in Finland. *Boreal Environment Research* 13(suppl.B): 22-34.
- Linkosalo, T., Lappalainen, H.K. & Hari, P. A comparison of phenological models of leaf bud burst and flowering of boreal trees using independent observations. *Tree Physiology* 28: 1873-1882.
- Linnakoski, R., DeBeer, Z.W., Rousi, M., Niemelä, P., Pappinen, A. & Winfield, M.J. Fungi, including *Ophiostoma karelicum* sp. nov. associated with *Scolytus ratzeburgi* infesting birch in Finland and Russia. *Mycological Research* 112(12): 1475-1488.
- Luoranen, J., Lahti, M. & Rikala, R. Frost hardiness of nutrient-loaded two-year-old *Picea abies* seedlings in autumn and at the end of freezer storage *New Forests*. *New Forests* 35(3): 207-220.
- Lähtinen, K. & Toppinen, A. Financial performance in Finnish large and medium-sized sawmills: The effects of value-added creation and cost-efficiency seeking. *Journal of Forest Economics* 14(4): 289-305.
- Lähtinen, K., Haara, A., Leskinen, P. & Toppinen, A. Assessing the relative importance of tangible and intangible resources: Empirical results from the forest industry. *Forest Science* 54(6): 607-616.
- Länneppää, A., Aakala, T., Kauhanen, H. & Kuuluvainen, T. Tree mortality agents in pristine Norway spruce forests in northern Fennoscandia. *Silva Fennica* 42(2): 151-163.
- Malmivaara-Lämsä, M., Hamberg, L., Haapamäki, E., Liski, J., Kotze, D.J., Lehvävirta, S. & Fritze, H. Edge effects and trampling in boreal urban forest fragments - impacts on the soil microbial community. *Soil Biology & Biochemistry* 40: 1612-1621.
- Malmivaara-Lämsä, M., Hamberg, L., Löfström, I., Vanha-Majamaa, I. & Niemelä, P. Trampling tolerance of understorey vegetation in different hemiboreal urban forest site types in Finland. *Urban Ecosystems* 11(1): 1-16.

- Mappes, T., Grapputo, A., Hakkarainen, H., Huhta, E., Koskela, E., Saunanen, R. & Suorsa, P. Island selection on mammalian life-histories: genetic differentiation in offspring size. *BMC Evolutionary Biology* 8(296): 7 s.
- Matala, J., Kellomäki, S. & Nuutinen, T. Litterfall in relation to volume growth of trees: Analysis based on literature. *Scandinavian Journal of Forest Research* 23(3): 194-202.
- Merilä, P. & Derome, J. Relationships between needle nutrient composition in Scots pine and Norway spruce stands and the respective concentrations in the organic layer and in percolation water. *Boreal Environment Research* 13(suppl.B): 35-47.
- Miettinen, J., Helle, P., Nikula, A. & Niemelä, P. Large-scale landscape composition and capercaillie (*Tetrao urogallus*) density in Finland. *Annales Zoologici Fennici* 45: 161-173.
- Miina, J. & Heinonen, J. Stochastic simulation of forest regeneration establishment using a multilevel multivariate model. *Forest Science* 54(2): 206-219.
- Miina, J. & Saksa, T. Predicting establishment of tree seedlings for evaluating methods of regeneration for *Pinus sylvestris*. *Scandinavian Journal of Forest Research* 23(1): 12-27.
- Moffat, A.J., Davies, S. & Finér, L. Reporting the results of forest monitoring - an evaluation of the European forest monitoring programme. *Forestry* 80(1): 75-90.
- Mosello, R., Amoriello, T., Benham, S., Clarke, N., Derome, J., Derome, K., Genouw, G., Koenig, N., Orrù A., Tartari, G., Thimonier, A., Ulrich, E. & Lindroos, A.-J. Validation of chemical analyses of atmospheric deposition on forested sites in Europe: 2. DOC concentration as an estimator of the organic ion charge. *Journal of Limnology* 67(1): 1-14.
- Mustajärvi, K., Merilä, P., Derome, J., Lindroos, A.-J., Helmisaari, H.-S., Nöjd, P. & Ukonmaanaho, L. Fluxes of dissolved organic and inorganic nitrogen in relation to stand characteristics and latitude in Scots pine and Norway spruce stands in Finland. *Boreal Environment Research* 13(suppl. B): 3-21.
- Mustonen, J., Packalén, P. & Kangas, A. Automatic segmentation of forest stands using a canopy height model and aerial photography. *Scandinavian Journal of Forest Research* 23(6): 534-545.
- Mäkelä, A., Valentine, H.T. & Helmisaari, H.-S. Optimal co-allocation of carbon and nitrogen in a forest stand at steady state. *New Phytologist* 180: 114-123.
- Mäkinen, H., Jyske, T. & Saranpää, P. Variation of tracheid length within annual rings of Scots pine and Norway spruce. *Holzforschung* 62: 123-128.
- Mäkinen, H., Seo, J.-W., Nöjd, P., Schmitt, U. & Jalkanen, R. Seasonal dynamics of wood formation: a comparison between pinning, microcoring and dendrometer measurements. *European Journal of Forest Research* 127(3): 235-245.
- Mäkinen, K. & Tyrväinen, L. Teenage experiences of public green spaces in suburban Helsinki. *Urban Forestry & Urban Greening* 7(4): 277-289.

- Mäkipää, R., Häkkinen, M., Muukkonen, P. & Peltoniemi, M. The costs of monitoring changes in forest soil carbon stocks. *Boreal Environment Research* 13(suppl.B): 120-130.
- Mäkipää, R., Lehtonen, A. & Peltoniemi, M. Monitoring carbon stock changes in European forests using forest inventory data. In: Dolman, A.J., Freibauer, A. & Valentini, R. (eds.). *The continental-scale greenhouse gas balance of Europe*. *Ecological Studies* 203: 191-210.
- Mäkiranta, P., Minkkinen, K., Hytönen, J. & Laine, J. Factors causing temporal and spatial variation in heterotrophic and rhizospheric components of soil respiration in afforested organic soil croplands in Finland. *Soil Biology & Biochemistry* 40: 1592-1600.
- Nabuurs, G.J., Thürig, E., Heidema, N., Armolaitis, K., Biber, P., Cienciala, E., Kaufmann, E., Mäkipää, R., Nilsen, P., Petritsch, R., Pristova, T., Rock, J., Schelhaas, M.J., Sievänen, R., Somogyi, Z. & Vallet, P. Hotspots of the European forests carbon cycle. *Forest Ecology and Management* 256: 194-200.
- Nerg, A.-M., Kasurinen, A., Holopainen, T., Julkunen-Tiitto, R., Neuvonen, S. & Holopainen, J.K. The significance of ectomycorrhizas in chemical quality of Silver Birch foliage and above-ground insect herbivore performance. *Journal of Chemical Ecology* 34: 1322-1330.
- Nikula, A., Hallikainen, V., Jalkanen, R., Hyppönen, M. & Mäkitalo, K. Modelling the factors predisposing Scots pine to moose damage in artificially regenerated sapling stands in Finnish Lapland. *Silva Fennica* 42(4): 587-603.
- Niskanen, A.-M., Stenvall, N., Pakkanen, A. & Pulkkinen, P. Comparison of growth and stem quality characters of Scots pine clones to seedlings of the same origin in a 10 years field trial. *Scandinavian Journal of Forest Research* 23: 484-490.
- Nuutinen, Y., Väätäinen, K., Heinonen, J., Asikainen, A. & Röser, D. The accuracy of manually recorded time study data for harvester operation shown via simulator screen. *Silva Fennica* 42(1): 63-72.
- Nöjd, P., Henttonen, H.M. & Mäkinen, H. Increment cores from the Finnish National Forest Inventory as a source of information for studying intra-annual wood formation. *Dendrochronologia* 26(2): 133-140.
- Ovaskainen, H., Palander, T., Jauhiainen, M., Lehtimäki, J., Tikkanen, L. & Nurmi, J. Productivity of energywood harvesting chain in different stand conditions of early thinnings. *Baltic Forestry* 14(2): 149-154.
- Packalén, P., Pitkänen, J. & Maltamo, M. Comparison of individual tree detection and canopy height distribution approaches: a case study in Finland. In: Hill, R.A., Rosette, J. & Suárez, J. (eds.). *Proceedings of SilviLaser 2008: 8th International Conference on LiDAR Applications in Forest Assessment and Inventory*, September 17-19, 2008, Heriot-Watt University, Edinburgh, UK. s. 22-29.
- Palosuo, T., Peltoniemi, M., Mikhailov, A., Komarov, A., Faubert, P., Thürig, E. & Lindner, M. Projecting effects of intensified biomass extraction with alternative modelling approaches. *Forest Ecology and Management* 255(5-6): 1423-1433.

Palviainen, M., Laiho, R., Mäkinen, H. & Finér, L. Do decomposing Scots pine, Norway spruce and silver birch stems retain nitrogen? *Canadian Journal of Forest Research* 38: 3047-3055.

Parviainen, J. Waldschutzgebiete und Naturwälder. Biologische Artenvielfalt - Kernfragen in der europäischen Diskussion. *Mitteilungen des Vereins Forstliche Standortskunde und Forstpflanzenzüchtung* 46: 63-70.

Pasonen, H.-L., Vihervuori, L., Seppänen, S.-K., Lyytikäinen-Saarenmaa, P., Ylioja, T., von Weissenberg, K. & Pappinen, A. Field performance of chitinase transgenic silver birch (*Betula pendula* Roth): growth and adaptive traits. *Trees - Structure and Function* 22(4): 413-421.

Pehkonen, T. & Tolvanen, A. Relationships between *Vaccinium vitis-idaea* and the frequency of its fungal pathogen *Exobasidium splendidum*, and the environment. *Arctic, Antarctic and Alpine Research* 40(3): 561-567.

Pehkonen, T., Koskimäki, J., Riihinen, K., Pirttilä, A.M., Hohtola, A., Jaakola, L. & Tolvanen, A. Artificial infection of *Vaccinium vitis-idaea* L. and defence responses to *Exobasidium* species. *Physiological and Molecular Plant Pathology* 72(4-6): 146-150.

Pesonen, A., Maltamo, M., Eerikäinen, K. & Packalén, P. Airborne laser scanning-based prediction of coarse woody debris volumes in a conservation area. *Forest Ecology and Management* 255: 3288-3296.

Petäistö, R.-L. Infection of Norway spruce container seedlings by *Gremmeniella abietina*. *Forest Pathology* 38: 1-15.

Peuhkurinen, J., Maltamo, M. & Malinen, J. Estimating species-specific diameter distributions and saw log recoveries of boreal forests from airborne laser scanning data and aerial photographs: a distribution-based approach. *Silva Fennica* 42(4): 625-641.

Peura, M., Müller, M., Vainio, U., Sarén, M.-P., Saranpää, P. & Serimaa, R. X-ray microdiffraction reveals the orientation of cellulose microfibrils and the size of cellulose crystallites in single Norway spruce tracheids. *Trees - Structure and Function* 22: 49-61.

Piispanen, R., Willför, S., Saranpää, P. & Holmbom, B. Variation of lignans in Norway spruce (*Picea abies* [L.] Karst.) knotwood: within-stem variation and the effect of fertilisation at two experimental sites in Finland. *Trees - Structure and Function* 22(3): 317-328.

Piri, T. & Korhonen, K. The effect of winter thinning on the spread of *Heterobasidion parviporum* in Norway spruce stands. *Canadian Journal of Forest Research* 38: 2589-2595.

Pitkänen, A., Kouki, J., Viiri, H. & Martikainen, P. Effects of controlled forest burning and intensity of timber harvesting on the occurrence of pine weevils, *Hylobius* spp., in regeneration areas. *Forest Ecology and Management* 255: 522-529.

Plyusnina, A., Laakkonen, J., Nemirov, K., Pohodiev, B., Niemimaa, J., Muruyeva, G., Vaheri, A., Lundkvist, Å., Henttonen, H., Vapalahti, O. & Plyusnin, A. Genetic analysis of hantaviruses carried by *Myodes* and *Microtus* rodents in Buryatia (1-6doi:10.1. 186/1743-422X-5-4). *Virology Journal* 5(4). 6 s.

- Plyusnina, A., Laakkonen, J., Niemimaa, J., Henttonen, H. & Plyusnin, A. New genetic lineage of Tula Hantavirus in *Microtus arvalis obscurus* in Eastern Kazakhstan. *Open Virology Journal* 2: 32-36.
- Pudas, E., Leppälä, M., Tolvanen, A., Poikolainen, J., Venäläinen, A. & Kubin, E. Trends in phenology of *Betula pubescens* across the boreal zone in Finland. *International Journal of Biometeorology* 52(4): 251-259.
- Pudas, E., Tolvanen, A., Poikolainen, J., Sukuvaara, T. & Kubin, E. Timing of plant phenophases in Finnish Lapland in 1997-2006. *Boreal Environment Research* 13(1): 31-43.
- Pumpanen, J., Ilvesniemi, H., Kulmala, L., Siivola, E., Laakso, H., Kolari, P., Helenelund, C., Laakso, M., Uusimaa, M. & Hari, P. Respiration in boreal soil as determined from carbon dioxide concentration profile. *Soil Science Society of America Journal* 72: 1187-1196.
- Ranta, H., Hokkanen, T., Linkosalo, T., Laukkanen, L., Bondenstam, K. & Oksanen, A. Male flowering of birch: Spatial synchronization, year-to-year variation and relation of catkin numbers and airborne pollen counts. *Forest Ecology and Management* 255: 643-650.
- Rantalainen, M.-L., Haimi, J., Fritze, H., Pennanen, T. & Setälä, H. Soil decomposer community as a model system in studying the effects of habitat fragmentation and habitat corridors. *Soil Biology & Biochemistry* 40: 853-863.
- Rauhamaa, P., Kantola, M., Viitak, A., Kaasik, T. & Mussalo-Rauhamaa, H. Selenium levels of Estonians. *European Journal of Clinical Nutrition* 62: 1075-1078.
- Rautio, P., Kesti, K., Begvall, U.A., Tuomi, J. & Leimar, O. Spatial scales of foraging in fallow deer: Implications for associational effects in plant defences. *Acta Oecologia* 34: 12-20.
- Razzauti, M., Plyusnina, A., Henttonen, H. & Plyusnin, A. Accumulation of point mutations and reassortment of genomic RNA segments are involved in the microevolution of Puumala hantavirus in a bank vole (*Myodes glareolus*) population. *Journal of General Virology* 89: 1649-1660.
- Repo, T. & Ryyppö, A. Electrolyte leakage method can be misleading for assessing the frost hardiness of roots. *Plant Biosystems* 142(2): 298-301.
- Repo, T., Lehto, T. & Finér, T. Delayed soil thawing affects root and shoot functioning and growth in Scots pine. *Tree Physiology* 28: 1583-1591.
- Repo, T., Mononen, K., Alvilä, L., Pakkanen, T. & Hänninen, H. Cold acclimation of pedunculate oak (*Quercus robur* L.) at its northernmost distribution range. *Environmental and Experimental Botany* 63: 59-70.
- Repola, J. Biomass equations for birch in Finland. *Silva Fennica* 42(4): 605-624.
- Riikonen, J., Syrjälä, L., Tulva, I., Mänd, P., Oksanen, E., Poteri, M. & Vapaavuori, E. Stomatal characteristics and infection biology of *Pyrenopeziza betulicola* in *Betula pendula* trees grown under elevated CO<sub>2</sub> and O<sub>3</sub>. *Environmental Pollution* 156: 536-543.
- Rossi, S., Deslauriers, A., Gricar, J., Seo, J.-W., Rathgeber, C., Anfodillo, T., Morin, H., Levanic,

- T., Oven, P. & Jalkanen, R. Critical temperatures for xylogenesis in conifers of cold climates. *Global Ecology and Biogeography* 17: 696-707.
- Ruuska, J., Siipilehto, J. & Valkonen, S. Effect of edge stands on the development of young *Pinus sylvestris* stands in southern Finland. *Scandinavian Journal of Forest Research* 23: 214-226.
- Rytkönen, A., Lilja, A., Petäistö, R.-L. & Hantula, J. Irrigation water and *Phytophthora cactorum* in a forest nursery. *Scandinavian Journal of Forest Research* 23: 404-411.
- Röser, D., Asikainen, A., Raulund-Rasmussen, K. & Stupak, I. (eds.). Sustainable use of forest biomass for energy. A synthesis with focus on the Baltic and Nordic region. *Managing Forest Ecosystems* 12. 259 p.
- Sah, S.P., Lamersdorf, N. & Brumme, R. Natural abundance of <sup>15</sup>N in different compartments of a spruce forest ecosystem under acid rain and manipulated clean rain field conditions. *Journal of Forest Science* 54(8): 377-387.
- Salemaa, M., Derome, J. & Nöjd, P. Response of boreal forest vegetation to the fertility status of the organic layer along a climatic gradient. *Boreal Environment Research* 13(suppl.B): 48-66.
- Salemaa, M., Mäkipää, R. & Oksanen, J. Differences in the growth response of three bryophyte species to nitrogen. *Environmental Pollution* 152: 82-91.
- Saravesi, K., Markkola, A., Rautio, P., Roitto, M. & Tuomi, J. Defoliation causes parallel temporal responses in a host tree and its fungal symbionts. *Oecologia* 156: 117-123.
- Sarkkola, S., Hökkä, H. & Penttilä, T. Microsite variation and climate result in stand dynamics variation in pristine *Pinus sylvestris* mires: Evidence from a stand structure study. *Journal of Vegetation Science* 19: 465-474.
- Schatz, U., Heräjärvi, H., Kannisto, K. & Rantatalo, M. Influence of saw and secateur pruning on stem discolouration, wound cicatrization and diameter growth of *Betula pendula*. *Silva Fennica* 42(2): 295-305.
- Seo, J.-W., Eckstein, D., Jalkanen, R., Rickebusch, S. & Schmitt, U. Estimating the onset of cambial activity of Scots pine in northern Finland by means of the heat-sum approach. *Tree Physiology* 28(1): 105-112.
- Shorohova, E., Kapitsa, E. & Vanha-Majamaa, I. Decomposition of stumps in a chronosequence after clear-felling vs. clear-felling with prescribed burning in a southern boreal forest in Finland. *Forest Ecology and Management* 255: 3606-3612.
- Shorohova, E., Kapitsa, E. & Vanha-Majamaa, I. Decomposition of stumps 10 years after partial and complete harvesting in a southern boreal forest in Finland. *Canadian Journal of Forest Research* 38(9): 2414-2421.
- Sievänen, R., Perttunen, J., Nikinmaa, E. & Kaitaniemi, P. Toward extension of a single tree functional structural model of Scots pine to stand level: effect of the canopy of randomly distributed, identical trees on development of tree structure. *Functional Plant Biology* 35(9/10): 964-975.

Siipilehto, J. Modelling stand structure in young Scots pine dominated stands. *Forest Ecology and Management* 257: 223-232.

Silfver, T., Häikiö, E., Rousi, M., Holopainen, T. & Oksanen, E. Interactive effects of elevated ozone and springtime frost on growth and physiology of birch (*Betula pendula*) in field conditions. *Trees - Structure and Function* 22(3): 291-301.

Smolander, A., Levula, T. & Kitunen, V. Response of litter decomposition and soil C and N transformations in a Norway spruce thinning stand to removal of logging residue. *Forest Ecology and Management* 256: 1080-1086.

Stark, S., Julkunen-Tiitto, R., Holappa, E., Mikkola, K. & Nikula, A. Concentrations of foliar quercetin in natural populations of white birch (*Betula pubescens*) increase with latitude. *Journal of Chemical Ecology* 34: 1382-1391.

Stark, S., Kytöviita, M.-M., Männistö, M. & Neumann, A.B. Soil microbial and microfaunal communities and organic matter quality in reindeer winter and summer ranges in Finnish subarctic mountain birch forests. *Applied Soil Ecology* 40: 456-464.

Sulkava, M., Mäkinen, H., Nöjd, P. & Hollmén, J. Automatic detection of onset and cessation of tree stem radius increase using dendrometer data and CUSUM charts. In: Lendasse, A. (ed.). *European Symposium on Time Series Prediction*. Otamedia, Espoo. s. 77-86.

Sutinen, S. & Saarsalmi, A. Needle structure in relation to boron fertilization in *Picea abies* (L.) Karst. stands suffering from growth disturbance. *Baltic Forestry* 14(2): 98-102.

Säynäjoki, R., Packalén, P., Maltamo, M., Vehmas, M. & Eerikäinen, K. Detection of aspens using high resolution aerial laser scanning data and digital aerial images. *Sensors* 8: 5037-5054.

Tahvanainen, T., Kilpeläinen, H., Sikanen, L., Heräjärvi, H., Lindblad, J. & Verkasalo, E. Combined production of sawn timber and firewood billets at a birch sawmill in Finland: A simulation approach. *Wood Material Science and Engineering* 3(1-2): 1-11.

Tahvonen, O. Harvesting age-structured populations as biomass: does it work? *Natural Resource Modeling* 21(4): 525-550.

Tegelberg, R., Julkunen-Tiitto, R., Vartiainen, M., Paunonen, R., Rousi, M. & Kellomäki, S. Exposures to elevated CO<sub>2</sub>, elevated temperature and enhanced UV-B radiation modify activities of polyphenol oxidase and guaiacol peroxidase and concentrations of chlorophylls, polyamines and soluble proteins in the leaves of *Betula pendula* seedlings. *Environmental and Experimental Botany* 62(3): 308-315.

Thessler, S., Sesnie, S., Ramos Bendana, Z.S., Ruokolainen, K., Tomppo, E. & Finegan, B. Using k-nn and discriminant analyses to classify rain forest types in a Landsat TM image over northern Costa Rica. *Remote Sensing of Environment* 112: 2485-2494.

Tiimonen, H., Aronen, T., Laakso T., Saranpää, P., Chiang, V., Häggman, H. & Niemi, K. *Paxillus involutus* forms ectomycorrhizal symbiosis and enhances survival of PtCOMT-modified *Betula pendula* in vitro. *Silvae Genetica* 57(4-5): 235-242.

Tillman-Sutela, E., Kauppi, A., Karppinen, K. & Tomback, D.F. Variant maturity in seed structures of *Pinus albicaulis* (Engelm.) and *Pinus sibirica* (Du Tour): key to a soil seed bank, unusual among conifers. *Trees - Structure and Function* 22: 225-236.

Tollenaere, C., Bryja, J., Galan, M., Ribas Salvador, A., Deter, J., Cadet, P., Voutilainen, L., Laakkonen, J., Henttonen, H., Cosson, J.-F. & Charbonnel, N. Multiple parasites mediate balancing selection at MHC class II genes: insights from multivariate analyses and population genetics in the fossorial water vole. *Journal of Evolutionary Biology* 21: 1307-1320.

Tomppo, E., Haakana, M., Katila, M. & Peräsaari, J. Multi-source national forest inventory - Methods and applications. *Managing Forest Ecosystems* 18. Springer. 374 s.

Tomppo, E., Olsson, H., Ståhl, G., Nilsson, M., Hagner, O. & Katila, M. Combining national forest inventory field plots and remote sensing data for forest databases. *Remote Sensing of Environment* 112: 1982-1999.

Tuomi, M., Vanhala, P., Karhu, K., Fritze, H. & Liski, J. Heterotrophic soil respiration - comparison of different models describing its temperature dependence. *Ecological Modelling* 211: 182-190.

Tupek, B., Minkkinen, K., Kolari, P., Starr, M., Chan, T., Alm, J., Vesala, T., Laine, J. & Nikinmaa, E. Forest floor versus ecosystem CO<sub>2</sub> exchange along boreal ecotone between upland forest and lowland mire. *Tellus Series B: Chemical and Physical Meteorology* 60(2): 153-166.

Turakainen, M., Hartikainen, H., Sarjala, T. & Seppänen, M.M. Impact of selenium enrichment on seed potato tubers. *Agricultural and Food Science* 17: 278-288.

Törn, A., Siikamäki, P., Tolvanen, A., Kauppila, P. & Rämetsä, J. Local people, nature conservation, and tourism in Northeastern Finland. *Ecology and Society* 13(1). 18 s.

Ukonmaanaho, L., Merilä, P., Nöjd, P. & Nieminen, T.M. Litterfall production and nutrient return to the forest floor in Scots pine and Norway spruce stands in Finland. *Boreal Environment Research* 13(supp.B): 67-91.

Uusitalo, M., Kitunen, V. & Smolander, A. Response of C and N transformations in birch soil to coniferous resin volatiles. *Soil Biology & Biochemistry* 40: 2643-2649.

Uusivuori, J. & Kuuluvainen, J. Forest taxation in multiple-stand forestry with amenity preferences. *Canadian Journal of Forest Research* 38(4): 806-820.

Valkonen, S. Survival and growth of planted and seeded oak (*Quercus robur* L.) seedlings with and without shelters on field afforestation sites in Finland. *Forest Ecology and Management* 255: 1085-1094.

Vanhala, P., Karhu, K., Tuomi, M., Björklöf, K., Fritze, H. & Liski, J. Temperature sensitivity of soil organic matter decomposition in southern and northern part of the boreal forest zone. *Soil Biology & Biochemistry* 40: 1758-1764.

Varis, S., Santanen, A., Pakkanen, A. & Pulkkinen, P. The importance of being the first pollen in



the strobili of Scots pine. *Canadian Journal of Forest Research* 38(12): 2976-2980.

Vartiamäki, H., Maijala, P., Uotila, A. & Hantula, J. Characterization of growth and enzyme production of *Chondrostereum purpureum* isolates and correlation of these characteristics with their capability to prevent sprouting of birch in field. *Biological Control* 47: 46-54.

Vartiamäki, H., Uotila, A., Vasaitis, R. & Hantula, J. Genetic diversity in Nordic and Baltic populations of *Chondrostereum purpureum*: a potential herbicide biocontrol agent. *Forest Pathology* 38(6): 381-393.

Vehmas, M., Eerikäinen, K., Peuhkurinen, J., Packalén, P. & Maltamo, M. Airborne laser scanning for the identification of boreal forest site types. In: Hill, R.A., Rosette, J. & Suárez, J. (eds.). *Proceedings of SilviLaser 2008: 8th International Conference on LiDAR Applications in Forest Assessment and Inventory*, September 17-19, 2008, Heriot-Watt University, Edinburgh, UK. s. 58-65.

Veijalainen, A.-M., Heiskanen, J., Juntunen, M.-L. & Lilja, A. Tree-seedling compost as a component on Sphagnum peat-based growing media for conifer seedlings: Physical and chemical properties. *Acta Horticulturae* 779: 431-438.

Vidal, C., Lanz, A., Tomppo, E., Schadauer, K., Gschwantner, T., di Cosmo, L. & Robert, N. Establishing forest inventory reference definitions for forest and growing stock: a study towards common reporting. *Silva Fennica* 42(2): 247-266.

Viherä-Aarnio, A. & Velling, P. Seed transfers of silver birch (*Betula pendula*) from the Baltic to Finland - effect on growth and stem quality. *Silva Fennica* 42(5): 735-751.

Väänänen, R., Hristov, J., Tanskanen, N., Hartikainen, H., Nieminen, M. & Ilvesniemi, H. Phosphorus sorption properties in podzolic forest soils and soil solution phosphorus concentration in undisturbed and disturbed soil profiles. *Boreal Environment Research* 13: 553-567.

Väänänen, R., Nieminen, M., Vuollekoski, M., Nousiainen, H., Sallantausta, T., Tuittila, E.-S. & Ilvesniemi, H. Retention of phosphorus in peatland buffer zones at six forested catchments in southern Finland. *Silva Fennica* 42(2): 211-231.

Wall, A. Effect of removal of logging residue on nutrient leaching and nutrient pools in the soil after clearcutting in a Norway spruce stand. *Forest Ecology and Management* 256: 1372-1383.

Winter, S., Chirici, G., McRoberts, R.E., Hauk, E. & Tomppo, E. Possibilities for harmonizing national forest inventory data for use in forest biodiversity assessments. *Forestry* 81(1): 33-44.

Zubizarreta Gerandiain, A., Peltola, H., Pulkkinen, P., Jaatinen, R. & Pappinen, A. Differences in fibre properties in cloned Norway spruce (*Picea abies*). *Canadian Journal of Forest Research* 38: 1071-1082.

Zubizarreta Gerandiain, A., Peltola, H., Pulkkinen, P., Ikonen, V.-P. & Jaatinen, R. Differences in growth and wood properties between narrow and normal crowned types of Norway spruce grown at narrow spacing in Southern Finland. *Silva Fennica* 42(3): 423-437.

## Kansalliset referoidut julkaisut vuonna 2008

Helle, T., Kojola, I. & Niva, A. 2007. Ylä-Lapin porojen talvilaitumet: kolme näkökulmaa ylilaidunnukseen. *Metsätieteen aikakauskirja* 3/2007: 253-266.

Henttonen, H., Mela, M., Niemimaa, J. & Kaikusalo, A. 2007. Naalikannan tilanne ja suojele Suomessa ja Fennoskandiassa. Summary: Arctic fox in Finland and Fennoscandia: status and conservation. *Suomen Riista* 54: 15-24.

Hyvönen, P. 2007. The updating of forest resource data for management planning for privately owned forests in Finland. *Dissertationes Forestales* 38. 40 s. + 5 osajulkaisua.

Hyvönen, P., Pekkarinen, A. & Tuominen, S. 2007. Ilmakuvasegmentteihin perustuvan kaksivaiheisen otannan luotettavuus puustotunnusten ei-parametrisessa estimoinnissa. *Metsätieteen aikakauskirja* 1/2007: 39-53.

Hyytiäinen, K., Hannelius, S. & Salminen, O. 2007. Yksityismetsien arvo tuottoarvolaskelmien ja markkina-arvojen mukaan. *Maanmittaus* 82(2): 28-44.

Hänninen, H., Karppinen, H. & Suihkonen, V. 2007. Yksityismetsien puunmyyntitulojen alueittainen jakautuminen. *Metsätieteen aikakauskirja* 3/2007: 267-278.

Kanerva, S. 2007. Plant secondary compounds and soil microbial processes in carbon and nitrogen cycling in relation to tree species. University of Helsinki, Department of Applied Chemistry and Microbiology. *Dissertationes Forestales* 52. 44 s. + 5 osajulkaisua.

Kapitsa, E., Shorohova, E. & Vanha-Majamaa, I. 2007. Fragmentation and decomposition of stumps after clear cutting in southern European boreal spruce forests of Myrtillus type (in russian, with english summary). In: Egorov, A. & Tchernov, I. (eds.). *Modern problems and perspectives of sustainable forest management. Proceedings of St. Petersburg State Forest Technical Academy. November 15-16, 2006. SPb, FTA, 2007. p. 54-60.*

Korkalainen, T., Pietiläinen, P. & Colpaert, A. 2007. The effect of total peat nitrogen on the height and volume of Scots pine (*Pinus sylvestris* L.) stands in three fertilized and drained peatlands in northern Finland. *Suo - Mires and Peat* 58(3-4): 75-86.

Korpilahti, E. 2007. Metsäntutkimuksen tulevaisuus (pääkirjoitus). *Metsätieteen aikakauskirja* 4/2007: 327-328.

Kostiainen, K. 2007. Wood properties of northern forest trees grown under elevated CO<sub>2</sub>, O<sub>3</sub> and temperature. University of Oulu, Department of Biology. *Dissertationes Forestales* 47. 36 s. + 5 osajulkaisua.

Leskinen, L.A. 2007. Kestävyyden tulkinnat metsäkeskusten yhteistoiminnallisissa käytännöissä. Tampereen yliopisto, Yhdyskuntatieteiden laitos. *Dissertationes Forestales* 44. 62 s. + 5 osajulkaisua.

Lähtinen, K., Selby, A. & Petäjistö, L. 2007. Puu- ja hirsitaloteollisuusyritysten markkina-alue-, tuote- ja asiakasvalintoihin perustuvat kokonaisstrategiat. *Metsätieteen aikakauskirja* 4/2007: 355-371.

Nuorteva, M. & Nuorteva, H. 2007. Hävinneeksi luokitellun koivutuholaisen, pulskamailapistiäisen massaesiintymä Ylämaalla. *Metsätieteen aikakauskirja* 2007(3/2007): 313-316.

Ogurtsov, M., Jungner, H. & Lindholm, M. 2007. A potential century-scale rhythm in six major paleoclimatic records in the Northern Hemisphere. *Geografiska Annaler* 89 A(2): 129-136.

Peltoniemi, M. 2007. Country-scale carbon accounting of the vegetation and mineral soils of Finland. University of Helsinki, Faculty of Biosciences. *Dissertationes Forestales* 50. 46 s. + 5 osajulkaisua.

Penttinen, M. 2007. Portfolio management and the competitiveness of forest ownership. *Dissertationes Forestales* 43. 48 s. + 5 osajulkaisua.

Pesonen, A., Korhonen, K.T., Tuominen, S., Maltamo, M. & Lukkarinen, E. 2007. Taimikohoitotarpeen arviointi valtakunnan metsien inventoinnin metsävarakartan pohjalta. *Metsätieteen aikakauskirja* 2/2007: 77-86.

Petäjistö, L. & Selby, A. 2007. Metsänomistajien arvot ja näkemykset hirvikannan säätelyssä. *Metsätieteen aikakauskirja* 4/2007: 341-354.

Piira, T., Kilpeläinen, H., Malinen, J., Wall, T. & Verkasalo, E. 2007. Leimikon puutavaralajikertymän ja myyntiarvon vaihtelu erilaisilla katkontaohjeilla. *Metsätieteen aikakauskirja* 1: 19-37.

Sievänen, R., Kareinen, T., Hirvelä, H. & Ilvesniemi, H. 2007. Hakkuumahdollisuusarvioihin perustuvat metsien kasvihuonekaasutaseet. *Metsätieteen aikakauskirja* 4/2007: 329-339.

Silfverberg, K., Issakainen, J. & Haikarainen, T. 2007. Mäntypuustojen runkotilavuus ja ravinnetila ojitusalueiden tehoviljelykokeilla. Stem volume and nutrient status of Scots pine stands in intensive cultivation experiments on drained peatlands. *Suo - Mires and Peat* 58(2): 49-62.

Surakka, H. & Sirén, M. 2007. Poimintahakkuiden puunkorjuun nykytietämys ja tutkimustarpeet. *Metsätieteen aikakauskirja* 4/2007: 373-390.

Tiimonen, H. 2007. Lignin characteristics and ecological interactions of PtCOMT-modified silver birch. University of Oulu, Department of Biology. *Dissertationes Forestales* 51. 44 s. + 5 osajulkaisua.

Tuominen, S. 2007. Estimation of local forest attributes, utilizing two-phase sampling and auxiliary data. *Dissertationes Forestales* 41. 46 s. + 5 osajulk.

Tuominen, S. & Pekkarinen, A. 2007. Kuvioraja-aineiston virheiden korjaaminen numeeristen ortoilmakuvien ja automaattisen segmentoinnin avulla. *Metsätieteen aikakauskirja* 2/2007: 87-100.

Turtiainen, M., Salo, K. & Saastamoinen, O. 2007. Mustikan ja puolukan marjasatojen valtakunnalliset ja alueelliset kokonaisestimaatit Suomen suometsissä. National and regional estimates of blueberry (*Vaccinium myrtillus* L.) and lingonberry (*V. vitis-idaea* L.) yields on peatlands in Finland. *Suo - Mires and Peat* 58(3-4): 87-98.

Törn, A. 2007. Sustainability of nature-based tourism. Acta Universitatis Ouluensis. Series A, Scientiae rerum naturalium 498. 56 s. + 4 osajulkaisua.

Veijalainen, A.-M. 2007. Sustainable organic waste management in tree-seedling production (väitöskirja). Kuopion yliopiston julkaisuja C. Luonnontieteet ja ympäristötieteet 217. 114 p.

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