

## Publication list of T. Koike in English

### Original paper:

>2018

- (1) Shi, C., Nakamura, M., Koike, T. and Li, RL. (submitted) Leaf defense characteristics of deciduous tree species seedlings in different soils exposed to a free-air O<sub>3</sub> enrichment system.
- (2) Kitao, M., Tobita, H., Kitaoka, S., Harayama, H., Yazaki, K., Komatsu, M., Agathokleous, E. and Koike, T. (submitted) Plants rigidly regulate excessive energy under various environmental stresses,
- (3) Abu ElEla S, Agathokleous E, Ghazawy NA, Amin TR, ElSayed WM, and Koike T. (2018) Enzyme content modification in adult beetles (*Agelastica coerulea*) inhabiting birch trees in an ozone-enriched atmosphere. Environmental Science and Pollution Research (in revision)
- (4) Watanabe. M., Hoshika, Y., Inada, N. and Koike, T. (2018) Photosynthetic activity in relation to a gradient of leaf nitrogen content within a canopy of Siebold's beech and Japanese oak saplings under elevated ozone. Science of the Total Environment 636: 1455–1462
- (5) Matsumoto, N., Suma, Y. and Koike, T. (2018) Reproduction and growth of Collembola under snow in a cold temperate region. Edaphologia, 102: 11–21.
- (6) Agathokleous, E., Kitao, M., Chu QN, Saitanis, C., Paoletti, E., Manning, W., Watanabe, T. and Koike, T. (2018) Effects of ozone (O<sub>3</sub>) and ethylenediurea (EDU) on the ecological stoichiometry of a willow grown in a free-air exposure system. Environmental Pollution 238c:663-676.
- (7) Abu ElEla, S., A, Agathokleous, E. and Koike, T. (2018) Growth and nutrition of *Agelastica coerulea* (Coleoptera: Chrysomelidae) larvae changed when fed with leaves obtained from an O<sub>3</sub>-enriched atmosphere. Environmental Science and Pollution Research, <https://doi.org/10.1007/s11356-018-1683-1>.
- (8) Hoshika, Y., Watanabe, M., Carrari, E., Paoletti, E. and Koike, T. (2017) Ozone-induced stomatal sluggishness changes stomatal parameters of Jarvis-type model in white birch and deciduous oak. Plant Biology, 20:20-28. doi: 10.1111/plb.12632.
- (9) Agathokleous, E., Paoletti, E., Manning, M.J., Kitao, M., Saitanis, C.J. and Koike, T. (2018) High doses of ethylenediurea (EDU) as soil drenches did not increase leaf N content or cause phytotoxicity in willow grown in fertile soil. Ecotoxicology and Environmental Safety. 147: 574-584. DOI: 10.1016/j.ecoenv.2017.09.017
- (10) Wang, X., Agathokleous, E., Qu, L., Fujita, S., Watanabe, M., Tamai, Y., Mao, Q., Koyama, A., Koike, T. (2018). Effects of simulated nitrogen deposition on ectomycorrhizae community structure in hybrid larch and its parents grown in volcanic ash soil: the role of phosphorus. Science of the Total Environment. doi.org/10.1016/j.scitotenv.2017.08.283
- (11) Pretzsch, H., Biber, P., Uhl, E., Dahlhausen, J., Schütze, G., Perkins, D., Rötzer, T., Caldentey, J., Koike, T., van Con, T., Chavanne, A., du Toit, B., Foster, K. and Lefer, B. (2017) Climate change accelerates growth of urban trees in metropolises worldwide. Scientific Reports 7, Article number: 15403 (2017) doi:10.1038/s41598-017-14831-w

- (12) Qu, LY, Kitaoka, S and Koike, T (2018) Factors controlling soil microbial respiration during the growing season in a mature larch plantation in Northern Japan. *Journal of Soils and Sediments*, DOI: 10.1007/s11368-017-1799-9.
- (13) Sugai, T., Kam, D-G., Agathokleous, E., Watanabe, M., Kita K. and Koike, T. (2018) Growth and photosynthetic response of two larches exposed to O<sub>3</sub> mixing ratios ranging from pre-industrial to near future. *Photosynthetica* 56: DOI: 10.1007/s11099-017-0747-7.
- (14) Fujita S, Wang XN, Sugai T, Kita K. and Koike T. (2018) The effect of nitrogen loading under low and high phosphorus conditions on above and belowground growth of hybrid larch F<sub>1</sub> saplings. *iForest -Geoscience and Forestry* 11:32-40.
- >2017
- (15) Shi, C., Watanabe, T. and Koike, T. (2017) Leaf stoichiometry of deciduous tree species in different soils exposed to free-air O<sub>3</sub> enrichment over two growing seasons. *Environmental and Experimental Botany* 138: 148–163
- (16) Watanabe, Y., Moriya, T., Takakura, J., Satoh, F. and Koike, T. (2017) Development of teaching materials for international course students on the ancient forest culture of the Hokkaido University Campus. *Eurasian Journal of Forest Research*, 20: 27-38.
- (17) Choi, D-S., Watanabe, Y., Guy, R.D, Sugai, T., Toda, H., and Koike, T.(2017) Photosynthetic characteristics and nitrogen allocation in the black locust (*Robinia pseudoacacia* L.) grown in a FACE. *Acta Physiologiae Plantarum*, 39, 71. <http://link.springer.com/article/10.1007/s11738-017-2366-0>
- (18) Agathokleous, E., Sakikawa, T., Abu ElEla, S.A., Mochizuki, T., Nakamura, M., Watanabe, M., Kawamura, K., and Koike, T. (2017) Ozone alters the feeding behavior of the leaf beetle *Agelastica coerulea* (Coleoptera: Chrysomelidae) into leaves of Japanese white birch (*Betula platyphylla* var. *japonica*). *Environmental Science and Pollution Research*, 24(21):17577-17583, DOI 10.1007/s11356-017-9369-7.
- (19) Agathokleous, E., Vanderstock, A., Kita, K., and Koike, T. (2017) Stem and crown growth of Japanese larch and its hybrid F<sub>1</sub> grown in two soils and exposed to two free-air O<sub>3</sub> regimes. *Environmental Science and Pollution Research*. 24(7) 6634–6647; DOI 10.1007/s11356-017-8401-2
- (20) Mochizuki T, Watanabe M, Koike T, and Tani A (2017) Monoterpene emissions from needles of hybrid larch F<sub>1</sub> (*Larix gmelinii* var. *japonica* × *Larix kaempferi*) grown under elevated carbon dioxide and ozone. *Atmospheric Environment* 148: 197-202. <http://dx.doi.org/10.1016/j.atmosenv.2016.10.041>.
- >2016
- (21) Kitao, M., Y. Yasuda, Y. Kominami, K. Yamanoi, M. Komatsu, T. Miyama, Y. Mizoguchi, S. Kitaoka, K. Yazaki, H. Tobita, K. Yoshimura, T. Koike, and T. Izuta (2016) Increased phytotoxic O<sub>3</sub> dose accelerates autumn senescence in an O<sub>3</sub>-sensitive beech forest even under the present-level O<sub>3</sub>. *Scientific Reports*, Article number: 32549 (2016) doi:10.1038/srep32549
- (22) Agathokleous, E., Paoletti, E., Saitanis, C.J., Manning, W.J., Sugai, T. and Koike, T. (2016). Impacts of ethylene diurea (EDU) soil drench and foliar spray in *Salix sachalinensis* protection against O<sub>3</sub>-induced injury. *Science of the Total Environment* 573:1053-1062.

- (23) Shi, C., Eguchi, N., Meng, F., Watanabe, T., Satoh, F. and Koike, T. (2016) Retranslocation of foliar nutrients of deciduous tree seedlings in different soil condition under free-air O<sub>3</sub> fumigation, *iForest - Biogeosciences and Forestry* (doi: 10.3832/for1889-009) on line journal
- (24) Agathokleous, E., Paoletti, E., Saitanis, C.J., Manning, W.J., Shi, C. and Koike, T. (2016). High doses of ethylene diurea (EDU) are not toxic to willow and act as nitrogen fertilizer. *Science of the Total Environment* 566-567: 841-850. DOI: 10.1016/j.scitotenv.2016.05.122
- (25) Agathokleous, E., Watanabe, M., Eguchi, N., Nakaji, T., Satoh, F., and Koike, T. (2016). Root production of *Fagus crenata* Blume saplings grown in two soils and exposed to elevated CO<sub>2</sub> concentration: an 11-year free-air-CO<sub>2</sub> enrichment (FACE) experiment in northern Japan. *Water, Air, & Soil Pollution*, 227: 187. DOI: 10.1007/s11270-016-2884-1
- (26) Sakikawa, T., Shi, C., Nakamura, M., Watanabe, M., Oikawa, M., Satoh, F. and Koike, T. (2016) Leaf phenology and insect grazing of Japanese white birch saplings grown under free-air ozone exposure. *Journal of Agricultural Meteorology* 72: 80-84.
- (27) Shi, C., Kitao, M., Agathokleous, E., Watanabe, M., Tobita, H., Yazaki, K., Kitaoka, S. and Koike, T. (2016) Foliar chemical composition of two oak species grown in a free-air enrichment system with elevated O<sub>3</sub> and CO<sub>2</sub>. *Journal of Agricultural Meteorology* 72: 50-58
- (28) Wang, XN, Agathokleous, E., Qu, L.Y., Watanabe, M., and Koike, T. (2016) Effects of CO<sub>2</sub> and/or O<sub>3</sub> on the interaction between root of woody plants and ectomycorrhizae. *Journal of Agriculture Meteorology* 72: 95-105.
- (29) Kitaoka, S., Matsuki, S., Kitao, M., Tobita, H., Utsugi, H., Maruyama, Y. and Koike, T. (2016) The photosynthetic response of four seral deciduous broad-leaved tree seedlings grown under elevated CO<sub>2</sub> concentrations. *Journal of Agriculture Meteorology* 72: 43-49, DOI: 10.2480/agrmet.D-14-00016
- (30) Kitao M, Hida T, Eguchi N, Tobita H, Utsugi H, Uemura A, Kitaoka S and Koike T (2016) Light compensation point in shade-grown seedlings of deciduous broadleaf tree species with different successional traits raised under elevated CO<sub>2</sub>. *Plant Biology* DOI: 10.1111/plb.12400.
- (31) Agathokleous, E., Saitanis, C.J., Wang X.N., Watanabe M. and Koike, T. (2016) A review study on past 40 years of research on effects of tropospheric O<sub>3</sub> on belowground structure, functioning and processes of trees: a linkage with potential ecological implications. *Water, Air, & Soil Pollution* 227:33-DOI: 10.1007/s11270-015-2715-9
- (32) Wang, XN., S. Fujita, T. Nakaji, M. Watanabe, F Satoh and T. Koike (2016) Fine root turnover of Japanese white birch (*Betula platyphylla* var. *japonica*) grown under elevated CO<sub>2</sub> in northern Japan. *Trees* 30:363-374
- (33) Agathokleous E, Watanabe M, Nakaji T, Wang XN, Satoh F, and Koike T. (2016) Impact of elevated CO<sub>2</sub> on root traits of a sapling community of three birches and an oak: A free-air-CO<sub>2</sub> enrichment (FACE) in northern Japan. *Trees* 30: 353-362, DOI: 10.1007/s00468-015-1272-6
- (34) Watanabe M, Kitaoka S, Eguchi N, Watanabe Y, Satomura T, Takagi K, Satoh F and Koike T (2016) Photosynthetic traits of Siebold's beech seedlings in changing light conditions by removal of shading trees under elevated CO<sub>2</sub>. *Plant Biology*,

doi:10.1111/plb.12382

>2015

- (35) Agathokleous, E., Koike, T., Saitanis, C.J., Watanabe, M., Satoh, F. and Hoshika, Y. (2015) Ethylenediurea (EDU) as a protectant of plants against O<sub>3</sub>. *Eurasian J. Forest Research* 18:37-50.
- (36) Agathokleous, E., Saitanis, C.J., Satoh, F. and Koike, T. (2015) Wild plant species as subjects in O<sub>3</sub> research. *Eurasian J. Forest Research* 18: 1-36.
- (37) Quentin, AG., Pinkard, EA., Ryan, MG., Tissue, DT., Baggett, LS., Adams, HD., Maillard, P., Marchand, J., Landhäusser, SM., Lacoite, A., Gibon, Y., Anderegg, WRL., Asao, S., Atkin, OK., Bonhomme, M., Claye, C., Chow, PS., Clément-Vidal, A., Davies, NW., Dickman, LT., Dumbur, R., Ellsworth, DS. Falk, K., Galiano, L., Grünzweig, JM., Hartmann, H., Hoch, G., Hood, S., Jones, JE., **Koike, T.**, Kuhlmann, I., Lloret, F., Maestro, M., Mansfield, SD., Martínez-Vilalta, J., Maucourt, M., McDowell, NG., Moing, A., Muller, B., Nebauer, SG., Niinemets, Ü., Palacio, S., Piper, F., Raveh, E., Richter, A., Rolland, G., Rosas, T., Saint-Joanis, B., Sala, A., Smith, RA., Sterck, F., Stinziano, JR., Tobias, M., Unda, F., **Watanabe, M.**, Way, DA., Weerasinghe, LK., Wild, B., Wiley, E., and Woodruff, DR. (2015) Non-structural carbohydrates in woody plants compared among laboratories. *Tree Physiology*. doi: 10.1093/treephys/tpv073 “ **Now world standard**”
- (38) Kam D-G, Shi, C., Watanabe, M., Kita, K., Satoh, F. and Koike, T. (2015) Growth of Japanese and hybrid larch seedlings grown under free-air O<sub>3</sub> fumigation—an initial assessment of the effects of adequate and excessive nitrogen. *Journal of Agricultural Meteorology* 71: 239-244
- (39) Kayama, M., Qu, L.Y. and Koike T. (2015) Elements and ectomycorrhizal symbiosis affecting the growth of Japanese larch seedlings regenerated on slopes of an active volcano in northern Japan. *Trees* 29: 1567-1579.
- (40) Hoshika, Y., Watanabe, M., Inada, N. and Koike, T. (2015) The effect of ozone-induced stomatal closure on ozone uptake and its changes due to leaf age in sun and shade leaves of Siebold's beech. *Journal of Agricultural Meteorology* 71: 218-226.
- (41) Watanabe, M., Hoshika, Y., Inada, N. and Koike, T. (2015) Difference in photosynthetic responses to free air ozone fumigation between upper and lower canopy leaves of Japanese oak (*Quercus mongolica* var. *crispula*) saplings. *Journal of Agricultural Meteorology* 71: 227-231.
- (42) Pretzsch, H., P. Biber, E. Uhl, J. Dahlhausen, T. Rötzer, J. Caldentey, T. Koike, T. van Con, A. Chavanne, T. Seifert, B. du Toit, C. Farnden, S. Pauleit (2015) Crown size and growing space requirement of common tree species in urban centres, parks, and forests. *Urban Forestry & Urban Greening* 14: 466–479, 04/2015; DOI:10.1016/j.ufug.2015.04.006 .
- (43) Hoshika, Y., Katata, G., Deushi, M., Watanabe, M., Koike, T. and Paoletti, E. (2015) Ozone-induced stomatal sluggishness changes carbon and water balance of temperate deciduous forests, *Scientific Report* 04/2015; 5:9871. DOI:10.1038/srep09871
- (44) Fukuzawa, K., H. Shibata, K. Takagi, F. Satoh, T. Koike and K. Sasa (2015) Roles of dominant understory Sasa bamboo in carbon and nitrogen dynamics following canopy tree removal in a cool-temperate forest in northern Japan: Role of Understory Sasa in Forest. *Plant Species Biology* 04/2015; 30(2).

DOI:10.1111/1442-1984.12086

- (45) Kayama, M. and Koike, T. (2015) Differences in growth characteristics and dynamics of elements in seedlings of two birch species grown in serpentine soil in northern Japan. *Trees-structure and function* 29:171-184. DOI: 10.1007/s00468-014-1102-2
- (46) Agathokleous, E., Koike, T., Watanabe, M., Hoshika, Y., and Saitanis, C.J. (2015). Ethylene-di-urea (EDU), the most effective phytoprotectant against O<sub>3</sub> deleterious effects and a valuable research tool: a mystery of decades. *Journal of Agricultural Meteorology* 71: 185-195.
- (47) Kitao, M., K. Yazaki, S. Kitaoka, E. Fukatsu, H. Tobita, M. Komatsu, Y. Maruyama and T. Koike (2015) Mesophyll conductance in leaves of Japanese white birch (*Betula platyphylla* var. *japonica*) seedlings grown under elevated CO<sub>2</sub> concentration and low N availability. *Physiologia Plantarum* 02/2015; DOI:10.1111/ppl.12335.
- (48) Koike, T., Watanabe, M., Watanabe, Y., Agathokleous, E., Mao, QZ., Eguchi, N., Takagi, K., Satoh, F., Kitaoka, S., and Funada, R. (2015). Ecophysiology of deciduous trees native to Northeast Asia grown under FACE (Free Air CO<sub>2</sub> Enrichment), *Journal of Agricultural Meteorology* 71: 174-184.
- (49) Agathokleous, E., Saitanis, C.J., and Koike, T. (2015) Tropospheric O<sub>3</sub>, the nightmare of wild plants –A review study. *Journal of Agricultural Meteorology* 71: 142-152.
- (50) Wang, XN, L Qu, Q Mao, M Watanabe, Y Hoshika, A Koyama, K Kawaguchi, Y Tamai and T Koike (2015) Ectomycorrhizal colonization and growth of the hybrid larch F<sub>1</sub> under elevated CO<sub>2</sub> and O<sub>3</sub>. *Environmental Pollution* 197: 116-126
- (51) Hoshika, Y., Watanabe, M., Kitao, M., Haberle, K-H., Grams, T.E.E., Koike, T. and Matyssek, R. Ozone induces stomatal narrowing in European and Siebold's beeches: a comparison between two experiments of free-air ozone exposure. *Environmental Pollution* 196: 527-533, DOI: 10.1016/j.envpol.2014.07.034.
- >2014
- (52) Kortenien, A-T., Chan, T., Shimizu, Y. and Koike (2014) A role of forest aesthetics in white birch stands with changing environment of production. *Studia i Materialy Osrodka Kultury Lesnej* 13: 241-256.
- (53) Watanabe, Y., Karaki, T., Kondo, T. and Koike, T. (2014) Seed development of the black locust and physical dormancy in northern Japan. *Phyton* 54: 305-320 DOI: 10.12905/0380.
- (54) Watanabe, M., Hoshika, Y. and Koike, T. (2014) Photosynthetic responses of Monarch birch seedlings to different timing of free air ozone fumigation. *Journal of Plant Research*, 127:339–345, DOI 10.1007/s10265-013-0622-y
- (55) Watanabe, M., Kitaoka, S., Eguchi, N., Watanabe, Y., Satomura, T., Takagi, K., Satoh, F. and Koike, T. (2014) Photosynthetic traits and growth of *Quercus mongolica* var. *crispula* sprouts attacked by powdery mildew under free air CO<sub>2</sub> enrichment. *European Journal of Forest Research*. 133: 725-733, DOI: 10.1007/s10342-013-0744-8
- (56) Cao D, Shi FC, Koike T, Lu Z and Sun J (accepted) Halophyte plant communities affecting enzyme activity and microbes in saline soils of the Yellow River Delta in China. *Journal of Clean- Soil Air Water*, DOI: 10.1002/clen.201300007
- (57) Watanabe, M., Hoshika, Y., Inada, N. and Koike, T. (2014) Canopy carbon budget

of Siebold's beech (*Fagus crenata*) saplings exposed to ozone. *Environmental Pollution*. 184: 682-689.

- (58) Mao QZ, Watanabe M, Makoto K, Kita K and Koike T (2014) High nitrogen deposition may enhance growth of the new hybrid larch F<sub>1</sub> growing at two phosphorus levels. *Landscape and Ecological Engineering* 10:1-8, DOI10.1007/s11355-0212-0207-2

>2013

- (59) Watanabe, M., Mao, Q., Novriyanti, E., Kita, K., Takagi, K., Satoh, F. and Koike, T. (2013) Elevated CO<sub>2</sub> enhances the growth of hybrid larch F<sub>1</sub> (*Larix gmelinii* var. *japonica* × *L. kaempferi*) seedlings and changes its biomass allocation. *Trees*. 27: 1647-1655. DOI: 10.1007/s00468-013-0912-y
- (60) Hoshika, Y., Watanabe, M., Inada, N., Mao, Q. and Koike, T. (2013) Photosynthetic response of early and late leaves of white birch (*Betula platyphylla* var. *japonica*) grown under free-air ozone exposure. *Environmental Pollution*, 182: 242-247.
- (61) Fukuzawa, K., Shibata, H., Takagi, K., Satoh, F., Koike, T. and Sasa, K. (2013) Temporal variation in fine-root biomass, production and mortality in a cool temperate forest covered with dense understory vegetation in northern Japan. *Forest Ecology and Management* 310: 700-710.
- (62) Hoshika, Y., Watanabe, M., Inada, N., Mao, QZ. and Koike, T. (2013) Model analysis of avoidance of ozone stress via stomatal closure for Siebold's beech (*Fagus crenata*). *Annals of Botany* 112: 1149-1158. Doi: 10.1093/aob/mct166.
- (63) Watanabe, M., Hoshika, Y., Inada, N., Wang XN, Mao, QZ. and Koike, T. (2013) Photosynthetic traits of Siebold's beech and oak saplings grown under free air ozone exposure in northern Japan. *Environmental Pollution*. 174: 50-56
- (64) Hoshika, Y., Tatsuta, S., Watanabe, M., Wang XN, Watanabe, Y., Saito, H., and Koike, T. (2013) Effect of ambient ozone at the somma of Lake Mashu on growth and leaf gas exchange in *Betula ermanii* and *B. platyphylla* var. *japonica*. *Environmental and Experimental Botany* 90: 12–16 (DOI:10.1016/j.envexpbot.2012.11.003)

>2012

- (65) Hirano A, Hongo I, and Koike T (2012) Morphological and physiological responses of Siebold's beech (*Fagus crenata*) seedlings grown under CO<sub>2</sub> concentrations ranging from pre-industrial to expected future levels. *Landscape and Ecological Engineering* 8: 59–67.
- (66) Masyagina O.V. and Koike T. (2012) Soil respiration in model plantations under conditions of elevated CO<sub>2</sub> in the atmosphere (Hokkaido Island, Japan). *Russian Journal of Ecology* 43: 24-28.
- (67) Hoshika, Y., Watanabe, M., Inada, N., and Koike, T. (2012) Growth and leaf gas exchange in three birch species exposed to elevated ozone and CO<sub>2</sub> in summer. *Water, Air, and Soil Pollution*, 223: 5017-5025, DOI: 10.1007/s11270-012-1253-y
- (68) Kim, YS, Yi, MJ, Lee YY, Son YH and Koike T. (2012) Characteristics of soil CO<sub>2</sub> efflux in even-aged alder compared to Korean pine plantation in central Korea. *Journal of Forest Science* 28: 232-241.
- (69) Mao, QZ, Watanabe, M., Imori, M., Kim, Y.S. Kita, K. and Koike, T. (2012) Photosynthesis and nitrogen allocation in needles in the sun and shade crowns of hybrid larch. *Photosynthetica* 50: 422-428.

- (70) Novriyanti, E., Watanabe M., Kitao, M., Utsugi, H., Uemura, A., and Koike, T. (2012) High nitrogen and elevated [CO<sub>2</sub>] effects on the growth, defense and photosynthetic performance of two eucalypt species. *Environmental Pollution* 170: 124-130
- (71) Novriyanti, E., Watanabe, M., Makoto, K., Takeda, T., Hashidoko, Y. And Koike, T. (2012) Photosynthetic nitrogen and water use efficiency of acacia and eucalypt seedlings as afforestation species. *Photosynthetica* 50: 273-281.
- (72) Komatsu, M., Tobita, H., Watanabe, M., Yazaki, K., Koike, T., and Kitao, M. (2012) Photosynthetic down-regulation in leaves of the Japanese white birch grown under elevated CO<sub>2</sub> concentration does not change their temperature-dependent susceptibility to photoinhibition. *Physiologia Plantarum* doi:10.1111/j.1399-3054.2012.01651.x
- (73) Kawaguchi, K., Watanabe, M., Hoshika, Y. and Koike, T. (2012) Ecophysiological responses of Northern Birch Forests to changing atmospheric environment, *Asian Journal of Atmospheric Environment* 6:196-205
- (74) Kitao, M., Tobita, H., Utsugi, H., Komatsu, M., Kitaoka, S., Maruyama, Y. and Koike, T. (2012) Photosynthetic traits around budbreak in pre-existing needles of Sakhalin spruce (*Picea glehnii*) seedlings grown under elevated CO<sub>2</sub> concentration assessed by chlorophyll fluorescence measurements. *Tree Physiology*. 32: 998-1007.
- (75) Kitao, M., Kitaoka, S., Komatsu, M., Utsugi, H., Tobita, H., Koike, T. and Maruyama, Y. (2012) Leaves of Japanese oak (*Quercus mongolica* var. *crispula*) mitigate photoinhibition by adjusting electron transport capacities and thermal energy dissipation along the intra-canopy light gradient. *Physiologia Plantarum*. 146: 192-204.
- (76) Koike, T., Mao, QZ., Inada, N., Kawaguchi, K., Hoshika, Y., Kita, K. and Watanabe, M. (2012) Growth and photosynthetic responses of cuttings of a hybrid larch (*Larix gmelinii* var. *japonica* x *L. kaempferi*) to elevated ozone and/or carbon dioxide. *Asian Journal of Atmospheric Environment* 6:104-110.
- (77) Watanabe, M., Ryu, K., Kita, K., Takagi, K. and Koike, T. (2012) Effects of nitrogen load on the growth and photosynthesis of hybrid larch F<sub>1</sub> (*Larix gmelinii* var. *japonica* x *L. kaempferi*) seedlings grown on serpentine soil. *Environmental and Experimental Botany* 83, 73-81.
- (78) Watanabe, M., Watanabe, Y., Kim Y.S. and Koike, T. (2012) Dark aerobic methane emission associated to leaf factors of two *Acacia* and five *Eucalyptus* species. *Atmospheric Environment* 54, 277-281.
- (79) Koike, T.<sup>2</sup> (2012) Forest history of Japan with changing environment. *Studia i Materialy Osrodka Kultury Lesnej* 11: 109-130.
- (80) Hoshika, Y., Watanabe, M., Inada, N. And Koike, T. (2012) Ozone-induced stomatal sluggishness develops progressively in Siebold beech (*Fagus crenata*). *Environmental Pollution* 166: 152-156. DOI:10.1016/j.envpol.2012. 03.013
- (81) Hoshika, Y., Watanabe, M., Inada, N. And Koike, T. (2012) Modeling of stomatal conductance for estimating ozone uptake of *Fagus crenata* under experimentally enhanced free-air ozone exposure. *Water, Air and Soil Pollution* 223:3893-3901. DOI 10.1007/s11270-012-1158-9
- (82) Saito, K., Watanabe, Y., Shirakawa, M., Matsushita, Y., Imai, T., Koike, T., Sano, Y., Funada, R., Fukazawa, K. and Fukushima, K. (2012) Direct mapping of

morphological distribution of syringyl and guaiacyl lignin in the xylem of maple by time-of-flight secondary ion mass spectrometry. *The Plant Journal* 69: 542–552.

- (83) Makoto, K., Shibata, H., Kim, Y.S., Satomura, T., Takagi, K., Nomura, M., Satoh, F., Koike, T. (2012) Contribution of charcoal to short-term nutrient dynamics after surface fire in the humus layer of a dwarf bamboo-dominated forest. *Biology and Fertility of Soils* 48: 569-577 (DOI: 10.1007/s00374-011-0657-y).
- (84) Kim, Y.S., Imori, M., Watanabe, M., Hatano, R., Yi, M.J., and Koike, T. (2012) Simulated nitrogen inputs influence methane and nitrous oxide fluxes from a young larch plantation in northern Japan. *Atmospheric Environment* 46:36-44
- (85) Karaki, T., Watanabe, Y., Kondo, T. and Koike, T. (2012) Strophiole of seeds of the black locust acts as a water gap. *Plant Species Biology* 27 : 226-232. DOI: 10.1111/j.1442-1984.2011.00343.x
- (86) Makoto, K., Kamata, N., Kamibayashi, N., Koike, T. and Tani, H. (2012) Bark-beetle-attacked trees produced more charcoal than unattacked trees during a forest fire on the Kenai Peninsula, Southern Alaska. *Scandinavian Journal of Forest Research*. 27: 30-35.
- >2011
- (87) Makoto, K., Hirobe, M., DeLuca, T.H., Bryanin, S.V., Procopchuk, V.F., Koike, T. (2011) Effects of fire-derived charcoal on soil properties and seedling regeneration in a recently burned *Larix gmelinii*/*Pinus sylvestris* forest. *Journal of Soils and Sediments*. 11:1317-1322.
- (88) Watanabe, M., Yamaguchi, M., Matsumura, H., Kohno, Y. Koike, T. and Izuta, T. (2011) A case study of risk assessment of ozone impact on forest tree species in Japan. *Asian Journal of Atmospheric Environment*, 5: 205-215.
- (89) Watanabe, M., Watanabe, Y., Kitaoka, S., Utsugi, H., Kita, K. and Koike, T. (2011) Growth and photosynthetic traits of hybrid larch F<sub>1</sub> under elevated CO<sub>2</sub> concentration under low nutrient availability. *Tree Physiology* 31: 965-975.
- (90) Kim YS\*, Makoto, K.\*, Takakai, F., Shibata, H., Satomura, T., Takagi K, Hatano R, Koike T (2011) Greenhouse gas emissions after a prescribed fire in white birch-dwarf bamboo stands in northern Japan, focusing on the role of charcoal. *European Journal of Forest Research* 130:1031-1044, \*: equally contributed to this study (“Both” are the top author)
- (91) Kim, Y.S., Watanabe, M., Imori, M., Sasa, K., Takagi, K., Hatano, R. and Koike, T. (2011) Reduced atmospheric CH<sub>4</sub> consumption by two forest soils under elevated CO<sub>2</sub> concentration in a FACE system in northern Japan. *Japanese Journal of Atmospheric Environment* 46:30–36.
- (92) Hirano, A. Hongo I. and Koike, T. (2011) Morphological and physiological response of Siebold’s beech (*Fagus crenata*) seedlings grown under CO<sub>2</sub> concentration ranging from pre-industrial to expected future levels. *Landscape and Ecological Engineering* 8:59–67.
- (93) Koike, T., Shimizu, Y. and Ito, S. (2011) Development and application of Forest Aesthetics in Japan in relation to the ideas of H. von Salisch. *Studia i Materialy Osrodka Kultury Lesnej* 10: 47-62.
- (94) Kayama, M., Satoh, F. and Koike, T. (2011) Photosynthetic rate, needle longevity, and nutrient contents in *Picea glehnii* growing on strongly acidic volcanic ash soil in northern Japan. *Photosynthetica* 49: 239-245
- (95) Makoto, K., Choi, D.S., Hashidoko, Y. and Koike, T. (2011) The growth of *Larix*

*gmelinii* seedlings as affected by charcoal produced at two different temperatures. *Biology and Fertility of Soils* 47: 467-472.

>2010

- (96) Masyagina, O.V., SG Prokushkin, T Koike (2010) The influence of thinning on the ecological conditions and soil respiration in a larch forest on Hokkaido Island, *Eurasian Soil Science* 43: 693-700.
- (97) Mao, Q., Watanabe, M and Koike, T. (2010) Growth characteristics of two promising tree species for afforestation, birch and larch in the northeastern part of Asia. *Eurasian Journal of Forest Research* 13: 69-76.
- (98) Aoyama, C., Novriyanti, E. and Koike, T. (2010) Induced defense of leaves of Japanese white birch seedlings grazed by Gypsy moth larvae. *Eurasian Journal of Forest Research* 13: 49-55.
- (99) Novriyanti, E., Aoyama, C., Watanabe, M. and Koike, T. (2010) Plants defense characteristics and hypothesis on the Birch species. *Eurasian Journal of Forest Research* 13: 77-85.
- (100) Makoto, K., Tamai, Y., Kim, Y.S. and Koike, T. (2010) Buried charcoal layer and ectomycorrhizae cooperatively promote the growth of *Larix gmelinii* seedlings. *Plant and Soil*: 327: 143-152
- (101) Mori, S, Yamaji, K., Ishida, A., Prokushkin S.G., Masyagina O., Hagihara, A., Rafiqul Hoque, A.T.M., Suwa, R., Osawa, A., Nishizono, T., Ueda, T., Kinjo, M., Miyagi, T., Kajimoto, T., Koike, T., Matsuura, Y., Toma, T., Zyryanova, O.A., Abaimov, A.P., Awaya, Y., Araki, M.G., Kawakasaki, T., Chiba, Y., and Umari M. (2010) Mixed-power scaling of whole-plant respiration from seedlings to giant trees. *Proceedings of the National Academy of Sciences* 107: 1447-1451
- (102) Morimoto J., Kominami R. and Koike T. (2010) Distribution and characteristics of the soil seed bank of the black locust (*Robinia pseudoacacia*) in a headwater basin in northern Japan. *Landscape and Ecological Engineering*; DOI: 10.1007/s11355-009-0096-1.
- (103) Zyryanova, O.A., Zyryanov, V.I., Trazawa, M. and Koike, T. (2010) White Birch Trees as Resource Species of Russia : Their Distribution, Ecophysiological Features, Multiple Utilizations. *Eurasian Journal of Forest Research* 13: 25-40.
- (104) Watanabe, M., Umemoto-Yamaguchi, M., Koike, T. and Izuta, T. (2010) Growth and photosynthetic response of *Fagus crenata* seedlings to ozone and/or elevated carbon dioxide. *Landscape and Ecological Engineering* 6:181-190.
- (105) Watanabe, Y., Satomura, T., Sasa, K., Funada, R. and Koike, T. (2010) Differential anatomical responses to elevated CO<sub>2</sub> in saplings of four hardwood species. *Plant & Cell Environment* 33:1101 – 1111
- (106) Suetsugu, N., Satoh, F. and Koike, T. (2010) An atlas of Collembola species in the Sapporo Experimental Forest of Hokkaido University in Northern Japan. *Eurasian Journal of Forest Research* 13: 57-67.

>2009

- (107) Koike, T. (2009) A trial of revegetation practices with larch species under changing environment. *Landscape and Ecological Engineering* 5: 97 - 98
- (108) Zu, Y., Wang, W., Wang, H., Liu W, Cui S. and Koike, T (2009) Soil CO<sub>2</sub> efflux, carbon dynamics, and change in thermal conditions from contrasting clear-cut sites during natural restoration and uncut larch forests in northeast China. *Climate Change* 96:137–159, DOI 10/1007/s-10584 -009-9601-7.

- (109) Ryu K, Watanabe M, Shibata H, Takagi K, Nomura M, Koike T. (2009) Ecophysiological responses of the larch species in northern Japan to environmental changes as a base of afforestation. *Landscape and Ecological Engineering* 5: 99 - 106
- (110) Qu, L., Kitaoka, S., Kuromaru, M., Osaki, M., Sasa, K. and Koike, T. (2009) Root-shoot communication of the seedlings of Japanese larch and its hybrid grown in different temperature regimes. *Landscape and Ecological Engineering* 5: 115 – 123.
- (111) Kayama, M. Makoto, K. Nomura, M, Satoh, F. and Koike, T. (2009) Dynamics of elements in larch seedlings (*Larix kaempferi*) regenerated on serpentine soil in northern Japan. *Landscape and Ecological Engineering* 5: 125 – 135.
- (112) Kitaoka, S., Watanabe, Y. and Koike, T. (2009) The effects of clear cutting of overstory trees and nitrogen supply on the gas exchange traits in four seral deciduous broad-leaved tree seedlings growing in larch plantations *Tree Physiology* 29:1503-1511
- (113) Kayama, M., Makoto, K., Nomura, M., Sasa, K. and Koike, T. (2009) Growth characteristics of Sakhalin spruce (*Picea glehnii*) planted on the northern Japanese hillsides exposed to strong winds. *Trees - Structure and Function* 23: 145-157
- (114) Takagi,K., Fukuzawa,K., Liang,N., Kayama,M., Nomura,M., Hojyo,H., Sugata,S., Shibata,H., Fukazawa,T., Takahashi,Y., Nakaji,T., Oguma,H., Mano,M., Akibayashi,Y., Murayama,T., Koike,T., Sasa,K. and Fujinuma,Y. (2009) Change in the CO<sub>2</sub> balance under a series of forestry activities in a cool-temperate mixed forest with dense undergrowth. *Global Change Biology* 15: 1275–1288, DOI:10.1111/j.1365-2486.2008.01975.x
- >2008
- (115) Choi, D.S., Jin, H.O., Chung, D. J. Sasa, K. and Koike, T. (2008) Growth and physiological activity in *Larix kaempferi* seedlings inoculated with ectomycorrhizae affected by soil acidification. *Trees - Structure and Function* 22:729-735
- (116) Eguchi, N., Karatsu, K., Ueda, T., Funada, R., Takagi, K., Hiura, T., Sasa, K. and Koike, T. (2008) Photosynthetic responses of birch and alder saplings grown in a free air CO<sub>2</sub> enrichment system in northern Japan. *Trees - Structure and Function* 22: 437-447.
- (117) Eguchi, N., Morii, N., Ueda, T., Funada, R., Takagi, K., Hiura, T., Sasa, K. and Koike, T. (2008) Changes in petiole hydraulic structure and leaf water flow in birch and oak saplings in an enhanced CO<sub>2</sub> environment. *Tree Physiology* 28:287-295.
- (118) Watanabe, Y, Tobita, H, Kitao, M, Maruyama, Y, Choi, D.S., Sasa, K, Funada, R. and Koike, T. (2008) Effects of elevated CO<sub>2</sub> and nitrogen on wood structure related to water transport in seedlings of two deciduous broad-leaved tree species. *Trees - Structure and Function* 22: 403-411.
- (119) Kitahashi, Y., Ichie, T., Maruyama, Y., Kenzo, T., Kitaoka, S., Matsuki, S. Nakashizuka, T. and Koike, T. (2008) Photosynthetic water use efficiency in tree crowns of tropical emergent species in Sarawak, Malaysia. *Photosynthetica* 46: 151-155.
- >2007
- (120) Ishii, H., Kitaoka, S., Fujisaki, T., Maruyama, Y. and Koike, T. (2007) Plasticity of shoot and needle morphology and photosynthesis of two *Picea* species with different site preferences in northern Japan. *Tree Physiology* 27: 1595–1605.

- (121) Kitaoka, S., Sakata, T., Koike, T., Tobita, H., Uemura, A., Kitao, M., Maruyama, Y., Sasa, K. and Utsugi, H. (2007) Methane emission from leaves of larch, birch and oak saplings grown under elevated CO<sub>2</sub> in northern Japan –A preliminary study- *Journal of Agriculture Meteorology* 63: 201-206.
- (122) Kayama, M., Kitaoka, S., Choi, D.S. Wang, W. and Koike, T. (2007) Needle longevity and growth characteristics of eight spruce species planted in northern Japan. *Tree Physiology* 27: 1585-1593.
- (123) Kitao, M., Lei, T.T., Koike, T., Kayama, M., Tobita, H. and Maruyama, Y. (2007) Interaction of drought and elevated CO<sub>2</sub> concentration on photosynthetic down-regulation and susceptibility to photoinhibition in Japanese white birch seedlings grown under limited N availability. *Tree Physiology* 27: 727-735.
- (124) Wang, W., Wang, H., Zu, YG, Yu, JH and Koike, T. (2007) Photosynthetic characteristics of regenerated plantlets of *Camptotheca acuminata* as a diagnostic for tissue cultured plantlets in acclimatization in field growth. *Eurasian Journal of Forest Research* 10: 201-207.
- (125) Shinano, T., Yamamoto, T., Tawaraya, T., Tadokoro, M., Koike, T. and Osaki, M. (2007) Effects of enriched CO<sub>2</sub> levels on the nutrient uptake characteristics of *Larix Kaempferi*. *Tree Physiology*, 27: 97-104.
- (126) Zyryanova, O.A., Yabarov, V.T., Tchikhacheva, T.L., Koike, T., Makoto, K., Matsuura, Y., Satoh, F., and Zyryanova, V. I. (2007) The structure and biodiversity after fire disturbance in *Larix gmelinii* (Rupr.) Rupr. forests, northeastern Asia. *Eurasian Journal of Forest Research* 10: 19-29.
- (127) Kayama, M., Choi, D.S., Nomura, M, Sasa, K., Satoh, F. and Koike, T. (2007) Reforestation trial with Sakhalin spruce after forest fires in northern Japan. *Eurasian Journal of Forest Research* 10: 31-39.
- (128) Makoto, K., Nemilostiv, Y.P., Zyryanova, O.A., Kajimoto, T., Matsuura, Y., Yoshida, T., Satoh, F., Sasa, K. and Koike, T. (2007) Regeneration after forest fires in mixed conifer broadleaved forests of the Amur region in Far Eastern Russia: the relationship between species specific traits against fire and recent fire regimes. *Eurasian Journal of Forest Research* 10: 51-58.
- (129) Koike, T., Kitaoka, S., Masyagina, O.V., Watanabe, Y., Ji, D.H., Maruyama, Y. and Sasa, K. (2007) Nitrogen dynamics in leaves of deciduous broad-leaved tree seedlings grown in a unmanaged larch plantation in northern Japan. *Eurasian Journal of Forest Research* 10: 115-119
- (130) Makoto, K. and Koike, T. (2007) Effects of nitrogen supply on photosynthetic and anatomical changes in current-year needles of *Pinus koraiensis* seedlings grown under two irradiances. *Photosynthetica* 45:99-104.
- (131) Kujansuu, J., Yasue, K., Koike, T., Abaimov, A.P., Kajimoto, T., Takeda, T., Tokumoto, M. and Matsuura, Y. (2007) Responses of ring widths and maximum densities of *Larix gmelinii* to climate in contrasting north- and south-facing slopes in central Siberia. *Ecological Research* DOI10.1007/s11284-006-0062-4
- >2006
- (132) Yanagihara, Y., Shibata, H., Matsuura, Y. and Koike, T. (2006) Effects of soil and vegetation types on soil respiration rate in larch plantations and a mature deciduous broadleaved forest in northern Japan. *Eurasian Journal of Forest Research* 9:79-95.
- (133) Koike, T., Matsuki, S., Choi, D.S., Matsumoto, T. Watanabe, Y. and

- Maruyama, Y. (2006) Photosynthesis, leaf longevity and defense characteristics in trees of Betulaceae planted in Northern Japan. *Eurasian Journal of Forest Research* 9: 69-78.
- (134) Kajimoto, T., Matsuura, Y., Osawa, A., Abaimov, A.P., Zyryanova, O.A., Mori, S. and Koike, T. (2006) Size-mass allometry and biomass allocation of two larch species growing on the continuous permafrost region in Siberia. *Forest Ecology and Management* 222: 314-325.
- (135) Choi, D.S., Kayama, M., Jin, H.O., Lee, C.H., Izuta, T. and Koike, T. (2006) Growth and photosynthetic responses of two pine species (*Pinus koraiensis* and *Pinus rigida*) in a polluted industrial region in Korea. *Environmental Pollution* 139:421-432
- (136) Wang, W., Y.G. Zu, X.Q. Zhang, X.Y. Li, T. Hirano and T. Koike (2006) Newly-formed photosynthates and the respiration rate of girdled stems of Korean pine (*Pinus koraiensis* Sieb. et Zucc.) . *Photosynthetica* 43: 147-150.
- (137) Kitao, M., Lei, T.T., Koike, T., Tobita, H. and Maruyama, Y. (2006) Tradeoff between shade adaptation and mitigation of photoinhibition in leaves of *Quercus mongolica* and *Acer mono* acclimated to deep shade. *Tree Physiology* 26: 441-448.
- (138) Koike, T., Tobita, H., Shibata, T., Mastuki, S., Konno, K., Kitao, M., Yamashita, N. and Maruyama, Y. (2006) Defense characteristics of seral deciduous broad-leaved tree seedlings grown under differing levels of CO<sub>2</sub> and nitrogen. *Population Ecology* 48: 23-29.
- (139) Wang, W., Endo, I., Watanabe, Y., Ji, D.H. and Koike, T. (2006) Seasonal change in the photosynthetic capacity of cones at the canopy of Japanese larch trees. *Photosynthetica* 44:345-348
- (140) Masyagina O.V., Hirano T., Ji D.H., Choi D.S., Qu L., Fujinuma Y., Sasa K., Matsuura Y., Prokushkin S.G., and Koike T. (2006) Effect of spatial variation of soil respiration rates following disturbance by timber harvesting in a larch plantation in northern Japan. *Forest Science and Technology* 2: 80-91. Kujansuu, J., Yasue, K., Koike, T., Abaimov, A.P., Kajimoto, T., Takeda, T., Tokumoto, M. and Matsuura, Y. (2006) Climatic responses of tree-ring widths of *Larix gmelinii* growing on the contrasting north-facing and south-facing slopes in central Siberia. *Journal of Wood Science* DOI10.1007/s10086-006-0837-9.
- (142) Matsuki, S. and Koike, T. (2006) Comparison of leaf lifespan, photosynthesis and defensive traits across seven species of deciduous broad-leaf tree seedlings. *Annals of Botany* 97: 813 - 817.
- (143) Wang, W., Zu, Y., Cui, S., Hirano, T., Takagi, K., Watanabe, Y. and Koike, T. (2006) Changes in CO<sub>2</sub> exchange during the development of larch (*Larix gmelinii* (Rupr.) Rupr.) cones. *Tree Physiology* 26:1363–1368.
- (144) Kenzo, T., Ichie, T., Watanabe, Yoneda, R., Ninomiya I. and Koike, T. (2006) Changes in photosynthesis and leaf characteristics with tree height in five dipterocarp species in a tropical rain forest *Tree Physiology* 26: 865-873
- (145) Koike, T. Uemura, S., Shibata, H. and Sasa, K. (2007) Conservation of the Mixed Conifer-Broadleaf Forests and Educational Development of Hokkaido University Forests in Northern Japan. *Sustainability Science* (accept for publication)
- (146) Fukuzawa, K., Shibata, H., Takagi, K., Satoh, F., Koike, T. and Sasa, K. (2006) Vertical distribution and seasonal pattern of fine root dynamics in a cool-temperate

forest in northern Japan: Implication of the understory vegetation, Sasa dwarf bamboo. Ecological Research.

- (147) Kayama, M., Choi, D.S., Tobita, H., Utsugi, H., Kitao, M., Maruyama, Y., Nomura, M. and Koike, T. (2006) Comparison of growth characteristics and tolerance to serpentine soil of three ectomycorrhizal spruce seedlings in northern Japan. *Trees Structure and function* 20: 430-440
- (148) Wang, W., Endo, I., Watanabe, Y., Ji, D.H. and Koike, T. (2006) Seasonal change in the photosynthetic capacity of cones at the canopy of Japanese larch trees. *Photosynthetica* 44: 344-348.
- (149) Kumagai, T., Ichie, T., Yoshimura, M., Yamashita, M., Kenzo, T., Saitoh, T. M., Ohashi, M., Suzuki, M., Koike, T. and Komatsu, H. (2006) Modeling CO<sub>2</sub> exchange over a Bornean tropical rain forest using measured vertical and horizontal variations in leaf-level physiological parameters and leaf area densities. *Journal of Geophysical Research -Atmospheres*, 111: D10107, doi:10.1029/2005JD006676.
- (150) Koike, T., Tobita, H., Shibata, T., Mastuki, S., Konno, K., Kitao, M., Yamashita, N. and Maruyama, Y. (2006) Defense characteristics of seral deciduous broad-leaved tree seedlings grown under differing levels of CO<sub>2</sub> and nitrogen. *Population Ecology* 48: 23-29
- (151) Wang, W., Y.G. Zu, X.Q. Zhang, X.Y. Li, T. Hirano and T. Koike (2006) Newly-formed photosynthates and the respiration rate of girdled stems of Korean pine (*Pinus koraiensis*) . *Photosynthetica* 43: 147-150.

>2005

- (152) Eguchi, N, Ichie, T, Ji, D.H., Karatsu, K, and Koike, T. (2005) Accurate estimation of nitrogen concentration in deciduous tree leaves in a field study using a portable non-destructive nitrogen detector. *Journal of Plant Physiology* 163: 680-683.
- (153) Eguchi, N., Funada, R., Ueda, T., Takagi, K., Hiura, T. Sasa, K. and Koike, T. (2005) Soil moisture condition and growth of deciduous tree seedlings native to northern Japan raised under elevated CO<sub>2</sub> with a FACE system . *Phyton* 45: 133-138.
- (154) Koike, T. Shibata, T., Lei, T.T., Matsuki, S., Nomura, M., Tobita, H. Kitao, M. Quoreshi, A.M. and Maruyama, Y. (2005) Defense characteristics of mountain alder seedlings raised under elevated CO<sub>2</sub> and nitrogen supply. *Phyton* 45: 163-168
- (155) Lei, T.T. and Koike, T. (2005) Effect of elevated CO<sub>2</sub> on photosynthetic ability and wood density of birch, oak and maple seedlings. *Phyton* 45: 145-152
- (156) Choi, D.S., Kayama, M., Jin, H.O., Lee, C.H., Izuta, T. and Koike, T. (2005) Growth and photosynthetic responses of two pine species planted under a polluted industrial region in Korea. *Environmental Pollution* 139:421-432
- (157) Kim, H.H., Hirano, T., Koike, T. and Urano, S. (2005) Contribution of litter CO<sub>2</sub> production to total soil respiration in two different deciduous forests. *Phyton* 45:
- (158) Tobita, H., Kitao, M., Koike, T. and Maruyama, Y. (2005) Effects of elevated CO<sub>2</sub> and nitrogen availability on nodulation of *Alnus hirsuta* (Turcz.). *Phyton* 45: 125-131
- (159) Choi, D.S., Quoreshi A.M., Jin H.O, Maruyama Y. and Koike T. (2005) Mycorrhizal activities in *Pinus densiflora*, *P. koraiensis* and *Larix kaempferi* raised under high CO<sub>2</sub> in relation to water use efficiency. *Phyton* 45: 139-144

- (160) Mogami, J., Hirano, T., Hirata, R., Koike, T. and Fujinuma, Y. (2005) Temporal variation in photosynthetic photon flux density on a larch forest floor. *J. Agr. Meteor.*, 60: 1161-1164
- (161) Kayama, M., Quoreshi, A.M., Uemura, S. and Koike, T. (2005) Differences in growth characteristics and dynamics of elements absorbed in seedlings of three spruce species raised on serpentine soil in northern Japan. *Annals of Botany* 95: 661-672.
- (162) Shibata, H., Hiura, T., Tanaka, Y., Takagi, K. and Koike, T. (2005) Carbon cycling and budget in a forested basin of southwestern Hokkaido, northern Japan. *Ecological Research* 20: 325-331.
- (163) Choi, D.S., Quoreshi, A.M., Maruyama, Y., Jin, H.O. and Koike, T. (2005) Effect of ectomycorrhizal infection on growth and photosynthetic characteristics of *Pinus densiflora* seedlings grown under elevated CO<sub>2</sub> concentrations. *Photosynthetica* 43: 223-229.
- (164) Takagi, K., Nomura, M., Fukuzawa, K., Kayama, M., Shibata, H., Sasa, K., Koike, T., Akibayashi, Y., Inukai, K. and Maebayashi, M. (2005) Deforestation effects on the micrometeorology in a cool-temperate forest in northernmost Japan. *Journal of Agricultural Meteorology* 60: 1025-1028.
- (165) Takagi, K., Nomura, M., Ashiya, D., Takahashi, H., Sasa, K., Fujinuma, Y., Shibata, H., Akibayashi, Y. and Koike, T. (2005) Dynamic carbon dioxide exchange through snowpack by wind-driven mass transfer in a conifer-broadleaf mixed forest in northernmost Japan. *Global Biogeochemical Cycles* 19:BG2012:1-10
- (166) Kitao, M., T. Koike, H. Tobita, and Y. Maruyama (2005) Susceptibility to photoinhibition in leaves of Japanese white birch (*Betula platyphylla* var. *japonica*) grown under elevated CO<sub>2</sub> and limited nitrogen nutrition. *Physiologia Plantarum* 125: 64-73.
- (167) Ichie, T., Kenzo, T., Kitahashi, Y., Koike, T. and Nakashizuka, T. (2005) How does *Dryobalanops aromatica* supply carbohydrate resources for reproduction in a masting year? *Trees; Structure and Function* 19: 703-710
- (168) Wang W.J., Zu Y.G., Wang H.M., Matsuura, Y., Sasa, K. and Koike, T. (2005) Plant Biomass and productivity of *Larix gmelinii* forest ecosystems in Northeast China: intra- and inter- species comparison. *Eurasian Journal of Forest Research* 8: 21-41
- (169) Qu LY, Ji D-H, Shi FH, Sasa K. and Koike T. (2005) Growth and photosynthetic performance of two larch seedlings grown in shade conditions. *Eurasian Journal of Forest Research* 8: 43-51.
- (170) Kitaoka, S. and Koike, T. (2005) Seasonal and year-to-year variation in light use and nitrogen use of four deciduous broad-leaved tree seedling species invading larch plantations. *Tree Physiol.* 25: 25: 467-475
- (171) Wang, W.J., Zu, Y.G., Wang, H., Hirano, T., Sasa, K. and Koike, T. (2005) Effects of collar inserting and parameters selection on the soil respiration measurement by LI-6400 in a larch forest. *J. For. Res.*, 10: 57 - 60
- (172) Zyryanova O.A., Yaborov V.T., Abaimov A.P., Koike T., Sasa K. and Terazawa M. (2005) Problems in the maintenance and sustainable use of forest resources in Priamurye in the Russian Far East. *Eurasian J. For. Res.* 8: 53-64.

- (173) Kayama, M., Quoreshi, A.M., Uemura, S. and Koike, T. (2005) Differences in growth characteristics and dynamics of elements absorbed in seedlings of three spruce species raised on serpentine soil in northern Japan. *Ann. Bot.*, 94: 661-672.
- (174) Takagi, K., Nomura, M., Fukuzawa, k., Kayama, M., Shibata, H., Sasa, K., Koike, T., Akibayashi, Y., Inukai, K and Maebayashi, M. (2005) Deforestation effects on the micrometeorology in a cool-temperate forest in northernmost Japan. *J. Agri. Meteorol.* 60: 1025-1028.
- >2004
- (175) Matsuki, S., Sano, Y. and Koike, T. (2004) Chemical and physical defense in the early and late leaves in three heterophyllous birch species native to northern Japan. *Ann Bot.*, 93: 141-147.
- (176) Liang, N., Nakadai T., Hirano T., Qu L., Koike T., Fujinuma Y. and Inoue G. (2004). In-situ comparison of four approaches to estimating soil CO<sub>2</sub> efflux in a northern larch (*Larix kaempferi* Sarg.) forest. *Agr. For. Meteorol.*, 123:97-117.
- (177) Kurokawa, H., Kitahashi, Y., Koike, T., Lai, J., and Nakashizuka, T. (2004) Allocation of net production to growth or defense? Defensive allocation at seedling stages in Borneo ironwood and two dipterocarp species. *Oecologia* 140:261-270.
- (178) Yazaki, K., S. Ishida, T., Kawagishi, E. Fukatsu, Y. Maruyama, M. Kitao, H. Tobita, T. Koike and R. Funada (2004) Effects of elevated CO<sub>2</sub> on growth, annual ring structure and photosynthesis in *Larix kaempferi* seedlings *Tree Physiol.*, 24: 941-949
- (179) Kitaoka, S. and Koike, T. (2004) Invasion of broadleaf tree species into a larch plantation: Seasonal light environment, photosynthesis, and nitrogen allocation. *Physiol. Plant.*, 121: 604-611.
- (180) Eguchi, N. Fukatsu, E., Funada, R., Tobita, H., Kitao, M., Maruyama, Y., and Koike, T. (2004) Changes in morphology, anatomy and photosynthetic capacity of needles of Japanese larch (*Larix kaempferi*) seedlings grown in high CO<sub>2</sub> concentrations. *Photosynthetica* 24: 173-178
- (181) Kenzo, T., Ichie, T., Yoneda, R., Watanabe, Y., Ninomiya, I. and Koike, T. (2004) Interspecific variation of photosynthesis and leaf characteristics in some canopy trees of Dipterocarpaceae in tropical rain forest. *Tree Physiol.*, 24: 1187-1192
- (182) Izuta, T., Yamaoka, T., Nakaji, T., Yonekura, T., Yokoyama, M., Funada, R., Koike, T. and Totsuka, T. (2004). Growth, net photosynthesis and leaf nutrient status of *Fagus crenata* seedlings grown in brown forest soil acidified with H<sub>2</sub>SO<sub>4</sub> or HNO<sub>3</sub> solution. *Trees* 18: 677-685.
- (183) Qu, Laiye, Kayama, M., Kitaoka, S., Akasaka, M. Sasa, K. and Koike, T. (2004) Micro- environmental analysis of natural regeneration of larch in northern Japan. *Eurasian J. For. Res.*, 7: 43-51.
- (184) Jiang, L.F., Shi, F.C., Wang, H.T., Zu, Y.G., and Koike, T. (2004) Root respiration in *Larix gmelinii* plantations in northeast China. *Plant Physiol. Comm.* 40: 27-30.
- (185) Kitao, M., Koike, T., Qu Laiye, Tobita, H. and Maruyama, Y. (2004) Increased susceptibility to photoinhibition in pre-existing needles experiencing low temperature at spring budbreak in Sakhalin spruce (*Picea glehnii* Masters) seedlings. *Physiol. Plant.*122:226-232

- (186) Qu, Laiye, Shinano, T., Quoreshi, A.M., Tamai, Y., Osaki, M. and Koike, T. (2004) Allocation of <sup>14</sup>C-Carbon in infected with ectomycorrhizae of two species of larch seedlings. *Tree Physiol.* 24: 1369–1376

>2003

- (187) Kayama, M, Quoreshi, A.M., Kitaoka, S., Kitahashi, Y., Sakamoto, Y., Maruyama, Y., Kitao, M., and Koike, T. (2003) Effects of deicing salt on the vitality and health of two spruce species, *Picea abies*. Karst. and *P. glehnii* Masters planted along roadsides in northern Japan. *Environmental Pollution*, 124: 127-137.
- (188) Ishii, H., Ooishi, M., Maruyama, Y. and Koike, T. (2003) Acclimation of shoot and needle morphology and photosynthesis of two *Picea* species to different soil nutrient availability. *Tree Physiol.*, 23: 453-462.
- (189) Kitao, M., Lei, T.T., Koike, T., Tobita, H. and Maruyama, Y. (2003) Higher electron transport rate observed at low intercellular CO<sub>2</sub> concentration in long-term drought-acclimated leaves of Japanese mountain birch (*Betula ermanii*). *Physiol. Plant.*, 118: 406-413.
- (190) Wang, W., Osaki, M., Hirano, T., Hiura, T. and Koike, T. (2003) Stomatal and non-stomatal limitation of *Sasa senanensis* raised in balanced nutrition regimes. *Bamboo J.*, 20: 19-32.
- (191) Qu, Laiye, Quoreshi, A.M., Koike, T. (2003) Root growth characteristics, biomass and nutrient dynamics of seedlings of two larch species raised under different fertilization regimes. *Plant Soil* 255: 293-302
- (192) Fen, J.L., Shi F.C., Zu, Y.G., Wang, W. and Koike, T. (2003) Study on stem respiration of *Larix gmelinii* of different ages and its relationship to environmental factors. *Bull. Bot. Res.*, 23: 296-301.
- (193) Koike, T., Kitao, M., Quoreshi, A.M. and Matsuura, Y. (2003) Growth characteristics of root-shoot relations of three birch seedlings raised under different water regimes. *Plant and Soil* 255: 303-310.
- (194) Wang, W., Yang, F.J., Zu, Y., Wang H.M., Takagi K., Sasa, K. and Koike T. (2003) Stem respiration of a larch (*Larix gmelinii*) plantation in Northeast China. *Acta Botanica Sinica* 45: 1387-1397.
- (195) Kenzo, T., Ichie, T., Ninomiya, I. and Koike, T. (2003) Photosynthetic activity in seed wings of Dipterocarpaceae in a masting year: Does wing photosynthesis contribute to reproduction? *Photosynthetica*. 41: 551-557.
- (196) Qu, Laiye, Quoreshi, A. M., Iwase, K., Tamai, Y., Funada, R. and Koike, T. (2003) *In vitro* ectomycorrhiza formation on larch seedlings with six different fungal species. *Eurasian J. For. Res.*, 6:65-73
- (197) Koike, T., Matsuki, S., Matsumoto, T., Yamaji, K., Tobita, H., Kitao, M. and Maruyama, Y. (2003) Bottom-up regulation for protection and conservation of forest ecosystems in northern Japan under changing environment. *Eurasian J. For. Res.*, 6: 177-189
- (198) Quoreshi, A.M., Maruyama, Y., Koike, T. (2003) The Role of mycorrhiza in forest ecosystems under CO<sub>2</sub>-enriched atmosphere. *Eurasian J. For. Res.*, 6: 171-176.

>2002

- (199) Kayama, M., Sasa, K. and Koike, T. (2002) Needle life span, photosynthetic rate, and nutrient concentration of *Picea glehnii*, *P. jezoensis*, and *P. abies* planted on serpentine soil in northern Japan. *Tree Physiol.*, 22: 707-716.

- (200) Fujii, T., Tomaru, N., Okuyama, K., Koike, T., Mikami, T. and Ueda, K. (2002) Chloroplast DNA phylogeography of *Fagus crenata* (Fagaceae) in Japan. *Plant Syst. Evolut.*, 232: 21-33
- (201) Ichie, T., Kitahashi, Y., Matsuki, S., Maruyama, Y. and Koike, T. (2002) The use of a portable non-destructive type nitrogen meter for leaves of woody plants in field studies. *Photosynthetica* 40: 289-292.
- (202) Usoltsev, V.A., Koltunova, A.I., Kajimoto, T., Osawa, A and Koike, T. (2002) Geographical gradient of annual biomass production of larch forests in northern Eurasia. *Eurasian J. For. Res.*, 5:52-62.
- (203) Shi, F.C., Qu, L.Y., Wang, W., Matsuura, Y., Koike, T. and Sasa, K. (2002) Aboveground biomass and productivity of *Larix gmelinii* forests in northeast China. *Eurasian J. For. Res.*, 5:23-32.
- (204) Korotkii, T., Prokushkin, S.G., Matsuura, Y. and Koike, T. (2002) Effects of soil temperature on the content of nitrogen compounds in seedlings of *Larix gmelinii* regenerated on permafrost in central Siberia. *Eurasian J. For. Res.*, 5:39-42.
- (205) Wang, W., Shi, F.C., Zu, Y., Yang, F.J., Mao, Z.J. and Koike, T. (2002) Construction and development of CO<sub>2</sub> flux networks on terrestrial ecosystems. *J. Northeast Forestry Univ.*, 30: 57-61.
- (206) Matsuda, K., Shibuya, M. and Koike, T. (2002) Maintenance and rehabilitation of the mixed conifer-broadleaved forests in Hokkaido, northern Japan. *Eurasian J. For. Res.*, 5: 119-130
- >2001
- (207) Kitao, M., Lei, T.T., Nakamura, T. and Koike, T. (2001) Manganese toxicity as indicated by visible foliar symptoms of Japanese white birch (*Betula platyphylla* var. *japonica*). *Environmental Pollution*, 111: 89-94.
- (208) Wang, W., Kayama, M., Kitaoka, S., Osaki, M. and Koike, T. (2001) Photosynthetic characteristics of *Sasa senanensis* grown under low nitrogen, potassium and phosphorous nutrient conditions. *Bamboo J.*, 18: 23-36.
- (209) Koike, T., Kitao, M., Maruyama, Y., Mori, S., and Lei, T.T. (2001) Leaf morphology and photosynthetic adjustments among deciduous broad-leaved trees within the vertical canopy profile. *Tree Physiol.*, 21: 951-958.
- (210) Izuta, T., Yamaoka, T., Nakaji, T., Yonekura, T., Yokoyama, M., Matsumura, H., Ishida, S., Yazaki, K., Funada, R. and Koike, T. (2001) Growth, net photosynthetic rate, nutrient status and secondary xylem anatomical characteristics of *Fagus crenata* seedlings grown in brown forest soil acidified with H<sub>2</sub>SO<sub>4</sub> solution. *Water, Soil Air Pollut.*, 130: 1007-1012.
- (211) Yazaki, K., Funada, R., Mori, S., Maruyama, Y., Abaimov, A.P., Kayama, M., and Koike, T. (2001) Growth and annual ring structure of *Larix sibirica* grown at different CO<sub>2</sub> concentration and nutrient supply. *Tree Physiol.*, 21: 1223-1229.
- (212) Yonekura, T., Honada, Y., Oksanen, E., Yoshidome, M., Watanabe, M., Funada, R., Koike, T. and Izuta, T. (2001) The Influences of ozone and soil water stress, singly and in combination, on leaf gas exchange rates, leaf ultrastructural characteristics and annual ring width of *Fagus crenata* seedlings. *J. Jpn. Soc. Atmos. Environ.*, 51:330-347
- (213) Shi, F., Li, J., Koike, T. and Nie, S. (2001) Resources of white birch (*Betula platyphylla* var. *japonica*) for sap production and its ecological characteristics in northern China. *Eurasian J. For. Res.*, 2: 27-30.

- (214) Koike, T., Hojyo, H., Naniwa, A., Ashiya, D., Sugata, S., Sugishita, S., Kobayashi, M., Nomura, M., Akibayashi, Y., Nakajima, J., Takagi, K., Shibata, H., Satoh, F., Wang, W., Shi, F., Takada, M., Fujinuma, Y., Matsuura, Y. and Sasa, K. (2001) Basic data for CO<sub>2</sub> flux monitoring of a young larch plantation –Current status of a mixed conifer-broadleaf forest stand-. Eurasian J. For. Res., 2: 65-79.
- (215) Prokshukin, S.G., Prokushukin, A.S., Stasova, V.V., Mori, S., Sakamoto, Y., Quoreshi, A.M. Koike, T. (2001) Reaction of *Larix gmelinii* roots under low soil temperatures in northern parts of Central Siberia. Eurasian J. For. Res., 4: 25-38.
- >2000
- (216) Kayama, M., Nomura, M., Sugishita, Y., Satoh, F., Sasa, K. and Koike, T. (2000) Growth of dwarf bamboo community grown at cold and very windy adjacent sites in northern most Japan as affected by snow depth. Bamboo J. 17: 20-26.
- (217) Kitao, M., Lei, T.T., Koike, T., Tobita, H., Maruyama, Y., Matsumoto, Y. and Ang, Lai-Hoe. (2000) Temperature response and photoinhibition investigated by chlorophyll fluorescence measurements for four distinct species of Dipterocarp trees. Physiol. Plant., 109: 284-290.
- (218) Kato, S., Koike, T., Lei, T.T., Hsieh, C.F., Ueda, K. and Mikami, T. (2000) Analysis of mitochondrial DNA of an endangered beech species, *Fagus hayatae* Palibin ex Hayata. New Forests 19: 109-114.
- (219) Kitao, M., Lei, T.T., Koike, T., Tobita, H. and Maruyama, Y. (2000) Susceptibility to photoinhibition of three deciduous broadleaf tree species with different successional traits raised under various light regimes. Plant Cell Environ., 23: 81-89.
- (220) Koike, T., Yazaki, K., Funada, R., Maruyama, Y., Mori, S. and Sasa, K. (2000) Forest heath and vitality in northern Japan - A case study on larch plantation-. Research Note, Fac. Forestry, The Univ. Joensuu. 92: 49-60.
- (221) Abaimov, AP., Zyryanova, OA, Prokushkin, SG, Matsuura, Y. and Koike, T. (2000) Forest ecosystems of the cryolithic zone of Siberia; regional features, mechanisms of stability and pyrogenic changes. Eurasian J. For. Res., 1: 1-10.
- (222) Yanagihara, Y., Koike, T., Matsuura, Y., Mori, S., Shibata, H., Satoh, F., Masuyagina, O.V., Zyranova, O.A, Prokushkin, S.G, and Abaimov, A.P. (2000) Soil respiration rate on the contrasting north-and south-facing slopes of a larch forest in central Siberia.. Eurasian J. For. Res., 1: 19-29.
- (223) Koike, T., Yazaki, K., Funada, R., Kitao, M., Maruyama, Y., Takahashi, K., Maximov, TC, and Ivanov, BI. (2000) Photosynthetic characteristics of Dahurian larch, Scotch pine and white birch seedlings native to eastern Siberia raised under elevated CO<sub>2</sub>. Eurasian J. For. Res., 1: 31-37.
- (224) Abaimov, A. P., Zyryanova, O. A, Prokushkin, S. G, Matsuura, Y. and Koike, T. (2000) Forest ecosystems of the cryolithic zone of Siberia; regional features, mechanisms of stability and pyrogenic changes. Eurasian Journal of Forest Research 1: 1-10.
- >1999
- (225) Kitao, M., Lei, T.T. and Koike, T. (1999) Effects of manganese in solution culture on the growth of five deciduous broad-leaved tree species with different successional characters from northern Japan. Photosynthetica 36: 31-40.

- (226) Nakamura, T., Koike, T., Lei, T.T., Ohashi, K., Shinano, T. and Tadano, T. (1999) The effect of CO<sub>2</sub> enrichment on the growth of nodulated and non-nodulated isogenic types of soybean raised under two nitrogen concentrations. *Photosynthetica* 37: 61-70.

>1998

- (227) Koike, T., Kato, S., Shimamoto, Y., Kitamura, K., Kawano, S. Ueda, K. and Mikami, T. (1998) Mitochondrial DNA variation follows a geographic pattern in Japanese beech species. *Botanica Acta* 11: 87-91.
- (228) Koike, T., Tabuchi, R., Mori, S., Takahashi, K. and Lei, T.T. (1998) Characteristics of the light response in seedlings and saplings of two mid successional species, ash and kalopanax, during the early stage of regeneration in a mature forest. *J. Sustainable For.*, 6: 73-84
- (229) Lei, T.T., Tabuchi, R., Kitao, M., Takahashi, K. and Koike, T. (1998) Effects of season, weather and vertical position on the light variation in quantity and quality in a Japanese deciduous broadleaf forest. *J. Sustainable For.*, 6: 35-55.
- (230) Kitao, M., Lei, T.T. and Koike, T. (1998) Application of chlorophyll fluorescence to evaluate Mn tolerance of deciduous broad-leaved tree seedlings native to northern Japan. *Tree Physiol.* 18: 135-140.
- (231) Lei, T.T. and Koike, T. (1998) Functional leaf phenotypes for shade and open environments of a dominant dwarf bamboo (*Sasa senanensis*) in northern Japan. *Int. J. Plant Sci.*, 159: 812-820.
- (232) Lei, T.T. and Koike, T. (1998) Some observations of phenology and ecophysiology of *Daphne kamtschatica* Maxim. var. *jezoensis* (Maxim.) Ohwi, a shade deciduous shrub, in the forest of northern Japan. *J. Plant Res.*, 111: 207-212.
- (233) Izuta, T., Kobayashi, T., Matsumura, H. and Koike, T. (1998) Visible foliar injuries induced by simulated acid rain in several Japanese forest tree seedlings. *Forest Resources Environment*, 36: 12-18.
- (234) Umemoto-Mori, M., Izuta, T. and Koike, T. (1998) Application of simple infiltration method for evaluating stomatal patchiness in beech leaves treated with O<sub>3</sub> and high CO<sub>2</sub>. *Forest Resources Environment*, 36: 19-25.
- (235) Koike, T., Watanabe, T., Toda, H. and Haibara, K. (1998) Morphological diversity of stomata of representative broadleaved trees in a temperate region: detection with the Sump method. *Forest Resources Environment*, 36: 55-63.

>1997

- (236) Koike, T., Honma, K., Lei, T.T., Matsui, K. and Makita, A. (1997) Characteristics of the light response of photosynthetic rate in *Sasa kuliensis* seedlings. *Bamboo J.*, 14: 15-19.
- (237) Hanba, Y.T., Mori, S., Lei, T.T., Koike, T. and Wada, E. (1997) Variations in leaf δ<sup>13</sup>C along a vertical profile of irradiance in a temperate Japanese forest. *Oecologia* 110: 253-261.
- (238) Kitao, M., Lei, T.T., Mori, S., Koike, T. and Maruyama, Y. (1997) Increased susceptibility to photoinhibition in leaves of Japanese elm (*Ulmus davidiana* var. *japonica*) with high manganese concentration. *Developments in plant and soil sciences* 78: 409-410.
- (239) Koike, T., Izuta, T., Lei, T.T., Kitao, M. and Asanuma, S. (1997) Effects of high CO<sub>2</sub> on nodule formation in roots of Japanese mountain alder seedlings grown under two nutrient levels. *Developments in plant and soil sciences* 78: 887-888.

- (240) Kitao, M., Lei, T.T. and Koike, T.(1997) Effect of manganese toxicity on photosynthesis of white birch (*Betula platyphylla* var. *japonica*) seedlings. *Physiol. Plant.* 101: 249-256.
- (241) Kitao, M., Lei, T.T. and Koike, T. (1997) Comparison of photosynthetic responses to manganese toxicity in deciduous broad-leaved trees in northern Japan. *Environmental Pollution*, 97: 113-118.
- (242) Koike, T., Miyashita, N. and Toda, H.(1997) Effects of shading on leaf structural characteristics in successional deciduous broadleaved tree seedlings and their silvicultural meaning. *Forest Resources Environment*, 35: 9-25.
- (243) Nakamura, T., Osaki, M., Hanba, Y.T., Koike, T., Wada, E. and Tadano, T. (1997) Effect of CO<sub>2</sub> enrichment on carbon and nitrogen interaction in wheat and soybean. *Soil Sci. Plant Nutri.* 43: 789-798.
- >1996
- (244) Lei, T.T., Tabuchi, R., Kitao, M. and Koike, T. (1996) The functional relationship between chlorophyll content, leaf reflectance, and light capturing efficiency of Japanese forest species under natural shade and open light regimes. *Physiol. Plant.* 79: 411-418.
- (245) Koike, T., Lei, T.T., Maximov, T.C., Tabuchi, R., Takahashi, K. and Ivanov, B.I (1996) Comparison of the photosynthetic capacity of Siberian and Japanese birch seedlings grown in elevated CO<sub>2</sub> and temperature. *Tree Physiol.*, 16: 381-385.
- (246) Koike, T., Mori, S., Takahashi, K. and Lei, T.T. (1996) Effects of high CO<sub>2</sub> on the shoot growth and photosynthetic capacity of seedlings of Sakhalin fir and Monarch birch native to northern Japan. *Environ. Sci.* 4: 93-102.
- (247) Shinano, T., Lei, T.T., Kawamukai, T., Inoue, M.T., Koike, T. and Tadano, T. (1996) Dimethylsulfoxide method for the extraction of chlorophylls a and b from the eaves of wheat, field bean, dwarf bamboo, and oak. *Photosynthetica* 32: 409-415.
- (248) Rousi, M., Mattson, W.J., Tahvanainen, J., Koike, T., and Uotila, I. (1996) Growth and hare resistance of birches: testing defense theories. *Oikos* 77: 20-30.
- (249) Wu, G., Toda, H., Haibara, K. and Koike, T. (1996) Dynamics of water-soluble base cations in a forest soil measured by an in situ IER method. *Jpn. J. For. Environ.*, 38: 92-97.
- (250) Koike, T. (1996) Leaf morphology and anatomy affecting the net photosynthetic rate of 33 deciduous broadleaved trees. *Forest Resources Environ.*, 34:25-32.
- (251) Koike, T., Umemoto, M., Horie, K. Sato, K. and Izuta, T. (1996) Foliar symptoms and shoot development of deciduous broadleaved tree seedlings raised under ambient and enriched carbon dioxide with two nutrient regimes. *Forest Resources Environ.*, 34:81-88.
- >1995
- (252) Koike, T. (1995) Effects of CO<sub>2</sub> in interaction with temperature and soil fertility on the foliar phenology of alder, birch, and maple seedlings. *Can. J. Bot.*, 73:149-157.
- (253) Koike, T., Kohda, H., Inoue, M.T., Mori, S., Takahashi, K. and Lei, T.T. (1995) Growth responses of the cuttings of two willow species to elevated CO<sub>2</sub> and temperature. *Plant Species Biol.*, 10: 95-101.

(254) Lechowicz, M.J. and Koike, T. (1995) Phenology and seasonality of woody plants: An unappreciated element in global change research? *Can. J. Bot.*, 73:147-148.

>1994

(255) Lei, T.T., Mori, S., Takahashi, K. and Koike, T. (1994) Seasonal photosynthetic patterns of *Sasa senanensis* in natural open and forest shade sites in Hokkaido, Japan. *Bamboo J.* 12: 49-55.

(256) Kogami, H., Shono, M., Koike, T., Yanagisawa, S., Izui, K., Sentoku, N., Tanifuji, S., Uchimiya, H. and Toki, S. (1994) Molecular and physiological evaluation of transgenic tobacco plants expressing a maize phosphoenolpyruvate carboxylase gene under the control of the cauliflower mosaic virus 35S promoter. *Transgenic Res.*, 3:287-296.

(257) Koike, T., Mori, S., Kitao, M., Takahashi, K. and Lei, T.T. (1994) Effect of elevated CO<sub>2</sub> and temperature on the survival and growth of transplanted rhizomes of *Sasa senanensis*. *Bamboo J.* 12: 43-48.

(258) Koike, T., Hasler, R. and Item, H. (1994) Needle longevity and photosynthetic performance in Cembra Pine and Norway Spruce growing on the north- and east-facing slopes of the timberline of Stillberg in the Swiss Alps. *USDA INT-GTR*, 309:78-80.

>1993

(259) Matyssek, R., Keller, Th. and Koike, T. (1993) Branch growth and leaf gas exchange of *Populus tremula* exposed to low ozone concentration through out two growing seasons. *Environmental Pollution*, 79:1-7.

>1992

(260) Koike, T., Sanada, M., Lei, T.T., Kitao, M. and Lechowicz, M.J. (1992) Senescence and the photosynthetic performance of individual leaves of deciduous broad-leaved trees as related to forest dynamics. *Res. Photosynthesis*. 4: 703-706.

>1990

(261) Koike, T. (1990) Autumn coloring, photosynthetic performance and leaf development of deciduous broad-leaved trees in relation to forest succession. *Tree Physiol.*, 7:21-32.

>1989

(262) Koike, T. and Sanada, M. (1989) Photosynthesis and leaf longevity in alder, birch, and ash seedlings grown under different nitrogen levels. *Ann. Sci. For. (Paris)* 46: 295-297, 1989.

>1988

(263) Koike, T. (1988) Leaf structure and photosynthetic performance as related to the forest succession of deciduous broad-leaved trees. *Plant Species Biol.*, 3:77-87.

>1987

(264) Koike, T. (1987) Photosynthesis and expansion in leaves of the early, mid, and late successional tree species, birch, ash and maple. *Photosynthetica* 21:503-508.

>1986

(265) Koike, T. (1986) Photosynthetic responses to light intensity of deciduous broad-leaved tree seedlings raised under various artificial shade. *Environ. Cont. Biol.*, 24:51-58.

(266) Koike, T. (1986) A method for measuring photosynthesis with detached parts of deciduous broadleaved trees in Hokkaido. *J. Jpn. For. Soc.*, 68:425-428.

(267) Koike, T. and Tanaka, K. (1986) Photosynthesis and respiration in leaves of *Betula maximowicziana* infected with *Taphrina betulina*. J. Jpn. For. Soc., 68: 194-196.

>1985

(268) Koike, T. and Sakagami, Y. (1985) Comparison of the photosynthetic responses to temperature and light of *Betula maximowicziana* and *Betula platyphylla* var. *japonica*. Can. J. For. Res., 15: 631-635.

>1984

(269) Koike, T. (1984) Comparison of photosynthetic response to habitat factors between seedlings and saplings *Fraxinus mandshurica* var. *japonica*. Environ. Cont. Biol., 22: 33-38.

(270) Koike, T. and Sakagami, Y. (1984) Examination of methods of measuring photosynthesis with detached parts of three species of birch in Hokkaido. J. Jpn. For. Soc., 66: 373-340.

>1982

(271) Koike, T. (1982) The formation of new leaves on seedlings of *Chamaecyparis obtusa* S. et Z. treated photoperiodically from summer to winter. J. Jpn. For. Soc., 64: 275-279.

#### **Contribution to Book Chapter:**

- (1) Koike, T., Kitao, M., Hikosaka, K., Agathokleous, E., Watanabe, Y., Watanabe, M., Eguchi, E. and Funada, R. (2018) Photosynthetic and Photosynthesis-Related Responses of Japanese Native Trees to CO<sub>2</sub>: Results from Phytotrons, Open-Top Chambers, Natural CO<sub>2</sub> Springs, and Free-Air CO<sub>2</sub> Enrichment, In: Adams WW and I. Terashima eds. The Leaf: A Platform for Performing Photosynthesis and Feeding the Plant, Chapter 15, Springer-V., (in press)
- (2) Watanabe, M., Hoshika, Y., Koike, T. and Izuta, T. (2017) Effects of ozone on Japanese trees. Air pollution impacts on plant in East Asia (Izuta, T. ed.), Springer Japan, Tokyo, 73-100. DOI: 10.1007/978-4-431-56438-6\_5
- (3) Watanabe, M., Hoshika, Y., Koike, T. and Izuta, T. (2017) Combined effects of ozone and other environmental factors on Japanese trees. Air pollution impacts on plant in East Asia (Izuta, T. ed.), Springer Japan, Tokyo, 101-110. DOI: 10.1007/978-4-431-56438-6\_6;
- (4) Yamaguchi, T., Watanabe, M., Noguchi, I. and Koike, T. (2017) Tree decline at the somma of Lake Mashu in northern Japan. Air pollution impacts on plant in East Asia (Izuta, T. ed.), Springer Japan, Tokyo, 135-150. DOI: 10.1007/978-4-431-56438-6\_9;
- (5) Koike, T., Watanabe, M., Hoshika, Y., Kitao, M., Matsumura, H., Funada, R. and Izuta, T. (2013) Effects of ozone on forest ecosystems in East and Southeast Asia. In: Matyssek, R., Clarke, N., Cudlin, P., Mikkelsen, T.N., Tuovinen, J.-P., Wieser, G. and Paoletti, E., eds., Climate Change, Air Pollution and Global Challenges: Understanding and Solutions from Forest Research, A COST action, Elsevier.
- (6) Koike, T. (2012) Silviculture and Forest ecology in a changing environment. In: Agricultural Sciences for Human Sustainability, Kaiseisha, Ohtsu, 121-122.

- (7) Koike, T. eds. (2012) *Silviculture and Forest Ecology in a Changing Environment*, In Hashidoko, Y. et al.(eds.) (2012) *Agricultural science for human sustainability*, Kaisei-sha Publisher, Otsu, 121-122.
- (8) Morishita, T., Masuyagina, O.V., Koike, T. and Matsuura, Y. (2010) Soil respiration in larch forests. *In: Osawa, A., Zyryanova O. A. Matsuura, Y. Kajimoto, T. and Wein, R.W. eds., Permafrost Ecosystem: Siberian Larch Forests. Ecological Studies 209, Springer Verlag. 165-182.*
- (9) Koike, T., Mori, S., Zyryanova, O.A., Kajimoto, T., Matsuura, Y. and Abaimov, A.P. (2010) Photosynthetic characteristics of trees and shrubs grown at north- and south-facing slopes in central Siberia. *In: Osawa, A., Zyryanova O. A. Matsuura, Y. Kajimoto, T. and Wein, R.W. eds., Permafrost Ecosystem: Siberian Larch Forests. Ecological Studies 209, Springer Verlag. 273-288.*
- (10) Yasue, K., Kujansuu, J., Kajimoto, T., Nakai, Y., koike, T., Abaimov, A.P. and Matsuura, Y. (2010) Seasonal changes in stem radial growth of *Larix gmelinii* in central Siberia in relation to its climate responses. *In: Osawa, A., Zyryanova O. A. Matsuura, Y. Kajimoto, T. and Wein, R.W. eds., Permafrost Ecosystem: Siberian Larch Forests. Ecological Studies 209, Springer Verlag. 331-346.*
- (11) Shi, F., Sasa, K. and Koike, T. (2010) Characteristics of larch forests in Daxingan Mountains, Northeast China. *In: Osawa, A., Zyryanova O. A. Matsuura, Y. Kajimoto, T. and Wein, R.W. eds., Permafrost Ecosystem: Siberian Larch Forests. Ecological Studies 209, Springer Verlag. 367-384.*
- (12) Jomura, M., Wang W.J., Masuyagina, O.V., Homma, S., kanazawa, Y. Zu, Y.G. and koike, T. (2010) Carbondynamics of larch plantations in northeastern China and Japan. *In: Osawa, A., Zyryanova O. A. Matsuura, Y. Kajimoto, T. and Wein, R.W. eds., Permafrost Ecosystem: Siberian Larch Forests. Ecological Studies 209, Springer Verlag. 385-412.*
- (13) Qu L., Makoto K., Choi D.S., Quoreshi A.M. and Koike T. (2010) The role of ectomycorrhiza in boreal forest ecosystem. *In: Osawa, A., Zyryanova O. A. Matsuura, Y. Kajimoto, T. and Wein, R.W. Eds. Permafrost Ecosystem: Siberian Larch Forests. Ecological Studies 209, Springer Verlag, 413-426.*
- (14) Koike. T., Yazaki, K., Eguchi, N., Kitaoka, S. and Funada, R. (2010) Effects of elevated CO<sub>2</sub> on ecophysiological responses of larch species native to Northeast Eurasia. *In: Osawa, A., Zyryanova O. A. Matsuura, Y. Kajimoto, T. and Wein, R.W. Eds. Permafrost Ecosystem: Siberian Larch Forests. Ecological Studies 209, Springer Verlag, 447-458.*
- (15) Koike, T., Matsuki, S., Tobita, H., Shibata, t., Kitao, m., Qu. L.Y., Choi, D.S., Konno, K., ns Maruyama, Y. (2006) Defense characteristics of seedlings of *Betula platyphylla* var. *japonica* grown under different levels of CO<sub>2</sub> and soil fertility. *In: Terazawa, M. ed. "Tree Sap III", Hokkaido University Press, Sapporo, 133-140.*
- (16) Yazaki, K., Maruyama, Y., Mori, S., Koike, T. and Funada, R. (2005) Effects of elevated carbon dioxide concentration on wood structure and formation in trees, *In: Omasa, K. Nouchi, I. and De Kok, L J. (eds), "Plant responses to air pollution and global change." Springer Tokyo, 89-97.*
- (17) Koike, T. (2004) Autumn coloration, carbon acquisition, and leaf senescence. *In: L.D. Noodén ed.: "Plant Cell Death Processes". Elsevier-Academic Press. Amsterdam, San Diego. 245-258.*
- (18) Koike, T., Kitaoka, S., Ichie, T., Lei, T.T. and Kitao, M. (2004) Photosynthetic

- characteristics of mixed broadleaf forests from leaf to stand. *In: Shiomi, M. and Kawahata, H. eds. "Global Environmental Change in the Ocean and on Land". TerraPub, Tokyo 453-472.*
- (19) Nakamura, T., Kitao, M., Tobita, H., Maruyama, Y., Lei, T.T. and Koike, T. (2000) Observation of patchy stomatal closure and growth of white birch seedlings raised under ambient and elevated CO<sub>2</sub> with special reference to soil moisture. *In: Terazawa, M., "Trees Sap II", Hokkaido University Press, Sapporo, 97-104.*
- (20) Schulze, E-D., Bazzaz, F.A., Nadelhoffer, K., Koike, T. and Takatsuki, S. (1996) SCOPE Series: Functional Roles of Biodiversity: A global perspective. *In: Mooney, H.A., Cushman, J.H., Medina, E., eds. "Biodiversity and ecosystem function of temperate deciduous broad-leaved forests" Jone Wiler & Sons, Chichester, New York, Shingapore., 71-98.*
- (21) Reich, P.B., Koike, T, Gower, S.T. and Schoettle, A (1995) Ecophysiology of coniferous forests. *In: W.K. Smith and T.M. Hinkley eds. "Causes and consequences of variation in conifer leaf life-span", Academic Press, San Diego, 225-254.*
- (22) Koike, T. (1995) Vegetation Science in Forestry: Global Perspective based on Forest Ecosystems of East & Southeast Asia. *In: E.O. Box et al. eds., "Physiological ecology of the growth characteristics of Japanese mountain birch in northern Japan: a comparison with Japanese mountain white birch", Kluwer Academic Publishers, The Netherlands, 409-422.*
- (23) Takahashi, K., Fujimura, Y. and Koike, T. (1987) Frost damage of Akaezomatsu (*Picea glehnii* Mast.) plantations by a cold air lake. *In: Fujimori, T. and Kimura, M. eds. Human Impacts and management of Mountain Forests. Sobun-sha, Tokyo, 167-175.*
- (24) Koike, T. (1987) The growth characteristics in Japanese mountain birch (*Betula ermanii*) and white birch (*Betula platyphylla* var. *japonica*) and their distribution in the northern part of Japan. *In: Fujimori, T. and Kimura, M. eds. Human Impacts and management of Mountain Forests. Sobun-sha, Tokyo, 189-200.*
- (25) Koike, T., Sakagami, Y. and Fujimura, Y. (1986) Characteristics of the leaf dynamics and photosynthesis of the seedlings and saplings of *Betula maximowicziana* and *Fraxinus mandshurica* var. *japonica* in Hokkaido, Japan. *In: Fujimori, T. and Whitehead, D. eds. Crown and Canopy Structure in relation to Productivity, Forestry & Forest Products Research Institute, Sobun-sha, Tokyo, 396-408.*

#### **Proceedings of international congresses:**

- (1) Koike, T., Cong Shi and Fuchen Shi (eds.) (2014). Proceedings of Joint seminar between Nankai University and Hokkaido University, Hakuyo-sha Printing, Sapporo (In English with Chinese)
- (2) Koike, T., Xiaona Wang, Cong Shi, M. Watanabe, S. Tatsuta, A. Sakuma, H. Saito and Y. Hoshika (2014) Declining symptom of mountain birch (*Betula ermanii*) in the somma of Lake Mashu in northern Japan. Proceedings of Joint Seminar between Nankai University and Hokkaido University, Hakuyo-sha Printing, Sapporo, 6-7.
- (3) Shi Cong, Wang, XN, Mao QZ, Kam DG, Watanabe M and Koike T. (2013) Effects of ground surface Ozone on the growth of deciduous trees, Proceeding of "Symposium of forest declining in the somma of Lake Mashu 2013," 37-42, (in

- Japanese with English summary)
- (4) Watanabe, M., Kitaoka, S. and Koike, T. (2010) Aerobic methane emission from leaves of birch and other afforestation tree species under elevated CO<sub>2</sub> concentration. Proceedings of 4th International Symposium on Sap Utilization, 137-141.
  - (5) Novriyanti, E., Watanabe, M., Aoyama, C. and Koike, T. (2010) Plant defense characteristics of birch species: a literature survey. Proceedings of 4th International Symposium on Sap Utilization, 204-212.
  - (6) Mao, Q., Watanabe, M., Imori, M. and Koike, T. (2010) Comparative research on the growth traits of Chinese birch and larch as re-vegetation materials. Proceedings of 4th International Symposium on Sap Utilization, 253-260.
  - (7) Kim YS, Makoto K, Takagi K, Hatano R, Koike T (2010) Greenhouse gas emissions in a post-fire white birch stand in northern Japan. Proceedings of the 4 th International Symposium on Sap Utilization, 142-148.
  - (8) Aoyama, C. and Koike, T. (2010) Induced Defense of Japanese White Birch Seedlings against Insect Herbivores. Proceedings of the 4 the International Symposium on Sap Utilization, 149-153.
  - (9) Koike, T. and Shimizu, Y. (2010) A role of forest aesthetics in birch stands under changing environment. Proceedings of the 4 th International Symposium on Sap Utilization, 129-136.
  - (10) Makoto, K., Semyon, V. B., Nemilostiv, Y. P., Prokopchuk, V. F., Kajimoto, T., Yojiro Matsuura, Y., Toshiya, T Y., Satoh, F., Sasa, K., Koike, T. (2008) The carbon accumulation rate in mixed conifer-broad leaved forests in the southern part of Russian Far East. Proceed. of The First International Symposium on Arctic Research (ISAR-1). 4-6 November 2008, Tokyo, Japan. Pp 364-367.
  - (11) Makoto, K., Shibata, H., Kim Y.S., Satomura, T., Takagi, K., Nomura, M., Satoh, F., Sasa, K., Koike, T. (2008) The effects of charcoal removal on short term soil nutrient dynamics after experimental burning in the *Betula platyphylla* forests, northern Japan. Proceed. "The '88 Fires: Yellowstone and Beyond" in Jackson, Wyoming on September 22-27, 2008. Pp 124-125.
  - (12) Koike, T., N. Eguchi, S. Kitaoka, Y. Watanabe, R. Funada, K. Takagi, T. Hiura, and K. Sasa.(2008) Effect of elevated CO<sub>2</sub> on the physiological adjustment and xylem structure of deciduous tree species grown in Free Air CO<sub>2</sub> Enrichment (FACE). Proceedings of the International Conference on Sustainable Agriculture for Food, Energy and Industry 2008 (ICSA2008), 6-
  - (13) Kitaoka, S., T. Sakata, M. Watanabe, Y. Kim, H. Utsugi, H. Tobita, A. Uemura, S. Aizawa, M. Kitao, Y. Maruyama, K. Sasa, and T. Koike. (2008) Evaluation of methane emission from three dominant cool temperate deciduous tree species grown under elevated CO<sub>2</sub> concentration in northern Japan. Proceedings of the International Conference on Sustainable Agriculture for Food, Energy and Industry 2008 (ICSA2008), 11
  - (14) Kim, Y.S., Y.Y. Lee, M.J. Yi, Y. Son, and T. Koike. (2008) Soil CO<sub>2</sub> efflux and its relationship to vegetation in even-aged alder and pine forests, Central Korea. 32
  - (15) Ryu, K., H. Shibata, M. Watanabe, K. Takagi, M. Nomura, and T. Koike.(2008) A brief history of larch plantation in northern Japan with special reference to environmental change. 57
  - (16) Karaki, T., T. Kondo, Y. Watanabe, M. Kadomatsu, Y. Akibayashi, H. Saito,

- M. Shibuya and T. Koike. (2008) Development of water impermeability and anatomical feature in seeds of Black locust (*Robinia pseudoacacia*), an invasive species in Japan. *Plant Species Biology* 27: 159-162. doi.org/10.1111/j.1442-1984.2011.00343.x
- (17) Makoto, K., H. Shibata, Y. Kim, T. Satomura, K. Takagi, M. Nomura, F. Satoh, K. Sasa, and T. Koike. (2008) Effects of experimental burning on the soil nutrient concentrations in white birch forest in Hokkaido, northern Japan. - a method for experimental burning- 264-269
- (18) Koike, T., Kitao, M., Kitaoka, S., Watanabe, M., and Maruyama, Y. (2008) Leaf morphological and functional adaptation of Siebold beech (*Fagus crenata*) seedlings grown at low water regimes. Proc. The 8<sup>th</sup> IUFRO International Beech Symposium, 103-105.
- (19) Watanabe, Y., Otsuka, Y., Hinata, K. And Koike, T. (2008) Localization of chemical defensive materials in leaves of beech (*Fagus crenata*) growing at various environmental conditions. Proc. The 8<sup>th</sup> IUFRO International Beech Symposium, 181-183.
- (20) Eguchi, N., K. Karatsu, T. Ueda, R. Funada, K. Takagi, T. Hiura, K. Sasa, and T. Koike (2005) Change of growth and photosynthetic responses of deciduous tree species saplings grown in a free air CO<sub>2</sub> enrichment (FACE) system. 7<sup>th</sup> International Carbon Conference, Colorado, U.S.A.
- (21) Choi, D.S., Y. Maruyama, H.O Jin, K. Sasa and T. Koike (2005) Effect of ectomycorrhizal infection on the growth and photosynthetic characteristics of three species of pine seedlings grown under elevated CO<sub>2</sub> concentrations. 7<sup>th</sup> International Carbon Conference, Colorado, U.S.A.
- (22) Koike, T., Matsuki, S., Choi, D.S., Matsumoto, T., Sakamoto, Y. and Maruyama, Y. (2005) Leaf longevity and defense characteristics in trees of Betulaceae. IUFRO workshop S07. in press
- (23) Koike, T., Matsuki, S. and Matsumoto, T. (2003) Effects of Defoliation on Defense Characteristics in Leaves of Deciduous Broad-Leaved Tree Species in Changing Environment. COE international symposium of Kanazawa University on Long- and short-term dynamics Pan-Japan Sea area: Environmental change and Prediction. 402-405.
- (24) Teskey, R. O. and Koike, T. (2002) Carbon cycle management in forests. "Carbon cycle management in terrestrial ecosystems", Proc. The 9<sup>th</sup> U.S.-Japan workshop on global change. 9-10.
- (25) Koike, T. (2002) Maintenance of high biomass productivity of mixed conifer-broadleaved forests under changing environment: an ecophysiological perspective. "Carbon cycle management in terrestrial ecosystems", Proc. The 9<sup>th</sup> U.S.-Japan workshop on global change. 35-36.
- (26) Zyryanova, I.A., Bugaenko, T.N., Buganenk, N.N., Koike, T., and Takenaka, A. (2001) Plant association diversity regeneration as related cryogenic microrelief and forest fires. Proc. Joint Siberia Permafrost Studies, 9: 18-23.
- (27) Koike, T., Wang, W., Kitaoka, S., Mori, S., Matsuura, Y., Prokushkin, A.S., Zyryanova, O.A., Prokushkin, S.G. and Abaimov, A.P. (2001) Photosynthetic light curves of trees and shrubs grown under contrasting north- and south-facing slopes in central Siberia. Proc. Joint Siberia Permafrost Studies, 9: 35-41.
- (28) Wang, W., Kitaoka, S., Shi, F., Sasa, K. and Koike, T. (2001) Respiration rate of

- stems and roots of a larch plantation with special reference to the seasonal change in their cambium activity. Proc. Joint Siberia Permafrost Studies, 9: 42-49.
- (29) Korotki, T.I., Prokushkin, A.S., Prokushkin, S.G., Abaimov, A.P. Matsuura, Y., Koike, T. and Shibata, H. (2001) Variability of dissolved organic carbon and dissolved nitrogen in central Evenkia stream during vegetation period. Proc. Joint Siberia Permafrost Studies, 9: 85-92.
- (30) Masyagina, O.V., Prokushkin, S.G., Mori, S., Koike, T. and Yanagihara, Y. (2001) Postfire vegetation cover respiration in permafrost zone of middle Siberia. Proc. Joint Siberia Permafrost Studies, 9: 128-133
- (31) Kitaoka, S., Kitahashi, Y., Shimizu, K., Hiura, T. and Koike, T. (2001) Canopy photosynthesis and transpiration in deciduous trees with special references stomatal and non-stomatal regulation. Proc. Canopy biology in Tropical Rain Forests. 108-114.
- (32) Koike, T., Kitahashi, Y., Nakagawa, M. and Nakashizuka, T. (2001) Mid-day depression of photosynthetic rate in canopy trees native to Tropical Rain Forest in the Lambir Hills National Park, Sarawak, Malaysia. Proc. Canopy biology in Tropical Rain Forests. 51-56.
- (33) Qu, L.Y., Quoreshi, A.M. and Koike, T. (2001) Root growth characteristics, biomass and nutrient dynamics of larch species raised under different fertilization regimes. Proceedings of International Symposium of Root Research, 6: 376-377.
- (34) Quoreshi, A.M., Qu, L.Y., Kitaoka, S. and Koike, T. (2001) Root growth, dry matter and nutrient partitioning in containerized *Picea glehnii* seedlings in response to exponential nutrient loading and elevated CO<sub>2</sub>. Proceedings of International Symposium of Root Research, 6: 378-379.
- (35) Qu, L.Y., Wang, W., Shi, F.C., Quoreshi, A.M., Kitaoka, S. and Koike, T. (2001) Stem and soil respiration of Japanese larch plantation and their contributions to CO<sub>2</sub> flux estimation. Int. Carbon Dioxide Conference 6:441-444.
- (36) Quoreshi, A.M., Qu, L.Y., Kitaoka, S. and Koike, T. 2001. Root growth, dry matter and nutrient partitioning in containerized *Picea glehnii* seedlings in response to exponential nutrient loading and elevated CO<sub>2</sub>. Proceedings of International Symposium of Root Research, 6: 378-379.
- (37) Kitaoka, S. Wang, W., Shi, F., Sasa, K. and Koike, T. 2001. Seasonal changes of light utilization capacity in deciduous broad-leaved tree seedlings invaded into trunk space of a larch plantation. 6th International Carbon Conference, 392-395.
- (38) Kitaoka, S., Koike, T., Quoreshi, A.M., Takagi, K., Wang, W., Shi, F., Kayama, M., Ishida, N., Mamiya, H. and Sasa, K. 2001. Seasonal changes in the photosynthetic capacity of Japanese larch trees planted on the Tomakomai National Forest, northern Japan. Proceedings of International Workshop for Advanced Flux Network and Flux Evaluation, 109-112.
- (39) Wang, W., Kitaoka, S., Koike, T., Quoreshi, A.M., Takagi, K., Kayama, M., Ishida, N., Mamiya, H. Shi, F., Zu, Y. and Sasa, K. 2001. Respiration of non-photosynthetic organs and forest soil of Japanese larch plantation and its contribution to CO<sub>2</sub> flux estimation. Proceedings of International Workshop for Advanced Flux Network and Flux Evaluation, 119-123.
- (40) Kayama, M., Kitaoka, S., Koike, T., Takagi, K., Satoh, F., Wang, W., Shi, F., Sugata, S., Hojyo, H., Sugishita, Y. Nomura, M., Akibayashi, Y. and Sasa, K. 2001. Photosynthetic Capacity of hybrid larch and dwarf bamboo grown in the Teshio

- experiment forest located at the border between Russia and Japan. Proceedings of International Workshop for Advanced Flux Network and Flux Evaluation, 105-108.
- (41) Koike, T. (1993) Ecophysiological responses of the northern tree species in Japan to elevated CO<sub>2</sub> concentrations and temperature. First IGBP Symposium (Oshima, Y. ed.), Japan Promotion of Sciences, Tokyo, 425-430.1993
- (42) Koike, T., Sasa, K., Satoh, F., Yasue, K., Yazaki, K., Funada, R., Mori, S., Matsuura, Y., Maruyama, Y., Zyryanova, O.A., Prokushkin, A.S., and Abaimov, A. P. (2000) Annual ring growth of larch trees grown on the contrasting north-and south-facing slopes in eastern central Siberian Taiga under global changing environment. Proc. Joint Siberia Permafrost Studies. 8: 23-28.
- (43) Prokushkin, A.S., Prokushkin, S.G. Koike, T. and Abaimov, A. P. (2000) Fluxes and activity of dissolved organic carbon in larch ecosystems of the northern part of central Siberia. Proc. Joint Siberia Permafrost Studies. 8: 135-140.
- (44) Koike, T. Tanaka, K., Kitao, M., Ninomiya, I., Kendawang, J.J. and Ogino, K. (2000) Photoinhibition of seedlings detected by a chlorophyll fluorescence method in the Bakam experimental reserve in Sarawak. Workshop on Forest Ecosystem Rehabilitation. Malaysia, 168-175.
- (45) Hiromi, T., Ninomiya, I., Koike, T., and Ogino, K. (2000) Transpiration and stomatal regulation at canopy top of Tropical rain forest in Sarawak. Workshop on Forest Ecosystem Rehabilitation. Malaysia. 176-181
- (46) Tanaka, K., Koike, T., Ninomiya, I., Kendawang, J.J. and Ogino, K. (2000) Response of light-photosynthesis curve of several tree species planed in the Bakam experimental reserve. Workshop on Forest Ecosystem Rehabilitation. Malaysia. 162-165.
- (47) Mori, S., Koike, T. Yanagihara, Y., Masyagina, O., Prokushkin, A.S., Kajimoto, T., Zyryanova, O.A., Prokushkin, A.S., Abaimov, A.P., Matsuura, Y. and Ueda, T. (2000) Daytime whole-tree respiration of *Larix gmellini* trees in middle Siberia. Proc. Joint Siberia Permafrost Studies, 8: 59-65.
- (48) Ninomiya, I., Tanaka, K., Koike, T., Lee, H.S. and Ogino, K. (2000) Ecophysiology of seedlings planted in the Bakam experimental reserve. Workshop on Forest Ecosystem Rehabilitation. Malaysia, 25-29.
- (49) Koike, T., Haibara, K., Matsuura, Y., Takahashi, K. Maximov, T.C and Ivanov, B.I. (1999) Micro-site and age-dependent shoot development and needle nutrient levels of Scotch pine growing in the Yakutian permafrost region, eastern Siberia. Proc. of Forth Symposium on Joint Siberian Permafrost Studies between Japan and Russia. (Fukuda, M.ed.) The Low temperature Sci. Hokkaido Univ., Sapporo, 48-53.
- (50) Koike, T. (1999) Forest vitality and health – a brief history of larch plantation in northern Japan-, Asia-Europe workshop- people-to-people exchange in sustainable forest management, Univ. of Joensuu, Finland, 11-12.
- (51) Koike, T., Haibara, K., Lei, T.T., Matsuura, Y., Mori, S., Funada, R., Takahashi, K. and Ivanov, B.I. (1997) Comparison of photosynthetic characteristics of eastern Siberia larch, Scots pine and white birch seedlings raised under elevated CO<sub>2</sub>. Proc. Joint Siberian Permafrost Studies, 5: 109-114.
- (52) Takahashi, K., Koike, T., Tabuchi, R., Ohta, S., Maximov, T.C., Kononov, A.V. Maximov, A.P. and Ivanov, B.I. (1997) Diurnal change of atmospheric CO<sub>2</sub> concentration in Siberian Taiga during growing season at Yakutsk. Proc. Joint Siberian Permafrost Studies, 5: 21-27.

- (53) Koike, T., Lei, T.T., Mori, S., Chiba, Y. and Oikawa, T. (1997) Leaf structure and gas exchange responses of birch and maackia, a woody legume raised under CO<sub>2</sub> levels ranging from the pre-industrial period to a tripling. Int. Workshop on Global Change and Terrestrial Environment in Monsoon Asia. The Univ. Tsukuba Special Project for Global Change. 7-10.
- (54) Ivanov, B.I., Maximov, T.C., Desyatkin, R.V., Kononov, A.V., Maximov, A.P., Koike, T. and Takahashi, K. (1995) CO<sub>2</sub> emission by conifers and leaf-bearing forests of Yakutia. Proc. Symposium Joint Permafrost studies between Japan and Russia in 1992-1994. (Solomonov, N., et al. eds.), Russian Academy of Science, Siberian Division, Yakut Institute of Biology, Yakutsk, 12-17.
- (55) Maximov, T.C., Kononov, A.V. and Koike, T. (1995) Photosynthetic activity of woody plants in Yakutia. Proc. Sympo. Joint Permafrost study between Japan and Russia in 1992-1994. (Solomonov, N. et al. eds.), Russian Academy of Science, Siberian Division, Yakutsk, 24-30.
- (56) Koike, T., Lei, T.T., Maximov, T.C., Mori, S., Takahashi, K. and Ivanov, B.I. (1995) Growth and photosynthetic characteristics of Siberian white birch and Scotch pine seedlings raised under elevated CO<sub>2</sub> and temperature. Proc. Joint Siberian Permafrost Studies 3: 102-108.
- (57) Maximov, T.C., Tabuchi, R. and Koike, T. (1994) Preliminary experiment of measuring light-photosynthesis curve of representative plants native to eastern Siberia region. Interim Report of Joint Research Project "Carbon Storage and Carbon Dioxide Budget in Forest Ecosystems" between Japan and Russia. (Takahashi, K. ed.) FFPRI, Sapporo, 21-22, 1994
- (58) Koike, T. and Tabuchi, R. (1994) Ecophysiological studies of woody plants of Yakutia. Abstract of Sakha-Japan Joint Research. Interim Report of Joint Research Project "Carbon Storage and Carbon Dioxide Budget in Forest Ecosystems" between Japan and Russia. (Takahashi, K. ed.) FFPRI, Sapporo, 59-71, 1994
- (59) Koike, T., Tabuchi, R., Lei, T.T., Maximov, T.C., Ivanov, B. and Takahashi, K. (1994) Growth and homeostatic adjustment in the photosynthetic capacity of Siberian and Japanese birch grown under elevated CO<sub>2</sub> and temperature. Proc. Joint Siberian Permafrost Studies, 2: 169-176.
- (60) Tabuchi, R., Koike, T., Maximov, T.C., Ivanov, B.I. and Takahashi, K. (1994) Gas exchange measurements on some major tree species in Siberian permafrost region in summer. Proc. Joint Siberian Permafrost Studies, 2: 164-168.
- (61) Koike, T. and Tabuchi, R. (1993) A trial of the measurement of CO<sub>2</sub> concentration in a forest and photosynthesis of woody species native to eastern Siberia. Proc. Joint Siberian Permafrost Studies, 1: 69-74.

### Abstract of international congress

- (1) Watanabe, Y., Hinata, K., Ootsuka, Y., Watanabe, M., Sasa, K. and Koike, T. (2010) Seasonal changes in distribution of defensive chemical substances in leaves of deciduous broadleaved tree species in northern Japan. International Conference on "Mechanisms of Growth, Competition and Stress Defense in Plants", 1-3 March 2010, Freising, Germany.
- (2) Watanabe, M., Kitaoka, S., Takagi, K., Sasa, K. and Koike, T. (2010) Growth and photosynthetic traits of coppice of (*Quercus crispula*) under elevated CO<sub>2</sub>

- concentration: Powdery mildew-mediated effects. International Conference on "Mechanisms of Growth, Competition and Stress Defense in Plants", 1-3 March 2010, Freising, Germany.
- (3) Koike, T., Tobita, H., Agari, T., Kitao, M., Watanabe, M., Makoto, K., Sasa, K. and Hashidoko Y. (2010) Plant defense characteristics of alder species native to northern Japan grown at elevated CO<sub>2</sub> in FACE. International Conference on "Mechanisms of Growth, Competition and Stress Defense in Plants", 1-3 March 2010, Freising, Germany.
  - (4) Koharu RYU, Makoto Watanabe, Hideaki Shibata & Takayoshi Koike (2008) "Possible Functions of Environmental Stresses to the Larch Seedlings Infected with Ectomycorrhizal Fungi. "Japan-Australia International Symposium on: Biological Interactions with Plant Roots and Aerial Tissues" Hokkaido University, Sapporo July 28, 2008
  - (5) Koike T, Tobita H, Agari T, Utsugi H, Uemura A, Kitao M, Makoto K and Hashidoko Y (2008) Susceptibility to insect herbivory of alder species native to northern Japan grown at elevated CO<sub>2</sub> with a FACE system, 15th International *Frankia* and Actinorrhizal Plants, Meeting October 19-23, 2008, Bariloche, Argentina Poster session.
  - (6) Karaki, T., T Kondo, Y Watanabe, M Kadomatsu, Y Akibayashi, H Saito, M Shibuya and T Koike (2007) Development of water impermeability in seeds of black locust (*Robinia pseudoacacia*), an invasive species in Japan. In: SEED ECOLOGY II 2007, The 2nd International Society for Seed Science Meeting on Seeds and the Environment 9 - 13 September 2007, Perth, Western Australia,
  - (7) Koike, T., S. Kitaoka, O. V. Masyagina, Watanabe, Y., Ji, D. H. and Sasa, K. (2006) Dynamics of nitrogen in leaves of deciduous broad-leaved trees grown in unmanaged plantations in northern Japan In: International seminar on "Regeneration and dynamics of mixed conifer broad-leaved forests in East Asia after Natural and Man-made disturbances" Amur, Russia, October 12,13, 2006.
  - (8) Eguchi, K. Karatsu, N. Morii, T. Hida, Ueda T, Funada R, Takagi K, Hiura T, Sasa K, Koike T (2006) Changes in Growth Traits of Eleven Woody Species in Northern Japan with High CO<sub>2</sub> Concentration. In International Conference on CO<sub>2</sub> environment, Vladivostok, Russia, September, 17-20, 2006.
  - (9) Koike, T., Matsuki, S., Shibata, T., Tobita, H., Konno, K., Kitao, M., Maruyama, Y. (2005) Defense characteristics of deciduous broad-leaved tree seedlings grown under factorial combination of two levels of CO<sub>2</sub> and nitrogen, 17<sup>th</sup> International Botanical Congress (Vienna)
  - (10) Eguchi N, Karatsu K, Ueda T, Takagi K, Sasa K, Hiura T, Funada R, Koike T (2005) Change of photosynthetic capacity of *Alnus hirsuta* sapling grown in a free air CO<sub>2</sub> enrichment (FACE) system-Comparing the proximate *Betula* spp. without symbiotic N<sub>2</sub> fixing micro-organism- 17<sup>th</sup> International Botanical Congress (Vienna)
  - (11) Qu, L.Y., Kitaoka, S., Sasa, K. and Koike, T. (2005) Influence of environmental factors, soil carbon, and soil microorganism biomass on soil microbial respiration in a Japanese larch forest. 9<sup>th</sup> INTECOL (Montreal)
  - (12) Kitaoka, S. Wang, W., Sakuma, Y., Choi, D., Kayama, m., Fujinuma, Y., Hirano, T., Sasa, K. and Koike, T. (2004) Seasonal and yearly variation of CO<sub>2</sub> assimilation capacity in needles of the canopy of larch trees in northern Japan.
  - (13) Choi, D.S., Quoreshi, A.M., Maruyama, Y., Jin, H.O and Koike, T. (2004)

- Mycorrhizal activities in *Pinus densiflora*, *P. koraiensis* and *Larix kaempferi* raised under high CO<sub>2</sub> in relation to water use efficiency. The 6<sup>th</sup> International Symposium on Plant responses to Air Pollution and Global Changes From Molecular Biology to Plant Production and Ecosystem. (APGC2004) (Tsukuba, Japan). (in press).
- (14) Choi, D.S., Jin, H.O, Lee, C.H. and Kayama, M. (2004) Effects of soil acidification on the growth of Korean Pine (*Pinus koraiensis*) seedlings in granite-derived forest soil. The 6<sup>th</sup> International Symposium on Plant responses to Air Pollution and Global Changes From Molecular Biology to Plant Production and Ecosystem (Tsukuba, Japan) (APGC2004) (in press).
- (15) Choi, D.S., Jin, H.O, Maruyama, Y. and Koike, T. (2004) Photosynthetic characteristics of larch seedlings inoculated with ectomycorrhiza in combination with nutrient and CO<sub>2</sub> levels. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
- (16) Masyagina, O.V., Hirano,T., Ji, D.H., Choi, D.S., Qu. L.Y., Fujinuma, Y., Sasa, K., Matsuura, Y., Abaimov, A.P., and Koike, T. (2004) Spatial and temporal variation of soil respiration rates affected by disturbance of timber harvest from a larch plantation in northern Japan. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
- (17) Ji, D.H., D.S.CHOI, Norikazu EGUCHI, Youko WATANABE, Satoshi KITAOKA, MyongJong YI, Takayoshi KOIKE (2004) Effects of shading on the photosynthetic characteristics of Japanese larch (*Larix kaempferi*) seedlings raised under different nitrogen regimes. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
- (18) Koike, T., Kuromaru M, Ji DH, Choi DS, Takagi K, Nomura M, Sasa K (2004) A brief history of making larch plantations and development of hybrid larch F1 in northern Japan. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
- (19) Eguchi, N., Funada, R., Fukatsu, E., Koike, T. (2004) Changes of photosynthetic capacity of Japanese larch (*Larix kaempferi*) seedlings grown in high CO<sub>2</sub> concentration: morphological and anatomical approach within the needles. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
- (20) Sakuma, Y., Watanabe, Y., Fujinuma, Y., Ichie, T., Kayama, M., Kitaoka, S., and Koike, T. (2004) Canopy photosynthetic traits of short- and long-shoot needles in Japanese Larch (*Larix kaempferi*). In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press).
- (21) WANG, Wenjie, Yuangang ZU, Kentaro TAKAGI Ikuko ENDO, Tomoaki ICHIE, Kaichiro SASA and Takayoshi (2004) Seasonal change in the photosynthetic capacity of cones in two larch species. In: Larch Breeding and Genetic Resources – International Symposium Larix, September, 2004. (Kyoto, Japan) (in press)
- (22) Qu. L.Y., Shinano, A. M. Quoreshi, Y. Tamai, M. Osaki and T. (2003) Allocation of <sup>14</sup>C-carbon in infected with ectomycorrhizae of two species of larch seedlings. Proceeding of Third International Symposium Dynamics of Physiological Processes in Woody Roots. September 2003.
- (23) Kayama, M., Kitaoka, S., Okuyama, S., Matsuda, K., and Koike, T. (2002) Needle longevity and turnover of five spruce species planted in northern Japan. VIII

- INTECOL 2002, Seoul, August 2002.
- (24) Koike, T., Jin, H.O. and Son, Y.H. (2002) Forest Health and vitality of coniferous forests in East Asia under changing environment. 8<sup>th</sup> International Congress on Ecology, Seoul, Aug., 2000
  - (25) Kitahashi, Y., Ichie, T., Maruyama, Y. and Koike, T. (2002) Difference of water-use efficiency in the crown of tropical trees. 3rd International Canopy conference 2002, CAIRNS-Australia
  - (26) Kitahashi, Y., Maruyama, Y., Ichie T., Koike, T. (2002) Water utilization of broad-leaved trees varies at different height of the same sunny crown. VIII INTECOL 2002, SEOUL-Korea 8<sup>th</sup> International Congress on Ecology, Seoul, Aug., 2002
  - (27) Qu, L.Y., Yanagihara, Y., Kitaoka, S., Fujinuma, Y., Sasa, K and Koike, T. (2002) Seasonal changes in the soil respiration rate in a Japanese larch forest 8<sup>th</sup> International Congress on Ecology, Seoul, Aug., 2002
  - (28) Matsuki, S. and Koike, T. (2002) Chemical and physical defense of Betulaceae seedlings under changing environment” 8<sup>th</sup> International Congress on Ecology, Seoul, Aug., 2002.
  - (29) Ichie, T., Nishimura, K., Ninomiya, I., Koike, T. and Nakashizuka, T. (2002) Flushing mechanism for a tropical canopy tree, *Dipterocarpus pachyphyllus*. 3rd International Canopy Conference (Cairns, Australia), 2002, June
  - (30) Koike, T. Ichie, T., Nakagawa, M. and Nakashizuka, T. (2002) Photosynthetic characteristics of emergent trees in Lambir, Malaysia. 3rd International Canopy Conference (Cairns, Australia), 2002, June.
  - (31) Ichie, T., Kenta, T., Nishimura, K., Ninomiya, I., Koike, T. and Nakashizuka, T. (2002) Dynamics of the the storage resource for general flowering process of a tropical emergent tree, *Dipterocarpus tempehes*. INTECOL, 8<sup>th</sup>, Seoul, Korea, 2002, Aug.
  - (32) Ichie, T., Koike, T. and Ninomiya, I. (2002) Dynamics of the storage resources for reproduction of tropical emergent trees, *Dipterocarpus tempehes* and *Dryobalanops aromatica*. 50<sup>th</sup> Annual meeting of Japanese Ecological Society (Tsukuba Conference center) 2003, March.
  - (33) Qu, L.Y., Y. Yanagihara, F.C. Shi, Y. Fujinuma, K. Sasa and T. Koike (2002) Seasonal changes in soil respiration rate of a Japanese larch forest. 8<sup>th</sup> International Congress on Ecology, (Seoul, Korea).
  - (34) Matsuki, S. and Koike, T. (2001) The differences in the responses of spring leaf damage in Betulaceae seedlings” BRAIN Symposium、Multitrophic Interactions and Evolutionally Benign Pest Management, Kyoto, Jan. 2001, PO-5.
  - (35) Koike, T., Matsuki, S., Matsumoto, T. and Maruyama, Y. (2001) Successional traits and defense chemicals of leaves of adult trees in Betulaceae. BRAIN Symposium、Multitrophic Interactions and Evolutionally Benign Pest Management, Kyoto, Jan. 2001, PO-4