

## 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., A, Agathokleous, E. and Takayoshi 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 (in press).
- (4) 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.
- (5) 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
- (6) 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 phosphorous. Science of the Total Environment. doi.org/10.1016/j.scitotenv.2017.08.283
- (7) 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
- (8) 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.
- (9) 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.
- (10) 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

- (11) 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.

- (12) 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>
  - (13) 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, DOI 10.1007/s11356-017-9369-7.
  - (14) 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
  - (15) 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
- (1) 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
  - (2) 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.
  - (3) 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/ifor1889-009) on line journal
  - (4) 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
  - (5) 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
  - (6) Sakikawa, T., Shi, C., Nakamura, M., Watanabe, M., Oikawa, M., Satoh, F. and Koike, T. (2106) Leaf phenology and insect grazing of Japanese white birch saplings grown under free-air ozone exposure. Journal of Agricultural Meteorology 72: 80-84.
  - (7) 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

- (8) 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.
- (9) 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
- (10) 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.
- (11) 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
- (12) 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
- (16) 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
- (13) 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

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- (14) 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.
- (15) 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.
- (16) 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"**

- (17) 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
- (18) 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.
- (19) 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.
- (20) 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.
- (21) 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 ·
- (22) 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
- (23) 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
- (24) 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
- (25) 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.
- (26) 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.
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- (28) Agathokleous, E., Saitanis, C.J., and Koike, T. (2015) Tropospheric O<sub>3</sub>, the

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- (30) 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.

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- (37) 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

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- (39) 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.
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  - (43) 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)
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