

List of scientific papers in 2020 published by field science group in Graduate School of Agricultural Science, Tohoku University

The Forest-Andisols Group

- Eguchi, K., E. Oguri, T. Sasaki, A. Matsuo, D. D. Nguyen, W. Jaitrong, B. E. Yahya, Z. Chen, R. Satria, W. Y. Wang and Y. Suyama (2020) Revisiting museum collections in the genomic era: potential of MIG-seq for retrieving phylogenetic information from aged minute dry specimens of ants (Hymenoptera: Formicidae) and other small organisms. *Myrmecological News*, 30: 151-159.
- Fukasawa, Y. (2020) How does wood-inhabiting fungal community affect forest recovery after deforestation events in subalpine coniferous forest? *Journal of Integrated Field Science*, 17: 12-14.
- Fukasawa, Y. and K. Kaga (2020) Effects of wood resource size and decomposition on hyphal outgrowth of a cord-forming basidiomycete, *Phanerochaete velutina*. *Scientific Reports*, 10: 21936.
- Fukasawa, Y., E. C. Gilmartin, M. Savoury and L. Boddy (2020) Inoculum volume effects on competitive outcome and wood decay rate of brown- and white-rot basidiomycetes. *Fungal Ecology*, 45: 100938.
- Fukasawa, Y., M. Savoury and L. Boddy (2020) Ecological memory and relocation decisions in fungal mycelial networks: responses to quantity and location of new resources. *The ISME Journal*, 14: 380-388.
- Fukasawa, Y., Y. Ando, S. N. Suzuki, M. Aizawa and D. Sakuma (2020) Climate influences the effect of fungal decay type on regeneration of *Picea jezoensis* var. *hondoensis* seedlings on decaying logs. *Canadian Journal of Forest Research*, 50: 73-79.
- Hamabata, T., A. Matsuo, M. P. Sato, S. Kondo, K. Kameda, I. Kawazu, T. Fukuoka, K. Sato, Y. Suyama and M. Kawata (2020) Natal origin identification of green turtles in the North Pacific by genome-wide population analysis with limited DNA samples. *Frontiers in Marine Science*, 7: 658.
- Hirano, T., T. Saito, Y. Tsunamoto, J. Koseki, L. Prozorova, D. V. Tu, K. Matsuoka, K. Nakai, Y. Suyama and S. Chiba (2019) Role of ancient lakes in genetic and phenotypic diversification of freshwater snails. *Molecular Ecology*, 28(23): 5032-5051.
- Kitomi, Y., E. Hanzawa, N. Kuya, H. Inoue, N. Hara, S. Kawai, N. Kanno, M. Endo, K. Sugimoto, T. Yamazaki, S. Sakamoto, N. Sentoku, J. Wu, H. Kanno, N. Mitsuda, K. Toriyama, T. Sato and Y. Uga (2020) Root angle modifications by the DRO1 homolog improve rice yields in saline paddy fields. *Proceedings of the National Academy of Sciences*, 117(35): 21242-21250.
- Nagasawa, K., H. Setoguchi, M. Maki, H. Goto, K. Fukushima, Y. Isagi, Y. Suyama, A. Matsuo, Y. Tsunamoto, K. Sawa and S. Sakaguchi (2020) Genetic consequences of plant edaphic specialization to solfatara fields; phylogenetic and population genetic analysis of *Carex angustisquama* (Cyperaceae). *Molecular Ecology*, 29(17): 3234-3247.
- Nakajima, S., S. K. Hirota, A. Matsuo, Y. Suyama and F. Nakamura (2020) Genetic structure and population demography of white-spotted charr in the upstream watershed of a large dam. *Water*, 12: 2406.
- Nanzyo, M., H. Hirai, K. Ito and H. Kanno (2020) Variations between weathered pumice particles of the Nantai-Shichihonzakura and Nantai-Imaichi tephra from polished sections. *Soil Science and Plant Nutrition*, 66(5): 693-701.
- Nguyen, D. D., E. Oguri, A. Yamada, C. C. Lin, C. Zhilin, A. D. Nguyen, Y. Suyama and K. Eguchi (2020) Genome-wide MIG-seq and morphometric data reveals heterospecificity of the *Gnamptogenys taivanensis* group (Hymenoptera: Formicidae: Ectatomminae) in the northern mountainous region of Vietnam. *Raffles Bulletin of Zoology*, 68: 539-555.
- Nochi, T., S. Suzuki, S. Ito, S. Morita, M. Furukawa, D. Fuchimoto, Y. Sasahara, K. Usami, K. Niimi, O. Itano, M. Kitago, S. Matsuda, A. Matsuo, Y. Suyama, Y. Sakai, G. Wu, F. W. Bazer, K. Watanabe, A. Onishi and H. Aso (2020) Elucidation of the effects of a current X-SCID therapy on intestinal lymphoid organogenesis using an in vivo animal model. *Cellular and Molecular Gastroenterology and Hepatology*, 10(1): 83-100.
- Onosato, K., T. Shitara, A. Matsumoto, A. Matsuo, Y. Suyama and Y. Tsumura (2020) Contact zone of two different chloroplast lineages and genetic guidelines for seed transfer in *Quercus serrata* and *Q. crispula*. *Plant Species Biology*, 36(1): 72-83.
- Prasetyo, E., Widiyatno, S. Indrioko, M. Na'iem, T. Matsui, A. Matsuo, Y. Suyama and Y. Tsumura (2020) Genetic diversity and the origin of commercial plantation of Indonesian teak on Java Island. *Tree Genetics & Genomes*, 16: 34.
- Sakaguchi, S., K. Nagasawa, Y. Umetsu, J. Nagasawa, S. Ichikawa, S. Kinoshita, K. Hiratsuka, Y. Suyama, Y. Tsunamoto, Y. Isagi and H. Setoguchi (2020)

- Phylogenetic origin of *Magnolia pseudokobus* (Magnoliaceae), a rare *Magnolia* extinct in the wild, revealed by chloroplast genome sequencing, genome-wide SNP genotyping and microsatellite analysis. *Journal of Forest Research*, 25(5): 322-328.
- Seiwa, K., Y. Negishi, Y. Eto, M. Hishita, K. Masaka, Y. Fukasawa, K. Matsukura and M. Suzuki (2020) Successful seedling establishment of arbuscular mycorrhiza- compared to ectomycorrhizal-associated hardwoods in arbuscular cedar plantations. *Forest Ecology and Management*, 468: 118155.
- Strijk, J. S., H. T. Binh, N. V. Ngoc, J. T. Pereira, J. W. Ferry Slik, R. S. Sukri, Y. Suyama, S. Tagane, J. J. Wieringa, T. Yahara and D. D. Hinsinger (2020) Museomics for reconstructing historical floristic exchanges: Divergence of Stone Oaks across Wallacea. *PLoS ONE* 15(5): e0232936.
- Suddee, S., S. Tagane, P. Souladeth, D. Kongxaysavath, S. Rueangreua, Y. Suyama and E. Suzuki (2020) *Coleus bolavenensis* (Lamiaceae), a new species from Laos. *Thai Forest Bulletin (Botany)*, 48(1): 82-85.
- Tagane, S., P. Souladeth, A. Nagahama, Y. Suyama, N. Ishii, N. Tanaka and T. Yahara (2020) Twenty-five new species records in the flora of Laos. *National History Bulletin of Siam Society*, 64(1): 25-41.
- Takano, A., S. Sakaguchi, P. Li, A. Matsuo, Y. Suyama, G. H. Xia, X. Liu and Y. Isagi (2020) A narrow endemic or a species showing disjunct distribution? Studies on *Meehania montis-koyae* Ohwi (Lamiaceae). *Plants*, 9: 1159.
- Tomimatsu, H., A. Matsuo, Y. Kaneko, E. Kudo, R. Taniguchi, T. Saitoh, Y. Suyama and A. Makita (2020) Spatial genet dynamics of a dwarf bamboo: Clonal expansion into shaded forest understory contributes to regeneration after an episodic die-off. *Plant Species Biology*, 35(3): 185-196.
- Wulantuya, K. Masaka, Bayandala, Y. Fukasawa, K. Matsukura and K. Seiwa (2020) Gap creation alters the mode of conspecific distance-dependent seedling establishment via changes in the relative influence of pathogens and mycorrhizae. *Oecologia*, 192: 449-462.
- Yonemichi, T., T. Tsukagoshi, T. Karukome, Y. Hisamoto, Y. Ohmori, C. Lian, M. P. Sato, T. Sasaki, A. Matsuo, Y. Suyama and S. Goto (2020) Salt tolerance seedlings derived from putative hybrid pines (*Pinus × densi-thunbergii*): possibility of candidate materials for coastal forest restoration. *Journal of Japanese Forestry Society*, 102(2): 101-107 (in Japanese with English summary).
- Zhang, M., T. Yahara, S. Tagane, S. Rueangreua, S. Suddee, E. Moritsuka and Y. Suyama (2020) *Cryptocarya kaengkrachanensis*, a new species of Lauraceae from Kaeng Krachan National Park, southwest Thailand. *PhytoKeys*, 140: 139-157.

The Ruminant Production Group

- Adeyemi, O. S., A. O. Eseola, W. Plass, O. Atolani, T. Sugi, Y. Han, G. E. Batiha, K. Kato, O. J. Awakan, T. D. Olaolu, C. O. Nwonuma, O. Alejollowo, A. Owolabi, D. Rotimi and O. T. Kayode (2020) Imidazole derivatives as antiparasitic agents and use of molecular modeling to investigate the structure-activity relationship. *Parasitology research*, 119(6): 1925-1941.
- Bando, H., Y. Fukuda, M. Yamamoto and K. Kato (2020) *Toxoplasma gondii* effectors TgIST and TgGRA15 differentially target host IDO1 to antagonize the IFN- γ -induced anti-*T. gondii* response in human cells. *Journal of Integrated Field Science*, 17: 37-37.
- Fisch, D., B. Clough, M. C. Domart, H. Bando, A. P. Snijders, L. M. Collinson, M. Yamamoto, A. R. Shenoy and E. M. Frickel (2020) Human GBP1 differentially targets *Salmonella* and *Toxoplasma* to drive recognition of microbial ligands and caspase-mediated death. *Cell Reports*, 32(6): 108008.
- Fukasawa, M. (2020) Establishing good relationships between human and cattle. Stockmanship for better management. Handout for chikusan kankei shingijutu happyoukai, 29-32 (in Japanese).
- Fukasawa, M. (2020) Management based on good human-animal relationships. *Animal Industry*, 782: 11-15 (in Japanese).
- Fukasawa, M. and T. Kosako (2020) Stockmanship for better management. *Japanese Journal of Grassland Science*, 65(4): 263-266 (in Japanese).
- Fukasawa, M., T. Komatsu and Y. Higashiyama (2020) The influence of concentrate-rich diet on daily sleep and lying postures of Japanese black cows. *Animal Science Journal*, 91: e13356. DOI: 10.1111/asj.13356
- Han, Y., O. S. Adeyemi, M. H. B. Kabir and K. Kato (2020) Screening of compound libraries for inhibitors of *Toxoplasma* growth and invasion. *Parasitology research*, 119(5): 1675-1681.
- Kabir, M. H. B., M. Itoh, A. A. Shehata, H. Bando, Y. Fukuda, F. Murakoshi, A. Fujikura, H. Okawa, T. Endo, A. Goto, M. Kachi, T. Nakayama, Y. Kano, S. Oishi, K. Otomaru, M. I. Essa, K. Kazama, X. Xuan and K. Kato (2020) Distribution of *Cryptosporidium* species isolated from diarrhoeic calves in Japan. *Parasitology International*, 78: 102153.
- Kabir, M. H. B., O. Ceylan, C. Ceylan, A. A. Shehata,

- H. Bando, M. I. Essa, X. Xuan, F. Sevinc and K. Kato (2020) Molecular detection of genotypes and subtypes of *Cryptosporidium* infection in diarrheic calves, lambs, and goat kids from Turkey. *Parasitology International*, 79: 102163.
- Kabir, M. H. B., Y. Han, S-H. Lee, A. B. Nugrahaa, F. C. Recuenco, F. Murakoshi, X. Xua and K. Kato (2020) Prevalence and molecular characterization of *Cryptosporidium* species in poultry in Bangladesh. *One Health*, 9: 100122.
- Kakihara, H. and S. Ogura (2020) Effect of livestock dung on pasture soil acidification and grass growth. 2019 Annual Report of the Project of Integrated Compost Science (PICS), pp. 38-41 (in Japanese).
- Komissarov, M. and S. Ogura (2020) Siltation and radiocesium pollution of small lakes in different catchment types far from the Fukushima Daiichi nuclear power plant accident site. *International Soil and Water Conservation Research*, 8(1): 56-65.
- Kondoh, D., J. Tomiyasu, R. Itakura, M. Sugahara, M. Yanagawa, K. Watanabe, P. A. Alviola, S. A. Yap, E. A. Cosico, F. A. Cruz, A. R. Larona, A. J. F. Manalad, J. S. Masangkay, Y. Sugiura, S. Kyuwa, S. Watanabe, Y. Une, T. Omatsu, H. Bando and K. Kato (2020) Comparative histological studies on properties of polysaccharides secreted by vomeronasal glands of eight Laurasiatheria species. *Acta Histochem*, 122(3): 151515.
- Miyata, M., R. C. Robinson, T. Q. P. Uyeda, Y. Fukumori, S. I. Fukushima, S. Haruta, M. Homma, K. Inaba, M. Ito, C. Kaito, K. Kato, T. Kenri, Y. Kinoshita, S. Kojima, T. Minamino, H. Mori, S. Nakamura, D. Nakane, K. Nakayama, M. Nishiyama, S. Shibata, K. Shimabukuro, M. Tamakoshi, A. Taoka, Y. Tashiro, I. Tulum, H. Wada and K. I. Wakabayashi (2020) Tree of Motility – History of Motility Systems in the Tree of Life –. *Genes to Cells*, 25: 6-21.
- Murakoshi, F., H. Bando, T. Sugi, O. S. Adeyemi, M. Nonaka, T. Nakaya and K. Kato (2020) Nullscript inhibits *Cryptosporidium* and *Toxoplasma* growth. *International journal for parasitology. Drugs and drug resistance*, 14: 159-166.
- Murakoshi, F., T. Nakaya and K. Kato (2020) Detection and Epidemiological Analysis of Symbiotic Viruses from Protozoa. *Journal of integrated field science*, 17: 15-17.
- Ogura, S. (2020) Preface – trend and challenge of weed control in pasture and forage crop fields. *Japanese Journal of Grassland Science*, 66(1): 21-22 (in Japanese).
- Ogura, S., Y. Maekawa and S. Tanaka (2020) Effects of grazing experience in a wasted mulberry plantation on foraging manner of mulberry leaves by cow. *Japanese Journal of Grassland Science*, 65(4): 231-235 (in Japanese with English synopsis).
- Saito, H., Y. Murata, M. Nonaka and K. Kato (2020) Screening of a library of traditional Chinese medicines to identify compounds and extracts which inhibit *Toxoplasma gondii* growth. *Journal of Veterinary medical Science*, 82: 184-187.
- Sakaguchi, N., M. Sasai, H. Bando (Equal-contribution), Y. Lee, A. Pradipta, J. S. Ma and M. Yamamoto (2020) Role of Gate-16 and Gabarap in Prevention of Caspase-11-Dependent Excess Inflammation and Lethal Endotoxic Shock. *Frontiers in Immunology*, 11: 561948.
- Shehata, A. A., H. Bando, Y. Fukuda, M. H. B. Kabir, F. Murakoshi, M. Itoh, A. Fujikura, H. Okawa, T. Endo, A. Goto, M. Kachi, T. Nakayama, Y. Kano, S. Oishi, K. Otomaru, K. Kazama, M. I. Essa and K. Kato (2020) Development of a highly sensitive method for the detection of *Cryptosporidium parvum* virus type 1 (CSpV1). *Japanese Journal of Veterinary Research*, 68(3): 159-170.
- Takaki, Y., Y. Takami, T. Watanabe, T. Nakaya and F. Murakoshi (2020) Molecular identification of *Cryptosporidium* isolates from ill exotic pet animals in Japan including a new subtype in *Cryptosporidium fayeri*. *Veterinary Parasitology: Regional Studies and Reports*, 21: 100430.

The Rice Production Group

- Asami, H., Y. Miura, T. Watanabe, T. Uno, R. Tajima, M. Saito and T. Ito (2020) Silicate fertilizer improves grain quality in brewers' rice (*Oryza sativa* L.) 'Toyonishiki'. *Japanese Journal of soil science plant nutrition*, 91(1): 11-20 (in Japanese).
- Kaneda, Y., M. Nishida, F. Takakai and T. Sato (2020) New growth diagnosis standards of high-yielding rice and demonstration of high yielding using NDVI by GreenSeeker handheld crop sensor. *Japanese Journal of soil science plant nutrition*, 91(6): 417-425 (in Japanese).
- Moritsuka, N., H. Saito, R. Tajima, Y. Takahashi and H. Hirai (2020) Farm-Scale Estimation of Total Nitrogen Content in Surface Paddy Soils by Extraction with Commercially Available Hydrogen Peroxide. *Agronomy*, 10: 40.
- Obara, K., K. Homma, R. Tajima, M. Maki, Y. Saito, N. Hashimoto, S. Yamamoto and C. Hongo (2020) Analysis of RGB Images to Estimate SPAD Values in Rice for UAV Remote Sensing. *Japanese Journal of Crop Science*, 89(1): 50-51 (in Japanese).

- Takahashi, T., K. Nakano, R. Nira, E. Kumagai, M. Nishida and M. Namikawa (2020) Conversion of soil particle size distribution and texture classification from ISSS system to FAO/USDA system in Japanese paddy soils. *Soil Science and Plant Nutrition*, 66(3): 407-414.
- Takamoto, A., T. Takahashi, K. Togami, M. Nishida, K. Tsuchiya and M. Namikawa (2020) Estimation of nitrogen uptake at the mature stage of rice from the dry yield of rough rice. *Japanese Journal of soil science plant nutrition*, 91(1): 1-10 (in Japanese).

Marine Bio-Production Group

- Fujii, T., D. J. Pondella, V. L. G. Todd and A. Guerin (2020) Editorial: Seafloor heterogeneity: artificial structures and marine ecosystem dynamics. *Frontiers in Marine Science*, 7: 378. DOI: 10.3389/fmars.2020.00378
- Yamada, Y., Y. Ujibe, T. Shimizu, Y. Sato, Y. Tashiro, J. Sato, M. Ikeda and M. Takagi (2020) Genetic disturbance of the endangered Japanese aucha perch, *Coreoperca kawamebari*, in Tokushima Prefecture. *Japanese Journal of Conservation Ecology*, 25: 9-23 (in Japanese with English abstract).
- Yamazaki, D., O. Miura, S. Uchida, M. Ikeda and S. Chiba (2020) Comparative seascape genetics of co-distributed *Monodonta* spp. intertidal snails in the Japanese and Ryukyu archipelagoes. *Marine Ecology Progress Series*, 657: 135-146 (in press).
- Zhou, J., D. Kitazawa, T. Yoshida., T. Fujii, J. Zhang, S. Dong and Q. Li (2020) Numerical simulation of dissolved aquaculture waste transport based on water circulation around shellfish and salmon farm sites in Onagawa Bay, Northeast Japan. *Journal of Marine Science and Technology*. DOI: 10.1007/s00773-020-00773-y
- Proceedings of 2020 IEEE International Geoscience and Remote Sensing Symposium, pp.5171-5174.
- Kuwabara, Y., A. Miura, T. Sumita and Y. Fujii (2020) Commitment and Network Formation of Successors in Community-based Farming : A Case Study of Agricultural Newcomers in Yamagata Prefecture. *Journal of rural planning*, 39(Special issue): 232-237 (in Japanese).
- Murata, H., M. Hara, Y. Yamazaki, M. Saito and C. Yonezawa (2020) Drone-based monitoring of the current situation of oyster aquaculture area in Nagatsura-ura Lagoon, Miyagi Prefecture for grasping environmental carrying capacity. Proceedings of the 69th Autumn meeting of the remote sensing society of Japan, pp.135-136 (in Japanese with English abstract).
- Narisawa, T. and C. Yonezawa (2020) Temporal changes of a meadow at Noyuki area in Katsurao village, Fukushima prefecture after the Great East Japan Earthquake. *Journal of the Japanese Agricultural Systems Society*, 36(3): 39-48 (in Japanese with English abstract).
- Saito, M., C. Yonezawa, T. Matsunami, T. Kanno and H. Uchino (2020) Evaluation of drainage methods on corn fields using remote sensing data. Proceedings of the 2020 Autumn conference of the Japanese Agricultural Systems Society, pp.11-12 (in Japanese).
- Seleky, R. N., W. Ozawa and T. Sumita (2020) Characteristics of Farms with Successors: A Case Study of Margomuyo Village, Sleman District, Yogyakarta Province, Indonesia. *Journal of rural Society and Economics*, 38(2): 115-126.
- Sugawara Y. and T. Sumita (2020) Tourist's Evaluation of Agriculture and a Rural Area, and its Related Issues : An Analysis of Attitude of Tourists, *Journal of rural society and economics*, 38(2): 19-27 (in Japanese).

Integrated Field Control Group

- Ikeyama N. and T. Sumita (2020) Evaluation of Direct Seeding in Rice Cultivation in Shonai District of Yamagata Prefecture. *Journal of rural society and economics*, 38(2): 10-18 (in Japanese).
- Inoue, S., A. Ito and C. Yonezawa (2020) Mapping Paddy Fields in Japan by Using a Sentinel-1 SAR Time Series Supplemented by Sentinel-2 Images on Google Earth Engine. *Remote Sensing*, 12(10): 1622-1622.
- Inoue, S., A. Ito and C. Yonezawa (2020) PADDY FIELD MAPPING IN EASTERN PART OF ASIA USING SENTINEL-1 AND SENTINEL-2. *Journal of rural society and economics*, 37(2): 1-9.
- Suzuki H., T. Sumita and Y. Kato (2020) Measures to Secure Human Resources for Management Succession in Farming Corporations : A Case analysis of securing successors to smooth generational change. *Journal of rural society and economics*, 38(2): 78-86 (in Japanese).
- Yamamoto, K., K. Ueda, T. Sumita, Y. Fujii and S. Matsushita (2020) The Effects of Commuter Farming on Making Decision of Spouses at Separation Farmer : A Case Study in the Citrus Production Island Area.

Journal of rural society and economics, 38(2): 58-67
(in Japanese).

Yonezawa, C. and M. Watanabe (2020) DETECTION OF FLOODING AGRICULTURAL FIELD BY TYPHOON HAGIBIS ON 2019 USING SAR IMAGERY. Proceedings of 2020 IEEE International Geoscience and Remote Sensing Symposium, pp.6863-6866.