
日本大学生物資源科学部総合研究所

研究業績集

第29巻

[令和2(2020)年4月1日
～令和3(2021)年3月31日]

目次

頁

第1章 研究論文〔令和2(2020)年度〕

生命農学科 生物資源生産科学専攻

Effects of NaCl application on cesium accumulation in the aboveground parts of quinoa (*Chenopodium quinoa* Willd.)

Kengo Wada, Riyako Takagi, Masaori Horikoshi,
Masao Higo and Katsunori Isobe1

生命農学科 生物資源生産科学専攻

Amplicon sequencing analysis of arbuscular mycorrhizal fungal communities colonizing maize roots in different cover cropping and tillage systems

Masao Higo, Yuya Tatewaki, Karen Iida,
Kana Yokota and Katsunori Isobe10

生命農学科 生物資源生産科学専攻

Functional divergence of principal alcohol *o*-acyltransferase for biosynthesis of volatile acetate esters among tomato wild species (*Solanum* Sect. *Lycopersicon*)

Yusuke Kamiyoshihara, Sakurako Miyajima,
Yota Miyagawa, Kazuki Moriyama,
Shinji Mizuno, Charles Goulet,
Harry Klee and Akira Tateishi23

生命農学科 生物資源生産科学専攻

Expression of α -L-arabinofuranosidase genes at ripening initiation potentially contributes to the difference in flesh juiciness between processing and fresh tomatoes

Fumika Miyohashi, Yukihisa Sawada,
Aiko Kaminishi, Ayaka Soga, Makoto Yoshida,
Yusuke Kamiyoshihara and Akira Tateishi33

生命農学科 生物資源生産科学専攻

Validation of promoter functionality in the upstream region of actinidin-coding gene in kiwifruit (*Actinidia chinensis* 'Kohi')

Yusuke Kamiyoshihara, Daiki Kamei,
Shinji Mizuno, Keiichi Watanabe and
Akira Tateishi

.....41

生命農学科 生物資源生産科学専攻

Genome sequence of *Hydrangea macrophylla* and its application in analysis of the double flower phenotype

Kenji Nashima, Kenta Shirasawa,
Andrea Ghelfi, Hideki Hirakawa,
Sachiko Isobe, Takuro Suyama,
Takuya Wada, Takeshi Kurokura,
Tatuya Uemachi, Mirai Azuma,
Midori Akutsu, Masaharu Kodama,
Yoshiko Nakazawa and Kiyoshi Namai

.....47

生命化学科 生物資源利用科学専攻

Alternative strategies of nutrient acquisition and energy conservation map to the biogeography of marine ammonia-oxidizing archaea

Wei Qin, Yue Zheng, Feng Zhao, Yulin Wang,
Hidetoshi Urakawa, Willm Martens-Habbena,
Haodong Liu, Xiaowu Huang, Xinxu Zhang,
Tatsunori Nakagawa, Daniel R. Mende,
Annette Bollmann, Baozhan Wang, Yao Zhang,
Shady A. Amin, Jeppe L. Nielsen, Koji Mori,
Reiji Takahashi, E. Virginia Armbrust, Mari-K.H.
Winkler, Edward F. DeLong, Meng Li,
Po-Heng Lee, Jizhong Zhou, Chuanlun Zhang,
Tong Zhang, David A. Stahl and Anitra E. Ingalls

.....57

生命化学科 生物資源利用科学専攻

Allergenicity of deamidated and/or peptide-bond-hydrolyzed wheat gliadin by transdermal administration

Ryosuke Abe, Narumi Matsukaze,
Hayato Kobayashi, Yusuke Yamaguchi,
Harumi Uto-Kondo, Hitoshi Kumagai and
Hitomi Kumagai

.....72

生命化学科 生物資源利用科学専攻

Suppressive effect of Shiitake extracts on plasma ethanol elevation

Harumi Uto-Kondo, Ayaka Sakurai,
Kazuki Ogawa, Yusuke Yamaguchi,
Takeshi Saito and Hitomi Kumagai

.....86

生命化学科 応用生命科学専攻

Fish oil suppresses obesity more potently in lean mice than in diet-induced obese mice but ameliorates steatosis in such obese mice

Sachiko Okue, Eimi Ishikawa, Ren Nakahara,
Tsubasa Ito, Takumi Okura, Mana Sakae,
Atsushi Miura, Yori Ozaki-Masuzawa,
Takashi Hosono and Taiichiro Seki101

生命化学科 応用生命科学専攻

Nocturnal light exposure stimulates the cardiac fibrinolysis system and stress responses in C3H/He mice

Michiko T Yasuda, Yuto Watanabe,
Takashi Hosono, Taiichiro Seki,
Taka-Aki Suzuki, Hiroyuki Sakakibara and
Kayoko Shimoi110

生命化学科 生物資源利用科学専攻

Utilization of sucrose and analog disaccharides by human intestinal bifidobacterial and lactobacilli: Search of the bifidobacterial enzymes involved in the degradation of these disaccharides

Hiroki Hosaka, Mai Kawamura,
Takako Hirano, Wataru Hakamata and
Toshiyuki Nishio113

生命化学科 生物資源利用科学専攻

Enzymatic synthesis and structural confirmation of novel oligosaccharide, D-fructofuranose-linked chitin oligosaccharide

Hiroki Hosaka, Sayaka Shirai, Sora Fujita,
Mitsuru Tashiro, Takako Hirano,
Wataru Hakamata and Toshiyuki Nishio122

生命化学科 生物資源利用科学専攻

Development of fluorescent substrate for glycan processing glycosidase, and screening of the novel glycosidase inhibitor

Kazuki Miura and Wataru Hakamata129

生命化学科 生物資源利用科学専攻

ゴルジ体マンノシダーゼ阻害剤の構造修飾による細胞間コミュニケーション阻害活性と細胞毒性の分離

小山亮祐, 加納結衣, 水谷文香, 平野貴子,
西尾俊幸, 袴田航133

生命化学科 生物資源利用科学専攻

Screening, synthesis, and evaluation of novel isoflavone derivatives as inhibitors of human golgi β -galactosidase

Kazuki Miura, Chihiro Onodera,
Motonari Takagi, Ryosuke Koyama,
Takako Hirano, Toshiyuki Nishio and
Wataru Hakamata

.....143

生命化学科 生物資源利用科学専攻

Development of specific fluorogenic substrates for human β -N-Acetyl-D-hexosaminidase A for cell-based assays

Kazuki Miura, Yuka Aoyama, Yurika Natsu,
Ryosuke Koyama, Takako Hirano,
Toshiyuki Nishio and Wataru Hakamata

.....152

生命化学科 生物資源利用科学専攻

A novel golgi mannosidase inhibitor: Molecular design, synthesis, enzyme inhibition, and inhibition of spheroid formation

Ryosuke Koyama, Yui Kano,
Kaori Kikushima, Ayaka Mizutani, Yuta Soeda,
Kazuki Miura, Takako Hirano,
Toshiyuki Nishio and Wataru Hakamata

.....160

生命化学科 暮らしの生物学科

生物環境科学専攻

Effects of rhizosphere sulfur concentration on sulfur content and sulfate transporter gene expression in japanese heirloom vegetables of the Brassicaceae family

Hiroko Yamaya-Ito, Fumie Shinmachi,
Ayaka Suwa, Akira Noguchi and
Isao Hasegawa

.....167

生命化学科 生物環境科学専攻

草本バイオマスのエネルギー転化利用技術の開発 ～イナワラの高効率糖化酵素としてのイナゴ腸内酵素の探索～

伊藤(山谷)紘子, 長谷川功

.....177

生命化学科 暮らしの生物学科

生物環境科学専攻 生物資源生産科学専攻 生物資源利用科学専攻

Kanto-Koushinetsu Region

Hiroaki Sumida, Yusuke Takata,
Masataka Komatsu, Kumiko Baba,
Yutaka Shiratori, Hiroshi Takesako,
Kenji Kanazawa, Masayuki Kawahigashi,
Masaharu Ikeba, Naruo Miyazaki,
Nobuyuki Kanuma, Kazuko Someya,
Kunio Maruoka, Takashi Tsukamoto,
Kosuke Homma, Akira Noguchi,
Fumie Shinmachi, Hiroko Yamaya-Ito,
Reiji Takahashi, Takayuki Kobayashi and
Syunrokuro Fujiwara183

獣医学科 獣医学専攻

Genomic selection for heterobothriosis resistance concurrent with body size in the tiger pufferfish, *Takifugu rubripes*

Zijie Lin, Sho Hosoya, Mana Sato,
Naoki Mizuno, Yuki Kobayashi,
Takuya Itou and Kiyoshi Kikuchi210

獣医学科 獣医学専攻

Involvement of pore helix in voltage-dependent inactivation of TRPM5 channel

Kunitoshi Uchida, Tomo Kita, Mitsutoki Hatta,
Satoru G.Itoh, Hisashi Okumura,
Makoto Tominaga and JunYamazaki223

獣医学科 獣医学専攻

Trichophyton indotineae sp. nov.: A new highly terbinafine-resistant anthropophilic dermatophyte species

Rui Kano, Utako Kimura, Maki Kakurai,
Junichiro Hiruma, Hiroshi Kamata,
Yasushi Suga and Kazutoshi Harada233

獣医学科 獣医学専攻

Antifungal drugs-low-susceptibility in *Aspergillus flavus* isolated from a captively reared Okinawa rail (*Hypotaenidia okinawae*)

Rui Kano, Meika Tsunoi, Yumiko Nakaya,
Takashi Nagamine and Koji Ono245

獣医学科 獣医学専攻

Identification and characterization of a novel bat polyomavirus in Japan

Ryota Koba, Satori Suzuki, Go Sato, Shingo Sato,
Kazuo Suzuki, Soichi Maruyama and
Yukinobu Tohya248

海洋生物資源科学科 生物資源生産科学専攻

Difference in tetrodotoxin content between two sympatric planoceric flatworms, *Planocera multitentaculata* and *Planocera reticulata*

Shiro Itoi, Sora Tabuchi, Misato Abe,
Hiroyuki Ueda, Hikaru Oyama, Ryuya Ogata,
Taiki Okabe, Ayano Kishiki and Haruo Sugita253

海洋生物資源科学科 生物資源生産科学専攻

The planoceric flatworm is a main supplier of toxin to tetrodotoxin-bearing fish juveniles

Shiro Itoi, Tatsunori Sato, Mitsuki Takei,
Riko Yamada, Ryuya Ogata, Hikaru Oyama,
Shun Teranishi, Ayano Kishiki, Takenori Wada,
Kaede Noguchi, Misato Abe, Taiki Okabe,
Hiroyuki Akagi, Maho Kashitani, Rei Suo,
Tomoko Koito, Tomohiro Takatani,
Osamu Arakawa and Haruo Sugita258

海洋生物資源科学科 生物資源生産科学専攻

Taxonomic distribution of tetrodotoxin in acotylean flatworms (Polycladida: Platyhelminthes)

Maho Kashitani, Taiki Okabe, Hikaru Oyama,
Kaede Noguchi, Haruka Yamazaki, Rei Suo,
Tetsushi Mori, Haruo Sugita and Shiro Itoi267

海洋生物資源科学科 生物資源生産科学専攻

Genetic and morphological characteristics in the local population of the landlocked salmon *Oncorhynchus masou* originally distributed in Kanagawa Prefecture, Japan

Taiki Okabe, Naoyuki Suguro, Tomoko Koito,
Kento Endo, Haruo Sugita and Shiro Itoi274

海洋生物資源科学科 生物資源生産科学専攻

Mycovirus-induced tenuazonic acid production in a rice blast fungus *Magnaporthe oryzae*

Akihiro Ninomiya, Syun-ichi Urayama, Rei Suo,
Shiro Itoi, Shin-ichi Fuji, Hiromitsu Moriyama
and Daisuke Hagiwara286

食品生命学科 生物資源生産科学専攻

ミズナの貯蔵中における生菌数の変化および細菌叢の変遷

清水真紀, 石田万里子, 京井大輔, 河原井武人,
荻原博和

……………295

森林資源科学科 暮らしの生物学科

生物資源生産科学専攻 生物資源利用科学専攻

カブトムシ3齢幼虫(甲虫目:コガネムシ科)の消化管内容物の通過時間

和田典子, 岩田隆太郎, 木口実, 安齋寛

……………300

生命農学科 暮らしの生物学科

生物資源生産科学専攻 生物資源利用科学専攻 生物環境科学専攻

濃赤色イチゴ新品種‘真紅の美鈴’の果実品質およびアントシアニン色素

水野真二, 成川昇, 近藤春美, 上吉原裕亮, 立石亮,
窪田聡, 新町文絵, 渡辺慶一

……………310

暮らしの生物学科 生物環境科学専攻

トカラ列島口之島における外来テン(*Martes melampus*)の分布と在来種の捕食

中園和憲, 炭山大輔, 三谷奈保

……………317

暮らしの生物学科

生物資源利用科学専攻 生物環境科学専攻

Prevalence and antimicrobial-resistance profiles of *Salmonella* spp. isolated from green anoles (*Anolis carolinensis*) collected on the Haha-jima of the Ogasawara archipelago, Japan

Daisuke Sumiyama, Ikuno Hayashida,
Tomoko Kanazawa, Hiroshi Anzai and
Koichi Murata

……………323

第2章 令和2(2020)年度 総合研究所 関係会議開催状況

1. 総合研究所運営委員会

……………327