

The 50th annual meeting of Japan Society of Protistology
The 1st annual meeting of the Japan Symbiosis Society

Oral presentation

Early symbiosis of corals and zooxanthellae uncovered by field observations and laboratory experiments

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Search for symbiosis-related genes in lichens by using resynthesized thalli of *Usnea hakonensis*

○KONO Mieko¹, TERAJ Yohey¹, OHMURA Yoshihito², SATTA Yoko¹

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Limit of the kleptochloroplast for use: The photosynthetic activity of *Rapaza viridis*

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Relationship between the evolution of transmission mode of symbionts and niche shift of hosts induced by symbiosis

○UCHIUMI Yu, OHTSUKI Hisashi, SASAKI Akira

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Single cell transcriptome of the protists in the termite suggests that one of the symbiotic species contributes to efficient nitrogen utilization through chitin degradation

○NISHIMURA Yuki¹, OTAGIRI Masato², YUKI Masahiro¹, INOUE Jun-ichi¹, MORIYA Shigeharu², OHKUMA Moriya^{1,2}

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Comparative genomics of *Desulfovibrio* symbionts associated with protists in termite gut

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Ultrastructure and molecular architecture of the kinetocyst (extrusive organelle) in *Raphidiophrys contractilis* (Centrohelida)

○KOBAYASHI Mayumi¹, SONG Chihong², MURATA Kazuyoshi², SUZAKI Toshinobu¹

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MITOCHONDRION-DIVIDING RING 1 (MDR1) assembles a contractible ring for mitochondrial division

○YOSHIDA Yamato¹, KUROIWA haruko², SHIMADA Takashi³, YOSHIDA Masaki⁴, OHNUMA Mio⁵, FUJIWARA Takayuki⁶,

IMOTO Yuuta⁷, YAGISAWA Fumi⁸, NISHIDA Keiji⁹, HIROOKA Shunsuke⁶, MISUMI Osami¹⁰, MOGI Yuko¹, AKAKABE

Yoshihiko¹¹, MATSUSHITA Kazunobu¹¹, KUROIWA Tsuneyoshi²

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Univ. of Ryukyus, ⁹ Grad. Sch. Sci., Kobe Univ., ¹⁰ Grad. Sch. Sci. Tech., Yamaguchi Univ., ¹¹ Dept. of Agric., Yamaguchi Univ.

Transmembrane nucleoporins Pom121/Pom82 differentiating nuclear pore complexes of functionally distinct nuclei of ciliate *Tetrahymena*

○IWAMOTO Masaaki¹, OSAKADA Hiroko¹, MORI Chie¹, HIRAOKA Yasushi^{1,2}, HARAGUCHI Tokuko^{1,2}
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The role of stomatin-like proteins in escape reaction of Paramecium

KAWANO Mutsumi¹, SETO Ayaka¹, ISHIDA Masaki², TOMINAGA Takashi³, ○HORI Manabu¹
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Rare earth ions driven Contraction of Tentacle in Nocticula and Reason of Beauty of its Luminescence in luminous Body

○ASAI Hiroshi
Reseach Institute of Science and Engineering in Waseda University

Poster Presentation

Bacteria localized on the egg surface of the scaphopod *Dentalium octangulatum*

○IKUTA Tetsuro¹, TAKAKI Yoshihiro¹, TAME Akihiro², FUJIKURA Katsunori¹, YOSHIDA Takao¹
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Overexpression of coral immune system leads to breakdown of the coral-algal endosymbiosis

○YUYAMA Ikuko
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RNA-seq approaching to ecological functions of termite symbiotic system

○MORIYA Shigeharu¹, OTAGIRI Masato¹
¹ RIKEN, CSRS

A new, compact, highly sensitive and low cost biological monitoring device using protozoa to detect toxic substances in water

○ISLAM MD Shafiqul¹, YOSHIMURA Chisato², KOBAYASHI Mayumi³, CHEN Lin⁴, HIGUCHI Rina³, SUZAKI Toshinobu³
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Some rare and little-known centrohelid heliozoans (Protista, Centrohelida) of Europe

○GAPONOVA P. Liudmyla
Institute for Evolutionary Ecology of the National Academy of Sciences of Ukraine

Major vault proteins identified as food recognition proteins in *Raphidiophrys contractilis*

○KARASAWA Munehiro, BHADRA Mousumi, KOBAYASHI Mayumi, SUZAKI Toshinobu
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Ectosymbiotic bacterial microbiota on the surface of nematodes in gut of a wood-feeding *Panesthia* cockroach

○ONOUCHI Shu¹, MURAKAMI Takumi¹, OHKUMA Moriya², HONGO Yuichi^{1,2}
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Phylogenetic diversity and morphology of the symbiotic gut protists from higher termites and cockroaches

○TAKAHASHI Yudai¹, IGAI Katsura¹, MORIKAWA Takahiro¹, SUGAYA Kaito¹, OHKUMA Moriya², KOBAYASHI Seiki³,
INOUE Tetsushi⁴, YAMADA Akinori⁴, HONGOY Yuichi^{1,2}

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Phylogenetic positions of gregarine-like parasites isolated from intestinal tracts of terrestrial arthropods, and search for their nonphotosynthetic plastids

○MIYATA Ryosuke¹, MATSUO Eriko¹, NAKAYAMA Takuro², TANIFUJI Goro³, CHIKAMI Yasuhiko⁴, YAHATA Kensuke⁵,
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Cultivation of an anaerobic ciliate strain GW7 that possesses symbiotic methanogen and bacteria

○TAKESHITA Kazutaka¹, YAMADA Takanori¹, NARIHIRO Takashi², KAMAGATA Yoichi², SHINZATO Naoya^{1,2}

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Morphology and phylogeny of a haptophyte *Chrysochromulina parkeae* and its endosymbiont

○TSUKAKOSHI Chinatsu¹, SUZUKI Shigekatsu², NAKAMURA Atsushi¹, HAGINO Kyoko³, ISHIDA Ken-ichiro⁴

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Species richness and distribution pattern of leaf-inhabiting endophytic fungi in a broad-leaved deciduous forest

○OKI Minae¹, MURAKAMI Masashi

Chiba Univ. Community Ecology Lab.

Evidence of non-tandemly repeated rDNAs and their intragenomic heterogeneity in *Rhizophagus irregularis*

○MAEDA Taro¹, OKUMA Nao^{1,3}, KOBAYASHI Yuuki^{1,2}, KAMEOKA Hiromu^{1,2}, TAKEDA Naoya¹, YMAGUCHI Katsushi¹,
BINO Takahiro¹, SHIGENOBU Shuji¹, KAWAGUCHI Masayoshi¹

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Analysis of microbial taxonomic composition and gene expression using Total RNA-seq in Negro River, Amazon

○TSUBOI Arisa^{1,2}, HONGOY Yuichi¹, MORIYA Shigeharu²

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Analysis of microbial ecosystem in activated sludge by artificial phage

○NISHIDA Akifumi¹, NAKAGAWA Mayuko², AYUKAWA Shotaro³, YAMAMURA Masayuki¹

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Evolution and maintenance of tubeworm-chemosynthesis bacteria mutualism

○SATO Masato¹, SASAKI Akira¹

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Heavy metal tolerance of Japanese knotweed (*Reynoutria japonica* Houtt.) growing on mine site and effects of the endophytic fungi

○HOJO Yuki¹, YAMAJI Keiko²

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Analysis of correlation between squalene productivity and mevalonic acid pathway rate limiting enzyme HMG-CoA reductase activity in Thraustochytrids

○SUZUKI Taichi¹, FUJIHARA Naomichi¹, ITO Junko¹, YOSHIDA Masaki², SUZUKI Iwane², ISHIDA Ken-ichiro²

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A report of a novel phagotrophic bacterium

○SHIRATORI Takashi¹, SUZUKI Shigekatsu², ISHIDA Ken-ichiro¹

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Mitochondrial genome of a protist branched at the base of Euglenozoa

○YAZAKI Euki¹, SHIRATORI Takashi¹, KUME Keitaro², HASHIMOTO Tetsuo^{1,3}, ISHIDA Ken-ichiro¹, INAGAKI Yuji^{1,3}

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Elucidation of nuclear proliferation machinery in *Plasmodium* liver-stage parasites

○ARAKI Tamasa^{1,2}, KAWAI Satoru³, KOBAYASHI Hirotaka⁴, KATAOKA Michiyo⁴, NAGAMUNE Kisaburo^{1,2}, NOZAKI

Tomoyoshi^{1,5}, ANNOURA Takeshi¹

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Morphological traits of giant cells in the ciliate *Blepharisma stoltei*

○ISAKA Yuki¹, SUGIURA Mayumi², HARUMOTO Terue²

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An attempt at cryopreservation of ciliate *Blepharisma*

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Toward the elucidation of mechanism to block interspecies conjugation in *Blepharisma*

○SUGINO Ayu¹, SUGIURA Mayumi², HARUMOTO Terue²

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The function of cortical granules and toxicity of the contents in *Blepharisma hyalinum*

○TAMURA Nozomi¹, SUGIURA Mayumi², HARUMOTO Terue²

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Analysis of calmodulin-binding protein in crude dynein fraction of *Tetrahymena* cilia

○KOI Wakana, UENO Hironori

Aichi University of Education, Cell biology lab.

Extension and contraction mechanism of the proboscis of a ciliate, *Lacrymaria olor*

○YANASE Ryuji¹, NISHIGAMI Yukinori², YOSHIHISA Tohru¹, SONOBE Seiji¹

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A Function of Crystals in Ciliate *Paramecium bursaria*

○TSUKAGOSHI Ryosuke¹, KODAMA Yuuki²

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Changes in cell protein composition of the cell surface of *Chlorella variabilis* associated with intracellular symbiosis

○HIGUCHI Rina, SUZAKI Toshinobu

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Growth of *Paramecium bursaria* feeding on *Chlamydomonas* and the microcosm experiments

○FUKUSHI Kota¹, FUJITA Kyosuke², IWAI Sosuke²

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Flagella-associated protein in *Chlamydomonas* flagella, FAP85 is one of the microtubule inner proteins (MIPs)

○KIRIMA Junya¹, OIWA Kazuhiro^{1,2}

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A novel *Chlamydomonas* mutant, *lpp1*, has defects in maintaining structural integrity of flagellar axonemes

○ KOGA Hiroki¹, TOH Mishio², NOGA Akira², DOHRA Hideo³, WAKABAYASHI Ken-ichi⁴, HIRONO Masafumi^{1,2}

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A novel *Chlamydomonas* mutant, *awal*, displays a membrane-dependent abnormality in flagellar motility

○SAKAI Masashi¹, ONO Kotaro¹, KAI Ryutaro¹, MIWA Aya¹, NOGA Akira^{1,2}, NAKAZAWA Yuki¹, HIRONO Masafumi¹

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Where is the driving force for *Volvox* swimming?

○UDA Kaho, UENO Hironori

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Phylogenetic and morphological analyses of the cercozoan species closely related to chlorarachniophytes

○KATO Yuta¹, SHIRATORI Takashi², ISHIDA Ken-ichiro²

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The essential vitamin for *Aurantiochytrium* sp. is only B₁ (Thiamin)

○TANI Narumi, YONEDA Kohei, SUZUKI Iwane, SUZUKI Taichi, ISHIDA Ken-ichiro, YOSHIDA Masaki
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Study on the regulatory mechanism for induction of zoospore in *Aurantiochytrium* sp. 18w-13a

○HATA Hironori, SUZUKI Iwane, YOSHIDA Masaki, YONEDA Kohei,
Grad. Sch. Life Environ. Sci., Univ. Tsukuba

Analysis on the formation of siliceous scales in *Raphidiophrys contractilis*

○CHEN Lin¹, CHIHARA Akane², KOBAYASHI Mayumi², NAGAO Kento², SUZAKI Toshinobu²
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Taxonomic study of branched filamentous green algae within Ulvales

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Genome analysis of the rickettsial endosymbiont living in the cytoplasm of a photosynthetic organism

○KAWAFUNE Kaoru¹, KUWAHARA Hirokazu¹, SAKAMOTO Tomoaki², KURATA Tetsuya³, HIROOKA Shunsuke⁴, MIYAGISHIMA Shin-ya⁴, MATSUZAKI Motomichi⁵, NOZAKI Hisayoshi⁶, HONGOYU Yuichi¹
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Community structure of symbiotic protists in *Reticulitermes* spp. in Okinawa and Amami Islands

○SUZUKI Masanori¹, KITADE Osamu²
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Diversity and characterization of phosphagen kinases in protists

○YANO Daichi¹, FUNADANI Ryoji¹, MATUOKA Tatsuomi¹, SUZUKI Tomohiko¹
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Multigene phylogeny of deep-branching stramenopiles

○THAKUR Thakur¹, SHIRATORI Takashi², ISHIDA Ken-ichiro²
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A locomotion mode in agarose gel different from swimming and gliding in *Tetrahymena*

○OTA Takahide
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Stentor pyrififormis with algal endosymbionts is nutritionally autotrophic

○TSUKII Yuuji
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Molecular biological detection and identification of bovine coccidia in intestinal tissue

○OTSUBO Daisuke¹, KANAMORI Maki¹, OWAKI Keishi², YANAI Tokuma², TADA Chika¹, FUKUDA Yasuhiro¹, NAKAI Yutaka¹

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Identification and characterization of bovine *Eimeria* in intestinal tissue section with using molecular biological technique

○FUKUDA Yasuhiro¹, KANAMORI Maki¹, OTSUBO Daisuke¹, OWAKI Keishi², TADA Chika¹, YANAI Tokuma², NAKAI Yutaka¹

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Occurrence of *Acanthamoeba* and its endosymbionts in housedust

○YAGITA Kenji, OKAMURA Tokiko

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Phylogeny, Ultrastructure, and Mitochondrial Genome of a Novel Discobid Nanoflagellate from the Solomon Islands

○YABUKI Akinori¹, GYALTSHEN Yangtsho², HEISS A. Aaron², FUJIKURA Katsunori¹, KIM Eunsoo²
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Photokinesis of *Amoeba proteus*

○NISHIGAMI Yukinori, FUJIWARA Hisanori, ICHIKAWA Masatoshi

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Mass Culturing of *Paramecium bursaria* ~In order to Produce Bioethanol~

○SASAYAMA Karin, YAMAMOTO Ayano

Konko Gakuen Junior & Senior High School

Symposium

Opening remarks

○ISHIDA Ken-ichiro(Univ. Tsukuba)

The smoking gun; Evolutionary traces shown by the relic endosymbiont nuclei

○TANIFUJI Goro

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Evolution of endosymbiosis in dinoflagellate *Nusuttodinium* spp.

○ONUMA Ryo¹, HIROOKA Shunsuke¹, KANESAKI Yu², YOSHIKAWA Hirofumi³, MIYAGISHIMA Shin-ya¹

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Conflicting molecular interactions between host and Plasmodium liver-stage parasite: a fight for supremacy

○ANNOURA Takeshi¹, ARAKI Tamasa^{1,2}, KAWAI Satoru³, KOBAYASHI Hirota⁴, KATAOKA Michiyo⁴, KAKUTA Soichiro⁵,
WACKER Rahel⁶, KHAN M. Shahid⁷, HEUSSLER T. Volker⁶, NOZAKI Tomoyoshi^{1,8}
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Pathol., NIID., ⁵Research Support Center, Juntendo Univ. Grad. Sch. Med., ⁶Universitat Bern, Switzerland, ⁷Leiden University
Medical Center, Netherlands, ⁸Dept.of Biomed.Chem. Grad.Sch.of Med., Univ. of Tokyo

Unexplored diversity of early diverging fungi -Taxonomic study on parasitic chytrids on algae-

○SETO Kensuke¹
¹Faculty of Science, Toho University

Single-cell genomics to decipher the symbiotic relationship between host protists and endo-/ectosymbiotic bacteria in the termite gut

○YUKI Masahiro¹, OHKUMA Moriya^{1,2}
¹RIKEN-CSRS., ²RIKEN-BRC JCM

Phenotypic plasticity and transcriptome dynamics of host-parasitic plant interaction

○ICHIHASHI Yasunori^{1,2}, SHIRASU Ken^{1,3}
¹RIKEN CSRS, ²JST PRESTO, ³The University of Tokyo

Understanding mechanisms of coral symbiosis using genomics approaches

○SHINZATO Chuya
Atmosphere and Ocean Research Institute, The University of Tokyo

“Surprisingly” narrow dispersal of marine protists

○ISHITANI Yoshiyuki¹
¹Comp. Sci. Cent., Tsukuba Univ.

Closing remarks

○NAGAMUNE Kisaburo^{1,2}
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Workshop

Effect of temperature on community structure and diversity of termite symbiotic protists

○KITADE Osamu, NEMOTO Manami
College of Science, Ibaraki Univ.

Cellulase activity in the gut microbiota of higher termites

○IGAI Katsura¹, MORIKAWA Takahiro¹, TAKAHASHI Yudai¹, MORIYA Shigeharu², OHKUMA
Moriya³, INOUE Tetsushi⁴, YAMADA Akinori⁴, HONGOY Yuichi^{1,2}
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Effects of losses of DNA repair genes on the reductive genome evolution in vesicomid deep-sea symbiotic bivalves

○MARUYAMA Tadashi¹, SHIMAMURA Shigeru², TAKAKI Yoshihiro², YOSHIDA Takao³
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Physiological roles of TC1 symbiont residing in an anaerobic ciliate *Trimyema compressum*

○SHINZATO Naoya^{1,2}, TAKESHITA Kazutaka¹, NOBU K. Masaru², NIKOH Naruo³, KAMAGATA Yoichi²
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DNA modification of the symbiotic dinoflagellate *Symbiodinium minutum*

○SHOGUCHI Eiichi¹, NARISOKO Haruhi¹, ROY Michael C.², SATOH Noriyuki¹
¹Marine Genomics Unit, OIST, ²Instrumental Analysis Section, OIST

Mitochondrial respiratory chain of the oyster parasite *Perkinsus marinus*

○YATSUZAKI Motomichi^{1,2,3}, KURODA Marie¹, MASUDA Isao¹, SAKUMOTO Hirokazu¹, SAKAMOTO Kimitoshi⁴, INAOKA D. Ken^{1,2}, KITA Kiyoshi^{1,2}
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Function of the intermediate subunit of *Entamoeba histolytica* lectin

MAKIUCHI Takashi¹, KATO Kentaro², CHENG Xunjia¹, ○TACHIBANA Hiroshi¹
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Elucidating the mechanism of host mitochondrial recruitment by *Toxoplasma gondii*

○FUKUMOTO Junpei^{1,2}, SAKURA Takaya¹, MATSUBARA Ryuma¹, TAHARA Michiru¹, NAGAMUNE Kisaburo^{1,3}
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Genome analysis of symbiosis in green hydra and *Chlorella*

○HAMADA Mayuko^{1,2}, SCHRÖDER Katja³, KHALTURIN Konstantin², SHINZATO Chuya², BOSCH C.G. Thomas², SATOH Nori²
¹Ushimado Marine Institute, Okayama Univ., ²Okinawa Institute of Science and Technology Graduate Univ., ³Kiel Univ.

Re-visiting the contribution of Lynn Margulis in the endosymbiotic theory of plastids

○SATO Naoki¹
¹Life Sciences, Grad. School of Arts and Sciences, Univ. of Tokyo

Quantification of rotten wood-consumption by termite

○KIHARA Kumiko^{1,2}, NAKAGAWA Takafumi¹, YAMADA Akinori³, YOSHIMURA Tsuyoshi⁴
¹Kumamoto col., ²NIT, ³RIKEN, ⁴Nagasaki Univ., ⁴Kyoto Univ.

Faecal transplantation for the treatment of *Clostridium difficile* infection in a marmoset

○YAMAZAKI Yumiko^{1,2}, KAWARAI Shinpei³, MORITA Hidetoshi⁴, KIKUSUI Takefumi⁵, IRIKI Atsushi²

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Identification and characterization of endophytic bacteria isolated from seeds of *Chenopodium quinoa*

○MURATA Yoshinori¹, TOYOSHIMA Masami¹, FUJITA Yasunari^{1,2}

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Fungi isolated from the pollen grains made by bumblebees

○DEGAWA Yousuke, HIRAO Akira

Sugadaira MRS, MRC, Univ. of Tsukuba

Special lecture by a winner for the Award of the Japan Society of Protistology in the Field of Protistological Research

Study on the establishment mechanism of secondary symbiosis using the ciliate *Paramecium bursaria*

○KODAMA Yuuki

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Special lecture by a winner for the Encouragement Award for Young Protistologists

Novel and early branching protists illuminate eukaryotic evolution more clearly

○YABUKI Akinori

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