



令和5年10月 第92巻 第10号 (第1069号)

「巻頭言」ゆるぎない安心と信頼の追求 ～持続可能な水道の実現に向けて～	栗原 諭	(1)
丹保憲仁先生を偲んで	小笠原 紘一	(2)
丹保憲仁先生への追悼メッセージ	Tom Mollenkopf Kala Vairavamoorthy	(3)
「論文」 藍藻類単離株および水道水源試料の カビ臭原因物質合成酵素遺伝子の解析	藤 本 尚 志 浅 田 安 廣 大 西 章 博 曾 清 厚 嘉 秋 水 葉 和 哉 高 橋 威 一 郎 三 浦 久 志 清 水 尚 之 俊	(4)
「報文」 全国の水道事業者等における生物障害の発生・対応状況解析	森 田 久 男 小 坂 浩 司 秋 葉 道 宏	(33)
「報文」 原水の水質変動に対応する高度浄水プロセスの水質改善効果や 運転条件に関する研究	滝 沢 智	(42)
「資料」 水道における脱炭素化の更なる推進について		(42)
文 献 抄 録		(77)
すべてを一つのことに集中させるべきではない： 淡水化と水リサイクルに関する社会的視点 (イスラエル)	米 川 勉 照	(77)
ショートカラムを用いた IC-ESI-MS/MS 法によるジクロロ酢酸、 トリクロロ酢酸、塩素酸、過塩素酸及び臭素酸の迅速同時定量	大 塚 寛 人	(78)
飲料水からの天然有機物及び消毒副生成物前駆物質除去に及ぼす 粒状活性炭特性の影響	上 原 佳 奈	(80)
お茶を淹れる際の飲料水からのトリハロメタンとハロアセトアミドの除去： 除去メカニズムと速度論的分析	小 林 由 帆	(82)
文 献 目 録		(85)
新 聞 情 報 目 録		(87)
「資料」 令和5年度 (第65回) 水道週間の実施状況 - 各水道事業体水道週間実施報告から -	日本水道協会調査部調査課	(89)

ニュース	(巻頭)	「お知らせ」 今後開催予定の国際会議	(127)
支部だより	(巻頭)	「会告」 日本水道協会「水道シニア国際 協力専門家登録制度」のご案内	(128)
「会告」 令和5年度 日本水道協会主要行事予定表	(巻頭)	「会告」 日本水道協会 「研修講師登録制度」のご案内	(129)
「会告」 公益社団法人日本水道協会 受信力・情報発信力の強化に向けて	(巻頭)	「会告」 法律・経営無料相談のご案内	(131)
「会告」 令和5年度日本水道協会 全国会議 (第103回総会・ 水道研究発表会) 開催案内	(巻頭)	日本水道協会発行図書目録	(132)
「資料」 水道用品検査実績 (令和5年7月分)	(110)	JWWA (日本水道協会) 規格目録	(134)
「資料」 令和4年度 (令和4年3月～令和5年 2月) 主要水道用品呼び径別検査実績	(115)	「お知らせ」 今月の新蔵書	(136)
「公表」 JIS 製品認証事業の認証	(120)	水道協会雑誌投稿規程	(137)
「公表」 水道水質検査優良試験所規範 (水道 GLP) の認定状況について	(121)	「お知らせ」 水道協会雑誌・水道研究発表会 講演集掲載論文等の J-STAGE への公開について	(140)
「お知らせ」 本協会共催・協賛・後援の行事	(123)	会誌編集委員会及び抄録委員会委員名簿	(141)
		編集後記	(142)

Journal of Japan Water Works Association

Vol. 92 No.10 October 2023

Contents

Pursuit of Unwavering Safety and Confidence

~ For realization of the sustainable water supply ~ ...

..... by Satoshi KURIHARA ... (1)

Molecular Phylogenetic Analysis of Musty Odor Synthase Genes in Cyanobacterial Strains and Environmental Samples from Drinking Water Resources ...

..... by Naoshi FUJIMOTO, Yasuhiro ASADA, Akihiro OHNISHI, Tseng HOU-CHIA, Kazuya SHIMIZU and Michihiro AKIBA ... (4)

Information on the *geoA* and 2-MIB synthase genes involved in the biosynthesis of geosmin and 2-MIB is lacking. In this study, we analysed the *geoA* and 2-MIB synthase genes of the cyanobacterial isolates and environmental samples from water resources. In most isolates, the sequence similarities to those of already reported strains exceeded 99%, however in some isolates, sequence similarities were less than 90%. All *geoA* genes detected in the environmental samples affiliated with the *geoA* gene of *Dolichospermum*, showing geosmin producing *Dolichospermum* widespread in Japan. 2-MIB synthase genes detected from environmental samples affiliated with 2-MIB synthase genes of *Pseudanabaena*, *Planktothricoides* and *Microcoleus*, and were divided into 7 lineages in the phylogenetic tree. The development of a database of musty odor-causing substance synthase gene sequences will lead to the identification of the causative species and their habitats by analyzing the sequences in tap water source samples. This will be useful in predicting musty odor-causing substances and taking countermeasures in the future.

Nationwide Survey of Incidents for Water Quality Control Caused by Microorganisms and their Control Measures in Japanese Water Suppliers ...

..... by Takeichiro TAKAHASHI, Hisashi HASHIMOTO, Takayuki MIURA and Taketoshi SHIMIZU ... (16)

In this study, we performed a nationwide questionnaire survey on incidents for water quality control caused by microorganisms and analyzed 1031 cases of incidents in 74 water suppliers in Japan during the fiscal years from 2012 to 2017, with comparing the cases from previous surveys. The annual mean cases of the incidents of taste and odor in this study increased compared with those in the previous surveys. Such incidents were reported in 34.5% of water purification plants in this study. In particular, the number of incidents of earthy and musty odors caused by *Anabaena* spp. increased compared with that in the previous survey. Major causative microorganisms for the incidents in coagulation-sedimentation, penetration, or clogging of filters were Bacillariophyceae (71%), picoplankton (33%), or Bacillariophyceae (84%), respectively, which were consistent with the results of previous surveys. The incidents in coagulation-sedimentation caused by fish eggs were also reported. In addition, the questionnaire in this study revealed that the water suppliers with at least one technical personnel in charge of microscopic examination have advantages in identifying the causative microorganisms for the earthy and musty odors.

A Study on Treatment Performance and Operation Conditions of Advanced Drinking Water Treatment Process to cope with Fluctuations of Raw Water Qualities ...

..... by Hisao MORITA, Koji KOSAKA and Michihiro AKIBA ... (33)

Pilot-scale experiments of ozone/biological activated carbon (BAC) process were conducted to reduce disinfection by-products and their precursors, especially trihalomethane formation potential (THM-FP). There were no organic indicators (ultraviolet absorbance (E260), fluorescence intensity, and total organic carbon (TOC)) that were related to the behavior of THM-FP in all treatment processes. Two indicators, E260 and fluorescence intensity, of water after coagulation and sedimentation were used to predict THM-FP after ozonation. It was shown that precursors of dichloroacetic acid and trichloroacetic acid could be controlled using chloroform as an indicator. The ozone consumption per TOC to reduce THM-FP sufficiently was about 0.6 to 1.0 mg/mg C. Bromate formation after ozonation was controlled by feedback control of 0.1 mg/L of dissolved ozone at the inlet of biological activated carbon treatment.

Abstracts of Foreign References (77)
