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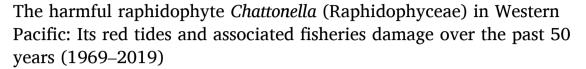
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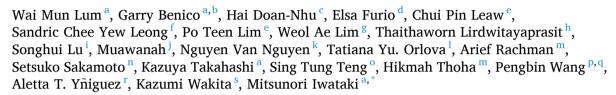
Harmful Algae

journal homepage: www.elsevier.com/locate/hal



Original Article





- ^a Graduate School of Agricultural and Life Sciences, University of Tokyo, Tokyo 113-8657, Japan
- b Department of Biological Sciences, College of Science, Central Luzon State University, Science City of Munoz, Nueva Ecija, 3120, Philippines
- ^c Institute of Oceanography, Viet Nam Academy of Science and Technology, Nha Trang, Viet Nam
- ^d National Fisheries Research and Development Institute, Quezon City, Philippines
- ^e Bachok Marine Research Station, Institute of Ocean and Earth Sciences, University of Malaya, 16310 Bachok, Kelantan, Malaysia
- f St. John's Island National Marine Laboratory, Tropical Marine Science Institute, National University of Singapore, Singapore
- g National Institute of Fisheries Science, Busan, Korea
- h Department of Marine Science, Faculty of Science, Chulalongkorn University, Bangkok, Thailand
- ⁱ Research Center of Harmful Algae and Marine Biology, Jinan University, Guangzhou 510632, China
- ^j Main Center for Marine Aquaculture of Lampung, Directorate General of Aquaculture, Lampung, Indonesia
- ^k Research Institute for Marine Fisheries, Hai Phong, Viet Nam
- ¹ National Scientific Center of Marine Biology Far East Branch of the Russian Academy of Sciences, Vladivostok 690041, Russia
- ^m Research Center for Oceanography, LIPI, Ancol Timur, Jakarta 14430, Indonesia
- ⁿ Fisheries Technology Institute, Japan Fisheries Research and Education Agency, Hatsukaichi, Hiroshima 739-0452, Japan
- O Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia
- ^p Second Institute of Oceanography, Ministry of Natural Resources, Hangzhou, China
- ^q Fourth Institute of Oceanography, Ministry of Natural Resources, Beihai, China
- ^r The Marine Science Institute, University of the Philippines Diliman, Quezon City, Philippines
- ^s School of Marine Science and Technology, Tokai University, Shizuoka 424-8610, Japan

ARTICLE INFO

Keywords: Chattonella Chattonella marina Chattonella subsalsa Distribution East Asia Fisheries damage Mucocyst Population structure Southeast Asia

ABSTRACT

Red tides and associated fisheries damage caused by the harmful raphidophyte *Chattonella* were reassessed based on the documented local records for 50 years to understand the distribution and economic impacts of the harmful species in the Western Pacific. Blooms of *Chattonella* with fisheries damage have been recorded in East Asia since 1969, whereas they have been only recorded in Southeast Asia since the 1980s. Occurrences of *Chattonella* have been documented from six Southeast Asian countries, Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam, with mass mortalities mainly of farmed shrimp in 1980–1990s, and farmed fish in 2000–2010s. These occurrences have been reported with the names of *C. antiqua*, *C. marina*, *C. ovata*, *C. subsalsa* and *Chattonella* sp., owing to the difficulty of microscopic species identification, and many were not supported with molecular data. To determine the distribution of *C. marina* complex and *C. subsalsa* in Southeast Asia, molecular phylogeny and microscopic observation were also carried out for cultures obtained from Indonesia, Malaysia, Japan, Philippines, Russia, Singapore and Thailand. The results revealed that only the genotype of *C. marina* complex (Indonesia and Malaysia) and *C. subsalsa* (Philippines, Singapore and Thailand) were found in Southeast Asia. Ejection of mucocysts has been recognized as a diagnostic character of *C. subsalsa*, but it was also observed in our cultures of *C. marina* isolated from Indonesia, Malaysia, Japan, and Russia. Meanwhile, the co-occurrences of the two

E-mail address: iwataki@g.ecc.u-tokyo.ac.jp (M. Iwataki).

https://doi.org/10.1016/j.hal.2021.102070

Received 7 January 2021; Received in revised form 4 June 2021; Accepted 12 June 2021 Available online 13 July 2021

^{*} Corresponding author.