



1000-0000

ISSN: 0031-8884 (Print) 2330-2968 (Online) Journal homepage: www.tandfonline.com/journals/uphy20



ISSN: 0031-8884 (Print) 2330-2968 (Online) Journal homepage: www.tandfonline.com/journals/uphy20

13th International Phycological Congress Abstracts

To cite this article: (2025) 13th International Phycological Congress Abstracts, Phycologia, 64:sup1, 1-98, DOI: [10.1080/00318884.2026.2578982](https://doi.org/10.1080/00318884.2026.2578982)

To link to this article: <https://doi.org/10.1080/00318884.2026.2578982>



Published online: 04 Dec 2025.



Submit your article to this journal [↗](#)



Article views: 113



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 1 View citing articles [↗](#)

several new genera and species. *Prasiola*, type genus of the family, was subjected to a major rearrangement. The genus was shown to be polyphyletic, which required its splitting into four genera: the real *Prasiola* (in which the type species *Prasiola crista* belongs), *Eaprasia*, *Mariprasia* and *Vittaprasia*. The marine species of this grouping, classified in the genus *Mariprasia*, represent a remarkable case: they exhibit clear morphological and life history differences, although sequences of the most common markers used for species delimitation are identical. Conversely, in the genus *Vittaprasia* DNA sequence divergence demonstrates the existence of cryptic entities that require separation at species level. Further studies of this group should expand the body of molecular markers available and, in combination with field-based studies making use of environmental DNA, might reveal an even higher phylogenetic and taxonomic diversity.

ORAL: CRITICAL AREAS FOR TAXONOMIC RESEARCH

Two new genera of non-geniculate coralline algae (Corallinophycidae, Rhodophyta) from the North Pacific Ocean based on molecular and morphological evidence

Min Khant Kyaw¹, Aki Kato^{1,2}, Masasuke Baba³

¹Fisheries Laboratory, Blue Innovation Division, Seto Inland Sea Carbon-neutral Research Center, Hiroshima University, Takehara, Japan

²International Institute for Sustainability with Knotted Chiral Meta Matter (WPI-SKCM2), Hiroshima University, Higashi-Hiroshima, Japan

³Central Laboratory, Marine Ecology Research Institute, Isumi, Japan

Abstract

Non-geniculate coralline algae are critical for blue carbon sequestration, reef stabilization, and constriction of three-dimensional habitat in global marine benthic ecosystems. Here, we establish two new genera accommodating both attached and rhodolith-forming species: *Magniporophytum* n. gen. prov. containing *Magniporophytum variabilis* n. sp. prov. (the generitype) and *M. epizoicum* n. sp. prov. as well as *Orientalilithon* n. gen. prov. containing *Orientalilithonconfluens* n. sp. prov. (the generitype) and two undescribed *Orientalilithon* spp., based on a robust set of molecular and morpho-anatomical data of specimens from warm-temperate Japan. Our molecular analyses inferred from the chloroplast-encoded *psbA*, *rbcL* and the nuclear-encoded SSU rDNA gene sequences demonstrated the distinct phylogenetic placements of *Magniporophytum* and *Orientalilithon* within the Hapalidiales, but their generic positions have yet to be confirmed. In the *psbA* analyses, an undescribed species from western Canada was separately grouped with congeners of *Magniporophytum* while another undescribed species from Taiwan was conspecific with *Orientalilithon* sp. 2 from Japan. The two new genera shared some degrees of overlapping morpho-anatomical characters but are distinguishable by the shape of epithallial cells, and the

size of sporangial pore openings compared to the surrounding rosette cells in surface view. They differed from other related genera based on combination of shape and number of epithallial cell layers, size of sub-epithallial initials, size of sporangial pore openings and geographical isolation. Within *Magniporophytum*, *M. variabilis* and *M. epizoicum* are barely distinguishable morpho-anatomically with a single difference in growth form (wart-like to fruticose vs encrusting). This study highlighted the crypticity of non-geniculate coralline algae at both genus and species levels along with a plausible generic character and the extended distribution of *Magniporophytum* and *Orientalilithon* in the North Pacific Ocean.

ORAL: CRITICAL AREAS FOR TAXONOMIC RESEARCH

Phuket: Rhodogorgonales Capital of the World

Stefano Draisma¹, Narongrit Muangmai², Daniela Gabriel³, Tom Schils⁴, Gary Saunders⁵, Hocheol Kim⁶, Hwan Su Yoon⁶

¹Excellence Center for Biodiversity of Peninsular Thailand (CBIPT), Faculty of Science, Prince of Songkla University, Hat Yai 90110, Thailand

²Department of Fishery Biology, Faculty of Fisheries, Kasetsart University, Bangkok 10900, Thailand

³CIBIO – Research Center in Biodiversity and Genetic Resources, Faculty of Science and Technology, University of the Azores, Ponta Delgada 9501-801, Portugal

⁴Marine Laboratory, University of Guam, UOG Station, Mangilao 96923, Guam

⁵Biology Department, Centre for Environmental and Molecular Algal Research (CEMAR), University of New Brunswick, Fredericton, New Brunswick, Canada

⁶Department of Biological Sciences, Sungkyunkwan University, Suwon 16419, Korea, Republic of

Abstract

The Rhodogorgonales is an order within the rhodophyte subclass Corallinophycidae whose members exhibit calcification in the form of calcite. The order was erected in 1995 to include two monotypic genera described from the Caribbean. The thallus texture of *Rhodogorgon ramosissima* is cartilaginous, whereas *Renouxia antillana* is gelatinous. In the following two decades, Indo-Pacific specimens of cartilaginous and gelatinous rhodogorgonales, were assigned to these two species, respectively. In 2016, a third genus and species, *Rhodenigma contortum*, was described from microscopic filaments collected in Western Australia and included in the order based on DNA sequences. In 2018, *Rhodogorgon flagellifera*, was described from Western Australia based on the shape of cortical cells, but without DNA sequences. In 2019, *Renouxia marerubra*, was described from the Red Sea based on morphology and DNA sequences. In Thailand, *Rh. ramosissima* and *Re. antillana* have been reported from the east and west coast, respectively. However, without DNA sequences, their identification should be questioned. The present study explored the Rhodogorgonales diversity around Phuket island on the Thai west coast using multiple DNA markers. Two *Renouxia* species and three *Rhodogorgon*

species were found. One of the Thai *Renouxia* species was conspecific with *Re. marerubra*. The other was conspecific with or very closely related to *Rhodenigma contortum*, suggesting that *Rhodenigma* should be synonymized with *Renouxia*. A *Rhodogorgon* with cylindrical branches could be linked to *Rh. flagellifera* based on comparison of a DNA sequence of its type specimen. The other two, a flabelliform and a truncated form, represent undescribed *Rhodogorgon* species. With five species, Phuket can currently lay claim to the unofficial title of “Rhodogorgonales Capital of the World”, a title it will likely have to pass on to an island in the Coral Triangle in the future when this region is more fully explored.

ORAL: CRITICAL AREAS FOR TAXONOMIC RESEARCH

Taxonomic revision of the marine red algal genus *Halymenia* C. Agardh (Rhodophyta) from the Philippines based on integrated morpho-anatomical and molecular approaches

Arkady Tahil, Showe-Mei Lin

Institute of Marine Biology, Keelung, Taiwan

Abstract

Halymenia C. Agardh (“Dragon’s breath” Seaweed) is an economically important and the most species-rich genus in the Halymeniaceae. Species of *Halymenia* are widely distributed in temperate and tropical regions and are valued as one of the sources of carrageenan. The species diversity of *Halymenia* is likely underestimated in the Philippines due to the presence of some cryptic species based on recent DNA sequence analyses. In this study, we recollected several new materials from different regions of the Philippines. We referred to the intra- and inter-specific phylogenetic relationships of Philippine *Halymenia* and published species worldwide based on *rbcL* sequence analyses. The molecular analyses revealed at least seven species of *Halymenia* present in the Philippines, including three new species (*H. dracophylla* sp. nov., *H. plumosa* sp. nov., and *H. rhodolactuca* sp. nov.). A better understanding of the biogeographic patterns of Indo-Pacific species diversity of *Halymenia* requires additional collection efforts and critical examination of unidentified and relevant specimens around the region. A comprehensive comparison of the new species with described species based on morpho-anatomical features for species discrimination will be demonstrated during the presentation.

ORAL: CRITICAL AREAS FOR TAXONOMIC RESEARCH

Non-geniculate coralline algal species diversity at a rhodolith bed in Jeju, Korea

Mi Yeon Yang, Jeong Chan Kang, Kyeong Tae Lee, Min-seob Kim, Myung Sook Kim

Jeju National University, Jeju, Korea, Republic of

Abstract

Rhodoliths are free-living, non-geniculate coralline algae that belong to the red algal group. As significant producers of

calcium carbonate, they act as ecosystem engineers, supporting a diverse array of marine species. The rhodolith beach and beds near Udo islet have been recognized for their biological and geological significant and partially designated as a Natural Monument. Given their vulnerability to global climate change, particularly ocean acidification and warming, rhodoliths have received increasing attention. Historically, they have been overlooked due to their high degrees of phenotypic plasticity and morphological convergence, which impede reliable identifications based solely on morphology. In this study, we report the first DNA-based assessment of rhodolith-forming species diversity from Udo islet. The *psbA* and COI-5P genes were sequenced from 279 samples collected along a 2.7 km stretch of the Udo strait. A total of 28 species were identified, with 21 representatives of the subclass Corallinophycidae and 7 belonging to the order Peyssonneliales. Subtidal samples were assigned to the orders Corallinales, Hapalidiales, and Spolithales, while intertidal samples were exclusively assigned to Corallinales. Based on species composition at each collection point, they clustered into two main groups: Group 1 consists of subtidal zones 1, 2, 5, R12, and intertidal beach, and Group 2 consists of subtidal zones 3, 4, and 6. This suggests that the species forming the rhodolith beach were likely introduced from the subtidal zones belonging to Group 1, according to the direction of the current. Our study provides the first molecular-assisted of the diversity of rhodolith-forming species in Udo islet. The results indicate that the species diversity of non-crustose coralline algae from Udo has been underestimated. Further survey, coupled with an integrative taxonomic approach, are necessary to fully understand the biodiversity in this hotspot.

ORAL: CYANOBACTERIA

Evaluation of silver induced stress in cyanobacterium-*Lyngbya majuscula*

Piya Roychoudhury¹, Ruma Pal²

¹Hemvati Nandan Bahuguna Garhwal University, Badsahithaul, India.

²University of Calcutta, Kolkata, India

Abstract

Estimation of different biochemical parameters like chlorophyll, carotenoids, carbohydrate, protein, catalase, ascorbate peroxidase, superoxide dismutase, lipid peroxidase and nitrate reductase are a common practice to determine the toxicity level in metal stressed cyanobacteria. Cyanobacterium *Lyngbya majuscula* ALCCCU3 was procured from the Department of Botany, University of Calcutta, India and the healthy filaments of *Lyngbya* was exposed to sublethal (1 mM) and lethal (9 mM) doses of silver nitrate (AgNO₃, MW 169.87) solution for 24 h. Pigments, proteins, carbohydrate and various stress enzymes content in *Lyngbya* were recorded at 10 min, 30 min, 1 h, 3 h and 24 h of Ag⁺ exposure. *L. majuscula* showed a radical decrease of chlorophyll content in both doses and after 24 h of 9 mM Ag⁺ stress, only negligible amount of chlorophyll was present. However,