International Research Journal of Microbiology Vol. 11(5) pp. 1-2, September, 2022
Available online http://www.interesjournals.org/IRJM

Commentary

The Antimicrobial Capabilities of Marine Fungi from Sponges and Brown Algae

Amen Illahi*

Mauritius Oceanography Institute, France Centre, Victoria Avenue,Quatre Bornes, Mauritius

*Corresponding Author's E-mail: illahiamen786@gmail.com

Received: 30-Aug-2022, Manuscript No. IRJM-22-74195; **Editor assigned:** 01-Sep-2022, PreQC No. IRJM-22-74195 (PQ); **Reviewed:** 15-Sep-2022, QC No. IRJM-22-74195; **Revised:** 20-Sep-2022, Manuscript No. IRJM-22-74195(R); **Published:** 27-Sep-2022, DOI: 10.14303/2141-5463.2022.20

Abstract

The marine benthic green and brown macroalgae of Rodrigues are recorded, and 18 of the 60 taxa of Chlorophyta (53 species) and 18 species of Phaeophyceae are illustrated. These algae were collected on an expedition in October 2001. On the island, 50 taxa of green and 12 taxa of brown algae have been added to the current species list. Smaller epiphytic species and turf algae are not or are very sometimes included in this study. Bibliographic, biogeographic, taxonomic, and nomenclatural remarks are included for each entry in the list. There are also infrageneric identifying keys. A novel hybrid of Caulerpa mexicana variety a new Udotea species has been discovered, and exposita is suggested (Brenelli LB et al., 2019).

When compared to the neighbouring island of Mauritius, Rodrigues' algal flora looks to be rather low, while having a typical Indian Ocean composition.The marine funguses of Mauritius have received less attention. The bioactive secondary metabolites generated by fungus worldwide have been the subject of several publications. However, there hasn't been a lot of study done in Mauritius on the molecular characterization and the medicinal potential of marine fungus (Aiatwani RRH 2016).

Keywords: Algae, Chlorophyta, Indian Ocean, Mascarene Islands, Phaeophyceae, Rodrigues, seaweeds, Taxonomy

INTRODUCTION

Rodrigues is a volcanic island, roughly 1.5 million years of age. It is situated in the south-western piece of the Indian Ocean, between 19.39‡ and 19.50‡ S, 560 km east of Mauritius and 2200 km east of the bank of Mozambique. Strategically, it belongs to Mauritius. Rodrigues, Re'union and Mauritius comprise the Mascarene Islands. These islands are on the southernmost tip of the Mascarene Ridge, a plateau that extends 2000 km in a bend across the Indian Ocean between the Seychelles in the north and Mauritius in the south. The level sits in water perhaps 4000 m profound, ascending from these deep profundities to even out off in tremendous banks sitting 80 m or shallower underneath the sea surface. Where they arise they form the fundamental islands of Mauritius and Seychelles as well as numerous more modest in the middle. Rodrigues sits in the South Equatorial Current that runs from east to west (An C et al., 2020).

Antimicrobial obstruction can be portrayed as "when microbes, infections, growths and parasites change after some time and never again answer drugs making contaminations harder to treat and expanding the gamble of sickness spread, extreme disease and passing". Anti-infection safe microscopic organisms represent a danger to the worldwide wellbeing area as the normally utilized anti-infection agents become less viable. The reasons for antimicrobial obstruction are the abuse or improper utilization of anti-infection agents, absence of cleanliness, unfortunate avoidance and control of contamination, defer in conclusion and absence of meds. In this way, the quest for new antimicrobials is essential. The marine climate has for quite some time been evaluated for antimicrobial mixtures. This addresses a wellspring of bioactive metabolites with antimicrobial, antiviral, hostile to disease, mitigating and against fouling compounds. Novel antimicrobial mixtures have been accounted for from different marine creatures,

for example, wipes, green growth and corals as well as their symbionts disconnected a Penicillium sp. from the wipe Melophus sp. in the Fiji Islands. This separate delivered citrinin which acted against vancomycin-safe Enterococcus faecium. The mixtures brevianamide M, 6, 8-di-O-methylaverufin and 6-O-methylaverufin were confined from the algal endophyte Aspergillus versicolor. This endophyte was recuperated from the earthy colored green growth Sargassum thunbergii and the three mixtures had antimicrobial exercises against Escherichia coli and S. aureus (Barbosa F et al., 2020).

The phylum Porifera contains sessile filter-feeding marine sponges. They play a significant part in the cycle of nutrients and offer habitat to a variety of creatures. In sponges, archaea, bacteria, and eukaryotes account for 40–60% of the total volume. Sponge-produced bioactive metabolites that operate as defence mechanisms make them of tremendous interest to the pharmaceutical sector. Unfortunately, it takes a lot of the material to extract only a little bit of the metabolites. Fungi that are connected with sponges create special chemicals that have promise as antibiotics. They can be cultivated in a lab, unlike sponges, and vast amounts of the metabolite can be harvested. According to several researches, fungi that are connected with sponges generate antiviral, antimicrobial, antifungal, antiprotozoal, anti-inflammatory, and anticancer compounds (Blunt JW et al., 2016).

Red, green, and brown algae are three of the many aquatic autotrophic multicellular organisms known as macroalgae. Brown algae are members of the Phaeophyceae class and are greenish-brown in colour due to the pigment fucoxanthin. They serve as homes for marine life and are used as food in various regions of the world. In macroalgae, fungi have been described as endophytes, saprophytes, or parasites. Without exhibiting any symptoms, endophytic fungi spend a portion of their life cycle inside the tissues or organs of their host. Compared to green algae, red and brown algae have yielded a broader variety of endophytes. Age, host species, season, and environmental conditions all have an impact on the variety of endophyte species in macroalgae. Age, host species, season, and environmental conditions all have an impact on the variety of endophyte species in macroalgae. Additionally significant producers of secondary metabolites with excellent medicinal potentials are algae endophytes.

REFERENCES

1. Brenelli LB, Persinoti GF, Cairo JPLF, Liberato MV, Gonçalves TA, et al (2019). Novel redox-active enzymes for ligninolytic applications revealed from multiomics analyses of Peniophora sp. CBMAI 1063, a laccase hyper-producer strain. Scientific Rep. 9: 17564.

2. Aiatwani RRH (2016). In vitro, optimization of antibacterial activity of secondary metabolites produced by endophytic fungus Stemphylium radicinum in Iraq. Eur Acad Res. 3: 11957–11967.

3. An C, Ma S, Shi X, Xue W, Liu C, et al (2020). Isolation, diversity, and antimicrobial activity of fungal endophytes from Rohdea chinensis (Baker) N.Tanaka (synonym Tupistra chinensis Baker) of Qinling Mountains, China. Peer J. 8: 1-20.

4. Barbosa F, Pinto E, Kijjoa A, Pinto M, Sousa E (2020). Targeting antimicrobial drug resistance with marine natural products. Int J Antimicrob Agents. 56: 1-29.

5. Blunt JW, Copp BR, Keyzers RA, Munro MHG, Prinsep MR (2016). Marine natural products. Nat Prod Rep. 33: 382-431.