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Short Communication

Lignicolous Marine Fungi from Libya

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Abstract

Examination of driftwood and landed phanerogamic debris found loose on sea shores along the western coast of Libya, yielded (20 species) of marine fungi: Ascomycetes (16) and Hyphomycetes (4). Of these (5) species were reported for the first time in Libya. Brief descriptions of the recorded species are presented.

Keywords: Driftwood, Phanerogamic debris, Marine fungi, Ascomycetes, Hyphomycetes, Libya.

Introduction

A notable study on taxonomy and morphology of lignicolous marine fungi was published by Barghoorn and Linder[1], followed by the bibliography published by Johnson and Sparrow[2] and Kohlmeyer and Kohlmeyer[3,4]. A few studies have been carried out to document Lignicolous marine fungi from African shores of Mediterranean Sea. Most collections have been made predominantly in Southeast Asia, Europe, and North America[5]. However there is little information on marine fungi from Libya[6] and North Africa[7]. The present work would commence with traditional approach to such problem that is the collection, identification and description of the organisms.

Materials and Methods

To collect marine lignicolous fungi, the remains of drift wood and phanerogamic plants remains found loose on the sea shores were collected from several locations along the western coast of Libya in sterile plastic bags and brought to the laboratory, rinsed with tap water, placed on moist filter papers in glass chambers and incubated at room temperature (4-8 weeks). Samples were examined periodically for any fungal growth. These were then transferred to slides for examination under light microscope. Lactophenol cotton blue mounts of squash fungal fruit bodies were prepared for permanent specimens. The recorded fungi were identified using morphological traits[2-4].

Results and discussions

Class: Ascomycetes.
Order: Sphaeriales. Family: Halosphaeriaceae. Species: (11)
Order: Dothideales Family: Pleosporaceae. Species: (5)

Class: Deuteromycetes
Order: Hyphomycetales. Family: Dematiaceae. Species: (4)

Family Halosphaeriaceae: With exclusively marine taxa generally have deliquescing asci and diverse spores/ spores appendage morphology.

1. *Arenariomyces majusculus* Kohlm: Ascospores hyaline 10 - 14×30 microns, 2-celled and with 3-4 terminal appendages at each end. Previously reported El-khoms and Misurata[6].

2. *Ceriosporopsis cambrensis* Wilson: Ascospores hyaline 2-celled, 1-terminal thin filiform deliquescent appendage at each end, up to 45 microns long. New reports from Libya. Figure-1.

3. *Ceriosporopsis halima*, Linder: Ascospores hyaline 2-celled, 6–8×18-26 microns with terminal appendages, one at each end, filiform 8 microns long and thick at base. Previously reported in Tripoli[8].

4. *Corollospora gracilis*, Nakag et Tokura: Ascospores hyaline 2- celled, 1-4×20-36 microns with single stiff appendage at each end ribbon shaped setae around the septum. Previously reported from Zuwara[6].

5. *Corollospora maritime*, Werderman: Ascospores hyaline, one septate 8-10×26-34 excluding appendages. One slender appendage at each end and several hairs like equatorial appendages. Previously reported from Susa, Misurata, El Khoms, Tajoura, Tripoli and Zuwara[6].

6. *Halosarphia fibrosa*, Kohlm: Ascospores 2-celled 14-16×23-36 microns with cap like appendage at each end, almost transforming into delicate ligament. Previously reported from Zuwara[6].

7. *Halosphaeria Circumvestita*, Kohlm: Ascospores hyaline, 2-celled, 9-12×22-30 microns, surrounded by an irregular lobed mucilaginous sheat. First reporte for Libya.

8. *Halosphaeria maritima* (L.), Kohlm: Ascospores hyaline 2-celled, 8-12×18-26 microns. One subgelatinous yoke - shaped at each end. Previously reported from Misurata[6].

9. *Halosphaeria mediosetigera*, Cribb: Ascospores hyaline, 2-celled, 8-16×28-34 microns, around the septum attached more than one crescent shaped stiff appendage. Previously reported from Tripoli[8].

10. *Lulworthia medusa* (Ellis et Everhart), Cribb and Cribb: Ascospores hyaline, 4-6×160-216 Microns, filiform non septet with apical mucus filled chambers or processes. First report from Libya.

11. *Toorpidospora radiata*, Meyers: Ascospores hyaline, triseptate, 4-8×36-40 microns. Provided with 3 slender appendages on the lower end. Previously reported from Tajoura, Tripoli and Susa[6].

Family Pleosporaceae: Marine fungi in the Family Pleosporaceae mostly belong to some well-known terrestrial genera such as *Leptosphaer* species, while others are known only from marine habitats.

1. *Halotthia Posidonia* (D.et M.), Kohlm: Ascospores 1 - septate, 16-20×36-46 microns, with dark band around the septum. Previously reported from landed rhizomes of the seagrass *Posidonia oceanica*, Zuwara[6].

2. *Leptoòsphaeria albopunctat* (west), Kohlm: Ascospores yellow brown, 4-6×22-30 microns, more than 4 cells, mostly seven cells. Previously reported from Tripoli and Tajoura[6].

3. *Leptosphaeria orea – maris*, Linder: Ascospores pale brown, 6-8×16-22 microns, mostly one septet. Previously reported from Tripoli[6].

4. *Pontoporia biturbinata* (D.et M.), Kohlm: Ascospores 2-celled, 42-52×46-80 microns, black, provided with germ pores at both ends. Previously reportedfrom landed rhizomes of the seagrass *Posidonia oceanica* at Zuwara[6].

5. *Verroculina enalia* Kohlm (Syn. *Didymosphaeria enalia* Kohlm): Ascospores brown 2-celled, 6-8×14-20 microns. Ascospores wall covered with worth-like structures (verroculose). First report from western coast of Libya.

Family Dematiaceae: Are mostly asexual morphs of marine Ascomycetes.

1. *Cirrenalia macrocephla*, (Kohlm) Meyers and Moore: Ascospores 2 to several cells curved, cells increasing in size and pigmentation from base to apex. First report from Libya.

2. *Dendryphiella arenaria*, Nicot: Conidia 6-8×16-20, never longer than 20 microns, cylindrical, smooth and with distinct dark scar. Previously reported from landed rhizomes of the seagrass *cymodocea nodosa* in Zuwara[6].

3. *Dictyosporium pelagicum* (L.), Hughes: Conidia dark brown to black, multicellular more or less arising from single cell. Previously reported from Susa, El- Koms, Tajoura, Tripoli and Zuwara[6].

4. *Zalerion maritima* (L.), Anastasiou: Conidia filiform, multicellular forming a more or less regular 1-3 coiled spiral. First report from Libya.

Discussion: In the present survey of lignicolous marine fungi reveals 11 species (Halosphaeriaceae) 5 species (Pleosporaceae) and 4 species (Dematiaceae). Collecting procedure and a brief description of these fungi are also presented. Six (6) Species were reported for the first time in Libya: *Ceriosporopsis cambrensis* Wilson, *Halosphaeria Circumvestita* Kohlm, *Lulworthia medusa* (Ells et, Levrhat) Cribb and Cribb, Verroculina enalia Kohlm, *Crrenalia macrocephla* (Kohlm) Meyers and Moore, *Zalerion maritima* (L.) Anastasiou.

Conclusion

Corollospora maritima and *Dictyosporium pelagicum* were found on driftwood from all locations examined in the present study. *Corollospora maritima* is the characteristics of driftwood associated with sand[1]. Ravikumar et al.[9] reported the dominance of *Dictyosporium pelagicum* among the Hyphomycetes fungi on coastal woody debris after tsunami in Soutest of India.

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