

Potential Antibiotic-Producing Fungi from the Surface Sediments of Lake Lanao

ABSTRACT

The discovery of antibiotics was a breakthrough in medicine; however, its indiscriminate use had caused multi-drug resistance among microbial pathogens resulting to increased fatality due to infectious diseases. With the ultimate purpose of discovering new antibiotics, this study was conducted to isolate fungal species from the surface sediments of Lake Lanao particularly from Ditsaan Ramin and Taraka, Lanao del Sur and Marawi City. Sample plating was done using Spread Plate method in Potato Dextrose Agar. A total of 126 fungal isolates were grown and tested for antibiosis against *Staphylococcus aureus* and *Escherichia coli*. Antibiosis assay showed 10 fungal isolates that showed inhibition to the two test bacteria. Slide Culture Technique for characterization of these mold isolates identified four genera that inhibited both test bacteria with *Acremonium* sp. having mean zones of inhibition (ZOI) of 17.5 mm and 13.75 mm; *Pestalotia* sp. 1 showed 7.25 mm and 3.5 mm ZOI; and both *Cladosporium* sp. and *Sporotrichum* sp. had ZOI of 3.25 mm and 2 mm against *S. aureus* and *E. coli*, respectively. *Pestalotia* sp. 2, *Scopulariopsis* sp., and *Aspergillus* sp. 2 showed inhibition (ZOI 7-9.5 mm) to *S. aureus* only whereas *Curvularia* sp., *Aspergillus* sp. 1, and *Penicillium* sp. inhibited *E. coli* only (ZOI 2.75-6.25 mm). These 10 fungal isolates could be potential sources of new antimicrobial drugs.

Keywords: Microbial Ecology, antibiosis, fungi, Spread Plate method, cotton swabbing method, Lake Lanao