

Isolation and Identification of Fungi from Different Types of Medicinal Plants Cultivated in Ecuador

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Abstract : The use of medicinal plants is one of the oldest and most extended medical therapies that goes back to prehistoric times, and nowadays, they are also used in the preparation of phytopharmaceuticals with options to cure diseases. The test for the determination of fungi was carried out in the Pharmacy Pilot Plant (treatment of the leaves of the plant species) and the Microbiology Laboratory (determination of fungi of the plant species, using growth medium called Sabouraud agar plus the vegetal sample), of the Academic Unit of Chemical Sciences and Health, of the Universidad Tecnica de Machala. Subsequently, colony counting was performed, both macroscopic, which is determined in the growth medium of the seeding, and microscopic, to identify the germinative forms using blue lactophenol. The procedure was repeated in duplicate to replicate the results data. The determination of the total fungal content of the following plant species was evaluated: *Cymbopogon citratus* (lemon verbena), *Melissa officinalis* (lemon balm), *Taraxacum officinale* (dandelion), *Artemisia absinthium* (absinthe), *Piper carpunya* (guaviduca), *Moringa oleifera* (moringa), *Coriandrum sativum* (coriander), *Momordica charantia* (achochilla), *Borago officinalis* (borage), *Aloysia citriodora* (cedron), *Ambrosia artemisifolia* (altamisa) and *Ageratum conyzoides* (mastrante). The results obtained showed that all the samples of the twelve plant species studied developed filamentous fungi, with great variability of them, within the permissible limits and contemplated by the Ecuadorian Institute of Normalization (INEN), being suitable as raw material for its use in the preparation of nutraceuticals and medicinal products or phytodrugs; with the exception of *A. conyzoides* (mastranto) which is the only species that exceeds the regulation in the average of dilutions.

Keywords : colonies, fungi, medicinal plants, microbiological quality, Sabouraud agar

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