

Screening for Antimicrobial Metabolites in the Extract of the Mushroom *Agrocybe Aegerita*

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The spread of antibiotic-resistance continues to threaten public health. To fight against this phenomenon, the discovery of new antibiotic molecules is necessary. According to the bibliography, mushrooms are reservoirs of antimicrobial and antibiotic molecules. Our aim is a screening for antimicrobial molecules in the mushrooms of the genus *Agrocybe*. At our knowledge, little work on their antimicrobial activity has been reported.

In the practical part of our study, basidiocarps of *Agrocybe* are harvested from tree trunks witch they grow on, called «false pepper trees», in Oran (at west of Algeria).

The identification of the mushroom is carried out by classical, morphological and microscopic methods.

The crude extract is obtained from the dried sporophores by Soxhlet. This extract is tested *in vitro*, in Petri dishes, by the disc diffusion method, on the growth of 4 pathogenic microbial strains: *Escherichia coli* ATCC 8739 (Gram negative bacteria), *Staphylococcus aureus* subsp. *aureus* ATCC 6538 (Gram positive bacteria), *Candida albicans* ATCC 10231 (yeast), *Aspergillus niger* ATCC 16404 (filamentous fungi).

In the results, the morphological description of the *Agrocybe aegerita* showed that the basidiocarps has a smooth cap of 3 to 15cm in diameter, convex at and cracled. The margins of the cap are often arched at maturity and the surface is sticky when wet. The gills are brown, broad and fairly distant, attached to the stipe at right angles or are slightly decurrent. The stipe is of variable length, up to about 20cm long and 3.5cm in diameter.

The results of antimicrobial activity showed a remarkable inhibitory effect of the mushroom extract (max. 3cm inhibitions zones) on the growth of the different pathogenic microbial strains tested.

In conclusion, the mushrooms of the genus *Agrocybe aegerita* are therefore interesting candidates for obtaining antimicrobial molecules of therapeutic interest.

Keywords: *Agrocybe aegerita*, mushroom, extract, Soxhlet, basidiocarpss, antimicrobial activity.