

PUBLICATIONS

ISOLATION AND MOLECULAR IDENTIFICATION OF THE ENDOPHYTIC FUNGUS *Paraphoma radicina* ASSOCIATED WITH *Helichrysum mussae*

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Endophytic fungi associated with medicinal plants represent an important and renewable source of chemically diverse natural products and bioactive secondary metabolites. In particular, plants belonging to the genus *Helichrysum* are recognized for their medicinal properties and diverse phytochemical composition, while their associated endophytic fungal communities remain comparatively underexplored.

The present study aimed to isolate and identify endophytic fungi associated with *Helichrysum mussae* and to establish a collection of fungal strains for subsequent investigation of their biological and biosynthetic potential. Healthy plant tissues were collected and subjected to surface sterilization followed by cultivation on potato dextrose agar. The obtained strains were initially characterized based on their morphological and cultural characteristics. Molecular identification of selected isolates was subsequently performed using sequencing of the internal transcribed spacer (ITS) region of ribosomal DNA.

Phylogenetic analysis was conducted using the obtained ITS sequence together with reference sequences of closely related taxa. The resulting neighbor-joining phylogenetic tree demonstrated that isolate H29 clustered closely with *Paraphoma radicina* (NR_156556.1), supporting its identification as *Paraphoma radicina*. The H29 isolate formed a distinct branch closely associated with the reference *P. radicina* sequence, within a well-supported *Paraphoma* clade containing other representative species of the genus (Figure 1).

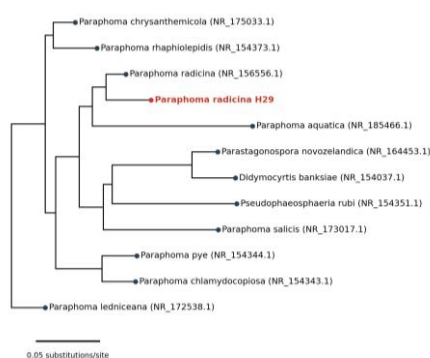


Figure 1. Phylogenetic tree of Isolate H29 derived from *H. mussae*.

The identification of *P. radicina* as an endophytic fungus associated with *H. mussae* expands the available knowledge of fungal diversity associated with this medicinal plant. The obtained isolate represents a promising candidate for further investigation of its secondary-metabolite-producing capacity and biological activities