

Effect of two *Asteraceae* species on plant pathogenic fungi

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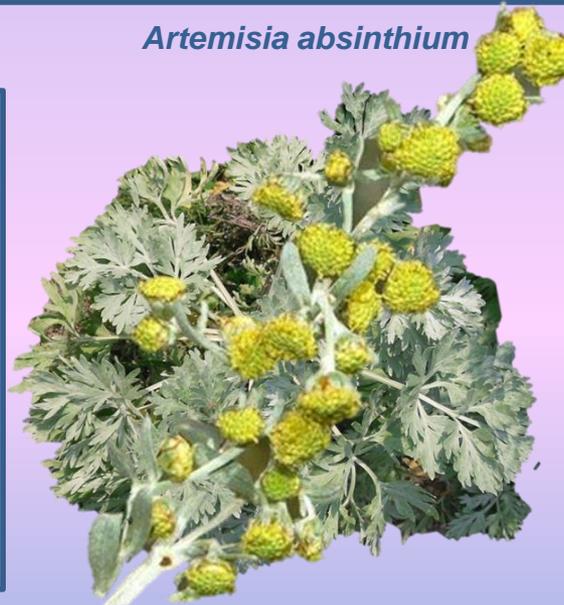
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Plant extracts, essential oils, and other compounds with plant origin are proved to exhibit biological activity against plant fungal pathogens in vitro and in vivo and recently are more extensively surveyed as potential fungicides. Members of Asteraceae family are among the most promising plant species in this respect.

Here we report the effect of two Asteraceae plant species – one poorly distributed (*Centaurea finazzeri*) and one widespread (*Artemisia absinthium*) on three economically significant fungal plant pathogens, possessing wide host range - *Alternaria alternata*, *Fusarium oxysporum* and *Botrytis cinerea*.

Artemisia absinthium



Centaurea finazzeri



Control with DMSO *Centaurea finazerri* *Artemisia absinthium*



Alternaria alternata

Botrytis cinerea

Fusarium oxysporum

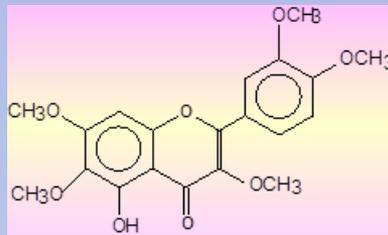
The effect of plant extracts of both studied plant species was evaluated *in vitro* based on their influence on the mycelium growth of the pointed three phytopathogenic fungal species.

Inhibition of extracts of *Centaurea finazerri* and *Artemisia absinthium* on *Alternaria alternata* and *Fusarium oxysporum* was established. No inhibition effect found on *Botrytis cinerea*.

Extracts of the studied species were analyzed for the content of bioactive compounds by GC/MS and TLC. Phenolic, organic and fatty acids, polyols, terpenes and flavonoids were detected.

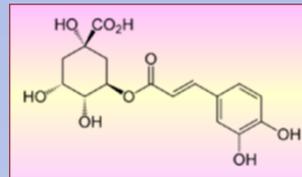
Main bio-active compounds of *Artemisia absinthium* and *Centaurea finazzeri* extracts identified by GC/MS analysis

Quercetagenin
-3,6,7,3',4-pentamethyl ether



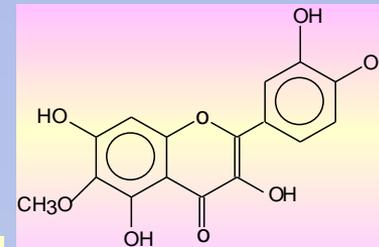
Bioactive compounds identified in *A. absinthium* extract

Main flavonoid aglycones of *A. absinthium* and *C. finazzeri*

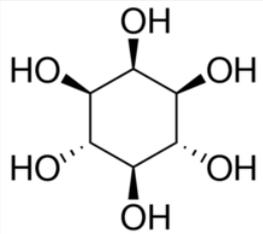


Chlorogenic acid was identified in the extracts of the both species

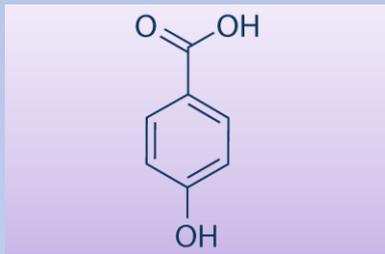
Quercetagenin
6-methyl ether



Bioactive compounds identified in *C. finazzeri* extract

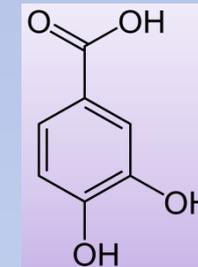


Myo-inositol

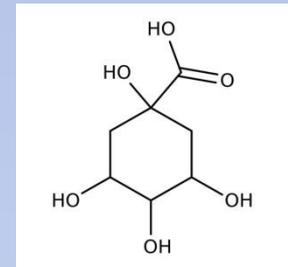


4-hydroxybenzoic acid

The most significant activity was observed for *C. finazzeri* extract against *Alternaria alternata*



Protocatechuic acid



Quinic acid

ACKNOWLEDGEMENTS

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