A biological activity of *Cicerbita alpina* (L.) leaf extracts

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Cicerbita alpina (L.) Wallr. is a perennial plant, common in the alpine parts of the mountains of the Republic of Bulgaria. The plant is used in the traditional cuisine of some countries such as Italy and Scandinavia, as well as in traditional folk medicine of many countries for the treatment of various diseases, including infectious diseases.

Aim:

The aim of the study was to investigate the anti-inflammatory and antimicrobial activity of the leave extracts from *Cicerbita alpina*, growing on Vitosha Mountain, Republic of Bulgaria, using the haemolytic complement method and the disk diffusion method.

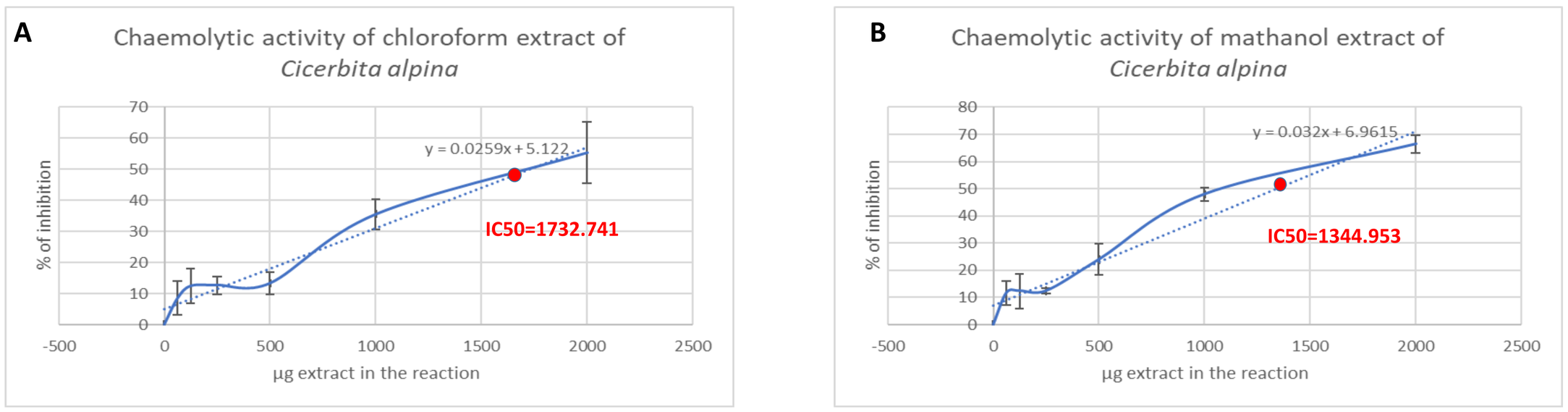
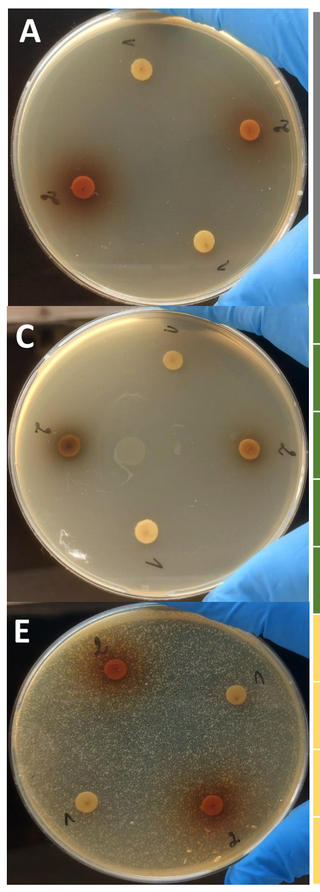
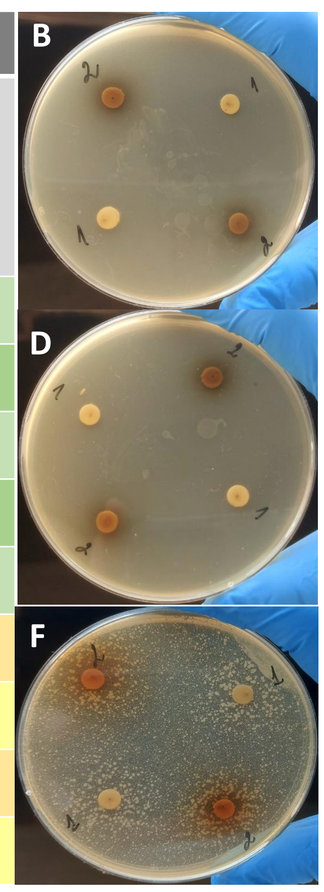


Fig. 1 Graphs of anti-inflammatory activity by the Complement method for chloroform (A) and methanol extracts (B) with indexed IC_{50}

Table 1. Antibacterial activity of methanol and chloroform *Alpine cicerbita* leaf extracts against G (+) and G (-) bacteria



Gram-positive (green colour) and Gram-negative (yellow colour) bacterial strains	Inhibition zone (mm)	
	Methanol extracts (5 mg/ml)	Chloroform extracts (5 mg/ml)
B. subtilis (A)	14 BC	-
B. cereus	-	-
S. aureus (B)	12 BC	-
E. faecalis (C)	10 BC	-
S. epidermidis (D)	10 BC	-
P. aeruginosa	-	-
K. pneumoniae	-	-
E. cloacae (E)	13 BS	-
A. calcoaceticus (F)	10 BS	-



Results:

The study showed that methanol extracts had higher antihaemolytic activity than chloroform extracts. The methanol extracts showed bactericidal activity against most Gram-positive bacterial strains and a bacteriostatic effect to the Gram-negative bacteria - *A. calcoaceticus* and *E. cloacae*. No antibacterial activity of the chloroform extracts towards the tested microorganisms was recorded.

Conclusion:

In conclusion, the leave methanol extracts showed better anti-inflammatory and antimicrobial activity compared to chloroform extracts, which is probably due to the polar compounds contained in them.