

## Ispitivanje hemijskog sastava kutikule iglica četinara primenom GH/MS metoda

U ovom radu ispitan je hemijski sastav voskova koji se nalaze na površini iglica odabranih četinara. Svi uzorci prikupljeni su u okolini živačke stanice Petnica. Ispitivano je ukupno 12 uzoraka (poreklom od 7 različitih biljnih vrsta). Analiza voskova rađena je primenom GH/MS metode. Dobijeni rezultati pokazuju prisustvo alkana dugog niza ( $> C_{20}$ ), kao i dugolančanih alkohola, ali i nekih terpenkih jedinjenja. Na osnovu dobijenih rezultata nije uočena povezanost između jedinjenja koja se javljaju u uzorcima i biološke srodnosti biljaka od kojih uzorci potiču, što pokazuje da je hemijski sastav površinskih voskova nezavistan od filogenetskih odnosa. U uzorcima su detektovani alkani sa dugim ugljovodoničnim nizovima kao što je i očekivano. Najučestalija jedinjenja su 1-oktadecanol, pentil-nonanoat, undekan, dodekan, oktadekan, eikozan, heptan, heksan, triakozan i tritriakontan.

## Investigating the Chemical Composition of the conifer Needles' Cuticle Using a GH/MS Method

The aim of this study was to qualify and quantify the chemical composition of the cuticle found on conifer needles, collected around Petnica Science Center, in order to characterize, compare, and contrast the samples according to their specific species. Accordingly, twelve samples were collected and examined: the conifer needles' cuticle was extracted in a solution of methylene chloride, upon which the more-polar and more-nonpolar fractions were separated using column chromatography, where petrolether was used to separate the more-nonpolar fraction and methylene chloride the more-polar fraction; the fractions were chemically analyzed using a GC/MS method. A wide range of chemicals were detected, the ten most abundant of which were reported in the findings. Moreover, the most relevant chemical that came to be detected were long-chain alkanes consisting from 10 and up to 35 carbon atoms, regarding the more-nonpolar fraction; the majority of the more-polar fraction consisted of many alcohols, esters, terpenes, and aromatic compounds. Yet, the findings did not yield a conclusive connection between the plant species.

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