

ESSENTIAL OIL COMPOSITION OF *Thymus longicaulis* FROM SERBIA

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The genus *Thymus* L. (Lamiaceae) consists of aromatic and medicinal perennial herbs and subshrubs. It is native to Europe, North Africa, and Asia. *T. longicaulis* is a species with long, somewhat woody, creeping branches, non flowering or with a terminal inflorescence [1]. This species is connected by numerous, probably hybridogenous, intermediates: *T. rochlenae* Vel., *T. moesiacus* Vel., *T. jankae* Chel., *T. albanus* H. Br., *T. balcanus* Borb., *T. pulegioides* L., and *T. oehmianus* Ronn. et Soska which belong to section Marginati (A. Kerner) A. Kerner, and subsection Marginati [2]. *T. longicaulis* is important from the ethnobotanical point of view as a traditional medicinal plant [3, 4]. The main activities are antiseptic, expectorant, and spasmolytic which are probably due to the content of essential oils and flavonoids. Thyme essential oil has been reported to have antibacterial, antimycotic, antioxidative, and food preservative properties [5–8].

The constituents of essential oil from *T. longicaulis* have been studied so far [9–12]. Continuing our research on the composition and chemical polymorphism of the essential oil of the genus *Thymus*, we now report the results of the essential oil of *T. longicaulis* from Serbia.

The results of the essential oil analysis are presented in Table 1. GC analysis showed 34 well-separated components which represent 98.86% of the total oil. The components with their percentage peak area are listed in Table 1. The main components were: α -terpineol acetate (67.52%), thymol (4.47%), limonene (3.58%), α -terpineol (3.43%) and γ -terpinene (2.07%).

TABLE 1. Composition of the Essential Oil of *Thymus longicaulis*

Compound	%	KI	Compound	%	KI
α -Pinene	0.20	939	α -Terpineol	3.43	1189
Camphene	0.51	954	<i>cis-p</i> -Menthe-1(7),8-dien-2-ol	0.49	1231
Sabinene	0.82	975	Methyl thymyl ether	0.91	1235
1-Octen-3-ol	1.53	979	Carvacrol methyl ether	0.26	1245
3-Octanone	1.30	984	<i>trans</i> -Geraniol	0.10	1253
Myrcene	1.94	991	Thymol	4.47	1290
3-Octanol	0.26	991	Carvacrol	0.09	1299
α -Terpinene	0.27	1017	Myrtenyl acetate	1.80	1327
<i>p</i> -Cymene	1.21	1025	α -Terpinenyl acetate	67.52	1349
Limonene	3.58	1029	β -Bourbonene	0.10	1388
γ -Terpinene	2.07	1060	β -Caryophyllene	1.54	1419
α -Terpinolene	0.60	1089	α -Humulene	0.10	1455
Linalool	0.38	1091	Germacrene D	0.50	1485
1-Octen-3-yl acetate	0.79	1093	β -Bisabolene	0.70	1506
3-Octanyl acetate	0.98	1123	Nerolidol	0.47	1533
Borneol	0.46	1169	Caryophyllene oxide	0.12	1583
Terpinen-4-ol	0.16	1177	Juniper camphor	0.13	1675

KI on DB-5 column.

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T. longicaulis essential oil contains: monoterpene hydrocarbons (11.20%), oxygenated monoterpenes (80.07%), sesquiterpenes (2.94%), oxygenated sesquiterpenes (0.79%), and the rest 4.86%. The oil was poor in sesquiterpene hydrocarbons (3.66%), of which only small amounts of β -caryophyllene (1.54%), β -bisabolene (0.70%), and germacrene D (0.50%) were present.

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