THE COMPOSITION OF THE ESSENTIAL OIL OF Mentha lavanduliodora

Bui Tki Bang and A. G. Nikolaev

UDC 547.913.633.82

The mint that we are studying is a hybrid obtained by a botanist of Turin University, Professor Tommaso Sacco, by interspecies crossing. He has isolated as an independent species Mentha lavanduliodora Sacco [1]. We have grown plants in the environs of Kishinev for the last five years. They were gathered each year in the period of mass flowering – technical ripeness.

The amount of essential oil in the dried leaves with inflorescences during this period amounted to 2-2.5%. The oil possessed highly specific properties with a well-defined lavender, and not a mint, odor. A sample of the oil obtained by steam distillation consisted of a mobile, slightly yellowish liquid and possessed the following specific indices: D_{20}^{20} 0.887, n_D^{20} 1.4602, $[\alpha]_D^{20} - 8.4°$; ester No. 125, soluble in 4-5 volumes of 60% ethanol; total free alcohols 51-54%, primary 1.2-2.3%, and tertiary 49.8-51.7%, esters (as linalyl acetate) 40-44.4%. No substances reduced at a dropping mercury electrode or substances absorbing in UV light were detected. Reactions for phenols, aldehydes, and menthofuran were also negative.

The oil was distilled under vacuum into the following fractions: hydrocarbon (bp 44-61°C/2.5 mm); alcohol (bp 68-73°C/2.5 mm); ester (bp 77-84°C/2.5 mm); and sesquiterpene (bp 98-107°C/2.5 mm), which were then studied by gas–liquid chromatography and by IR and UV spectroscopy.

Chromatography was performed in a Pye argon chromatograph and in an LKhM-7A chromatograph (with helium as the carrier gas) using four phases: polyethylene glycol 15,000, Apiezon L, DC-550 silicone oil, and Reoplex 400. The length of the column was 1.2-2.0 m, the solid phase was Celite, the column temperatures 125, 140, and 150°C, and the rate of flow of carrier gas 80 ml/min.

The individual components were identified by their relative retention volumes (in relation to limonene) and absorption bands in the UV spectrum.

The presence of the following components along with their amounts was established: α-pinene 0.02%, myrcene 0.13% (maximum at 225 nm), limonene 1.14%, allocymene 0.36% (maxima at 269 and 279 nm), linalool 61.2% (836, 995, and 1115 cm^{-1}), linalyl acetate 31.24%, caryophyllene 1.72%, and five unidentified minor components.

From its terpenoid composition, the oil that we have studied differs radically from the mint oils studied previously and can apparently be used as equivalent to lavender oil.

LITERATURE CITED

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