On the basis of the results of a comparison of the R*f* values of the carotenoid zones obtained and of "markers" and also of the absorption maxima in the UV region, we identified the following carotenoids in the fruit of the mountain ash: α-carotene (λ_{max} 475, 445, 420 nm), neo-β-carotene (λ_{max} 481, 450 nm), β-carotene (λ_{max} 485, 451, 425 nm) prolycopene (λ_{max} 443.5, 470 nm), and ζ-carotene (λ_{max} 425, 400, 378 nm). In addition to this we analyzed the crude fruit: no changes in carotenoid composition were detected.

The total amount of carotenoids was determined by an electrophotocolorimetric method. Their amount was 16.3 mg % calculated on the absolutely dry weight.

We determined the quantitative amounts of the individual carotenoids by the chromato-electrophotocolorimetric method. This showed that the carotenoid fraction contained 6.2 mg % of α-carotene, 3.3 mg % of neo-β-carotene, 3.8 mg % of β-carotene, 1.4 mg % of prolycopene, and 1.6 mg % of ζ-carotene calculated on the absolutely dry weight.

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COMPOSITION OF THE ESSENTIAL OIL OF *Myrtus communis*

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Myrtus communis L. (true myrtle) grows well and is cultivated in the dry subtropics of the Apsheron peninsula. Myrtle leaves contain an essential oil which possesses a peculiar aroma and a high antibacterial activity [1, 2]. The essential oil of the myrtle cultivated on the Apsheron peninsula has not previously been studied.

From fresh myrtle leaves (yield 0.35%) by steam distillation we obtained an oil having the following physicochemical constants: D_{20}^{20} 0.8962; n_D^{20} 1.4650; acid No. 1.4; ester No. 52.1; ester No. after acetylation 128.2.

From preliminary results obtained with the aid of analytical gas—liquid chromatography we established that it consists mainly of monoterpene hydrocarbons. In view of this, the essential oil (17.5 g) was separated by fractional distillation in vacuum at a residual pressure of 5 mm Hg, and a low-boiling fraction with bp 45-65°C was taken off in an amount of 12.7 g (72.6%). Then the fraction was separated on a Pye-105 gas—liquid chromatograph with the aid of 10% of polypropylene glycol adipate and the components were identified by comparing the retention times of known substances and by adding them to the mixture. The main substances (limonene and linalone) were isolated individually and were also determined from their IR spectra.

Thus, in the low-boiling fraction of the essential oil, in addition to monoterpenes found previously (α-pinene, cineole) [3] we determined the following components (% calculated on the whole oil): α-pinene (14.5); camphene (0.5); β-pinene (0.3); Δ^3-carene (traces); limonene (23.4); cineole (11.6); p-cymene (1.8); and the aliphatic alcohol linalool (20.2).

This is the first time that high contents of limonene and linalool have been found in this plant.

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SESQUITERPENE LACTONES OF *Pseudohandelia umbellifera*

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Pseudohandelia umbellifera (Boiss.) Tzvel., family Compositae, is a plant that grows widely in Uzbekistan.

Flowerheads of *P. umbillifera* collected in May 1976 in the Dzhizak oblast in the budding flowering phase were extracted with chloroform. The concentrated extract was dissolved in ethanol and the solution was diluted with water to give a 60% ethanolic solution. After a day, the precipitate that had deposited was separated off. The combined lactones were extracted with benzene from the filtrate after it had been treated with petroleum ether (to eliminate essential oil). The mixture of substances isolated was separated by chromatography on a column of alumina (activity grade IV) in a ratio of 1:10.

By elution with benzene–hexane (7:3) substance (I) was isolated with the composition $C_{15}H_{20}O_3$, mp 191°C (previously heated metal block); R_f 0.51 in the chloroform–methanol (8.5:1.5) system on "Silufol" plates (chromogenic agent 0.5% solution of vanillin in concentrated sulfuric acid); M^+ 248. IR spectrum: λ_{max}^{KBr} 3490 cm^{-1} (OH), 1750 cm^{-1} (carbonyl of a γ-lactone ring conjugated with an exomethylene group), 1665 and 1640 cm^{-1} (C=C).

On the basis of the mixed melting point and an analysis of its spectral characteristics it was identified as the germacranolide hanphyllin [1].

From the subsequent eluates a substance (II) crystallized with the composition $C_{15}H_{20}O_4$, mp 224°C; R_f 0.66; M^+ 264. IR spectrum: λ_{max}^{KBr} 3500 cm^{-1} (OH), 1756 cm^{-1} (carbonyl of a γ-lactone ring conjugated with an exomethylene group), and 1700 cm^{-1} (C=O in a six-membered ring). By a mixed melting point and a comparison of IR spectra, substance (II) was identified as a lactone of the eudesmane type — artecalin [2, 3].

This is the first time that hanphyllin and artecalin have been isolated from *Pseudohandelia umbellifera*.

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