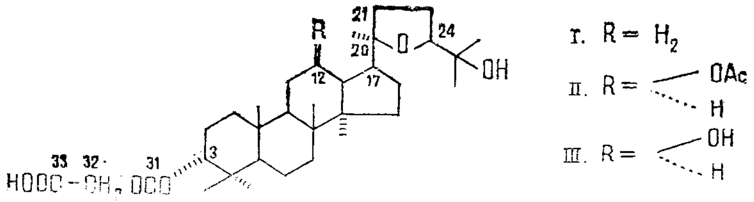
H^{24} signals in the PMR spectrum of the mixture of (II) and (III) it was established that the ratio of these compounds was 1:2, respectively.



This is the first time that compounds (I) and (III) have been found in plant materials.

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OLEANOLIC AND MASLINIC ACIDS OF THE FRUIT OF *Olea europaea*

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UDC 547.597

We have previously isolated triterpene acids from the leaves of *Olea europaea* (common olive), family Oleaceae [1]. Continuing the study of this plant, we have isolated triterpene acids from the fruit of several varieties (Ispanskii, Azerbaidzhan, Baku, Askolano).

The freshly gathered fruit (100 g) was extracted with ethanol at room temperature. The extracts were evaporated to an aqueous residue and were then treated with heptane and with ethyl acetate. The ethyl acetate extracts, after the elimination of the solvent, were chromatographed on a column filled with silica gel L 40/100 mμ. The substances were eluted with heptane–ethyl acetate (9:1) with a subsequent increase in the amount of ethyl acetate. The separation was checked by TLC (sorbent: silica gel L 5/40 mμ; mobile phase: chloroform–ethanol (20:1); revealing reagent: a 25% ethanolic solution of tungstophosphoric acid).

Substances (I) and (II) of triterpene nature were isolated.

Substance (I) — white acicular crystals with mp 306-308°C (ethanol), $[\alpha]_D^{20} + 78°$ (C 1.6; pyridine); elementary composition $C_{30}H_{48}O_3$.

Substance (II) — white crystals mp 266-268°C (ethanol), $[\alpha]_D^{20} + 40°$ (C 0.9; pyridine); elementary composition $C_{30}H_{48}O_4$.

On the basis of physicochemical properties and the results of chromatographic and IR-spectroscopic analyses, substance (I) and identified as oleanolic acid, or 3-hydroxyolean-12-ene-28-carboxylic acid, and (II) as maslinic acid, or 2α,3β-dihydroxyolean-12-ene-28-carboxylic acid [2, 3].

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Hitherto, maslinic acid has been found only in a few plants [2, 4, 5]. This is the first time that oleanolic and maslinic acid have been isolated from olives.

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TRITERPENOIDS OF AN ETHEREAL EXTRACT OF THE LEAVES AND FEMALE CATKINS OF *Betula divaricata*

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UDC 581.192+547.914

From the unsaponifiable fraction of an ethereal extract of birch leaves collected in July 1982 in the environs of the village of Nizhneangarsk, Buryat ASSR, we have isolated β-sitosterol and also triterpenoids of the dammarane series — betulafolienetriol (0.04% on the weight of the air-dry leaves), betulafolienetriol oxide (0.03%), dammar-25-ene-3α,12β, 20(S),24-tetraol (I) [1, 2], and a new triterpene (II).

Triterpene (II), $C_{30}H_{52}O_4$, mp 169-172°C (ethanol), $[\alpha]_D^{18}$ −4° (c 0.5; chloroform). The PMR spectrum of (II) showed the signals of the protons of seven tertiary methyl groups at 0.84, 0.89, 0.90, 0.94, 0.98, 1.16, and 1.74 ppm (3 H, d-d, J = 0.8, J = 1.5 Hz), the signals of carbinyl protons at 3.41 ppm (1 H, t, J = 2.8 Hz, H_e), 3.58 ppm (1 H, dt, J = 5.2 Hz, J = J = 10.4 Hz, H_α^{12}), and 4.02 ppm (1 H, dd, J = 2.7 Hz, J = 8.6 Hz, H^{24}), and the signals of olefinic protons at 4.79 ppm (1 H, dq, J = 15 Hz, J = 0.8 Hz, H^{26}_{cis}) and 4.97 ppm (1 H, dq, J = 0.8 Hz, J = 0.8 Hz, H^{26}_{trans}).

A comparative analysis of the ^1H and ^{13}C spectra of the triterpenes (I) and (II) showed that they were epimers in relation to C^{24}.

Characteristic signals in the PMR spectrum of the triterpene (I) and its 24-epimer (II) are (ppm, $CDCl_3$):

Epimer	H-24	H,26-trans-	H-26,cis-
Triterpene (I)	4.11 (t)	4.96 (s)	4.85 (s)
Triterpene (II)	4.02 (d-d)	4.97 (s)	4.79 (s)

The ^{13}C chemical shifts of the C^{16} and C^{17} atoms and those of the side chains of triterpenes (I) and (II) were as follows, ppm, $CDCl_3$):

Triterpene	C^{16}	C^{17}	C^{20}	C^{21}	C^{22}	C^{23}	C^{24}	C^{25}	C^{26}	C^{27}
I	26,6	53,7	73.5	26.6	30,2	29,6	75.5	147,7	110.5	18.5
II	29,6	53,2	73,2	26,6	32,8	30,2	76,9	148,3	110,4	18,0

To confirm the structure of triperpene (II) we performed the following chemical transformations. Triterpene (I) was oxidized with manganese dioxide in absolute chloroform, which led to the corresponding ketone at C^{24} (III). The PMR spectrum of (III) showed the signals

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