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*

G. V. Malinovskaya, N. D. Pokhilo,
V. A. Denisenko, and N. I. Uvarova

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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_{cis}^{26}) and 4.97 ppm (1 H, dq, J = 0.8 Hz, J = 0.8 Hz, H_{trans}^{26}).

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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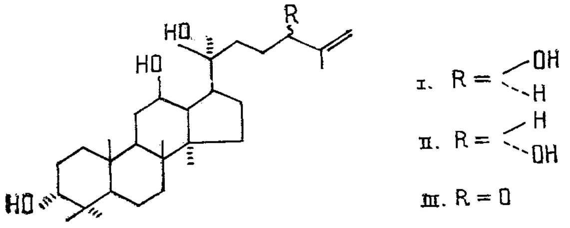
of methyl group protons at 0.84, 0.88, 0.90, 0.94, 0.99, 1.11, and 1.88 (3 H, dd, J = 0.8 Hz, J = 1.6 Hz), the signals of carbinyl protons at 3.40 (1 H, t, J = 2.8 Hz, H^{3}_{e}), 3.60 (1 H dt, J = 5.4 Hz, J = 10.6 Hz, H^{12}_{a}) and also the signals of protons at 4.80-5.20 (2 H, br.s, C^{12}—OH and C^{20}—OH), 2.78 (1 H, ddd, J = 5.8 Hz, 8.8 Hz, 16.8 Hz, H^{23}), 2.98 (1 H, ddd, J = 6.0 Hz, 8.9 Hz, 4.9 Hz, 16.8 Hz, H^{23}), 5.78 (1 H, dq, J = 0.8 Hz, 1.6 Hz, H^{26}_{cis}), 6.05 (1 H, dq, J = 0.8 Hz, 0.8 Hz, H^{26}_{trans}).

The reduction of the ketone (III) with lithium tetrahydroaluminate led to the formation of triterpenes (I) and (II) in a ratio of ~1:1.

In the ^{13}C NMR spectra of dammarane triterpenoids the C^{22} and C^{24} resonances of the epimers of the 24(S) series appear in a weaker field than the resonances of the same carbon atoms for the epimers of the 24(R) series [3]. According to this diagnostic characteristic, triterpene (I) apparently has the 24(R)-configuration and (II) the 24(S)-configuration.



From an ethereal extract of female catkins of *B. divaricata* we have isolated kaempferol [4] and papyriferic acid (12-O-acetylbetulafolienetriol oxide 3-O-malonate) [5].

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