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MARMARİS ÜNİVERSİTESİ
ECZACILIK FAKÜLTESİ
KÜTÜPHANESİ

**DAPHNE OLEOIDES SCHREB. SUBSP. OLEOIDES ÜZERİNDE
FİTOKİMYASAL ARAŞTIRMALAR.**

**PHYTOCHEMICAL INVESTIGATION OF DAPHNE OLEOIDES
SCHREB. SUBSP. OLEOIDES.**

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SUMMARY

Air-dried and crudely powdered plant was extracted with petroleum ether, chloroform and ethanol respectively. The results obtained by thin layer chromatography showed that petroleum ether and chloroform extracts contained the same substances and these extracts were combined. The combined extract was investigated and *α*-amyrin acetate, *α*-amyrin and *β*-sitosterol were isolated and identified.

ÖZET

Kurutularak kaba toz edilmiş bitki sırasıyla petrol eteri, kloroform ve etanol ile ekstre edildi. İnce tabaka kromatografisi ile yapılan kontrollerde petrol eteri ve kloroform ekstralarının genelde aynı maddeleri taşıdığı anlaşılarak birleştirildi. Birleştirilmiş ekstreinin işlenmesi sonunda *α*-amirin asetat, *α*-amirin ve *β*-sitosterol izole edilerek teşhisi yapıldı.

INTRODUCTION

Daphne species have shown pharmacological activities (1-4). A survey in literature showed that flavonoids, coumarins, steroids and triterpenes have been isolated and identified in various *Daphne* species (5-8). In order to find new active compounds we initiated a phytochemical study with *Daphne oleoides Schreb. subsp. oleoides* which is used in folk medicine in Anatolia (9,10). In this study the combined petroleum ether and chloroform extracts were in-

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vestigated and α -amyrin acetate, α -amyrin and β -sitosterol were isolated and identified.

EXPERIMENTAL

The plant material was collected from Fethiye in June 1984 (Aegean coast of Turkey) and was identified by E. Tuzlacı*. A specimen is deposited in the Herbarium of the Faculty of Pharmacy, University of Istanbul (İSTE 51326). The air-dried aerial parts of *Daphne oleoides* Schreb. subsp. *oleoides* was extracted with petroleum ether, chloroform and ethanol respectively. The results obtained by thin layer chromatography showed that petroleum ether and chloroform extracts contained the same substances and these extracts were combined.

The combined extract (2.5 g) was fractionated on Si gel column (0.063-0.200 mm Merck) by eluting with petroleum ether, benzene, chloroform and ethanol respectively. 125 fractions 50 ml of each were collected and examined by thin layer chromatography (Kieselgel 60 HF₂₅₄ Merck). α -amyrin-acetate was obtained from petroleum ether-benzene (1:1) fractions (fraction number 10-13, 15 mg), α -amyrin was obtained from benzene fractions (fraction number 37, 500 mg) and β -sitosterol was obtained from benzene-chloroform (1:1) fractions (fraction number 69-75, 450 mg).

The R_f values of the substances were 0.74 (α -amyrin acetate), 0.60 (α -amyrin), 0.45 (β -sitosterol) on a silica gel plate using chloroform as the solvent system.

The substances were identified by IR spectrum and TLC data by comparing with the authentic samples.

RESULTS AND DISCUSSION

In this study α -amyrin acetate, α -amyrin and β -sitosterol were isolated from the combined petroleum ether and chloroform extracts of the plant and identified.

α -amyrin acetate m.p. 225° (EtOH) (11)227°: IR (ν _{max}^{KBr} cm⁻¹): 1730 (acetyl), 1455 (methyl), 1380, 1360 (gem-dimethyl).

α -amyrin m.p. 180° (EtOH) (11)186°: IR (ν _{max}^{KBr} cm⁻¹) 3300 (hydroxyl), 1450 (methyl), 1380, 1360 (gem-dimethyl).

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β -sitosterol m.p. 136° (11)137°: IR (ν_{\max}^{BKr} cm⁻¹): 3400 (hydroxyl), 2940, 2860 (aliphatic C-H), 1455 (methyl), 1375 (gem-dimethyl).

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