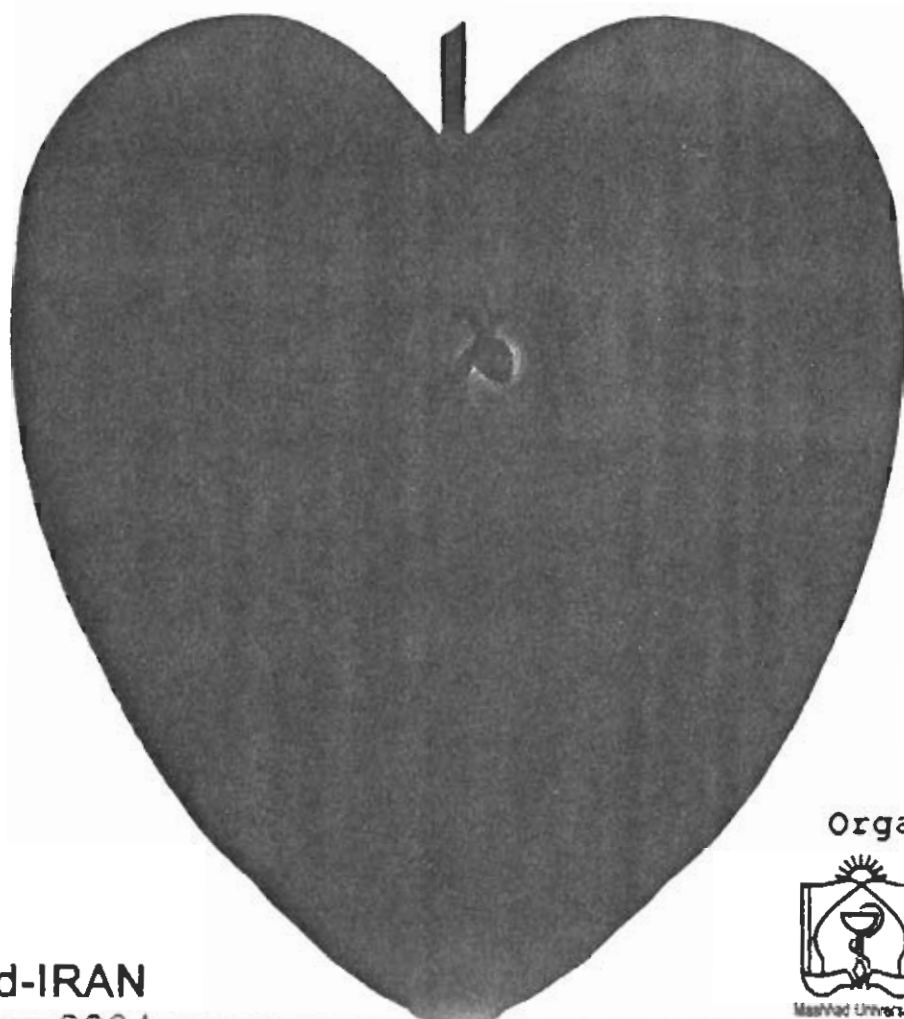


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ABSTRACT BOOK

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P.M.19

Phytochemical Investigation of *Vaccinium arctostaphylos* L.
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Introduction: *Vaccinium arctostaphylos* L. (Ericaceae), locally named Qaraqat, is a perennial subshrub plant growing in the North of Iran. The berry of plant is one of the most popular medicinal plants used in Iran for the treatment of hypertension and diabetes. The anthocyanin constituents of some *Vaccinium* species have been intensively studied, but the chemical composition of *V. arctostaphylos* is totally unknown. Therefore, we are interested in identifying some bioactive constituents from the plant.

Materials and Methods: Fresh berries of *V. arctostaphylos* were collected from Asalem forests, Gilan province, in the North of Iran on August 2000 and air-dried. The dried material was ground and soaked in methanol-glacial acetic acid-water (70:2:28) and blended at room temperature. The extract was filtrated, concentrated under reduced pressure and then partitioned against ethyl acetate. Different chromatographic methods were applied to isolate and purify the anthocyanins of the final aqueous extract. The isolated compounds were identified using chromatographic, chemical and spectroscopic methods.

Results and Discussion: Three major anthocyanins were finally identified in the berries of *V. arctostaphylos*. The compounds were delphinidin 3-O- β -glucoside, petunidin 3-O- β -glucoside and malvidin 3-O- β -glucoside. Therefore, *V. arctostaphylos* berries, like other *Vaccinium* species are rich in 3-O-monoglucosides of delphinidin, petundin and malvidin.

P.M.20

Separation and Quantification of Safranal and Crocin from Saffron

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Introduction: Commercially used saffron spice is the dried stigmata of *Crocus sativus* L. It is popular because of its delicate aroma and attractive color and is used as a food additive. Saffron is cultivated in different countries including Iran. Samples obtained from different geographical locations and from different processing methods are expected to show variations in quality with respect to color (crocin and crocetin: carotenoid derivatives), flavour (safranal: a monoterpene) and the bitter principle (picrocrocin: a monoterpene glucoside). In this study crocin and safranal constituents of saffron obtained from Khorasan province were isolated and quantified.

Method: Techniques used for separation of Saffron constituents included crystallization for crocin and continuous extraction with super-heated vapor of ether for safranal by means of special apparatus. For quantification purposes high performance liquid chromatography (HPLC) and UV spectrophotometer of Saffron extract was used. For quantification of crocin constituent an ODS column by a gradient run with 20-80% acetonitrile in water as the eluent and for safranal constituent an isocratic run with 76% acetonitrile in water as eluent was applied. For quantification of crocin and safranal UV-Visible spectrophotometer was also used, using $E_{1\%}^{1cm}$ of crocin and safranal at 440 and 330nm wavelengths respectively. UV spectrophotometer and HPLC gave comparable results.

Results: 0.5g of safranal was separated from 5g saffron, regarding crocin 100mg was crystallized from 1g saffron. The amount of crocin and safranal was found to be about 25 and 7% respectively.