

## عنوان مقاله:

Essential oil combination of three species of Achillea growing wild in East Azarbayjan- Iran

## محل انتشار:

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## خلاصه مقاله:

Background and aims: The Achillea genus has a wide distributional range, and the differences in oil composition may be affected by different environmental factors such as plant genetic type, seasonality, and developmental stage. The aim of this research was to determine the chemical combination of the essential oils derived from flowering aerial parts of Achillea millefolium, A. biebersteinii and A. wilhelmsii (family Astreacea) collected from different locations of East-Azarbayjan in Iran. Methods: In this experimental study, Wild Achillea plants (A. millefolium, A. biebersteinii and A. wilhelmsii) were collected from three localities of East-Azarbayjan of Iran during the flowering period. The chemical combination of the isolated oils was examined by gas chromatography-mass spectrometry. Results: In A. millefolium, the major compounds were 1,8-cineole (28.0%), camphor (19.2%), borneol (98.8%) and  $\beta$ -pinene (6.3%). In A. biebersteinii the major compounds were  $\alpha$ -terpinen (41.42%),  $\gamma$ -carene (13.96%), m-cymene (13.41%) and 1,8-cineole (8.91%). In A. wilhelmsii the major compounds were carvacrol (29.2%), linalool (10.3%), 1,8-cineole (11.0%), (E)-nerolidol (8.4%) and borneol (5.04%). Conclusion: Chemical compounds of essential oils of Achillea species were highly variable, which may be due to the differences in their chemical polymorphic structure and environmental conditions

## کلمات کلیدی:

Achillea, 1, 8-Cineole, essential oil, GC/MS,  $\alpha$ -Terpinen

## لینک ثابت مقاله در پایگاه سیویلیکا:

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