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Terpenes from *Chrysanthemum boreale* Makino

김종희, 오갑수*
경남대학교 자연과학대학 생물학과

The essential oils (monoterpenes and sesquiterpenes) were analyzed from leaves and stems of *Chrysanthemum boreale* Makino using gas chromatography-mass spectrometry. Samples were collected from 5 sites at Muhak mountain approximately 2 weeks interval and were extracted from n-pentane. Tetradecane was used as an internal standard. Seasonal variation was remarkable in leaf essential oil compared to stem. The total amount of sesquiterpenes was always higher than monoterpenes in both of leaf and stem. Especially the amount of leaf sesquiterpenes was from 2.7 to 9.7 times higher than monoterpenes. Total essential oils of leaves were sharply decreased with the time, but not stem. The highest variability of leaf monoterpenes was noted in June 14.

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The monoterpenes from *Artemisia princeps* var. orientalis and the seasonal variation of its constituens

김 종 희*, 황 지 영
경남대학교 자연과학대학 생물학과

Our objectives were to quantify monoterpenes metabolite profile and concentration on the leaf and stem of *Artemisia princeps* var. orientalis and to evaluate seasonal variation in monoterpenes of *Artemisia* plant. Sample taken from 5 sites at campus of KyungNam University during growing season. Monoterpenes in leaf and stem were analyzed using gas chromatography-mass spectrometry. The major constituents of *A. princeps* var. orientalis in both of leaf and stem were 21 monoterpenes. The amounts of total monoterpenes of leaf was from 2 to 5 times higher than stem and rapidly decreased with the time, while that of stem was constant except early spring. Camphor, 1,8-cineol, borneol and unknown (RT=16.271) were present in highest concentrations of compounds identified on the leaf of *A. princeps* var. orientalis. Most of the compounds with the later retention times were found in mature plant.