## ANTIOXIDANT AND FREE RADICAL SCAVENGING ACTIVITY OF *SCILLA AUTUMNALIS* BULBS AND LEAVES ETHANOLIC EXTRACTS

Özay C., Ermiş A., Evgen E., Kardeşler A., Çelik A.*

Pamukkale University, Biology Department, Denizli, Turkey; *acelik@pau.edu.tr

Our country is very rich in of plant species, tubers, onions, rhizome collected under the name geophyt. One of the most important features if used for purpose of treatment of geophyt the with the active substances they contain onions, tuber, and rhizomes. These the active substances have antioxidant properties which to the neutralizing harmful free radicals in body which cause many of the disease. Free radicals involved in a number of diseases due to the oxidative damage to DNA, lipids, and proteins and which can result in failure of



vention of oxidative stress that to cause in many illness. This reason is increasing the consumption of foods containing antioxidants and antioxidant substances of natural origin the use of as a preservative in foods. *Scilla* which a genus the important of between geophyta is creates a group of natural antioxidants. *Scilla* is a genus of bulbous monocotyledons belonging to the family *Liliaceae*. *Liliaceae* family is a large family which is represented with 4000 species belonging to 280 genus in in the world. Many kinds of flavonoids, homoisoflavanones and triterpenoid have been identified in *Scilla* species plant.The aim of present study was to examine the antioxidant and phenolic content of ethanol extracts from the bulbs and leaves from *Scilla autumnalis* species. Total antioxidant activity of the ethanol extracts was evaluated by β-carotene-linoleic acid method and DPPH- free radical scavenging activity assay. The total phenolic content of the ethanol extracts was determined using to the Folin-Ciocalteu method. The total phenolic content of extracts was determined as gallic acid equivalent (mg GAE/g dried sample). The highest phenolic content was found in leaves-ethanol extract (16.3) (mg GAE/g dried sample).

Results showed that the highest antioxidant activity was in the leaves-ethanol solution (68.7%) and the lowest antioxidant activity was in the bulbs-ethanol solution (54.3%). According to DPPH-free radical scavenging activity assay, the highest free radical scavenging activity was determined in extract on leaves-ethanol (54.76%) and the least efficiency in extract bulbs-ethanol (26.19%).

**KEY WORDS:** *Scilla autumnalis*, antioxidant, DPPH radical scavenging activity, phenolic β-caroten-linoleic acid assay.