**Inhibitory potential of endemic *Centaurea paphlagonica* and *Centaurea cankiriense* plant extracts obtained by using different branches against alpha glucosidase enzyme**

***Ali Rıza TÜFEKÇİ1*,\**[C:\Users\Abdullah\AppData\Local\Microsoft\Windows\INetCache\Content.Word\ORCID-iD_icon-16x16.gif](https://orcid.org/0000-xxxx-xxxx-xxxx), Zeyad Adil HAMEED2[C:\Users\Abdullah\AppData\Local\Microsoft\Windows\INetCache\Content.Word\ORCID-iD_icon-16x16.gif](https://orcid.org/0000-xxxx-xxxx-xxxx)****,* ***Şevki ADEM3[C:\Users\Abdullah\AppData\Local\Microsoft\Windows\INetCache\Content.Word\ORCID-iD_icon-16x16.gif](https://orcid.org/0000-xxxx-xxxx-xxxx)***

**1*Faculty of Science, Department of Chemistry, Cankiri Karatekin University, Cankiri, Turkey***

**2*Faculty of Science, Department of Chemistry, Cankiri Karatekin University, Cankiri, Turkey***

**3*Faculty of Science, Department of Chemistry, Cankiri Karatekin University, Cankiri, Turkey***

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| **Abstract**  Synthetic drugs are viewed with a negative eye, in the scientific field and in the community, because of their excessive side effects or for some reasons, such as drug resistance. Some diseases caused by synthetic drugs arise as a result of drug resistance, unconscious consumption, or a change in the genetic form of the disease. To solve this problem, especially in the process that has been going on since the 21st century, herbal-based natural compounds can help to mitigate the effects as a drug potential. Nowadays, type 2 diabetes can be prevented by the presence of natural inhibitors of α-glucosidase and α-amylase enzymes. This makes it possible to treat diabetes. (Mekonnen and Alemu Balcha, 2012; Telagari and Hullatti, 2015). In this study, the potential for aglycosidase enzyme inhibition of methanol/chloroform extracts obtained from different branches of *C. cankiriense* and *C. paphlagonica* plant was studied. The highest activity of the *C. cankiriense* plant was found to be IC50 of 474.76 μg/ml with the extrain of the flower part. On the other hand, the activity of the *C. paphlagonica* plant, with an IC50 range of 181.93-787.67 μg/ml, was shown to vary depending on the extraction method and to have the highest activity. The results are remarkably positive for the availability of flower extract from the *C. paphlagonica* plant as α-glucosidase enzyme inhibitor. |
| Keywords: Centaurea paphlagonica, Centaurea cankiriense, Alpha-glucosidase, Enzyme activity |