

# OP13. IN VITRO BIOLOGICAL ACTIVITIES AND PHYTOCHEMICAL INGREDIENTS OF TWO HEPTAPTERA SPECIES: HEPTAPTERA ANISOPTERA (D.C.) TUTIN AND H. CILICICA (BOISS. & BAL.) TUTIN

Ceylan DÖNMEZ<sup>1\*</sup> , Fatma AYAZI<sup>1</sup> , Yavuz BAĞCI<sup>2</sup> , Nuraniye ERUYGUR<sup>1</sup> 

<sup>1</sup>Department of Pharmacognosy, Faculty of Pharmacy, Selçuk University, Selçuklu 42130 Ankara, Türkiye

<sup>2</sup>Department of Pharmaceutic Botanic, Faculty of Pharmacy, Selçuk University, Selçuklu 42130 Ankara, Türkiye

\*Corresponding Author. E-mail: [ceylan.donmez@selcuk.edu.tr](mailto:ceylan.donmez@selcuk.edu.tr)

*Heptaptera species* (*H. anisoptera* (D.C.) Tutin and *H. cilicica* (Boiss. & Bal.) Tutin) are Apiaceae plants which are naturally grown in Türkiye. These species, which have been previously studied morphologically and cholinesterase enzyme inhibitor activity but have limited biological activity and phytochemical content studies, have been selected in this study. It was determined that different enzyme inhibition activities and antioxidant capacities and group of compounds responsible for these activities of different extracts of *Heptaptera species*. Enzyme inhibition activities (acetylcholinesterase, butyrylcholinesterase,  $\alpha$ -glucosidase,  $\alpha$ -amylase, and tyrosinase) as well as antioxidant activities were evaluated and compared two plants and their four extracts (petroleum ether, dichloromethane, ethyl acetate, ethanol). The antioxidant activities of each extracts were determined by using 2,2-diphenyl-1-picrylhydrazyl (DPPH), 2,2'-azino-di-3-ethylbenzthiazoline sulfonic acid (ABTS) and iron chelating method. And total phenol and flavonoid contents were analyzed by spectrophotometric method. Enzyme inhibitory potential was evaluated with Eliza test. According to the experimental results, ethyl acetate *H. anisoptera* extract and petroleum ether extract of *H. cilicica* showed significant cholinesterases inhibitor effects. The polar

*H. cilicica* extracts demonstrated higher  $\alpha$ -amylase inhibitor activity. The highest tyrosinase inhibitory activity was found in the ethanolic *H. anisoptera* extract with the lowest phenol and flavonoid content. Considering the three antioxidant activity parameters, it was concluded that endemic *H. cilicica* has more antioxidant capacity than *H. anisoptera*. It has been concluded that there is a need for more studies on the endemic *H. cilicica*, which has many potential activities, especially for the elucidation and protection of the phytochemical content of the plant.

**Keywords:** *Heptaptera species*, *H. cilicica*; enzyme inhibition, antioxidant activity, phytochemical content of *Heptaptera*.