

3<sup>RD</sup> WORLD CONGRESS ONMEDICINAL PLANTS AND  
NATURAL PRODUCTS RESEARCH

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**Does seasonal variation affect bioactive compounds of *Capparis spinosa* and *Capparis decidua*?**Wasif Nouman<sup>1</sup>, Farooq Anwar<sup>2,3</sup>, Tehseen Gull<sup>4</sup>, Bushra Sultana<sup>4</sup>, Eduardo Rosa<sup>5</sup> and Raul Dominguez-Perles<sup>5</sup><sup>1</sup>Bahauddin Zakariya University, Pakistan<sup>2</sup>Prince Sattam bin Abdulaziz University, KSA<sup>3</sup>University of Sargodha, Pakistan<sup>4</sup>University of Agriculture Faisalabad, Pakistan<sup>5</sup>University of Trás-os-Montes e Alto Douro, Portugal

A few species have been studied previously reporting about seasonal effects on phenolics characterization of different plants but no study is available on diversity of phenolic acids in different parts of *C. spinosa* and *C. decidua* being affected by seasons. The present study aimed at profiling and quantifying the phenolic acids in stem bark, shoot, flower, fruit and root of *C. spinosa* and *C. decidua* collected in rainy and dry months from Cholistan desert of Pakistan. HPLC-PDA-ESI-MSn analysis of different parts of *C. spinosa* and *C. decidua* showed a wide range of phenolic acids with varying concentration in rainy and dry months. The analysis highlighted the presence of quercetin, apigenin and kaempferol derivatives along with dicaffeoylquinic acid, caffeoylquinic acid and feruloylquinic acid. Among identified phenolic acids, kaempferol-3-glucoside was found in abundance in each selected part of both species while dicaffeoylquinic acid was recorded only in flowers and roots. Roots were found as a major source of the identified phenolic acids exhibiting maximum quantity of flavonoids and hydrocinnamic acids. Moreover, seasons affected the concentration of phenolic acids in different ways. As an overall estimation, samples collected in rainy season exhibited more amount of phenolic acids. Furthermore, *C. decidua* was recorded as better source of these phenolic acids in comparison with *C. spinosa*. So, it can be concluded here that roots and fruits of *C. spinosa* and *C. decidua* are good sources for phenolic acids which can be used in pharmaceutical industries as nutraceuticals. There is also a need for further investigation of these bioactives' for their therapeutic effects.

**Biography**

Wasif Nouman has completed his PhD in 2012 from the University of Agriculture Faisalabad, Pakistan in the field of forestry. Currently, he is working as an Assistant Professor in the Department of Forestry and Range Management, Bahauddin Zakariya University, Multan, Pakistan. He has 21 publications in various national and international journals. He is also serving as an Editor of *International Journal of Agriculture and Biology*.

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