



## **Phytochemical and antimicrobial analysis of leaf samples of different Rubus species**

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**Abstract:** Four blackberry cultivars (*Rubus* sp.) were evaluated for the presence of bioactive compounds, antibacterial and antifungal activities. The ash values (total ash (4.03-4.96% w/w), water soluble ash (0.96-2.51% w/w acid insoluble ash (0.25-0.61% w/w and sulphated ash (5.99-9.36% w/w) and percentage extractives of ethanol leaf extract of *R. ellipticus*, *R. niveus*, *R. racemosus* and *R. rugosus* (toluene - ethyl acetate (93:7) were analysed. Ethanol extracts of different *Rubus* Sp. were evaluated for their phytochemical contents such as alkaloids, carbohydrate, steroid and sterols, glycosides, lactone ring in steroidal nucleus, saponin, flavonoids, tannin, triterpenoids and presence of protein. Carbohydrate, steroid and sterols, saponin, flavonoids, tannin and triterpenoids were present in all the *Rubus* Sp. Studied. TLC analysis was performed using two solvent systems. In the first solvent system, (toluene-ethyl acetate (93:7) the presence of four compounds with different R<sub>f</sub> values were observed in all the test plants. In the second solvent system, chloroform- glacial acetic acid -methanol- water (60:32:12:8), three compounds were detected in *R. niveus*, *R. racemosus* and *R. rugosus* and two compounds were detected in *R. ellipticus*. For antibacterial assays, the highest activity was observed in *R. ellipticus* ethanol extract against *S. aureus* (27.5 mm) and *S. epidermidis* (26.5 mm). The other extracts also showed considerable antibacterial activity. *R. racemosus* and *R. rugosus* extracts showed the highest antifungal activity of 21 mm and 22.5 mm against *Candida krusei* respectively.

**Keywords:** Antibacterial activity, *Rubus* species, *Candida albicans*, *Pseudomonas aeruginosa*, pathogenic microorganism, phytochemical.

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