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Classification of *Munronia pinnata* (Meliaceae) populations distributed in Sri Lanka by using TLC profiles

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Thirteen populations of *Munronia pinnata* were collected from different locations in Sri Lanka and maintained under a green house conditions for 5 years and were screened for their phytochemical profile with special reference to polyphenol and steroid profiles by using Thin Layer Chromatography (TLC) technique. TLC spots were observed under UV 366 nm and after spraying with spray regents; Anisadehyde-Sulphuric acid (for sugars, steroids, and terpenes), Ferric chloride-Sulphuric acid (for flavonoid) and Vanillin-Sulphuric acid (for alcohols, phenols and steroids). The presence/absence of each spot was used in the preparation of matrix tables for cluster analysis. Cluster analysis of qualitative TLC data clearly separated all *Munronia* populations into three distinguished parental groups with more than 95% of variance i.e. 1. APRG-5 (Ritigala); 2. KGKP-5 (Kuliyapitiya), GPPW-3 (Pallewela), GPWP-3 (Warakapola) and 3. NEKP-3 (Kithulpe), NEMR-3 (Mathurata), MGMD-3 (Madulla), MGMG9/11 (Monaragala), BDHM-3(Haldummulla), MGNG-3 (Nilgala), MTMM-5/7 (Meemure), MTNU-5 (Naula), MGWW-7 (Wellawaya). A closer phytochemical relationship was observed among some populations collected from the same geographical area: (MTMM-5/7 & MGMG9/11 from Monaragala district; GPWP-3 & GPPW-3 from Gampaha district and NEMR-3 and NEKP-3 from Nuwaraeliya district). APRG-5 population showed a clear difference from all other populations indicating that it could be suggested to classify into a species, a subspecies, a variety or a cultivar. Our study demonstrated the usefulness of TLC fingerprint profiles for the characterization of *Munronia* populations that could not be authenticated confidently on the basis of their morphology alone. However, further studies on molecular fingerprinting and gene mapping would be beneficial along with chemical data to elucidate the relationship among the different populations in Sri Lanka.

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