enhance the cell migration and proangiogenic activity. The aerial parts of *Jeffreycia zeylanica* (Asteraceae), bark of *Leea indica* (Vitaceae) and leaf and bark of *Ziziphus oenoplia* (Rhamnaceae) were collected and authenticated. Hexanes, dichloromethane, ethyl acetate, and methanol extracts of each plant material was subjected to scratch wound assay (SWA) and chick chorioallantoic membrane (CAM) assay. The enhancement of cell proliferation observed in SWA is presented as the mean % wound closure and the angiogenic response observed in CAM assay is expressed as the mean vascular index. Plant extracts which have shown >70% mean wound closures at 24 h and >30 mean vascular index were considered as wound healing active extracts and subjected to further investigations. The scratch wound assay (SWA) guided fractionation of the hexanes extract of *J. zeylanica* led to the isolation of five compounds, ethuliacoumarin (1), stigmasterol (2), β-amyrin (3) and lupeol (4), and oleana-9(11),12-diene-3β-ol (5) and a non-resolved compound mixtures HF5D1 containing glut-5-en-3β-ol (6) and friedelin-3β-ol (7). SWA guided fractionation of the dichloromethane extract of *Leea indica* led to the isolation of stigmast-5-en-3β,7α,22α-triol (8), betulin (9), lupeol (4), and β-sitosterol (10) while hexanes extract of leaf of *Z. oenoplia* led to isolation of a fraction which consist of lupeol (4), α-amyrin (11), β-amyrin (3) and two alkanols, hexacosanol (12) and octacosanol (13). All of these compounds and fractions showed enhanced cell migration at 12.5 μM for compounds and at 5 mg/L for fractions and considerable proangiogenic activity at 10μg/ disc. The structure of ethuliacoumarin was established by the unambiguous assignment of all NMR data to the structure, supported by HSQC and HMBC data for the first time, and these assignments were found to be in agreement with the reported ^{1}H and ^{13}C NMR data. The reassignment of ^{1}H and ^{13}C NMR data of 5 was carried out with the aid of 2D NMR data, since the reported ^{1}H NMR assignments were found to be incomplete and ^{13}C NMR data were found to be inconsistent with observed data. The combined effect of compounds 1 and 2 in *in-vitro* cell migration was studied, and it is plausible that the effective cell migration activity observed for the tested combinations of compounds 1 and 2 is due to the synergistic effect of them. Further studies are underway to confirm the synergistic effect of these two compounds. SWA directed fractionation of the dichloromethane extracts and MeOH extract of leaf of *Z. oenoplia* are in progress.

Kandiah Memorial Award for Applied Chemistry - 2023

Mr. S. Keerthanan is expecting to pursue his Ph.D. degree at University of Wuppertal, Germany. He completed his full-time research-based master's degree (M.Phil.) in the board of physical science at Faculty of Graduate Studies, University of Sri Jayewardenepura, Sri Lanka in 2022. Also, he completed his bachelor's degree (B.Sc. Chemistry special) at Eastern University, Sri Lanka in 2017. He was working as a research assistant at Ecosphere Resilience Research Centre, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka. His current research focuses on emerging contaminants and their remediation from environment using biochar, and soil-biochar composites. He has published 11 SCI Journal articles and 7 book chapters in the relevant field. His citation record is 518 with an h-index of 10 according to Google scholar.

Abstract of Kandiah Memorial Award for Applied Chemistry - 2023

Fate and Plant Uptake of Pharmaceutical and Personal Care Products (PPCPs) in Selected Leafy Vegetables Grown in Biochar Amended Soil

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The current study used the plants *Ipomoea aquatica* and *Lasia spinosa* to evaluate the (im)mobilization and plant uptake of pharmaceuticals and personal care products (PPCPs) in soil and in soil amended with biochar. Moreover, PPCPs were examined in plants obtained from leafy vegetable farms in Sri Lanka's Western region, where manure had been applied. The impact of biochar addition on reducing human exposure to PPCPs and the health risk associated with consuming contaminated edible parts of both plants was also examined. Caffeine (CFN) and sulfamethoxazole (SUL) were used to evaluate the effectiveness of the cinnamon woody biochar (CWBC), Ulva seaweed biochar (ULBC), *Gliricidia* woody biochar (GBC), and tea waste biochar (TWBC) in retaining the PPCPs in soil. Also, the uptake of PPCPs by plants, including enrofloxacin (ENF), triclosan (TRI), ibuprofen (IBU), ciprofloxacin (CPX), tetracycline (TET), SUL, and CFN, was studied at various PPCPs spiking amounts in soil and soil modified with biochar. The results demonstrated that the CWBC expressed high porous nature with high surface area (589.4 m^2/g). The soil addition with CWBC (soil-C) exhibited high retention affinity towards CFN, over soil addition with ULBC (soil-U). The retention capacity of soil, soil-U, and soil-C according to Langmuir model 0.42, 0.81, and 1.58, mg/g, respectively. Similarly, the soil addition of 2.5% CWBC improved SUL retention further from 0.72 to 3.45 mg/g. The results revealed that plant uptake impacted by the degree of PPCPs contamination in the soil and the plant types. The plant uptake of PPCPs was higher in soil spiked with a high amount of PPCPs. ENF, TRI, and CFN showed high accumulation in *Lasia spinosa*, however, IBU and SUL showed strong accumulation in *Ipomoea aquatica*. Furthermore, neutral PPCPs like CFN, ENF, CPX, and TRI were shown to accumulate in root, rhizome, leaf, and shoot tissues, however ionic PPCPs such IBU and SUL only accumulated in root tissues. When comparing CFN and ENF uptake from soil-C to soil, no differences were found, whereas uptake of CPX, TET, IBU, TRI, and SUL was greatly decreased. The CFN, ENF, CPX, TRI, and IBU were detected in the plants collected in real agricultural area at concentration ranging from 0.007 to 2 mg/kg. Human exposure study demonstrated that it ranged below the threshold level indicating possessed no health risk to human. The present study demonstrated that the PPCPs can be taken up by root of plants and translocate to rhizome, leaf, and shoot, while biochar addition to soil decreases root uptake by plants significantly.

Keywords:

Biochar, Emerging contaminants, Plant uptake, Soil amendment, Translocation