Leishmania major caused cutaneous leishmaniasis leads to painful skin sores in humans and usual drugs are expensive, toxic, and require prolonged use. The in vitro and in vivo efficacy of aqueous crude extracts from Callistemon citrinus flowers (B), Allium sativum bulbs (C) and Moringa stenopetala leaves (A) against L. major was studied. Controls were pentostam, liposomal amphotericin B, and phosphate buffered saline (PBS). Dried and ground plant materials were soaked in distilled water at 70°C for 1.5 hours, filtered and freeze dried to obtain aqueous extracts. L. major infected BALB/c mice were treated orally or intra peritoneally (ip) with blends of the extracts. Minimum inhibitory concentrations (MICs) of single extracts ranged from 3 to 5mg/ml while IC50 from 297 to 575µg/ml compared to MICs of 12.50 and 6.25µg/ml and IC50 of 0.26 and 0.82µg/ml for pentostam and liposomal amphotericin B respectively. Blends of M. stenopetala and C. citrinus (AB), M. stenopetala and A. sativum (AC), and C. citrinus and A. sativum (BC) at concentrations based on MICs of individual extracts were active at ratios 1:1, 1:9 and 1:1 with promastigotes’ viabilities of 33.82%, 17.41% and 60.74 % respectively. IC50 for blends AB, AC, and BC ranged from 174µg/ml to 1314µg/ml against promastigotes. The individual extracts comprising blends AB, AC and BC interacted additively and synergistically in several combination ratios. Blend AC (1:1) at 125µg/ml had in vitro infection rate (IR) of 71% and multiplication index (MI) of 48.20% for L. major amastigotes compared to IR of 67% and MI of 47.51% for pentostam at 12.50µg/ml. Oral blend BC (1:1) reduced the mice footpad lesion size significantly (P < 0.05). Both oral blends BC and AC reduced mice spleen amastigotes by 48.33% and 60.94% with total LDUs of 6.35 ± 0.66 and 4.80 ± 0.95 respectively. Oral blend AB (1:1) lowered spleen amastigotes by 6.5% with total LDU of 11.49 ± 6.84. In conclusion, aqueous blends of C. citrinus, A. sativum and M. stenopetala extracts that interacted additively or synergistically were less toxic but active against L. major.