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Phytochemical and physicochemical compositionsof fruits and leaves of *Momordica dioica* Roxb. ex. Willd *and Momordica charantia* L.

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Momordica dioica Roxb.ex.Willd and *Momordica charantia* L. are climbers belong to genus *Momordica* and family Cucurbitaceae. Fruits and leaves of both species are used for theraputic purpose in *Ayurveda* and traditional systems of medicine. *M. charantia*fruits and leaves contain biologically active phytochemicals that include glycosides, saponins, alkaloids, fixed oils, triterpenes, proteins, and steroids; due to these chemicals, fruits and leaves of this species are considered as tonic, stomachic, stimulant, emetic, antibilous, laxative, and alterative. Phyto-constituents and therapeutic activities are dependent on plant species or variety, their genetic makeup and maturity stages.Therefore, the present study was undertaken to determine phytochemical and physicochemical composition of fruits and leaves of *M. dioica* and *M. charantia.* Physiochemical composition was determined according to official AOAC method.Total Antioxidant Capacity (TAC) and Total Phenolic Content (TPC) were determined using the Ferric Reducing Antioxidant Power (FRAP) assay and Folin-Ciocalteu method respectively. There was significant difference ($P<0.05$) in moisture, dry matter, total ash, crude fat and crude fiber between fruits of *M. dioica* and *M. charantia.* The highest dry matter (6.76 ± 0.43 %) and total ash content (1.06 ± 0.04%) were observed in *M. dioica* fruits while the highest protein (1.73 ±0.03%), fiber (2.88 ± 0.47%) and fat content (0.49 ± 0.03%) were observed in *M. charantia* fruits.In case of leaves the highest moisture (93.48 ± 0.45%) and fiber content (2.09 ± 0.15 %) was observed in *M. dioica*. Significant differences ($P < 0.05$) were observed in TAC and TPC of fruits of *M. dioica* and *M. charantia*. The highest value for TAC was observed in fruits of *M. dioica* while other *M. charantia* were significantly lower in their TAC. Among immature, mature and ripening stages of the fruits, the highest total antioxidant (52.31 ± 0.82 mg TE/g DW) and phenolic content (8.86 ± 0.13 mg GAE/g DW) were observed in the mature stage of *M. dioica* fruits. In case of leaves the highest value for TPC and TAC (8.39 ± 2.12 mg GAE/g DW and 7.80 ± 0.25 mg TE/g DW) were observed in *M. charantia*. Therefore, fruits of *M. dioica* and leaves of *M. charantia*could be suggested as potential candidates for pharmaceutical and neutraceutical industries in future.

Keywords: Antioxidant capacity, *Momordica charantia, Momordica dioica,* phenolics, proximate composition.

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