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***Asparagus racemosus* (Willd) of Sri Lankan origin: Physico-chemical, phyto-chemical and nutritional profiles of root powder**

Y.A.U.D. Karunarathne,^{1*} A.P.G. Amarasinghe,¹ U.K.A. Samarasingha,² and L.D.A.M. Arawwawala²

¹Department of Prasuti Tantra Kaumarabhryta, Institute of Indigenous Medicine, University of Colombo, Sri Lanka

²Industrial Technology Institute, Bauddhaloka Mawatha, Colombo 7, Sri Lanka

Plant based drugs are used worldwide as aphrodisiacs since time immemorial, and the use of ethnopharmacological methods to increase reproductive potential has dramatically increased globally. One of the drawbacks in the acceptance of the herbal extracts among the scientific world is the lack of chemical standardization. *Asparagus racemosus* is one of the well-known medicines in Ayurveda, which is considered as the “Queen of the herbs” due to its abundant medicinal effects. It has broad economic importance worldwide as a medicinal plant as well as a research oriented plant mainly due to its aphrodisiac properties. The present investigation was to standardize the roots of Sri Lankan grown *A. racemosus* for the first time by the determination of physico-chemical, phytochemical, and nutritional profiles, using WHO guidelines and standard protocols. The analysis of physico-chemical parameters showed that the roots of *A. racemosus* consisted of $9.7 \pm 0.2\%$ total ashes, $4.4 \pm 0.2\%$ water soluble ashes, and $0.5 \pm 0.0\%$ acid insoluble ashes. The levels of tested heavy metals (Hg, As, Cd, and Pb) were below the WHO acceptable limits and microorganisms including *Staphylococcus aureus*, *Escherichia coli*, *Coliforms*, *Salmonella*, yeast, and moulds were not present. Saponins, tannins, flavonoids, terpenoids, phenols, and steroids were present in the root extract. Twelve prominent spots bearing R_f values of 0.03, 0.05, 0.08, 0.11, 0.17, 0.19, 0.27, 0.41, 0.49, 0.67, 0.81, and 0.93 were present in the TLC fingerprint profile of the dichloromethane root extract in dichloromethane: ethyl acetate: cyclohexane (1: 4: 0.5) as the solvent system. The percentage of crude protein was 7.8 ± 0.2 , total fat was less than 1%, the crude fiber percentage was 28.9 ± 0.6 , and carbohydrate was 37.2%. The energy value of the sample was 180 kcal/100g. In conclusion this is the first report on physico-chemical, phyto-chemical and nutritional profiles of Sri Lankan grown *A. racemosus*. Further, this study can be used as reference standards for the roots of *A. racemosus* of Sri Lankan origin.

Keywords: *Asparagus racemosus*, physico-chemical and phytochemical analysis, nutritional properties.

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dkarunarathne@yahoo.com

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