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## Omic approaches to unravel metabolite diversity in *Ceropegia* species

Sachin Ashruba Gharat

CSIR-National Chemical Laboratory, India

Plant metabolites have myriad functions and historically used by humans for various purposes—for example, food aroma, perfumes, treating diseases, paintings, etc. With developments in omics technologies specifically in mass spectrometry coupled with functional genomics information, we are gaining exciting information on diversity and biosynthetic pathway of metabolites in model and important crop plants (Weng 2012, Weng 2013). Several metabolic pathways are being discovered recently, which are revealing evolutionary significance and underlying complex mechanisms. However, we have limited information on non-model system which possesses several-fold higher metabolite diversity and genome size. Therefore analysis and understanding the diversity, biosynthesis and functions of these plant metabolites will remain major interest of plant biology community in near future. Combination of targeted and non-targeted metabolite analysis will yield lead molecules to improve (i) plant defences, (ii) medicines, (iii) add nutritional value and/or provide way to reduce anti-nutritional compounds from existing food, and many more applications. The genus *Ceropegia* comprises over 200 species worldwide and 65 native to India, out of this 48 are endemic to Indian sub-continent in general and Western Ghats in particular (Punekar et al. 2013). The leaves of several species are considered to be tonic and blood purifier whereas tubers are rich source of nutrition due to important metabolites present in them. For example, medicinally important pyridine alkaloid ceropegin was first reported in 1935 and used in Ayurvedic preparations for treating diarrhea, dysentery and syphills (Adibatti et al. 1991, Nadkarni 1976). Careful literature review of *Ceropegia* metabolites yielded scanty reports where different extraction methods and preliminary characterization of metabolites were performed. Despite being species rich such studies have not been addressed the dwindling *Ceropegia* of Western Ghats. Therefore, we performed transcriptome and systematic metabolite analysis (volatile and non-volatile) of important tissues, leaves and tubers from selected *Ceropegia* species which are endemic to Western Ghats.

sachingharat113@gmail.com