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Nutraceutical potentials of *Dioscorea* species

Adequate food and medicines are major challenges for the developing countries. Both challenges need to be addressed and scientific communities have to screen new sources of food & medicines from biological resources. Odisha is rich in phytodiversity with about 3000 plant species. The state is blessed with many protected areas and tribal communities. They consume different types of wild plant to fulfill their nutritional and medicinal need. The food & medicinal practices are still unexplored which can give number of nutraceutical to the future generation for sustainable development of the state. Among the wild resources used by the rural & tribal communities, *Dioscorea* has major part under tuberous food and medicines (Kumar et al. 2017). *Dioscorea* a genus belongs to family Dioscoreaceae. Botanically it is monocot having tubers. It is popular as “YAM” worldwide and as “BAN AALU” in Odisha. The underground tuberous part and aerial food

storing bulbils serve as rich source of starch. Leaves and other vegetative parts are collected and stored for medicinal purpose too. There are about 13 species of *Dioscorea* reported from the state. The most common species are *D. bulbifera* (Pita aalu), *D. puber* (Kukai sanga), *D. pentaphylla* (Panja sanga), *D. hispida* (Banya aalu), *D. oppositifolia* (Paani aalu) etc. Some species are known to be bitter in taste so local communities make them edible by successive boiling or left overnight in running water (Kumar et al. 2013). *Dioscorea* species have sound ethnobotanical values in Odisha state. The rural & tribal communities of the state use the tubers of *Dioscorea* to cure skin infections, piles, boils, diarrhoea, as contraceptive etc. (Kumar et al. 2014). *Dioscorea* species are used as food & medicines by the local communities. Hence, they will come under the nutraceutical. Tubers of *D. alata* has high palatability and the juice is used as cooling

agent. Tubers of *D. pentaphylla* is bitter in taste but act as a anti-microbial agent. The tubers and bulbils of *Dioscorea* are rich of moisture, ash, starch and fibre along with diverse bioactive compounds such as phenolic compounds, saponin, flavonoids etc. The above dual properties show that they are strong wild nutraceutical of Odisha state (Kumar et al. 2017). Lack of research attention, poor policy framework and less field botany activities are the main obstacle to analyse the phyto-potential of

Odisha. Out of phyto-potential, tuberous plants act as a “SAFETY NET” for the rural and tribal communities of the state. *Dioscorea* species are prime tuberous plants having food & medicinal values. They are rich in primary and secondary metabolites having sound tradition therapeutic claims. They provide a platform to isolate bioactive compounds for drug formulation to fight against diseases and disorders.

Sanjeet Kumar
Managing Editor
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