

***Pandanus fascicularis* Lamk. (Kewda): The Prime Vegetation in the Hinterland Biodiversity of Coastal Odisha, With Unique Ethnic Utility, Genetic Variation and Economics- A Review**

Sachidananda Padhy¹, Santosh K. Dash², Brahma B. Panda³, Malaya K. Misra⁴, Narasingha P. Padhi⁵, Deenabandhu Sahu⁴, Manoj Das⁶, Satish P. Nayak⁴, Bhabagrahi Dash⁷, V.V. Rama Rao⁸, Prafulla C. Mohanty⁹ and Ranjan Padhy²

¹Vedic Science Research Center, 'Anandamaya', Bhabanagar 1, Berhampur 760 004, Ganjam, Odisha, India

E-mail: sachi_padhy@rediffmail.com

²PG Department of Biosciences, College of Pharmaceutical Sciences, Mahuda, Berhampur 760 002, Odisha, India

³Molecular Biology and Tissue Culture Laboratory, Department of Botany, Berhampur University, Berhampur 760 007, Odisha, India

⁴Ecology and Floristic Laboratory, Dept of Botany, Berhampur University, Berhampur 760 007, Odisha, India

⁵PG Department of Botany, SKCG Autonomous College, Parlakhemundi 761 200, Gajapati, Odisha, India

⁶Department of Biotechnology, Gandhi Institute of Engineering and Technology, Gunupur 765 022, Odisha, India

⁷Small Industries Service Institute, Govt of India, Ministry of SSI, Raygada 765 001, Odisha, India

⁸Technology Support Center for Kewda Industry, B-2-12 Industrial Estate, Berhampur 760 008, Odisha, India

⁹Sanskriti Sadana, Bayaali, Mantridi 761 008, Ganjam, Odisha, India

KEYWORDS *Pandanus fascicularis* Lamk. Kewda. Ethnic Utility. Genetic Variation. Perfume Source. Economics. Threat to Vegetation

ABSTRACT The plant, *Pandanus fascicularis* Lamk., has a special ethno-ecological existence in the Ganjam district coastal hinterlands of Odisha, with unique phytogeography, seen nowhere else in the globe. In this scientific age, the flowers are extracted following the traditional technology by local people instead of adapting any modern know-how. The vegetation accounts nearly 90 percent production of commercial perfumes in the country, which is 50 percent of the world's production. The ethnic utility of the plant is a rich source of ethno-medicines and cottage industry; acts as the main source of bread and lively hood of the rural mass, especially of poor people. The plant in general is poorly affected by pest and/or diseases. The Kewda *Rooh* has antibacterial activity and probably the scent of the flower is repulsive for the pests. The residential micro flora over the leaf platform of Kewda protects it from the pathogens at their first step interaction with the host. The densely grown impenetrable vegetation of the plant forms itself a biotope, which forms an arboretum for aerial, arboreal and furrowing or bottom dwelling animals; that constitutes the micro-fauna of unique niche. The uniqueness of the plant is that none of its part left unused by people of this area. Kewda is a rich source of Ayurveda medicaments used against diseases like rheumatic arthritis, diseases related to blood, debility, swooning, vertigo, conjunctivitis, epilepsy, ear ache, head ache and throat problems etc. The Kewda oil is stimulant, purgative, antispasmodic, aphrodisiac and anti-rheumatic. Similarly, the various uses of its *Attar* and water are reflected in the text. Chemical studies of Kewda were undertaken that establishes the chemo profile of the plant consisting of more than 44 chemical constituents, out of which 11 are important and 2 constituents determine the quality of the perfume. The chemical composition changes with the change of eco-physical condition of the plant. Chromosomal studies established its morpho types. The plant enjoys a chromosome number of $2n=60$. A variation of $2n$ number 56 – 64 is related to morphotype of the plant.