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NEW RECORDS OF WOOD ROTTING FUNGI IN PRUNED INDIAN SANDALWOOD (*SANTALUM ALBUM* LINN.) PLANTATIONS

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Abstract: This paper highlights new records of wood rotting fungi in pruned Indian sandalwood plantations.

Keywords: New records, Sandalwood, Fungi

NEW DISTRIBUTIONAL RECORD OF PERISTYLUS CONSTRICTUS (LINDL.) LINDL. FROM TELANGANA, INDIA – WITH CONSERVATION IMPLICATIONS UNDER CAMPA

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Abstract: The genus *Peristylus* Blume (Orchidaceae) comprises about 102 species worldwide, with 36 species reported from India. During field studies of third party Evaluation of works carried out under Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Scheme, conducted in August 2025, *Peristylus constrictus* (Lindl.) Lindl., a rare terrestrial orchid, was documented for the first time in Telangana from Kavadigundla village, Aswaraopet Range, Bhadradi Kothagudem District. Previously, this species was known from Northeast India, the Eastern Himalayas, Odisha, Maharashtra, and adjoining Andhra Pradesh. The discovery extends the distributional range of the species and enriches the floristic diversity profile of Telangana. The orchid was located on a moist, shaded forest floor close to an encroached habitat, highlighting its ecological vulnerability. The finding emphasizes the importance of habitat protection under CAMPA Biodiversity Conservation components and aligns with the objectives of the UN Decade on Ecosystem Restoration (2021–2030). We recommend protection of the ~200 m² orchid patch through fencing and awareness measures as a model for integrating rare species conservation (*in-situ* conservation) into landscape-level restoration programs.

Keywords: *Peristylus constrictus*, Orchidaceae, Ecosystem restoration, Biodiversity conservation

GROUNDWATER QUALITY ASSESSMENT, CHARACTERIZATION AND MAPPING FOR DADRI-I BLOCK OF CHARKHI DADRI DISTRICT FOR IRRIGATION PURPOSE

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Abstract: Survey, characterization, and classification of groundwater quality across Dadri-I block of Dadri districts of Haryana was conducted, involving the collection and analysis of 20 groundwater samples. The samples were tested in the laboratory for electrical conductivity (EC), pH, and concentrations of major cations (Na^+ , K^+ , Ca^{2+} , Mg^{2+}) and anions (CO_3^{2-} , HCO_3^- , Cl^- , SO_4^{2-}). Based on EC, Sodium Adsorption Ratio (SAR), and Residual Sodium Carbonate (RSC), the samples were classified into irrigation water quality classes according to the criteria of the Central Soil Salinity Research Institute (CSSRI), Karnal, which include good quality water, three saline subclasses, and three alkali subclasses. Most samples in the good water class showed a dominance of Na^+ followed by Ca^{2+} and Mg^{2+} , while Cl^- was the dominant anion, followed by HCO_3^- and CO_3^{2-} . Spatial distribution maps for EC, pH, SAR, and RSC were developed using ArcMap GIS (version 9.3.1), and their intersection helped to generate a groundwater quality map for irrigation purposes, allowing calculation of area under each water quality class. The results showed that 45% of the samples belonged to the good quality class, followed by 35% in marginally saline (B1), 15% in high SAR saline and 5% in marginally alkali (C1) categories.

Keywords: Groundwater, SAR, RSC, Cations, Anions, Spatial variability

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BOTANICAL AND ORGANIC APPROACHES FOR IMPROVING SEED QUALITY OF MUNGBEAN UNDER YELLOW MOSAIC DISEASE PRESSURE

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Abstract: Mungbean (*Vigna radiata* (L.) Wilczek) is a nutritionally important pulse crop, but its productivity is severely constrained by Yellow Mosaic Disease (YMD), a whitefly-transmitted viral disease-causing substantial yield and seed quality losses. The present study evaluated eco-friendly management options for YMD through field experiments conducted at Kanpur, during crop seasons (summer and Kharif) for two consecutive years (2024-2025). Fifteen treatments comprising botanical extracts, organic formulations, micronutrients, a chemical insecticide, and an untreated control were tested on two cultivars namely DGGV2 and Soorya, using a randomized block design. Botanical extracts (5% v/v) were applied as uniform foliar sprays. In the cultivar DGGV2, severe YMD incidence resulted in uniform infection across treatments, precluding treatment-wise differentiation. In Soorya, numerical reductions in disease severity and unhealthy seed parameters were observed with *Calotropis procera* leaf and flower extracts; however, these differences were statistically non-significant in summer but were found significant in the Kharif season. Notably, seed weight was significantly influenced by treatments in both seasons and years. Application of *C. procera* leaf extract consistently recorded the highest average seed weight per plant weight (3.51-3.57 g in summer and 3.54-3.56 g in Kharif) indicating improved seed filling and grain development. Overall, the study demonstrates that while *C. procera* extracts may not substantially reduce visible YMD severity under moderate disease pressure, they can significantly enhance seed weight and quality. These findings highlight the potential of *Calotropis*-based botanicals as components of integrated, environmentally sustainable YMD management strategies in mungbean.

Keywords: YMD, Mungbean, Botanicals, Management, Seed weight

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EFFECT OF GENERATIONS OF CULTURE ON YIELD AND BIOLOGICAL EFFICIENCY OF VOLVARIELLA VOLVACEA

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Abstract: Successive sub-culturing of mushroom strains may lead to physiological degeneration and yield instability. The present investigation evaluated the effect of successive culture generations on spawn performance, yield attributes, and biological efficiency of *Volvariella volvacea* (paddy straw mushroom). Five culture generations (G0–G4), derived from a single high-performing isolate, were assessed under controlled cultivation conditions. Parameters studied included mycelial growth rate on PDA, spawn colonization time, primordia initiation, yield components, biological efficiency, and contamination incidence. Early generations (G0–G1) showed faster colonization, lower contamination, and significantly higher yield and biological efficiency. Later generations (G3–G4) exhibited delayed spawn run, increased variability in fruiting behavior, and symptoms of physiological degeneration. The results demonstrate progressive loss of culture vigor with repeated sub-culturing and highlight the importance of limiting serial transfers. Adoption of systematic strain preservation and rejuvenation practices is recommended to maintain consistent productivity in commercial cultivation of *V. volvacea*.

Keywords: *Volvariella volvacea*, Paddy straw mushroom, Culture generation, Spawn quality