

# In-Vitro Antifungal Activity of Leaf extract of Leucas Aspera and there Uses Pharmaceutical Preparation

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**Abstract:** The aim of the present study is to probe the antimicrobial activities of methanol leaf extract of *Leucas sp.* Antifungal susceptibilities of clinically isolated dermatophytes to methanol extracts of *Leucas Aspera* and *Leucas zeylanica* leaves were performed using agar well Diffusion method. The result obtained shows that all the extracts expressed Remarkable antifungal activity with zone of inhibition ranging from 5 to 10mm. Maximum inhibition zone was recorded with *Penicillium sp.* (10 mm) while minimum inhibition zone of was recorded for *Candida tropicalis* (3 mm). From the study it is evident that *Leucas aspera* and *Leucas Zeylanica* possess potential antidermatophytic activity and further study on these plants may lead to explore novel bioactive compounds. In this study, we investigated and compared the total phenolic, alkaloid Content and in-vitro antioxidant activity of *Leucas aspera* collected from four Different regions; Tirupathi (Southern zone), Lam (Krishna river region), Jagityala (Northern Telangana) and Hyderabad (Southern Telangana) of Andhra Pradesh, India. Quantitative regional variation was observed in total Phenolic content, and alkaloid content in methanolic extracts of *Leucas Aspera* from above four regions of Andhra Pradesh. Concentration Dependent antioxidant activity was observed for all these extracts and also Observed regional variation for scavenging of Superoxide, Hydroxyl and DPPH Radicals. Among the four regions, *Leucas aspera* from Jagityala region Contains more phenolic content ( $48.06 \pm 0.4 \mu\text{g}/100 \mu\text{g}$ ), Tirupathi region Contains good alkaloid content ( $58.6 \pm 0.1 \mu\text{g}/\text{mg}$ ) and Hyderabad zone Showed better free radical scavenging activity (IC50 value for superoxide Radical  $156.34 \mu\text{g}$ , Hydroxyl radical  $122.34 \mu\text{g}$  and DPPH radical  $57.12 \mu\text{g}$  Respectively).

**Keywords:** *Leucas zeylanica*

## REFERENCES

- [1]. Acharya JT, Acharya NR. *Susruta samhita of Susruta*. Reprint Ed. Varanasi; Chaukhamba Sanskrita sansthan; 2012. 4p.
- [2]. Warriar PK, Nambiar VPK, Ramankutty C, editors. *Indian Medicinal Plant*. Vol III. 1<sup>st</sup> ed. Chennai; Orient Longman Private Ltd; 1995. 316p.
- [3]. Shastry JLN. *Dravya guna Vijananam*. Vol II. 2<sup>nd</sup> Ed. Varanasi; Chaukhambha Orientalia; 2005. 434p.
- [4]. Pandey G. *Dravya Guna Vijananam*. Vol I. 2<sup>nd</sup> ed. Varanasi; Krishnadas Academy; 2002. 610p.
- [5]. Bhardwaj Akhil, Khatri P, Soni ML, Ali DJ. Potent Herbal hepatoprotective drugs – A review. *Journal of Advanced Scientific Research*. 2011; 2(2); 15-20.
- [6]. Chaudhary GD, Kamboj P, Singh I, Kalia AN. Herbs as liver savers-A review. *Indian Journal of Natural Products and Resources*. 2010; 1(4); 397-408.
- [7]. Prajapati MS, Patel JB, Modi K, Shah MB. *Leucas Aspera*: A review. *Pharmacogn Rev*. 2010; 4(7); 85–87.
- [8]. Shastry JLN. *Dravya guna vijnana*. Vol 2. 2<sup>nd</sup> ed. Varanasi; Chaukhambha Orientalia; 2005. 434p.

- [9]. Kokate CK, Purohit A P, Gokale S B. Pharmacognosy. Vol I. 46<sup>th</sup> ed. Pune; Nirali Prakashan; 2010. 63p.
- [10]. Warriar PK, Nambiar VPK, Ramankutty C (Ed). Indian Medicinal Plants; A Compendium of 500 Species. Vol 3. Hyderabad; Universities Press; 2010. 316-7p.
- [11]. Tripathi B. Sharngadhara samhita of Sharngadhara With Deepika Hindi vyakya. 1<sup>st</sup> Ed. Varanasi; Chaukamda Surabharati Prakashan; 2006. 172p.
- [12]. Quality Control Methods For Medicinal Plant Materials. Geneva: WHO -World Health Organization; 1998. 16-20, 25-8p.
- [13]. Harborne JB. Method of Extraction And Isolation In Phytochemical Methods. 2<sup>nd</sup> Ed. London; Chapman & Hall; 1998. 60-66p
- [14]. Sunil Kumar KN, Ravishankar B, Yashovarma B, Rajakrishnan R, Thomas J. Development of quality Standards of medicinal mistletoe – *Helicnanthe elastica* (Desr.) Danser employing Pharmacopoeial Procedures. Saudi Journal of Biological Sciences. 2016; 23(6); 674-686.
- [15]. Deepa Y, Mohd Salim R, Chhavi U, Sadhana S, Nalini S, Sunil Kumar KN, Sangeeta S. Botanical And chemical finger printing of medicinal roots of *Justicia gendarussa* Burm f. Pharmacognosy Res. 2017; 9(2); 208-214.
- [16]. Saroj KV, Jaishanker R, Annamalai A, Sunil Kumar KN. Investigation into the pharmacognostical and Phytochemical features of seeds of *Ensete Superbum* (Roxb.) Cheeseman: An unexplored Medicinal plant of India. Pharmacognosy Journal. 2013; 5(4); 163-169
- [17]. Kallingil GD, Mattumal R, Remya A, Bobilli E, Brindha S, KN Kumar, Sujet T, Ramachandran S. Identity profile of *Moringa oleifera* Lam. Flower. 2019; 4(4); 90-99.
- [18]. Manhunt BK. Hepatoprotective activity of *Pericarpis santalinus* L.f., an endangered Medicinal plant. Indian Journal of Pharmacology. 2006; 38(1); 25-28
- [19]. Akare SC, Sahare AY, Shende MA, Bondre AV, Wanjari AD. Hepatoprotective Activity Of *Acacia Ferruginea* DC. Leaves Against Carbon Tetrachloride Induced Liver Damage In Rats. International Journal of PharmTech Research. 2009; 1(3); 962-965.
- [20]. Ayoola G.A, Lawore F.M, Adelowotan T, Aibinu I.E, Adenipekun E, Coker H.A.B and Odugbemi T.O, et al., Chemical analysis and antimicrobial activity of the Essential oil of *Syzygium aromaticum* (Clove). Afr. J Microbiol Res 2008; 2: 162-166.