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Evaluation of foliar Endophytic Diversity of local medicinal Plants

Doli J. Jain ,Suchita K. Rajurkar
Department of Botany,Deogiri Collage, Aurangabad (M.S)
biokasliwal@gmail.com

Abstract:

Study of medicinal plants officer a great scope in India Because of its diversity and local availability.Many plant species are used for prevention and cure of disease.These plants was shows divers and complex interactions with endophytes. Endophytes are major group of microbial community associated with medicinal plants.The objective of present study was to highlight the information and utility of endophytes.Fungal endophytes associated with leaf tissue forms symbiotic relation with their host plant. In present work *Ocimum sanctum*, *Tridex procumbens*, and*Cyperusrotundus* were used for isolation of endophytes. The samples was collected fromAurangabad district.Among the isolated endophytes *Aspergillus*, *Alternaria*, *Fusarium* and *Penicillium* wasdominant. It can be conclude thatrelationship between fungal endophytes with host due to the various physiochemical factors of the area. This in vitro survey of endophytic flora was new perspective site in agriculture and forestry. It help to understand host plants and Endophytic correlation.

Introduction :

In traditional medicine system*Ocimum sanctum*, *Tridex procumbens*, *Cyperusrotundus* are used in the treatment of injuries and other disease. The fungal endophytes of this medicinal plants could produce important chemotherapeutic agents. The aim of study was to investigated common endophytes and host specific endophytes. These three plants are well known traditional medicinal plant and extract of leaf are generally use in treatment. The endophytic potential of leave are determine by PDA culture method.It has been observed that these plants are potent source of endophytes. This work serve as foot step in the research of plant endophytic association and its interrelationship with respect to.spatial heterogencity.

Materials and Method:

Collection and identification of plant materials:

medicinal plants was common source of endophytes the plant material were collected from 12 different locations of Aurangabad district from their natural habitats. ie Mahada colony. Bhagya Nagar, Shaktinagar, Ladgaon, Cidco, CBS Road, Tilak Nagar, Vedant Nagar, Gandhli Pond, MIDC area, Bidkin and Adgaon. The leaf sample washed under plenty of running water to avoid contamination and surface sterilization of leaves was carried out carefully with the help of sodium hypochloried for 3 minutes, samples were immersed in 70% alcohol and washed with distilled water

.Culture of endophytes on PDA :36 leaf segment of each plant *Ocimum sanctum*, *Tridex procumbens*, *Cyperusrotundus* wereinoculate aseptically on PDA media and streptomycin is use to suppress bacterial growth

.**Identification of Fungal endophytes :**Fungal endophytes are identify on the basis of colony characterization and sporulation phase with the help of standard manuals.

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Analysis : On the basis of colony occuurance on media samples are analysed high frequency is shown by Tridex plants and % of Frequency was calculated.

Result and Discussion:

The Diversity of fungal endophytes in the leaves of three plants *Ocimum sanctum*, *Tridex procumbens*, and*Cyperusrotundus* occurring in close stand. The endophytes of each host species was common genus of fungi. Host Specificness observed at low frequency on these plants. No clear evidence of host Specificness was observed at family level. Most of endophytes was found in parallelfrequency. The most common inhibiting communities of endophytes on leaves was*Aspergillus, Alternaria, Fusarim* and *Penicillium.(*table -1*)*In Present investigation total 144 segment of plant was inoculated for isolation of endophytes. *Aspergillus, Alternaria, Fusaruim* and *Penicillium* also reported*(*Kanika chowdhary *et.al.2015)* Total 27 endophytes was isolated. These species was identified based on mannual and sporulation phase and total inoculates of leaf tissue are analyzed.The Research finding based on cultural experiments also reported bacterial endophytes (BEs). On the basis of common segments of leaves the frequency percentage are shown the variations ((graph -1).It required further study to find out real number of endophytic species associated with these plants. This survery implies that the endophytic potential associated with these plant species. In addition to represent source of endosymbioticand general information about fungal endophytes. It also helps to understand fungal diversity analysis and its impact on host plants. Endophytes can also be advantageous to their host by producing a kind natural products. These endophytes was assess their antibacterial activity against bacterial pathogen.(N.P.avithra *etal* 2012)

Table - Foliar Endophytes

Plant	Location	Media	No. of Sample Inoculates	No. of Colonies	Frequancy %	Name of Endopytes
Tulsi	Mhada Colony	PDA	9	2	22%	Aspergillus sp
	Bhagya Nagar	PDA	9	1	11%	Aspergillus sp
	Shakti Nagar	PDA	9	1	11%	Aspergillus sp
	Ladgaon	PDA	9	1	11%	Aspergillus sp
Tridex	CIDCO	PDA	9	2	22%	Penicillium sp
	CBS Road	PDA	9	3	30%	Actinomycetes sp
						Actinomycetes sp
						Actinomycetes sp
	Tilak Nagar	PDA	9	2	22%	Aspergillu sp
						Aspergillus sp
	vedant nagar	PDA	9	3	30%	Aspergillus sp
						Alternaria sp

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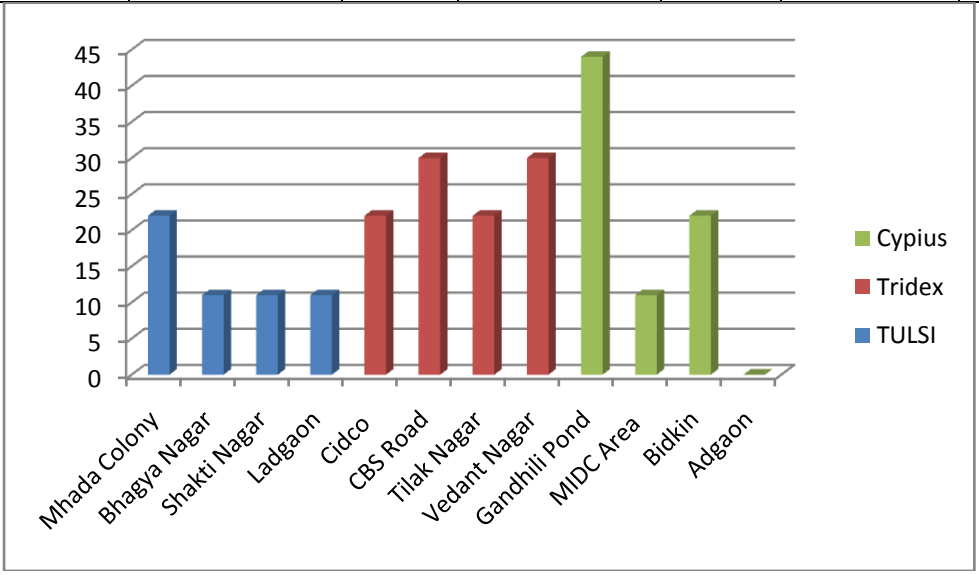
						Rihizopus sp
Cyprus	G.P.	PDA	9	4	44%	Actinomycetes sp
						Actinomycetes sp
						Actinomycetes sp
						Trichoderma sp
	MIDC Area	PDA	9	1	11%	Aspergillus sp
	Bidkin	PDA	9	7	77%	Alternaria sp
						Alternaria sp
						Fusarium sp
						Fusarium sp
						Fusarium sp
						Actinomycetes sp
						Actinomycetes sp
	Adgaon	PDA	9	No Growth		



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Reference :

1.Keith clay, (**1990)**Fungal endophytes of grasses Annual Rev. Ecol Syst 1990.21; 275-97

2.Robin Sharma B.S. Vijaya Kumar (**2011)**Isolation charaterlization and antioxdent Potential of endophytic fungi *Ocimum sanctum* Indian journal of Applied Research Vol.3

3. Jagadesan Pravena, Subhash, J. Bore(**2013)**Identification of Bacterial endophytes associated with Traditional medicinal plant *Tridax procumbens*ASI 89.12R 8Department of Biotechnology AIMST University Bedong Keden Malaysia

4. Inigo Zabalgogeazcoa (**2008)**Review Fungal endophytes and their Interaction with Host Plant Pathogen Spanish Journal of Agriculture Research 2008 ISSN – 1695-971X

5.RE Jalgaonwala, B.V. Mohite, R.T. Mahajan**(2010**)Evaualution of endophytes for their antimicrobial BioActivite from Indigenous medicinal plants belongs to North Maharashtra Region indiaInternatinal jouranal on Pharmaceuticals and Boi Medical Recharch (IJPBR) Vol.- 15

6.Kanika Chowdhary ,Nutan Kaushik (**2015).**Fungal endophytes diversity and Bioactivity in the Indian medicinal plants *Ocimum sanctum* Linn. PLoS ONE DOI10.137Nov 2015

7. N.Pavitra, L.Satish ,K.Anand **(2012)**Antimicrobial and Enzyme Activity of Endophytic fungi isolated from Tulsi JPBMS ,16 (12)2012