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Green Algae of Dokewada Reservoir in Beed District Maharashtra

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Abstract: *The present communication deals with the study of green algae of Dokewada reservoir of Beed. A total 63 taxa belong to 27 genera of Chlorophyceae was identified and recorded. These dominant Genera were Scenedesmus (7), Pediastrum (5), Spirogyra (6), Oedogonium (5) during the winter and summer season Chlorophyceae were most abundant. The Dokewada reservoir Dist. Beed was found to be harboring rich algal diversity especially the Chlorophyceae. This is the first-time study of Dokewada reservoir.*
Key Words: *Communication, Dominant and Harboring.*

Introduction:

Dokewada reservoir is located near the Beed city. It is 7 km far from the Beed. The water of reservoir is used for rutting practices by peripheral villager like washing of cloth, washing domestic animal, drinking and agricultural purpose. Algal sample were collected for the period of one year June-2016 to May-2017. The Chlorophycean members are a large and important group of fresh water algae. Fresh water green algae are characterized as the largest and most varied algal phylum. The fresh water green algae have great diversity in their cellular organization, morphological structure and reproductive process than that of any other algae. Algae are important primary producers in both fresh as well as marine water.

Materials and Methods:

Algal sample were collected from four sites of Dokewada reservoir for the period of Jun-2016 to May-2017 in monthly intervals. Algal sample were collected in acid washed collection bottles. Collected sample were preserved in 4% of formalin for future taxonomic investigation. Samples were observed under the microscope in laboratory and identified with standard literature (Prescott 1951, Philipose M.T. 1967 and Smith G.M. 1950).

Result and Discussion:

In the present investigation a total of 63 taxa under 27 Genera of Chlorophyceae were identified and recorded during the period of investigation (Table 1), among these *1 of Chlamydomonas, 1 of Gonium, 1 of Volvox, 2 of Gloeocystis, 1 of Tetraspora, 3 of Ulothrix, 1 of Schizomeris, , 2 of Stigeoclonium, 1 of Chladophora, 5 of Oedogonium, 1 of Chlorococcum, 1 Hydrodictyon, , 5 of Pediastrum, 1 of Botryococcus, 1 of Chlorella, 1 of Dictyosphaerium, 3 of Oocystis, 2 of Tetraedron, 7 of Scenedesmus, 2 of Crucigenia, , 2 of Mougeotia, 6 ofSpirogyra, 3 of Zygnema, 4 of Closterium, 2 of Euastrum, 3 of Cosmarium,* Talekar S. M. and Jadhav M. J. (2010) worked on Chlorococcales of Manjara river and reported dominance *of Scenedesmus, Pedrastrum, Oocystis, Tetradron.* Mahadik and Jadhav (2014) recorded dominance of Chlorophycean algae from Ujani reservoir of Maharashtra. They observed that *Spirogyra, Scendesmus, Cosmarium, Claclophora, Gloeocystis and Chlorella* were most frequent. Results of these research workers are agreed with abundance of Chlorophyceae of Dokewada reservoir. The dominant Genera were *Scenedesmus* followed by *Spirogyra* and *Pediastrum.* The Genera with single taxa were *Chlamyomonas, Gonium, Volvox, Chladophora, Chlorococcum, Hydrodictyon, Botryococcus, Chlorella, Dictyospaerium*Similar kind of observation were made by phycologists.

Table 1. Green algae of Dokewada reservoir Beed district Maharastra

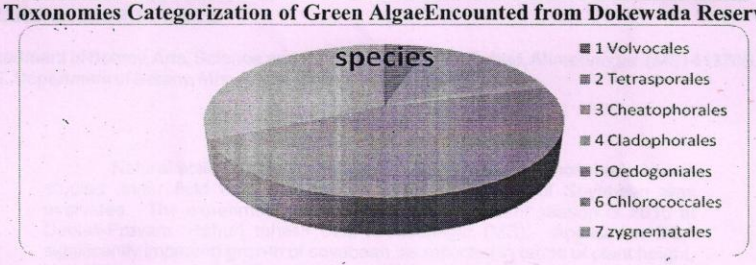
Sr. No.	Name of Algal Taxa
1)	*Chlamydomonas dinobryonii G.M. Smith*
2)	*Gonium pectoral mullers*
3)	*Volvox tertius A. Meyer*
4)	*Gloeocystis gigas (Kuetz.) Lagerheim*
5)	*Gloeocystis major Gerneck et. lemmozmann*
6)	*Tetrasporalacustris*
7)	*Ulothrix subtilissimaRabenhorts*
8)	*Ulothrix tenuissimakuetzing*

9)	*Ulothrix zonata (Weber and Mohr)*
10)	*SchizomerisleibleiniiKuetzing*
11)	*Stigeocloniumlubricum (Dillw.) kuetzing*
12)	*Stigeocloniumnanumkuetzing*
13)	*Chladophora glomerata (L.) kuetzing*
14)	*Oedogoniumformosumkam*
15)	*OedogoniumlongicolleNordest V. rotundosporaskv.*
16)	*Oedogoniummagnusiiwitt rock*
17)	*Oedogoniummicrogonium Prescott*
18)	*Oedogoniumspuriumhirun*
19)	*Chlorococcumhumicola (Naeg.) Raben horst*
20)	*Hydrodictyonreticulatum (L) Lager heim*
21)	*Pediastrum duplex meyen*
22)	*Pediastrum muticumkuetzing*
23)	*Pediastrum ovatum (Ehern berg) A. braun*
24)	*Pediastrum simplex (meyen) Lemmermann*
25)	*Pediastrum tetras (Ehernb.) Ralfs*
26)	*Botryococcusbrauniikuetzing*
27)	*Chlorella vulgaris Beyerinck*
28)	*Dictyosphaeriumnaegli.*
29)	*Oocystisborgei Snow*
30)	*Oocystisirregularis (Petkof) Printz*
31)	*Oocystis solitaria witt rock*
32)	*Ankistrodesmusfalcatus*
33)	*Tetraedron minimum (A. Braun) Hansgirg*
34)	*Tetraedron quadratum (Reinsch) Hansgirg*
35)	*Scenedesmus acuminatus (Lag) chod*
36)	*Scenedesmus armatus V. major G. M. Smith*
37)	*Scenedesmus bijugatus (Trup.) Kuetzing*
38)	*Scenedesmus dimorphus (Trup) kuetz*
39)	*Scenedesmus longus mayen Var. dispar (Breb) G. M. Smith*
40)	*Scenedesmus opoliensis. P. Richter*
41)	*Scenedesmus quadricauda Var. longispina (chodat) Smith*
42)	*CrucigeniafenestrataSchmidle*
43)	*Crucigeniairregulaiswille*
44)	*MoungeotiatumidalaTranseau.*
45)	*Mougeotia viridian*
46)	*Spirogyra aequinoctialis G.S. west*
47)	*Spirogyra biformisjao*
48)	*Spirogyra inconstans Collins*
49)	*Spirogyra nitida*
50)	*Spirogyra subsalasakuetzing*
51)	*Spirogyra orientalis West & West*
52)	*Zygnemaconspicum (Hass) Transeau.*
53)	*ZygnemamelanosporumLagerheim*
54)	*ZygnemamucigenumRanadhawa*
55)	*Closterium aciculate T. west*
56)	*Closteridiumlanceolatumkuetzing*
57)	*Closterium leibleiniiKuetzing*
58)	*Closterium libellulaFocke*
59)	*Euastrum irregular Gonzalves et Gangla*
60)	*EuastrumsinulosumDelp.*
61)	*Cosmariumlibogense west & west V. inevolutum West & West*
62)	*CosmariumsubtumidumNordsted Var. minutumkireger et. Gerloff.*
63)	*Cosmariumundulatum Corda EX Ralfs*

Table 02 Toxonomies Categorization of Green AlgaeEncounted from Dokewada Reservoir

Sr. No.	Order	Species
1	Volvocales	3
2	Tetrasporales	6
3	Cheatophorales	3
4	Cladophorales	1
5	Oedogoniales	5
6	Chlorococcales	25
7	zygnematales	20

Graph 1 Toxonomies Categorization of Green AlgaeEncounted from Dokewada Reservoir



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GROWTH OF SOYABEAN [*GLYCINE MAX* L. (MERR)] UNDER THE INFLUENCE OF BLUE GREEN ALGAL (BGA) BIOFERTILIZER.

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ABSTRACT

Natural ability of blue green algae (BGA) is to fix atmospheric N was studied under field condition and its effect on growth of Soyabean was evaluated. The experiment was conducted during *kharif* season of 2016 at Deolali-Pravara, Rahuri tahasil Dist. Ahmednagar (MS). Application BGA significantly improved growth of soyabean, as reflected in terms of plant height, No. of leaves and No. of branches over control and application of nitrogen fertilizer. BGA can thus be considered as a promising bio-fertilizer for Soyabean for enhancement of growth.

Key words: BGA, Biofertilizer, Soyabean.

Introduction

Blue green algae (BGA) have natural ability to fix atmospheric nitrogen. These algae belong to the class Cyanobacteria, which can be used as nitrogenous biofertilizer. Cyanobacteria promote N economy of the soil by converting atmospheric nitrogen into soluble form of ammonia, with the help of enzyme nitrogenase (Ernst et al., 1992). In addition, Cyanobacteria also helps in mobilizing insoluble phosphate present in the soil, with the help of enzyme phosphatases (Goyal, 1993, Mishra et al. 2005). Cyanobacteria excrete growth promoting substances into the soil (Gupta and Shukla, 1969).

The effect of BGA was studied on rice (Venkataraman, 1961,1981), *Trigonella*, Spinach, chilly, and Tomato (Abhang, 2009) and cotton (Shinde, 1995). Present study extends this work by studying effect of BGA on growth of Soyabean under field condition.

Material and Methods:

The experiment was undertaken in the Soyabean field of Deolali-Pravara, Rahuri Dist. Ahmednagar of Maharashtra state in the year 2016. Each experimental plot measured 61 x 61 cm in size. The field experiment was designed as Randomized Block Design. There were five treatments, each having three replications.

Phule Kalyani (DS-228) variety of Soyabean was used, the seeds of which were collected from the Mahatma Phule Krushi Vidyapeeth (MPKV) Rahuri. The seeds were sown on bed with plant to plant distance of 5 cm, in 30.5 cm apart rows.

Blue green algal species e.g. *Nostoc, Spirulina* and *Scytonema* were isolated from arable land and identified (Desikachary 1959 and Anand 1998). The fertilizer containing dried mass of these alga was apply in two doses, half at the time of sowing and half dose at time of flower initiation @ 10 g / plot. Other plots received nitrogen in the form of urea @ 5 b / plot, and control plots remained untreated.

Results and Discussion:

Significant increase in growth parameters was observed due to the treatment with BGA (Tables 1 – 3). Almost similar results were reported by Abhang (2009) Shinde (1995)

Ashmrita et al. (2017) and Sholkamy E.N. et al., (2012) in various field crops.

It can thus be concluded that Blue green algae (BGA) can be a good bio-fertilizer, as an alternative for chemical fertilizer.

Table 1 : Effect of BGA on the plant height (cm).

Treatment	30 days	45 days	60 days	75 days	At Harvest
Control	16.4	21.9	33.2	35.3	35.4
BGA	16.3	22.1	37.4	40.2	40.3
Urea	15.3	20.8	33.3	35.4	35.4
Mean	16.00	21.60	34.63	37.0	37.03
SD	0.61	0.70	2.40	2.80	2.83

Table 2: Effect of BGA on the Number of leaves per plant.

Treatment	28 days	42 days	56 days	70 days	84 days	At Harvest
Control	4.4	8	10	10.73	8	3.53
BGA	5.03	8.36	10.53	11.63	8.93	3.9
Urea	4.86	9.23	10.93	11.73	9.26	4.1
Mean	4.76	8.53	10.49	11.4	8.73	3.84
SD	0.33	0.63	0.47	0.55	0.65	0.29

Table 3: Effect of BGA on the No. of branches/plant.

Treatment	42 days	56 days	70 days	84 days	At Harvest
Control	2.8	3.9	5.2	4.4	4.1
BGA	2.8	4.2	5.6	4.7	4.4
Urea	2.6	3.6	5.1	4.2	3.9
Mean	2.7	3.9	5.3	4.4	4.1
SD	0.12	0.30	0.26	0.25	0.25

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EFFECT OF MUTAGENS ON PLANT MATURITY IN LINSEED (*LINUM USITATISSIMUM L) PLANTS.*

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ABSTRACT

The present investigation deals with the effect of mutagens on plant maturity in Linseed. The values on plant survival at maturity indicated inhibitory effect at gamma ray treatment in both the varieties of Linseed. The lowest survival values were induced by 30kR gamma ray dose in case of RLC-24 and 20 kR in Sharda varieties of linseed.

Keywords: Mutagens, Plant survival, Linseed

Introduction

Linseed (*Linum usitatissimum L)* encompasses more than hundred annual and perennial species. Cultivated flax pertains to the species, *Linum usitatissimum*, having two types: one is grown for oil (linseed) and the other for fibre (fibre flax). Textile properties of flax fibre are superlative to cotton. It is a self-pollinated herb or fibre plant (Millam *et al.* 2005)

Induced mutation has great potentials and serves as a complimentary approach in genetic improvement of crops. Chemical mutagens are the one which cause mutations in living organism.

Material and method

Healthy and dried seeds of *Linseed* (*Linum usitatissimum L)* variety RLC-4 and Sharda were obtained from Regional Oilseed Research Centre Latur, Maharashtra. The seeds were subjected to the treatment of Gamma rays (10, 20 and 30 kR) for12 hrs, Ethyl methane sulphonate (0.05,0.10 and 0.15 %) and sodium azide (0.02, 0.04 and 0.06 %). After pre-soaking of 12 hrs, treated seeds were thoroughly washed in running tap water for half an hour to remove residual effects of mutagens. One set of seeds was kept untreated or control for comparison.

Plants were raised by sowing treated as well as control seeds, and their survival was recorded at maturity. Survival counts were taken by inspecting 20 randomly selected plants.

Results and Discussion:

The survival of plants at maturity revealed wide fluctuations in their values which ranged from 64.33 to 84.00 % due to the treatment with gamma rays, 66.38 to 78.84 % due to Ethyl methane sulphonate (EMS) and 78.42 to 91.33 % in due to sodium azide (SA) treatments in variety RLC-24, while in case of variety Sharda the values ranged from 68.33 to 75.14%, 80.16 to 85.42% and 69.18 to 86.02% due to the treatments with gamma rays, EMS and SA respectively (Table 1). Highest survival value (91.33 %) was recorded with the treatment of 0.06 % SA in variety RLC-24, while lowest (64.33 %) at 30 kR gamma ray treatment.

Survival of plants at maturity is considered as one of the most reliable indices in evaluating the effect of mutagen in plant breeding studies. During present investigation, inhibitory effect of the treatment with gamma rays was observed in both of the varieties.

Malani *et al.* (1933) also recorded reduced survival of plants under higher dose of gamma rays in M_2 generation. The lethal

values at higher concentrations of mutagens have been attributed to the injuries generated by physiological imbalance caused by chromosomal aberrations (Nilan,1956) and genetic damage (Davis and Evans, 1966).

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Table1: Effect of mutagens on the survival of Linseed (*Linum usitatissimum* L.)Plants at maturity

Treatment	Concentration /Dose	Survival of plant at maturity (%)	
		RLC-4	Sharda
Control	-	86.26	84.32
EMS (%)	0.05	78.84	82.34
	0.10	72.32	80.16
	0.15	66.38	85.42
SA (%)	0.02	71.64	69.18
	0.04	78.42	76.26
	0.06	91.33	86.02
Gamma rays	10 kR	84.00	74.24
	20 kR	72.48	68.33
	30 kR	64.33	75.14

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Studies on Inheritance of Hybrid Variance of Northern Corn Leaf Blight in Maize (Zea mayes L..)

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ABSTRACT: In present study was carried out to detect the inheritance of Hybrid Variance of Northern Corn Leaf Blight in Maize (Zea mayes L..).In this study it was observed that contribution of the lines towards total hybrid variance was found to be higher for northern corn leaf blight severity while maximum contribution of tester was obtained in case of days to 50 percent shedding, days to 50 percent silking, grain moisture and shelling percent. On the other hand the contribution of lines x testers for the total hybrid variance was found considerably high compare to male and female contribution for the trait plant height, ear height and grain yield.

For northern leaf blight severity contribution of the female parent was 40.74 per cent followed by male parent (30.96 %) then by L x T interaction (28.3 %) which showed that all the three components are contributing in the inheritance of the northern corn leaf blight.

KEY WORDS: Variance, Northern, Interaction and Severity.

I. INTRODUCTION

Maize is prone to as many as 112 diseases in different parts of the world, caused by fungi, bacteria, viruses and nematodes leading to extensive damage. In India, about 61 diseases have been reported to affect the crop. These include seedling blights, stalk rots, foliar diseases, downy mildews and ear rots (Payak and Renfro, 1968 and Payak and Sharma, 1985). Among the several diseases, Turcicum leaf blight (TLB) or Northern corn leaf blight (NLB) is one of the major fungal diseases of corn. Northern corn leaf blight causes due to fungus *Exserohilum turcicum* (Pass.) Leonard and Suggs. The early symptoms of the disease are oval, water-soaked spots on leaves and the later diseased stage shows characteristic cigar shaped lesions that are 3 to 15 cm long. These elliptical, long cigar-shaped gray-green or tan color lesions develop into distinct dark areas as they mature and become associated with fungal sporulation. Lesions typically first appear on lower leaves, spreading to upper leaves and the ear sheaths as the crop matures. Under severe infection, lesions may coalesce, blighting the entire leaf. NLB affects the photosynthesis with severe reduction in yield to an extent of 28 - 91 percent (Robert, 1953).

A. Materials and Methods

The material for the experiment comprised of 13 parents (Table 2) and 36 F_1's (Table 1) developed during the kharif 2016 at the Maize research farm, Metahelix life sciences ltd, Phulambri. During *Kharif*2017, six generation trial was planted of which the part of the non-segregating generations that is parents and F_1's (Table 2 &3) was considered for the Line x Tester experiment.

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Table 1: Maize inbred lines used to understand the genetics of northern corn leaf blight through generation mean analysis

Sr No	Inbred Line	Status of disease Reaction	Source	Use In crossing Block as
1	MRI1	Susceptible	Metahelix Life Sci. ltd	Female
2	MRI2	Susceptible	Metahelix Life Sci. ltd	Female
3	MRI3	Susceptible	Metahelix Life Sci. ltd	Female
4	MRI4	Moderate Resistnat	Metahelix Life Sci. ltd	Female
5	MRI5	Moderate Resistant	Metahelix Life Sci. ltd	Female
6	MRI6	Moderate Resistant	Metahelix Life Sci. ltd	Female
7	MRI7	Resistant	Metahelix Life Sci. ltd	Female
8	MRI8	Resistant	Metahelix Life Sci. ltd	Female
9	MRI9	Resistant	Metahelix Life Sci. ltd	Female
10	MRT1	Susceptible	Metahelix Life Sci. ltd	Male
11	MRT2	Susceptible	Metahelix Life Sci. ltd	Male
12	MRT3	Resistant	Metahelix Life Sci. ltd	Male
13	MRT4	Resistant	Metahelix Life Sci. ltd	Male

Table 2: List of F_1's and F_2's evaluated in trial

F_1 crosses (Hybrid)			F_2 population		
1	F_1	MRI1 X MRT1	1	F_2	MRI1 X MRT1)@
2	F_1	MRI2 X MRT1	2	F_2	MRI2 X MRT1)@
3	F_1	MRI3 X MRT1	3	F_2	MRI3 X MRT1)@
4	F_1	MRI4 X MRT1	4	F_2	MRI4 X MRT1)@
5	F_1	MRI5 X MRT1	5	F_2	MRI5 X MRT1)@
6	F_1	MRI6 X MRT1	6	F_2	MRI6 X MRT1)@
7	F_1	MRI7 X MRT1	7	F_2	MRI7 X MRT1)@
8	F_1	MRI8 X MRT1	8	F_2	MRI8 X MRT1)@
9	F_1	MRI9 X MRT1	9	F_2	MRI9 X MRT1)@
10	F_1	MRI1 X MRT2	10	F_2	MRI1 X MRT2)@
11	F_1	MRI2 X MRT2	11	F_2	MRI2 X MRT2)@
12	F_1	MRI3 X MRT2	12	F_2	MRI3 X MRT2)@
13	F_1	MRI4 X MRT2	13	F_2	MRI4 X MRT2)@

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14	F_1	MRI5 X MRT2	14	F_2	MRI5 X MRT2)@
15	F_1	MRI6 X MRT2	15	F_2	MRI6 X MRT2)@
16	F_1	MRI7 X MRT2	16	F_2	MRI7 X MRT2)@
17	F_1	MRI8 X MRT2	17	F_2	MRI8 X MRT2)@
18	F_1	MRI9 X MRT2	18	F_2	MRI9 X MRT2)@
19	F_1	MRI1 X MRT3	19	F_2	MRI1 X MRT3)@
20	F_1	MRI2 X MRT3	20	F_2	MRI2 X MRT3)@
21	F_1	MRI3 X MRT3	21	F_2	MRI3 X MRT3)@
22	F_1	MRI4 X MRT3	22	F_2	MRI4 X MRT3)@
23	F_1	MRI5 X MRT3	23	F_2	MRI5 X MRT3)@
24	F_1	MRI6 X MRT3	24	F_2	MRI6 X MRT3)@
25	F_1	MRI7 X MRT3	25	F_2	MRI7 X MRT3)@
26	F_1	MRI8 X MRT3	26	F_2	MRI8 X MRT3)@
27	F_1	MRI9 X MRT3	27	F_2	MRI9 X MRT3)@
28	F_1	MRI1 X MRT4	28	F_2	MRI1 X MRT4)@
29	F_1	MRI2 X MRT4	29	F_2	MRI2 X MRT4)@
30	F_1	MRI3 X MRT4	30	F_2	MRI3 X MRT4)@
31	F_1	MRI4 X MRT4	31	F_2	MRI4 X MRT4)@
32	F_1	MRI5 X MRT4	32	F_2	MRI5 X MRT4)@
33	F_1	MRI6 X MRT4	33	F_2	MRI6 X MRT4)@
34	F_1	MRI7 X MRT4	34	F_2	MRI7 X MRT4)@
35	F_1	MRI8 X MRT4	35	F_2	MRI8 X MRT4)@
36	F_1	MRI9 X MRT4	36	F_2	MRI9 X MRT4)@

B. Scheme of the experiment

The summery of experimental lay out is given below.

1. Experimental design : RBD
2. Number of replications : 2
3. No of genotypes : 49 (36 F_1 and 13 Parents)
4. Row length : 4 m
5. Number of rows per plot : 2

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6. Spacing between rows : 60 cm

7. Spacing between plants within row : 30 cm

C. Recording of Observations

Days to 50 per cent shedding
Recorded the number of days from planting to the date when 50% of the plants in a plot had tassel shedding.

Days to 50 per cent silking
Recorded the number of days from planting to date when 50% of the plants in a plot have emerged silk.

Plant height
The height of plant was measured from the ground to the tip of tassel in centimeters

Ear height (cm)
It was measured from the ground to the base of highest developed ear in centimeters.

Grain moisture per cent
The grain moisture content in harvested grain was measured by a moisture meter in percent.

Shelling per cent
It was computed using formula. Shelling percentage = Weight of shelled grain/Total weight of de husked ears x 100

Grain yield kg per hectare
It is determine by shelling and taking the grain weight of all ears harvested from each plot Grain yield (at 15% moisture)

Northern leaf blight severity
Disease Damage score was recorded in 1-9 scale. (as described in 3.2.2.3)

Statistical Analysis
The treatment means of selected plants were used for further statistical analysis. The data were subjected to following statistical analysis.

III. RESULTS AND DISCUSSION

In this study it was observed that contribution of the lines towards total hybrid variance was found to be higher for northern corn leaf blight severity while maximum contribution of tester was obtained in case of days to 50 percent shedding, days to 50 percent silking, grain moisture and shelling percent. On the other hand the contribution of lines x testers for the total hybrid variance was found considerably high compare to male and female contribution for the trait plant height, ear height and grain yield.

For northern leaf blight severity contribution of the female parent was 40.74 per cent followed by male parent (30.96 %) then by L x T interaction (28.3 %) which showed that all the three components are contributing in the inheritance of the northern corn leaf blight. Proportion of contribution of lines, testers and their interaction to total hybrid variance for the studied traits were presented in Table 3 and Fig. 1. Meseka *et al.*,(2006) also evaluated the performance of twenty four maize inbred lines using line x tester analysis method for traits such as days to silking, days to anthesis, plant and ear height, grain yield and ears per plant and found that significant GCA due to lines and testes and significant line x tester interaction for most studied traits. Similarly, Makumbi *et al.* (2005) evaluate the yield potential of nineteen synthetic maize varieties under stress and non-stress conditions using this analysis method. They found significant differences between synthetic hybrids and parental synthetics for grain yield and days to anthesis. Shanthi *et al.* (2002) studied the nature of gene action and combining ability for crop yield, oil and protein contents in maize lines developed through line x tester design.

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Table 3: Proportion of contribution of lines, testers and their interaction to total hybrid variance

Sr. No	Trait	Contribution of lines (%)	Contribution of testers (%)	Contribution of L x T (%)
1	Days to 50 percent shedding	26.1	40.76	33.14
2	Days To 50 percent Silking	28.25	37.5	34.25
3	Plant Height (cm)	11.37	10.02	78.61
4	Ear Height (cm)	31.59	1.1	67.3
5	Grain Moisture percent	5.52	58.65	35.82
6	Shelling percent	22.34	52.61	25.05
7	Grain Yield (Kg/ha)	31.94	19.28	48.78
8	NLB severity	40.74	30.96	28.3

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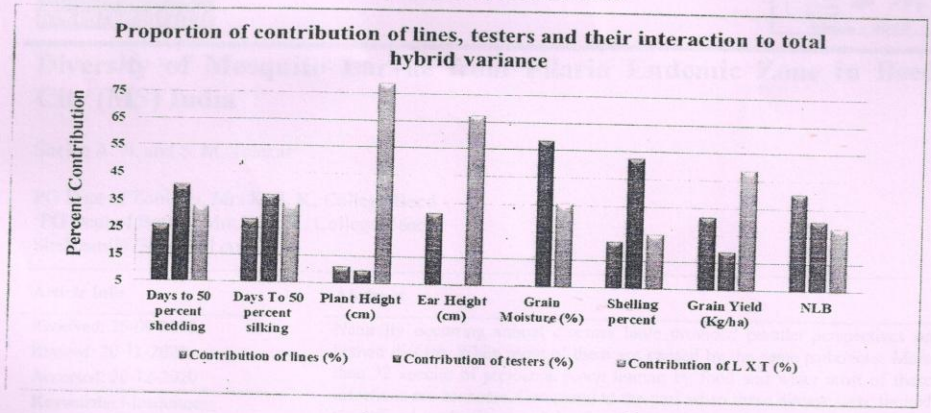

IV. CONCLUSION

It was conclud that contribution of the lines towards total hybrid variance was found to be higher for northern corn leaf blight severity while maximum contribution of tester was obtained in case of days to 50 percent shedding, days to 50 percent silking, grain moisture and shelling percent. On the other hand the contribution of lines x testers for the total hybrid variance was found considerably high compare to male and female contribution for the trait plant height, ear height and grain yield.

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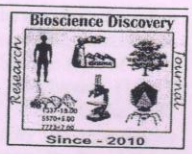

Diversity of Mosquito Larvae from Filaria Endemic Zone in Beed City (MS) India

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Abstract

Naturally occurring animal diseases have provided parallel perspectives on human disease. While some of them are caused by the same pathogens. More than 72 species of protozoan reach human by food and water most of these infections are zoonoses. Compared to the past when these disease were limited to defined endemic zones in the recent times. Geographical limits and populations at risk expending fast and changing demographics. Mosquitoes are nuisance to mankind spreading a variety of disease which, in some cases, many cause of death of the patients by transmitting different type of pathogen. Study area is supposed to be endemic for filarial infections. It has also shown to cause other vector borne diseases like malaria, dengue, chikungunya etc. As there were number of larval breeding grounds accumulated in and around this place. This work will be beneficial in drafting the genera specific mosquito larval control by health departments and first report of the mosquito larval prevalence to the sampling site area in Beed city.

INTRODUCTION

Mosquitoes are a family of culicide, although a few species are harmless, most are considered a nuisance because they, female mosquitoes, consume blood from living vertebrates, including humans. Mosquito borne disease are prevalent in more than 100 countries, infecting 300-500 million people and causing about 1 million deaths every year. In India more than 40 million people suffer from disease caused bymosquito annually. There are number of disease borne by mosquito. They are malaria, filarial dengue brain fever and yellow fever, chikungunya, in India there causes are more in number as the importance of hygiene and sanitation is ignored. The present study was carried out in a filarial endemic in Beed city to reveal the prevalence of mosquito larvae in order to meet the cause of genera specific mosquito control1) by the material Department – population of this2) endemic places follows different practices to3) prevent mosquito bite in order to keep the mosquito borne disease away.

MATERIALS AND METHODS

Study area: A filarial endemic places in Beed city was selected as study area for mosquito larval collection, bank of river Bindusara in Beed city, stagnant water in river small pounds in river Bindusara and production of mosquito breeding around observed. In this place drainage channels and mixed in river Bindusara. This stagnant water produces breeding places of mosquito. This stagnant water produce breeding place of mosquito. Which ultimately result in the outbreak of some serious diseases like chikungunya lymphatic filariasis, malaria, etc.These mosquito sampling sites were selected from the bank of river Bindusara

1) Near Someshwar temple
2) Bazar tal area of Bindusara.
3) Near Amardham.

METHODS OF COLLECTION

Mosquito larvae were collected using standard methods, (WHO, 1975) from the pre-selected for three sampling sites, from Bindusara river. With the help of plankton nets, and pipettes (Dass B. P. 2014) were temporarily stored in polythene bags and plastic Vilas. (10 ml) permanent mosquito larval mount were observed under the Olympus (x 211) binocular microscope with the help of Olympus digital camera E-PL1.following result were recorded. Collected mosquito larvae from different area of Bindusara River, were Culex, Anopheles, Aedes species

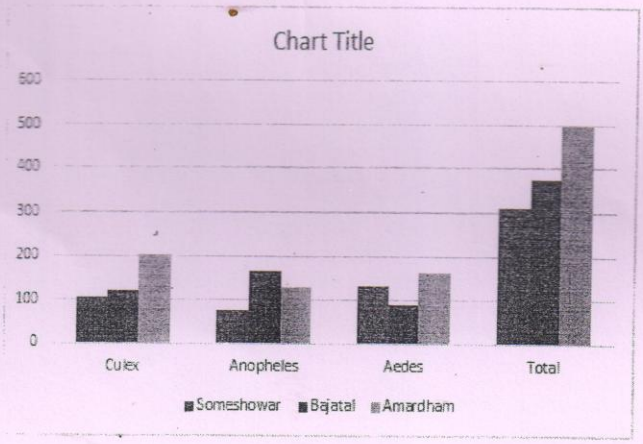
RESULTS AND DISCUSION

The current research work throws focus on the mosquito larval diversity of endemic in Beed city Culex mosquito larvae were found to be pre dominant in this sampling station to Anopheles and Aedes genera. Similar type of study was carried out by N.G.S. Raghavan (1957), Lamme et. all, (2002), Sathe T. V. and Girhe B. E. (2002) ware studied biodiversity of mosquitoes from Kolhapur district Maharashtra. Dudhmal D. et. all, (2015) ware studied in mosquito prevalence in different region was studied. The maximum number of Culex and Aedes were found at Someshower tempale and Amardham sites where as maximum number of Anopheles abundance at Bajartal site. It can be concluded that in a filaria endemic zone of Beed city. Three sampling sites there is an abundance of culex mosquito which is most probably be the reason, of most filarial case observed.

Table 1. Prevaltance of mosquito larvae in Bindusara River in Beed city.

Sampling Sites	Total numberof sample collected.	Culex	Anopheles	Aedes
Near Someshwar temple	312	104	75	133
Near BazartalBindusara.	375	123	165	87
Near Amardham	498	204	130	164
Total	**1185**	**431**	**370**	**384**

Graph1. Mosquito larval prevalence in Bindusara River in Beed city.



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