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Seasonal Variations in Generic Composition of Mosquitoes from Jalna district in the year 2009-2010

Dr. Jaid E. L.
Assistant Teacher
MSS's Parth Sainiki School & Jr. College,
Kharpudi Road, Jalna.

Abstract: During the period of two years in Jalna district generic composition of mosquitoes was studied. It was observed that four gernera were found in the district are 1) Anopheles 2) Aedes 3) Culex and 4) Mansonia. In the district, taluka wise percentage of generic composition was studied. The study of generic composition 2009-10 shows that Anopheles is the dominant genus with respect to the number of mosquitoes collected in jalna district 2009-10. It constitutes maximum 58.87% from Tq. Partur followed by Tq. Jalna 56.06% and Badnapur 56.5%. Aedes constitutes 22.25% from Tq. Partur followed by 25.30% and 17.61% from Tq. Jalna. Culex constitutes maximum from Tq. Jalna 24.26% followed by Tq. Partur 15.72% and Tq. Badnapur 14.7%. Manonia constitutes maximum from Tq. Badnapur 3.43% followed by Tq. Partur 2.86% and Tq. Jalna 2.05%.

Keyword *- Mosquitoes, Jalna, Diversity, density, seasonal incidence, Rainy, Winter & Summer season, Generic, Anopheles, Aedes, Culex, Mansonia, prevalence etc.*

Introduction:

The area under study had a rich and diversified fauna of mosquitoes. In present study seasonal in Generic composition of mosquitoes was studied from district Jalna in the year 2009-10. The study of generic composition 2009-10 shows that Anopheles is the dominant genus with respect to the number of mosquitoes collected in jalna district 2009-10. Followed by Genus, Aedes than Culex and Mansonia.

Materials and Methods:

In the field work mosquitoes were collected from Jalna district from three taluka i.e. Partur, Badnapur, Jalna sites by using different aspirators, nets, resting boxes and repellents during the morning and evening hours.

The adult mosquitoes were collected from every possible habitat like Human colonies, houses, buildings and cattle shading different sites such as gardens, grass lawns, bushes, empty containers, dumped weat land, empty coconut shells, used rubber tyres etc. After collection samples were immobilized with 70% alcohols. Then the mosquitoes are taken for identification using morphological identification keys of Christopers (1933) and Nagpal and Sharma (1995) keys using microscope up to genera and species level by and their photographs were taken using dissecting micro digital camera.

Result and Discussion:

Seasonal variations in generic composition of mosquitoes from district Jalna 2009-10

In the year 2009-10 total 2981 mosquitoes were collected and in 2010-11 total 2484 mosquitoes were collected. The taluka wise and district wise seasonal variation in generic composition was studied. (Table 12)

Seasonal Variations from Tq. Partur (Table 1)

***Anopheles*-** In this year total 554 *Anopheles* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 250 (45.12%) out of 554 followed by summer 159 (28.70%) and lowest in winter 145 (26.17%).

***Aedes*–** In this year total 212 *Aedes* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in summer i.e. 87 (41.03%) out of 212 followed by rainy season 65 (30.66%) and lowest in winter 60 (28.30%).

***Culex*-** In this year total 148 *Culex* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in summer i.e. 58 (39.18%) out of 148 followed by winter 50 (33.78%) and lowest in rainy season 40 (27.02%).

***Mansonia*-** In this year total 27 *Mansonia* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 14 (51.85%) out of 27 followed by summer 08 (29.62%) and lowest in winter 05 (18.51%). (Table 1)

Seasonal Variations from Tq. Jalna (Table 1)

***Anopheles*-** In this year total 573 *Anopheles* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 255 (44.50%) out of 573 followed by winter 198 (34.55%) and lowest in summer 120 (20.94%).

Aedes – In this year total 180 *Aedes* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 85 (47.22%) out of 180 followed by winter 50 (27.77%) and lowest in summer 45 (25.00%).

Culex - In this year total 248 *Culex* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 115 (46.37%) out of 248 followed by winter 90 (36.29%) and lowest in summer 43 (17.33%).

Mansonia - In this year total 21 *Mansonia* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in summer i.e. 8 (38.09%) out of 21 followed by winter 07 (33.33%) and lowest in rainy season 06 (28.57%). (Table 1)

Seasonal Variation from Tq. Badnapur (Table 1)

Anopheles- In this year total 575 *Anopheles* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 290 (50.43%) out of 575 followed by summer 165 (28.69%) and lowest in winter 120 (20.86%).

Aedes– In this year total 258 *Aedes* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 98 (37.98%) out of 258 followed by summer 85 (32.94%) and lowest in winter 75 (29.06%).

Culex - In this year total 150 *Culex* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 65 (43.33%) out of 150 followed by winter 55 (36.66%) and lowest in summer 30 (20.00%).

Mansonia- In this year total 35 *Mansonia* mosquitoes were collected. Seasonal incidence shows that maximum prevalence was in rainy season i.e. 15 (42.85%) out of 35 followed by summer 10 (28.57%) and in winter 10 (28.57%).

The study of generic composition 2009-10 shows that *Anopheles* is the dominant genus with respect to the number of mosquitoes collected in Jalna district 2009-10. It constitutes maximum 58.87% from Tq. Partur followed by Tq. Jalna 56.06% and Badnapur 56.5. *Aedes* constitutes 22.25% from Tq. Partur followed by Badnapur 25.30% and 17.61% from Tq. Jalna. *Culex* constitutes maximum from Tq. Jana 24.26% followed by Tq. Partur 15.72% and Tq. Badnapur 14.7%. *Mansonia* constitutes maximum from Tq. Badnapur 3.43% followed by Tq. Partur 2.86% and Tq. Jalna 2.05%. (Table 1)

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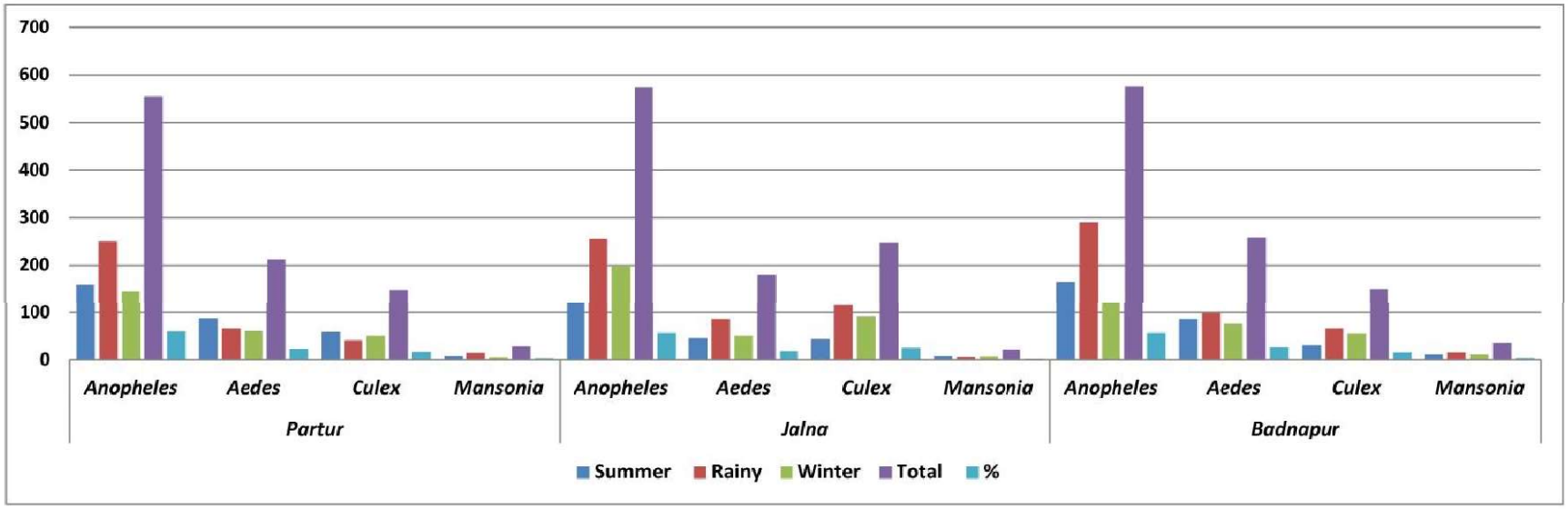
Table No 1 - Generic composition of mosquitoes from Jalna District 2009-10

		Partur					Jalna					Badnapur					
Sr. No	Genera	Summer	Rainy	Winter	Total	%	Summer	Rainy	Winter	Total	%	Summer	Rainy	Winter	Total	%	Yearly Grand Total
1	Anopheles	159	250	145	554	58.87	120	255	198	573	56.06	165	290	120	575	56.5	
2	Aedes	87	65	60	212	22.25	45	85	50	180	17.61	85	98	75	258	25.3	
3	Culex	58	40	50	148	15.72	43	115	90	248	24.26	30	65	55	150	14.7	
4	Mansonia	8	14	5	27	2.86	8	6	7	21	2.05	10	15	10	35	3.43	
	Grand total				941					1022					1018		2981
	Percentage				31.56					34.28					34.14		

Graph No 1- Generic composition of mosquitoes from Jalna District 2009-10



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