ISSN : 2249-5746
International Journal Of Ayurvedic And Herbal Medicine 2:1 (2012) 146:148
Journal Homepage http://interscience.org.uk/index.php/ijahm

Biodiversity of Malaria Vector in Vidisha District of M.P.

Rajesh Khatic, Mahendra Alone, Bhan Singh Barela, M.D.Bharti, R.C. Saxena ,D.K.Sharma

1 Pest control and Ayurvedic Drugs Research Lab. S.S. Jain P.G. Collage Vidisha (M.P.) 464001
2 Govt. P.G. College, Guna (M.P.)

Correspondence Author:- Pest control and Ayurvedic Drugs Research Lab. S.S. Jain P.G. Collage Vidisha (M.P.) 464001
Email- rcsvds@yahoo.com

Survey of Sironj Tehsil of Vidisha district reports the distributionspecies of Anopheles among which Anopheles culicifacies was predominant among rural area and an stephensiwas found to bedominating in urban area.

Key words -*Anopheles culicifascies An. stephensi* Man-Hour cattle dwelling, Mixed dwelling.

Introduction

Malaria is a major public health problem. But has been considereda predominantly rural disease in Africa and Asian Countriesprimarily because suitable anopheles mosquito breeding sites are few in highly populated urban areas. Malaria trans mission depends on anumber of hydro logically driven factors that effect the vector survival including the presence of suitable habitats for the development of anopheles larvae. In urban centers, water pollution, is believed to be major factors that generally reduces the development of Anopheles larvae and there is evidence that anopheles mosquito breeding sites decrease from rural to urban areas.Mosquito exploit almost all types of lentic aquatic habitats for breeding.The immature stages of mosquitoes thrive in these aquatic bodies along-with conspecifics and hetero specifics bodies forming the larval mosquito community. The resources in terms of food, predators and competitors present in the habitat determine the population status of larval mosquitoes, both qualitatively and quantitatively. Composition of organisms in these areas depends on size and type of aquatic bodies. Besides association of natural enemies in these habitats, influence the selection of oviposition, site by the mosquitoes. There-by limiting the mosquitoes to breed.Moreover, the intrigued, species composition and interaction in the larval mosquito communities influence the adult population etc. in particular time and space. evaluation of larval mosquito habitats in terms of species composition and resources help to understand, the bio-ecology and related, control measures of pests and vector mosquitoes more appropriately. recently *awolola* et al, (2007)have discovered that malaria is stil a major health problem of africa and india. similarly *abe et al*, (2007) have reported the fauna of mosquitoes of north western iran. the present paper reports the varieties of species of malaria vector of vidisa district of m.p. causing rural and urban malariya

Table -1Man hour densities in different collection sites of Sironj and Lateri Tehsil of Vidisha district of M.P. in 2006

Month	Cattle Sheds	Mixed Dwelling	Human dwelling
January 06	0.0	0.0	-
February 06	0.0	Min	-
March 06	0.06	0.08	0.5
April 06	2.25	-	-
May 06	20.95	6.68	1.6
June 06	6.33	9.0	5.5
July 06	24.14	4.0	6.72
August 06	45.75	10.5	Max
September 06	10.0	1.6	0.79

October 06	Max	-	4.57
November 06	18.45	5.77	2.6
December 06	3.0	1.5	0.5

Table – 2 Man hour densities in different collection sites of Sironj and Lateri Tehsil of Vidisha district of M.P. in 2007

Month	Cattle Sheds	Mixed Dwelling	Human dwelling
January 06	-	-	-
February 06	-	0.55	-
March 06	0.8	0.08	0.5
April 06	4.28	0.08	-
May 06	20.8	-	1.8
June 06	30.2	10.2	1.9
July 06	40.1	12.2	2.1
August 06	60.1	21.6	4.8
September 06	72.5	13.29	4.5
October 06	70.8	5.77	2.06
November 06	30.2	10.1	1.9
December 06	6.33	9.0	0.5

Table – 3 Distribution of nocturnal man biting mosquitoes in a Village of Sironj tehsil of Vidisha district of M.P.

Total hours spent to catch the mosquitoes on main baits	Species	Number Caught	Percentage
1025	*1. Anopheles. annularis*	820	12.79
	2. Anopheles. subpitus	Min	Min.
	3. Anopheles. culicifucies	935	14.59
	4. Anopheles. stephensi	725	11.31

Table – 4 Distribution of Different species of nocturnal Man biting mosquitoes of Sironj town of Vidisha district of M.P.

Total hours spent to catch the mosquitoes on main baits	Species	Number Caught	Percentage
640	*1. Anopheles. annularis*	Min	Min.
	2. Anopheles. subpitus	08	5.09
	3. Anopheles. culicifacies	40	25.47
	4. Anopheles. stephensi	39	24.84

Results and discussion-

The Survey work was carried out in Sironj tehsil of Vidisha District of M.P. in India. The study reports man our density of anopheles mosquitoes in three different habitats, the maximum density was noticed in cattle shades during the month, of august 2006 {45.75} this was followed by 18.45 density in the month of November 2006. Similarly in mixed dwelling august month vitenessed, the maxi-mum Man hour density {10.5} however, in human dwelling maximum density was noticed in the month of July 2006. The experimental data when compared to the year 2007 showed, two maximum peaks in the month of Sep-October 2007 from Cattle dwelling and in mixed dwelling. The maximum peaks of Man hour density were found in the month of Aug-Sep [table-2] In human dwelling, it was in the month of Aug-Sep.2007. This clearly indicates that anopheles species, prefers to feed upon the cattle like buffalo and cow, rather than human beings.

Results shown in the table 3 and 4 is meant for the distribution as nocturnal man biting species of mosquitoes. It was noticed that in an as anopheles culicifascies was most dominating man biting species. This was followed by Ano-pheles annularies [12.79%]. Total four species of anopheles were caught from the area. The number of each species caught by the suction tube showed maximum Anopheles stephensi {39}, Anopheles culicifascies {40} ***Anopheles subpitus*** {08} and An. annularis minimum.

Yadav et al (1989) have also shown, similar larval ecology and distri-bution of this species, for example positive site of different habitats showed that An. culicifascies was present in 60.7% sample of immutures from river 53.1% from irrigation canal 34.8% from rivers beds pools.

Balaraman (2005) have reported the diversity of mosquito cidal strian. Ramanic et al.(2006) have reported Anopheles mosquito in the rural and urban arean in West Bengal in India. Similarly Okogun, (2005) have reported the ecology of he mosquito of Midwestern of Nigeria.

Referance.

1. ***Awolola*** T. S. ***Oduola*** A. O., ***obansa*** J.B., ***Chukwurar*** N. J. and ***unyimadu*** J.P. (2007) Anopheles gambiae S.S. breeding in polluted water bodies in urban lags. South Western Nigeria. J. Vector Borne Disease; 44:242-244.

2. M. R. ***Hamidian*** S. ***Azori ladonni*** H., ***Hakimi*** M., ***Esmail*** K, ***Mashaddi,*** Sheikh ***Zaden*** K., ***Kousha*** *3.* A., ***Vatandoost*** H. (2007) Fauna and checklist of mosquitoes (Diptera : Culicidae) of east Azerbaijan province. North western Iran. ***Iranian*** J. ***Arthropods*** Borne Dis., 1(2):27-33.

4. Yadav S.P.,Sharma R.C.Joshi V.(2005). Study of social determinants of malaria in desert part s of Rajasthan. India J. Vect J. Borne dis.; 42:141-146.

5. Balaraman K. Hoti SL. Manonmani LM. AN. (1981) Indigenous virulent strain of Bacillus thuringiensis, highly pathogenic and specific to mosquitoes, curr sci; 50 : 199-200.

6. Godwin RA. Okogum. Bethram EB Nwoke, Anthocny N ok-erl, Jude C Anosike, Anegbe C Esekhegbe (2007) Epidemiological implications of preferences of breeding sites of mosquito species in Midwestern Nigeria. Ann Agri Environ med ; 10:217-22.

7. Parmanik, M.K. Gautam, A and Sri manta K. Raut (2006) A survey of Anopheles mosquitoes and malaria parasite in commutes in a rural and urban area in West Bengal, India. [J. vect. Borne Dis ; 43:198-202]