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Diversity of Mosquitoes Species in Selected Localities of Amravati (Maharastra)

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ABSTRACT

Mosquitoes are small, midge like that constitute the family Culicidae. Females of most species are ectoparasite, whose tube like mouthparts (called as Proboscis)pierce the host skin to Suck blood.Anopheles mosquitoes are the only species known to carry malaria Culex mosqutioes carry encephalitis, filariasis ,and the west nile virus and Aedes mosqutios of which the voracious Asian tiger is a member carry, yellow fever, dengue and encephalitis.

Present study deals with perfect baseline data about mosquito in Amravati city ultimate idea of the study is to suggest that management of mosquito in study aera diversity of the family culicidae found in four genera i.e. anopheles ,Culex ,Armigers and Aedes . From the selected study area of Amravati city total collected number of mosquito, the diversity of the mosquito, diversity of the family is found in order, Culex,> Anopheles> Aedes> Armigeres in the month of October 2012 to march 2013 the female mosquito are observed in more number than that their male mosquito. Twelve (12) mosquito species recorded it comes under in four genera Anopheles annularies, Anopheles subpictus ,Aedes aegypti and Culex univittutus are common found at all the sites of study area of Amravati.

Keywords: Mosquito Diversity,Amravati

I. INTRODUCTION

Mosquitoes are dipteran insects and blood sucking vectors of humans.Mosquitoes are surviving on earth since millions of years. They had have always given tough time to men as important carries of various diseases.People fight globally against mosquitoes and mosquito borne diseases. Malaria, dengue, filarial, Japanese encephalitis, West nile virus and chikungunia are the major diseases spread globally by different mosquito. These diseases challenge the developed and developing countries of the world for eradication. Mosquitoes are very well recognized as vectors of protozoan, viruses and other pathogenic organisms, after the discoveries made by sir Patrick Manson,sir Ronald Ross and sir Walter Reed.It is well known also that under the influence of environmental conditions a vector species may show changes in the seasonal distribution in the same area of dominance.The increase in density of vector species is very much dependent on climatological factors favourable for its breeding,and adult survival.

II. MATERIAL AND METHOD

The study area is Amravati city there are four sites are selected for study these sites are covering the Amravati City. First site is Center of the city i.e. Open drainage of Amba Gate. It is stagnant water bodies in the dwelling water present more diversity of mosquito. Another second site is located between Badnera, Amravati road i.e Sai Nagar. The surveys carried out of all area of mosquito breeding habitat.Third site and fourth site i.e Wadali Garden area and Gadge Nagar. Mosquito Collection the first method used on the classical dipping method with a white tray used i.e (20* 15*3 cm).Mosquito collected with dippears, nets sample

collection performs two time night catches is performed simultaneously 7 p.m. to 7a.m. in morning .Collected Mosquito are immediately brought to laboratory and fixed in 70% ethanol, Mosquito Identification was done with help of stereo zoom microscope (Model-DV4 Carl Zeiss).It is provide greater viewing comfort where a three dimensional magnification is essential for analysing the details .

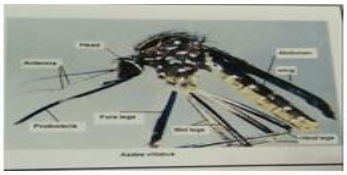
Larval and Adult Mosquito Identification:

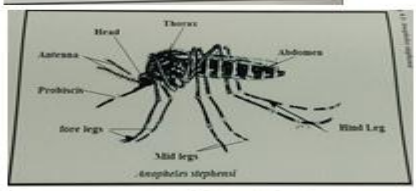
The collected larvae were morphologically identified up to genus as per following references, Aedes (Roy and Brown, 1971; Patel, 2002; Sumit ,2008). Anopheles (Puri, 1957; Roy and Brown,1971;Das et al, 1990 ; Patel,2002; Sumit,2008).Culex (Roy and Brown, 1971 ; Patel, 2002;Sumit,2008).Armigers (Roy and Brown, 1971;Patel.2002;Sumit,2008).

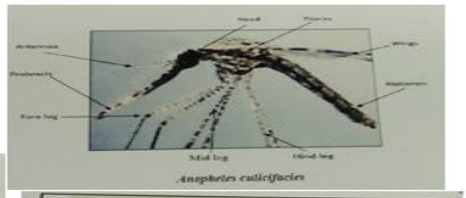
Adult Identification : Adult mosquito and emerged adults from larvae were collected, identified as genus and species using following literature,Aedes(RoyandBrown1971;Patel,2002;Sumit,2008).Anopheles(Puri,1957;Roy and Brown,1971;RAO,1981;Das et al, 1990;Patel 2002;Sumit,2008). Culex (Roy and Brown, 1971;Patel, 2002; Sumit, 2008.Armigers (Roy and Brown,1971;patel,2002; Sumit ,2008), Armigers (Roy and Brown,1971;Reuben et al.,1994 Patel, 2002).

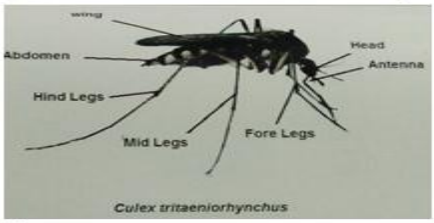
Morphological Characters for identification of the mosquito species found in the study area :

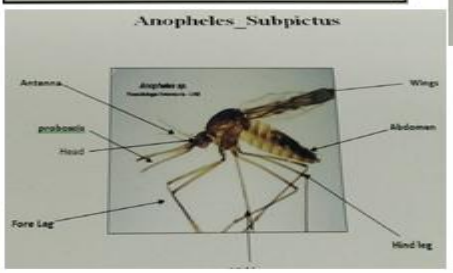
1. Aedes aegypti
2. Aedes vittatus
3. Anopheles stephensi
4. Anopheles annularis
5. Anopheles culicifacies
6. Anopheles subpictus
7. Anopheles vagus
8. Armigeres obturbans
9. Culex quinquefasciatus
10. Culex tritaeniorhynchus
11. Culex univittatus
12. Culex vishnui.

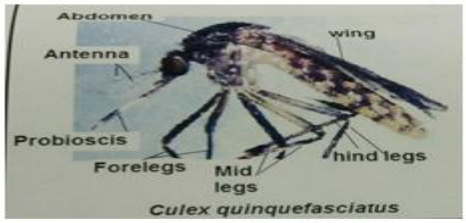












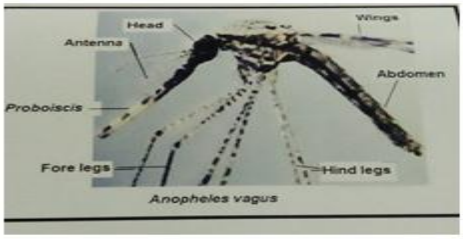


Table 5.3: Adult Mosquitoes (MHD) Man hour density in different localities of Amravati city in the month of December, 2012. (n=6)

Sr. No.	Name of Species	Sampling Site			
		Site 1	Site2	Site3	Site 4
1.	*An Annualaries*	2.00	3.48	3.22	2.68
2.	*Anopheles Culicifacies*	0.00	4.00	0.00	2.46
3.	*Anopheles Stephensix*	2.88	3.94	2.42	0.00
4.	*Anopheles Subpicutus*	0.00	0.00	0.00	1.00
5.	*Anopheles vagaus*	1.08	2.34	2.86	0.00
6.	*Culex Simpsoni*	1.84	2.64	0.00	0.00
7.	*Culex quinquefasciatus*	1.46	2.08	0.00	3.00
8.	*Culex tritaeniorhynchus*	0.00	2.60	2.38	2.02
9.	*Culex univittutus*	2.38	0.00	0.00	2.54
10.	*Culex vishnui*	0.00	3.00	3.12	2.06
11.	*Armigeres obturbans*	2.08	2.68	1.62	0.00
12.	*Aedes aegypti*	0.00	4.68	3.42	2.66

Table 5.2: Adult Mosquitoes (MHD) Man hour density in different localities of Amravati city in the month of November, 2012. (n=6)

Sr. No.	Name of Species	Sampling Site			
		Site 1	Site2	Site3	Site 4
1.	*An Annualaries*	2.88	3.32	3.08	2.34
2.	*Anopheles Culicifacies*	2.10	2.34	3.04	0.00
3.	*Anopheles Stephensix*	0.00	0.00	1.22	1.06
4.	*Anopheles Subpicutus*	0.00	2.00	0.00	0.65
5.	*Anopheles vagaus*	1.00	3.45	1.00	0.00
6.	*Culex Simpsoni*	0.68	0.80	0.00	0.00
7.	*Culex quinquefasciatus*	1.40	1.76	0.00	1.00
8.	*Culex tritaeniorhynchus*	2.00	1.84	1.00	0.00
9.	*Culex univittutus*	1.00	3.40	2.08	0.00
10.	*Culex vishnui*	2.64	0.00	3.48	0.00
11.	*Armigeres obturbans*	0.00	0.00	1.00	0.60
12.	*Aedes aegypti*	3.86	0.00	3.28	4.34

Table 5.13: Mean ecological indices of Mosquitoes species structure at selected study site in Amravati city, Maharashtra.

Ecological Indices of Species Structure	Site 1	Site 2	Site3	Site 4
Species Diversity Index (Shannon)	1.43	2.46	2.23	1.58
Similarity Index between				
Site 1 & site 2	**Site 1 & site 3**	**Site 1 & site 4**	**Site 2 & site 3**	**Site 2 & site 4**	**Site 3 & site 4**
0.67	0.58	0.52	0.71	0.62	0.54

III. RESULT AND DISCUSSION

In present study, the diversity of the family Culicidae is found in four genera anopheles>Culex>ArmigeresAedes is selected area of Amravati city. In total collected number of mosquito, the diversity of family is found in order Culex> Anopheles >Aedes>Armigeres .12 mosquito species were recorded in selected four study sites. Of these 13 species Anopheles annularies , An .Subpictus, Adedesaegypti , Cx. Univittutus are common and found in at all the localities Kaur and Kirti (2003)

IV. CONCLUSION

Mosquutio plays a crucial role in environment .it is an integral part of biodiversity.Therefore the clarity is in taxonomy the female mosquito acts as a vector of Virus , Dengue ,Dengue haemorrhagic fever in the world. Sensillum is smallest functional sensory structure of mosquito which play important role by various ways in the life of mosquito such as behaviour host selection,sexual behaviour act as a Machano receptor ect,thussensillaplay key role in the life of insect therefore it is necessary to know about sensilla .In present study,Key characters are used for the morphplogical identification and they have their important but types are arrangements and location of sensilla on atenna and maxillary play can also through a light on hidden taxonomy character

V. REFERENCES

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