



A study on diversity of mosquitoes species from Akola and Telhara region (MS.)

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ABSTRACT

A study on diversity of Mosquito (Culicidae: Diptera) have been carried out in Akola and Telhara region of Maharashtra. In akola, there is no proper drainage system, mosquito breeding occur in drains mainly because of stagnation of water brought about by deposition of garbage. This is due mainly to inadequate supply of garbage disposal facilities coupled with insufficient use and improper maintenance of these facilities. Hence, mosquito study have been carried in this region which may play important role in diagnostic processes in epidemiology. The study was carried out during the period July to march 2011-2012 in which 7 species of mosquitoes belong to genera Anopheles, Aedes and Culex are reported. In the present study emphasis is given on the morphological description of the species.

Key Words: Diversity, Mosquitoes. Morphology, Akola, Telhara region.

The mosquitoes are a family of small, midge-like flies: the Culicidae. Although a few species are harmless or even useful to humanity, most are a nuisance because they suck blood from vertebrates, many of them attacking humans¹ In feeding on blood, various species of mosquitoes transmit some of the most harmful human and livestock diseases. Some authorities argue accordingly that mosquitoes are the most dangerous animals on earth.² The word mosquito is from the Spanish and Portuguese for "little fly".

Like all flies, mosquitoes go through four stages in their life cycle: egg, larva, pupa, and adult or imago. Adult mosquitoes are familiar insects, but we seldom observe them closely. They are true flies, with a single pair of narrow wings that have a fringe of scales on the margins and veins. They have three pairs of long, slender legs. Most mosquitoes are small, ranging from 3/16 inch upwards to 4 inch in length. Mouthparts are an elongate beak. Various species of mosquitoes are estimated to transmit various types of disease to more than 700 million people annually in Africa, South America, Central America, Mexico, Russia and much of Asia, with millions of resultant deaths. At least two million people annually die of these diseases, and the morbidity rates are many times higher still. Yellow fever and malaria are two of the devastating diseases that mosquitoes transmit worldwide. Similar type of mosquito biodiversity (Culicidae, Diptera) have been studied in 2001-2002 in Kolhapur district of Maharashtra where nine species of mosquitos belonging to genera Anopheles, Aedes and Culex have been reported.

The same type study was done in the Chilika lake area, Orissa, India during 2006-2007 in which they found 22 species of mosquitoes belonging to six genera (Anopheles, Aedomyia, Aedes, Armigers, culex and Mansonia)

The present study includes the morphological study of mosquito species found in Akola and Telhara region.

Methodology

The present study includes mosquito collection from different places of Telhara and Akola region from homes, gardens, outside of houses etc. during the period July to march 2011-2012. The mosquitoes are collected by Insect collecting net, Suction tube and by Hand picking. After collection they are kept in plastic bottles, brought to lab and identified individually. Every mosquito kept on slide or in petridish with forcep

and with the help of magnifying glass and microscope and is morphologically studied.

Observations and Result

During collection the genus of mosquito likes Anopheles, Culex, Aedes are found-

1.Genus:-Anopheles

From the genus anopheles four species are reported, these are Anopheles culicifacies, Anopheles stephens, Anopheles annularies and Anopheles fluviatilis.

The genus is characterized by the palpi as long as proboscis and wing spotted with white and black. In male the scutellum is halfmoon shaped with uniformly distributed hair over it, Abdomen lacks scales, Anal cerci are very small.

1.1)Anopheles culicifacies

Body colour is gray. Palpi with yellow spot over it. Hind leg and forelegs are similar in length. Vein no.3 of a wing is of black colour. While resting it make a distinct angle with a surface. Resting is endoexophilic type. Palpi and proboscis are of similar length. Wings are decorated with white and black spots. Scutellum is semicircle with presence of hair. Abdomen is without scales. It feeds on human and animal blood. Generally found in a ruler area. Female laid their eggs in stored water.

1.2)Anopheles Stephensy

Gray coloured body. Palpi have a white band in between the two yellow band.

Whole body is spotted. It is indophilic insect. This insect looks delicate and pretty. The wings are spotted. All veins of wings are similar. It feeds on human and animal blood. Make an angle with surface while sitting. Female laid eggs in stored water. Peace loving insect. Male is slender and smaller than female.

1.3) Anopheles annularies

Body is brownish black colored. Palpi having similar yellow and white bands. Vein no.5 of wing is dark black as compared to others. Tarsi of hind legs are totally white. Hind legs are quite up-worded. In majority it found in U.P, A.P, Orissa and Meghalaya. Its density is low in Maharashtra. Males are smaller than female.

1.4) Anopheles fluviatilis

Body colour is brownish black. Generally male is smaller than female. The yellow band on palpi is similar to black band. The legs are totally black. Vein no.3 is of yellow colour. The scutellum is semicircle. On the wing the vein no.6 is with two yellow bands. It founds in hilly area. Female laid eggs in slow flowing water. Mostly feeds on human blood only but sometimes on animal blood also. It bites during night in between 9-11.

2) Genus:-Culex

From the genus Culex only Culex quinquefasciatus and Culex vishnui are observed. The genus is characterized by having hairy palpy, stublike, shorter than proboscis in female. In male the palpi is plumose, brushy and longer than proboscis. Claws are simple. Wings are unspotted having dark scales. Scutellum trilobed with three luff of hair on the lobe. Anal cerci are very small.

2.1) Culex quinquefasciatus

Body is brownish black colored. Proboscis dark often with pale scaling midway on underside. Scutum with golden and bronzy narrow scale. Wings are dark scaled all over. Females are of medium sized and brownish. Hind legs with femur pale almost to the tip. Other legs are dark scaled except for pale patch at typical tarsal joint. Abdominal tergite dark scaled. Sternites generally pale scaled but with few to more dark scale scattered medially. These are active during warmer month. Feeds specially on human and birds blood.

3) Genus:-Aedes

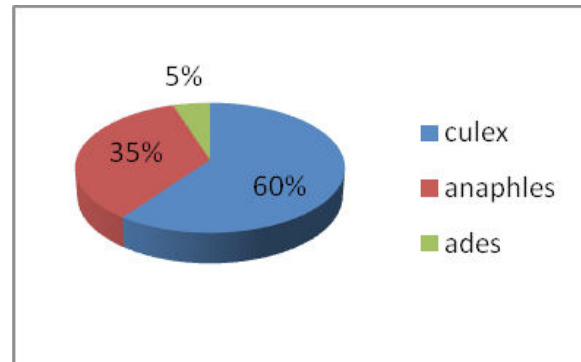
From the genus Aedes a Single species is reported i.e. Aedes aegypti. The genus Aedes is characterized by having elongat-

ed slender body. In male palpi longer, tapering, curl upthward. Hind leg with dark and white band, on tarsal region. Claw on fore and hind legs are toothed.

3.1) Aedes aegypti

Body colour is light black. It is endophilic in nature. Abdomen is having white band. They are having slender body. Hind legs are slightly up-warded. The males are smaller compared to females. In majority it found in Maharashtra. Its body is parallel to surface while sitting.

Diversity percentage-The percentage of different genus based upon the total no. of collected mosquitoes are found to be as follows

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