

APPENDIX - I

**PUBLISHED RESEARCH PAPERS: PRESENTED /
ACCEPTED FOR JOURNALS / SYMPOSIA /
CONFERENCE^s/ WORKSHOP^s etc.**

APPENDIX - I

I. Papers Published : 1

Girhe, B.E. and Sathe, T.V. 2001. On a new species of the Genus *Aedes* Meigen (Diptera : Culicidae) from India. J. Adv. Zool. 22 (1) : 46-47.

II. Paper accepted for Publication in Journals : 2

1. Sathe, T.V. and Girhe, B.E. 2001. Biodiversity of Mosquitoes (Order : Diptera) in Kolhapur District, Maharashtra. Riv. di. Parassitologia, XVIII (LXII) (3), 189-194 (in press).
2. Girhe, B.E. and Sathe, T.V. 2001. A new repellent for mosquitoes. Riv. di. Parassitologia, XVIII (LXII) (3), 183-187 (in press).

III. Papers presented in Conferences / Symposia : 2

1. Girhe, B.E. and Sathe, T.V. Incidence of Malaria in Kolhapur District, Maharashtra. National Symposium on "**Development, Environment and Human Conditions**", 27th-29th Jan. 2001, Aurangabad.
2. Sathe, T.V. and Girhe, B.E. Biodiversity of mosquitoes (Order : Diptera) in Kolhapur District, Maharashtra. National **Symposium on Environmental and Evolutionary Biology**, 1-3rd March 2001, Dharwad.

VOLUME 22

NUMBER 1

JUNE 2001

ISSN - 0253 - 7214

**Journal
of
Advanced
Zoology**

Published By :
Association for the Advancement of Zoology
Gorakhpur-273 016 - INDIA

ON A NEW SPECIES OF THE GENUS *Aedes* MEIGEN (DIPTERA: CULICIDAE) FROM INDIA

B. E. Girhe & T. V. Sathe
Department of Zoology, Shivaji University
Kolhapur -416 004, INDIA

ABSTRACT : A new species, *Aedes sangiti* sp. nov. (Diptera: culicidae) have been described for the first time from India. Adult female : 7.60 mm long and 1.05 mm broad, antenna 2.60 mm long, forewing 4.65 mm long, hind leg 9.25 mm long, abdomen 4.69 mm long.
Flagellar Formula : 1 L/W = 0.03, 14 L/W = 0.50, W1/14 = 0.14, L 1/14 = 0.04.
The genus *Aedes* is erected by Meigen in 1818. It contains more than 400 species of which 112 are found in India. In the past, Christophers³, Barraud¹, Chamnarn², Sathe & Girhe⁵ etc. have contributed to the taxonomical aspects of this genus.

RESULTS AND DISCUSSION

Aedes sangiti sp. nov.

Adult female : 7.60 mm long and 1.05 mm broad, antenna 2.60 mm long, fore wing 4.65 mm long, hind leg 9.25 mm long and abdomen 4.69 mm long.

Head : 0.31 mm long and 0.40 mm broad, in dorsal view globular, dorsal surface of head with many flat scales, clypeus rounded whitish, vertex with margin and vertex bristles. Ocular distance 0.25 mm, antenna 2.60 mm long pilose, 14 segmented, pedicel yellowish brown.

Flagellar formula : 1 L/W = 0.03, 14 L/W = 0.50, W 1/14, L 1/14 = 0.04.

Proboscis 3.5 mm long, black unspckled; labellum brown. Maxillary palp 1.23 mm long and four segmented, palpus short and broad, apical palpus longer than others. Mandible and maxilla long, blade like, stylet round and curved.

Thorax : 1.60 mm long and 1.10 mm broad undifferentiated, blackish brown, laterally compressed, narrow with humped appearance, with whitish pale hairs. Thoracic greater part of the dorsal surface formed by shield like scutum of the second segment which bears the wing. Anterior lateral pronotal lobe leaf like, whitish, posterior notal lobe rounded with few white scales, scutum with vertex acutal suture, scutellum trilobed with white and

narrow scales and three bunches of hair on the lobes, prealar knob black, mesepimeron & mesomeron blackish brown with sparsely white and black scales. Metapleuron yellowish brown metepisternum triangular and brownish, metepimeron verticle slit like; metameron triangular, lies at the base of metepimeron.

Wing : 4.65 mm long and 2.10 mm broad, elongated, unspotted bears tiny dark scales along the veins on a fringe and along the hind margin of wing. Wing with six veins namely costa, subcosta, radius, media, cubitus and anal vein. The anal vein ends near the cubitus. Halter 0.30 mm long, brown and rounded at tip.

Hind leg : 9.25 mm long, unbanded and longer than body. Hind coxa 0.60 mm long, broad, yellowish in colour; hind trochanter 0.12 mm long, triangular and hard. Hind femur 2.21 mm long, elongated, cylindrical blackish, brown dorsally and whitish ventrally with femoral spurs, white knee spot at apical end. Hind tibia 3.10 mm long, elongated straight, slender unspckled, black brown scales and brownish tibial spines. Hind tarsus 3.22 mm long, unbanded, elongated, tarsal claws curved and toothed; pulvillus and empodium narrow.

All legs with toothed claws :

Abdomen : 4.69 mm long and 1.10 mm broad tapering and pointed towards posterior, 10 segmented with white and brownish scales,

dorsal surface not distinctly banded, pale brown band lies ventrally, blackish brown scales dorsally. First seven segments dark brown dorsally and yellowish brown ventrally; VIIth abdominal segment narrow, non retractile, completely white with fine hairs. Anal cerci 0.11 mm long, rounded and black at tip.

Colour :

Black : Dorsum of abdomen.
 Brownish black : Thorax, leg, palpi, wing.
 Brown : Labellum, head
 White : Tip of hind femur VII segment of Abdomen.
 Yellow : Maxillae, Mandible.
 Yellowish brown : Ventral stripes of abdomen.
 Male : 7.4 mm long, smaller than female, phytophagous
 Host : Man, cow, buffalow, grass and other vegetation
 Holotype : Female, India, Maharashtra, Kolhapur coll. Girhe B. E., XV-X-2000, leg, wings and whole mounted on slide, labeled as above.
 Paratype : (46 female, 10 male) 30, 5 coll. Girhe, B. E., from October to December 2000. Kolhapur, 11 2, Coll. Girhe, B. E., Hatkanangale; 5, 3, coll. T. V. Sathe, Jaysingpur XXI-XI-2000.
 Sex ratio 1 : 0.24
 Same date as above
 Distribution : Kolhapur District, Maharashtra, INDIA.

Aedes sangiti sp. nov. resembles with *Aedes stegomyia* in Barraud's key in its character.

1. Segment VII broader and not completely retractile,
2. Tarsal claws toothed in fore leg and mid leg,
3. Dorsal surface of head with many flat scales,
4. Scutellar scales broad & flat,
5. Proboscis dark.

However, it differs from the above species by following characters.

1. Vertex smooth, with white border.
2. Hind tibia with silvery spines.
3. Flagellar formula:
 $1 L/W = 0.03, 14 L/W = 0.50, W 1/14 = 0.04, L 1/14 = 0.14$
4. Abdominal segments (I to VII) not distinctly banded and covered densely with blackish brown scales.
5. VIIth abdominal segment completely white.
6. Anal cerci 0.11 mm long, rounded and black.

ACKNOWLEDGEMENT

Authors are thankful to Shivaji University, Kolhapur for providing facilities.

REFERENCES

1. Barraud, P. J. 1934. The fauna of British India, including Ceylon and Burma, Diptera pp. 1-463.
2. Chamnarn Apiwathnasorn, 1986. A list of mosquito species in Southern Asia. pp. 1-72.
3. Christopher's S. R. 1933. The fauna of British India including Ceylon and Burma, Diptera-4. pp.1-371.
4. James R. Busvine, 1980. Insects and hygiene : The Biology and control of Insect pests of medical and domestic importance. pp. 521-527.
5. Sathe T. V. & B. E. Girhe, 2001. Biodiversity of mosquitoes (Order-Diptera) in Kolhapur district, Maharashtra. *Proc. Nat. Sym. Trends. Environ & Evolu. Biol*; EB. AB : 43 p. 27.



NATIONAL SYMPOSIUM
ON

"DEVELOPMENT, ENVIRONMENT AND HUMAN CONDITIONS"

(27th - 29th January, 2001)

ABSTRACTS



:- ORGANISED BY :-

DEPARTMENT OF ENVIRONMENTAL SCIENCE
DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY,
AURANGABAD-431 004.
MAHARASHTRA (INDIA)

No.3.6

INCIDENCE OF MALARIA IN KOLHAPUR DISTRICT, MAHARASHTRA.

B.E.GIRHE & T.V. SATHE

Dept. of Zoology,

Shivaji University, Kolhapur - 416 004,

Malarial incidence have been studied during the years, 1992-2000 with respect to malarial infection cases in human population in Kolhapur district (M.S.). It was observed that the incidence of malaria during the years 1992-1996 was increasing in order. Maximum, 700 infection cases have been reported during the year 1996. However the incidence of malaria declined from 1997-2000. The reason of decline in malarial incidence were the proper strategies of mosquito control adopted by the health dept. and low rainfall in the region.

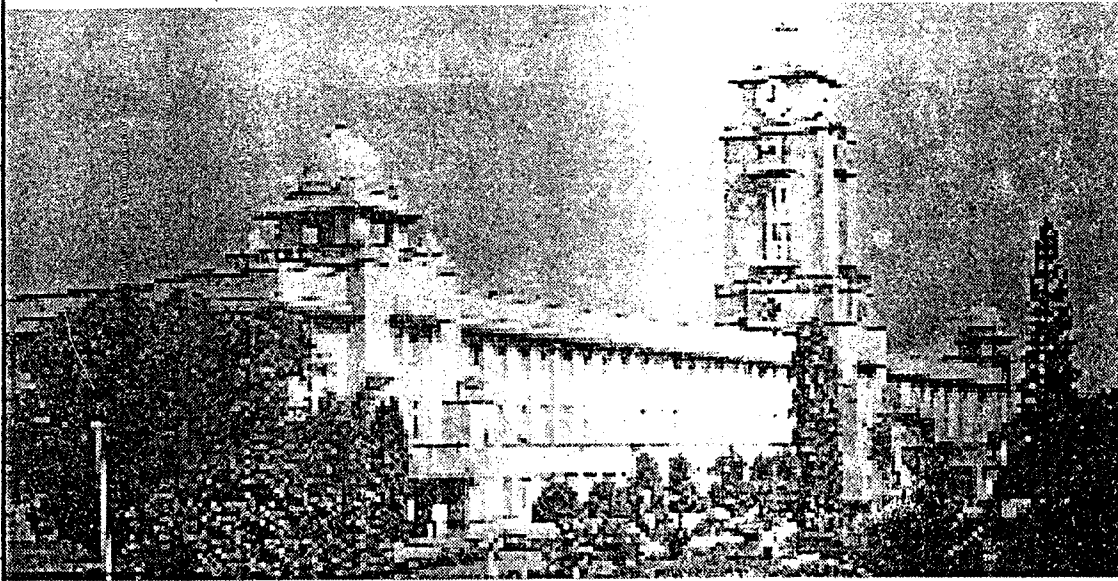
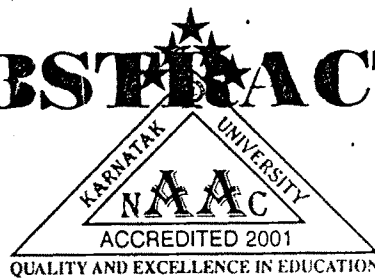
No.3.7



NATIONAL SYMPOSIUM
ON
"THE TRENDS IN ENVIRONMENTAL
AND EVOLUTIONARY BIOLOGY"

1-3 MARCH, 2001

ABSTRACTS



Sponsored by

KARNATAK UNIVERSITY, DHARWAD

and

SPECIAL ASSISTANCE PROGRAMME-II, U.G.C., NEW-DELHI

**BIODIVERSITY OF MOSQUITOES (ORDER : DIPTERA) IN
KOLHAPUR DISTRICT, MAHARASTRA**

T. V. SATHE & B. E. GIRHE

Department of Zoology, Shivaji University, Kolhapur – 416 004

Mosquito bio-diversity (Culicidae: Diptera) have been studied in Kolhapur of Maharashtra. Kolhapur district is characterized by having high water rain fall. Hence, several kinds of water bodies provide good source for breeding mosquitoes and lead to various diseases like malaria, dengue, yellow fever etc. Hence, mosquito bio-diversity have been studied in the district which may play an important role in diagnostic processes epidemiology. During the study period, January 2000 – 2001, nine species of mosquitoes belonging to the genera *Anopheles* (3) *Culex* (3) and *Aedes* (3) have been reported. In addition three unknown species have also been recorded from the district. In the present study emphasis is given on the morphological description of the species.