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DESCRIPTION OF THE PUPA OF *Aedes*  
(*Ochlerotatus*) *MITCHELLAE*  
(DIPTERA: CULICIDAE)

JOHN F. REINERT<sup>1</sup>

Department of Entomology, University of Florida,  
Gainesville, Florida 32601

ABSTRACT

The pupa of *Aedes* (*Ochlerotatus*) *mitchellae* (Dyar) is described and illustrated for the first time. A table lists the range, mode and mean number of branches of each pupal hair.

The original description of *Aedes* (*Ochlerotatus*) *mitchellae* was published by Dyar in 1905. A more complete written description, accompanied by illustrations of the male, female and larva, was given by Carpenter and La Casse (1955). The egg was described and illustrated by Craig and Horsfall (1960). In the present paper the pupa is described and illustrated (Fig. 1-3) for the first time. Table 1 lists the range, mode, and mean number of branches for each pupal hair. Chaetotaxy and morphological nomenclature used in this description follow that of Belkin (1962).

*Aedes* (*Ochlerotatus*) *mitchellae* (Dyar)

*Cephalothorax* (Fig. 1). Hairs C-1, 3 extra long, C-2, 7 long, C-4-5, 8-9 moderately long, C-6 short, C-1, 3 double, C-2, 9 usually double, C-4 usually triple, C-5-7 usually with 3-4 branches, C-8 usually with 4-5 branches.

*Respiratory trumpet* (Fig. 2). Strongly pigmented; scattered tiny spine-like setae on distal 0.85 of inner surface; index 3.81-4.33.

*Metanotum* (Fig. 3). Hairs C-10-12 long, C-10 usually with 3-5 branches, C-11 single, C-12 usually double or triple.

*Abdomen* (Fig. 3). Hair 0-II-VIII minute, single; 1-I well developed with 24-37 branches on basal one third, 1-II short, 1-III moderately long, 1-IV-VII long, 1-II usually with 4-5 branches, 1-III usually with 4-6 branches, 1-IV-V usually with 3-4 branches, 1-VI usually triple, 1-VII usually double or triple; 2-I-VII short, 2-I usually double, 2-II-VII single; 3-I, III, VI long, 3-II, IV-V long, 3-I single, 3-II-III single or double, 3-IV usually with 4-6 branches, 3-V usually with 3-4 branches, 3-VI usually double, 3-VII usually triple; 4-I-III short, 4-IV-VI moderately long, 4-VII-VIII long, 4-I, VI usually with 4-5 branches, 4-II usually with 4-6 branches, 4-III usually with 3-4 branches, 4-IV, VII usually double or triple, 4-V usually with 5-6 branches, 4-VIII usually double; 5-I short, 5-II-III moderately long, 5-IV-VI extra long, 5-VII long, 5-I with 5-7 branches, 5-II usually with 4-5 branches, 5-III usually with 5-6 branches, 5-IV-VI usually triple, 5-VII usually double or triple; 6-I-II long, 6-III-

<sup>1</sup>Major, Medical Service Corps, U. S. Army. The opinions contained herein are the private ones of the author and are not to be construed as official or as reflecting the views of the Department of the Army. Fla. Agri. Experiment Station Journal Series No. 3541.

TABLE 1. RECORD OF THE BRANCHING OF THE SETAE ON THE PUPAE OF *Aedes mitchellae*

Hair	Range	Mode	Mean	Hair	Range	Mode	Mean
Cephalothorax				Abdomen III			
1	2	2	2	0	1	1	1
2	2-3	2	2.2	1	4-7	5	5.3
3	2	2	2	2	1	1	1
4	3-5	3	3.5	3	1-2	1	1.2
5	3-5	4	3.7	4	3-7	4	4.6
6	3-4	4	3.6	5	4-7	5	6.2
7	3-7	4	4.6	6	2-4	3	3.4
8	4-5	4	4.3	7	4-5	5	4.6
9	2-3	2	2.1	8	3-5	4	3.7
Metanotum				9	1	1	1
10	3-6	4	4.2	10	2-4	2	2.8
11	1	1	1	11	1	1	1
12	2-4	2	2.7	14	1	1	1
Abdomen I				Abdomen IV			
1	24-37	30	29.5	0	1	1	1
2	1-3	2	1.9	1	3-6	4	3.9
3	1	1	1	2	1	1	1
4	4-6	5	5.2	3	4-7	5	5.2
5	5-7	5	5.9	4	2-4	2	2.5
6	1	1	1	5	3-4	3	3.1
7	2-4	2	2.7	6	2-4	3	3.1
9	1	1	1	7	2-4	3	3.3
11	1-3	1	1.6	8	2-3	2	2.4
Abdomen II				9	1	1	1
0	1	1	1	10	2-3	2	2.8
1	4-7	5	5.1	11	1	1	1
2	1	1	1	14	1	1	1
3	1-2	1	1.4	Abdomen V			
4	4-7	5	5.2	0	1	1	1
5	4-7	5	5.1	1	3-4	3	3.2
6	1-2	1	1.4	2	1	1	1
7	2-5	3	3.1	3	3-5	3	3.5
9	1	1	1	4	3-7	5	5.3
14	1	1	1	Continued			

TABLE 1. Continued

Hair	Range	Mode	Mean	Hair	Range	Mode	Mean
Abdomen V (Cont)				Abdomen VII			
5	2-4	3	3.1	0	1	1	1
6	2-4	3	2.9	1	1-3	2	2.2
7	4-7	5	4.8	2	1	1	1
8	2-4	3	2.9	3	2-4	3	2.8
9	1	1	1	4	2-3	2	2.4
10	1-2	1	1.4	5	2-4	3	2.9
11	1	1	1	6	4-6	4	4.6
14	1	1	1	7	1-2	2	1.6
Abdomen VI				8	2-5	4	3.6
0	1	1	1	9	3-6	5	4.6
1	2-4	3	2.8	10	1	1	1
2	1	1	1	11	1	1	1
3	2-3	2	2.2	14	1	1	1
4	4-6	4	4.3	Abdomen VIII			
5	2-4	3	3.1	0	1	1	1
6	2-4	3	2.7	4	2-3	2	2.2
7	1-2	1	1.3	9	6-9	9	7.7
8	3-4	3	3.3	14	1	1	1
9	1	1	1	Paddle			
10	1	1	1	1	1	1	1
11	1	1	1				
14	1	1	1				

VI moderately long, 6-VII short, 6-I single, 6-II single or double, 6-III, VI usually double or triple, 6-IV-V usually with 3-4 branches, 6-VII usually with 4 branches; 7-I-II, V-VI moderately long, 7-III-IV short, 7-VII long, 7-I, VII usually double, 7-II usually double or triple, 7-III, V usually with 4-5 branches, 7-IV usually with 3-4 branches, 7-VI single or double; 8-III-VII short, 8-III, VII usually with 3-4 branches, 8-IV-V usually double or triple, 8-VI usually triple; 9-I-VI short, 9-VII-VIII moderately long, 9-I usually single, 9-II-VI single, 9-VII stellate, usually with 5-6 branches, 9-VIII stellate, usually with 7 or 9 branches; 10-III-IV, VI-VII moderately long, 10-V long, 10-III with 2-4 branches, 10-IV double or triple, 10-V single or double, 10-VI-VII single; 11-I, III-VII short, 11-I usually single or double, 11-III-VII single; 14-II-VIII minute, 14-II-VIII single.

*Paddle* (Fig. 3). Ovoid with minute spicules along distal 0.25 of margin, midrib does not reach apex; 1-P short and single; index 1.14-1.43.

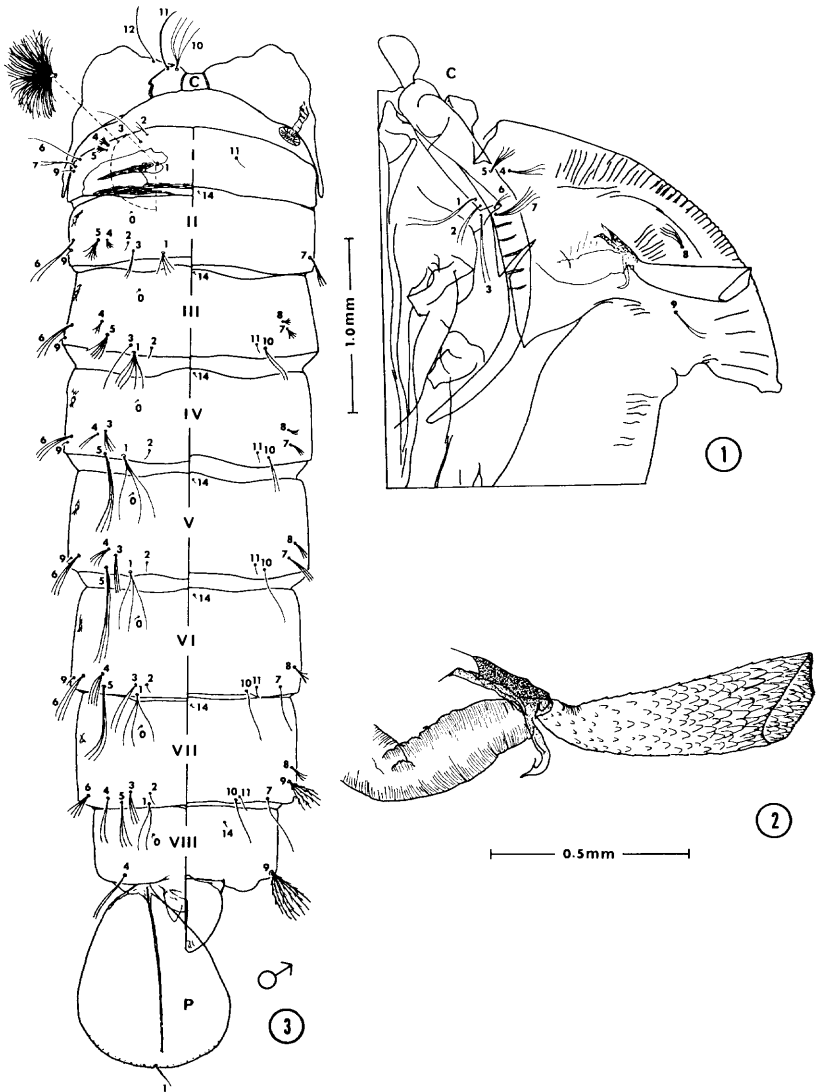


Fig. 1-3. Pupa of *Aedes mitchellae* (Dyar). Fig. 1. Cephalothorax. Fig. 2. Respiratory trumpet. Fig. 3. Metanotum and abdomen. C=cephalothorax, I-VIII=abdominal segments 1 through 8, P=paddle.

The above description is based on 4 male and 6 female associated pupal skins reared from larvae collected by the author at Gainesville, Alachua County, Florida on 17-18 January 1970. The larvae were collected from a partially shaded, temporary, fresh water pool approximately 3-5 inches deep with numerous tree leaves and dead grass on the bottom.

## LITERATURE CITED

- Belkin, J. N.* 1962. The mosquitoes of the South Pacific. Univ. Calif. Press, Berkeley. 2 vols., 608 and 412 p.
- Carpenter, S. J., and W. J. LaCasse.* 1955. Mosquitoes of North America (north of Mexico). Univ. Calif. Press, Berkeley. 360 p.
- Craig, G. B., Jr., and W. R. Horsfall.* 1960. Eggs of floodwater mosquitoes. VII. Species of *Aedes* common in the southeastern United States (Diptera: Culicidae). *Ann. Entomol. Soc. Amer.* 53:11-18.
- Dyar, H. G.* 1905. A new mosquito. *J. N. Y. Entomol. Soc.* 13:74.
- The Florida Entomologist 53(2) 1970

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## INTERNATIONAL ORGANIZATION FOR BIOLOGICAL CONTROL (IOBC)

Plans for a new global organization in biological control, building from the existing "Organization Internationale de Lutte Biologica" (OILB), under the title given in the above heading, were consummated at Amsterdam in November 1969, as far as could be done at the time. New statutes were proposed and approved by delegates, and other agreements reached. It is hoped that the widest possible interest and support can be made evident before February 1971, at which time approval by the current OILB's General Assembly will presumably occur.

The following slate of candidates for the Executive Committee of the proposed new Council of IOBC was recommended by unanimous vote of the delegates in Amsterdam:

Paul DeBach, President  
E. Biliotti, Vice President  
Frank Wilson, Vice President  
Vittorio Delucchi, Secretary General  
Fred J. Simmonds, Treasurer

A fuller statement of the meeting in Amsterdam and of the aims and functions of this new organization, and the progress of developments in other respects is being published in *The Bulletin of Entomological Society of America*, to which interested parties are referred. Such interested parties should contact any of the above slate of candidates, or for the U.S., Dr. Reece Sailer.