

DESCRIPTION OF THE PUPA OF
Aedes (Ochlerotatus) dupreei
(DIPTERA: CULICIDAE)¹

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ABSTRACT

The pupa of *Aedes (Ochlerotatus) dupreei* (Coquillett) is described and illustrated for the first time. A table lists the range, mode, and mean number of branches of each pupal hair. Notes on the biology of the larvae and pupae are given.

Aedes (Ochlerotatus) dupreei was originally described from the adults by Coquillett (1904). A complete description, accompanied by illustrations of the male, female, and larva was given by Carpenter and La Casse (1955). Horsfall and Craig (1956) described and illustrated the egg. The pupa was listed by Mitchell (1907) in a short identification key but was not described. In the present paper the pupa is completely 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 Belkin (1962).

Aedes (Ochlerotatus) dupreei (Coquillett)

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

Respiratory trumpet (Fig. 2). Strongly pigmented; a few scattered tiny spine-like setae on distal 0.40 of inner surface; index 4.44-4.87.

Metanotum (Fig. 3). Hairs C-10-12 long, C-10 usually with 3-4 branches, C-11 single, C-12 with 3-5 branches.

Abdomen (Fig. 3). Hair 0-II-VIII minute, single; 1-I well developed, usually with 22-25 branches on basal one third, 1-II-VIII long, 1-II usually with 8-9 branches, 1-III usually with 4 branches, 1-IV-VI usually triple, 1-VII usually double; 2-I-VII short, single; 3-I-II, IV, VII moderately long, 3-III, V-VI long, 3-I, VII usually triple, 3-II single or double, 3-III single, 3-IV usually with 4-5 branches, 3-V double or triple, 3-VI usually double; 4-I-III short, 4-IV-VI moderately long, 4-VII-VIII long, 4-I usually double or triple, 4-II usually triple, 4-III usually with 3-4 branches, 4-IV usually double, 4-V usually with 3-5 branches, 4-VI usually with 4-5 branches, 4-VII-VIII double or triple; 5-I-III, VII moderately long, 5-IV-VI extra long, 5-I usually with 4-5 branches, 5-II-III usu-

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TABLE 1.—RECORD OF THE BRANCHING OF THE SETAE ON THE PUPAE OF
Aedes dupreei

Hair	Range	Mode	Mean	Hair	Range	Mode	Mean
Cephalothorax				Abdomen III (Cont.)			
1	2	2	2	8	1-3	2	1.8
2	2-3	2	2.4	9	1	1	1
3	2	2	2	10	1-3	2	2.1
4	2-5	4	3.4	11	1	1	1
5	2-4	4	3.4	14	1	1	1
6	1-2	2	1.6	Abdomen IV			
7	3-5	4	3.9	0	1	1	1
8	3-5	4	4.4	1	3-4	3	3.1
9	3-5	3	3.4	2	1	1	1
Metanotum				3	3-7	4	4.6
10	3-5	3	3.7	4	2-3	2	2.2
11	1	1	1	5	1	1	1
12	3-5	4	4.1	6	1-3	2	2.1
Abdomen I				7	2-3	2	2.2
1	21-30	22	22.7	8	2-3	2	2.4
2	1	1	1	9	1	1	1
3	3-4	3	3.1	10	2-3	2	2.3
4	2-4	3	2.6	11	1	1	1
5	4-7	4	4.6	14	1	1	1
6	1	1	1	Abdomen V			
7	2	2	2	0	1	1	1
9	1	1	1	1	3-4	3	3.1
Abdomen II				2	1	1	1
0	1	1	1	3	2-3	2	2.4
1	8-12	8	9.1	4	3-6	5	4.7
2	1	1	1	5	1	1	1
3	1-2	2	1.8	6	1-2	1	1.4
4	3-4	3	3.1	7	2-4	3	3.1
5	2-4	3	3.1	8	2-3	2	2.4
6	1	1	1	9	1	1	1
7	2-3	2	2.4	10	1	1	1
9	1	1	1	11	1	1	1
Abdomen III				14	1	1	1
0	1	1	1	Abdomen VI			
1	3-4	4	3.9	0	1	1	1
2	1	1	1	1	2-4	3	3.1
3	1	1	1	2	1	1	1
4	3-5	4	3.9	3	1-2	2	1.9
5	2-5	3	3.3	4	3-6	4	4.6
6	1-3	2	1.9	5	1	1	1
7	2-3	3	2.7	6	1-3	2	2.1
				7	1	1	1
				8	2-3	2	2.4

TABLE 1. CONTINUED

Hair	Range	Mode	Mean	Hair	Range	Mode	Mean
	Abdomen VI (Cont.)				Abdomen VII (Cont.)		
9	1	1	1	8	2-3	2	2.3
10	1	1	1	9	5-9	6	6.2
11	1	1	1	10	1-3	2	1.9
14	1	1	1	11	1	1	1
	Abdomen VII			14	1	1	1
0	1	1	1		Abdomen VIII		
1	2-3	2	2.3	0	1	1	1
2	1	1	1	4	2-3	3	2.6
3	2-3	3	2.7	9	6-9	7	6.9
4	2-3	3	2.7	14	1	1	1
5	2-3	2	2.2		Paddle		
6	2-3	2	2.3				
7	1	1	1	1	1	1	1

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

Paddle (Fig. 3). Ovoid with minute spicules along outer margin and on distal one third of the paddle, midrib does not reach apex; 1-P moderately long and single; index 1.35-1.46.

The above description is based on the following material collected by the author in Alachua County, Florida: 5 males and 6 females, 16-17 August 1970, Micanopy; 14 males and 4 females, 18-19 August 1970 and 3 males and 5 females, 2 September 1970, Gainesville.

Biology. All specimens were collected in the field as larvae and individually reared in the laboratory. The larvae at the location near Micanopy were collected from a small, shallow, fresh water pool shaded by grass and weeds located in a pasture and were associated with larvae of *Culex pilosus*, *Psorophora ferox*, *Psorophora confinnis*, *Aedes atlanticus*, *Uranotaenia sapphirina* and *Anopheles crucians*. At Gainesville larvae were taken from several small, shallow, shaded forest pools containing moderately colored water and many leaves on the bottom. These larvae were associated with larvae of *Aedes atlanticus*, *Aedes tormentor*, *Psorophora ciliata*, *Psorophora howardi* and *Psorophora ferox*.

The length of time spent in the pupal stage ranged from 1 day 5

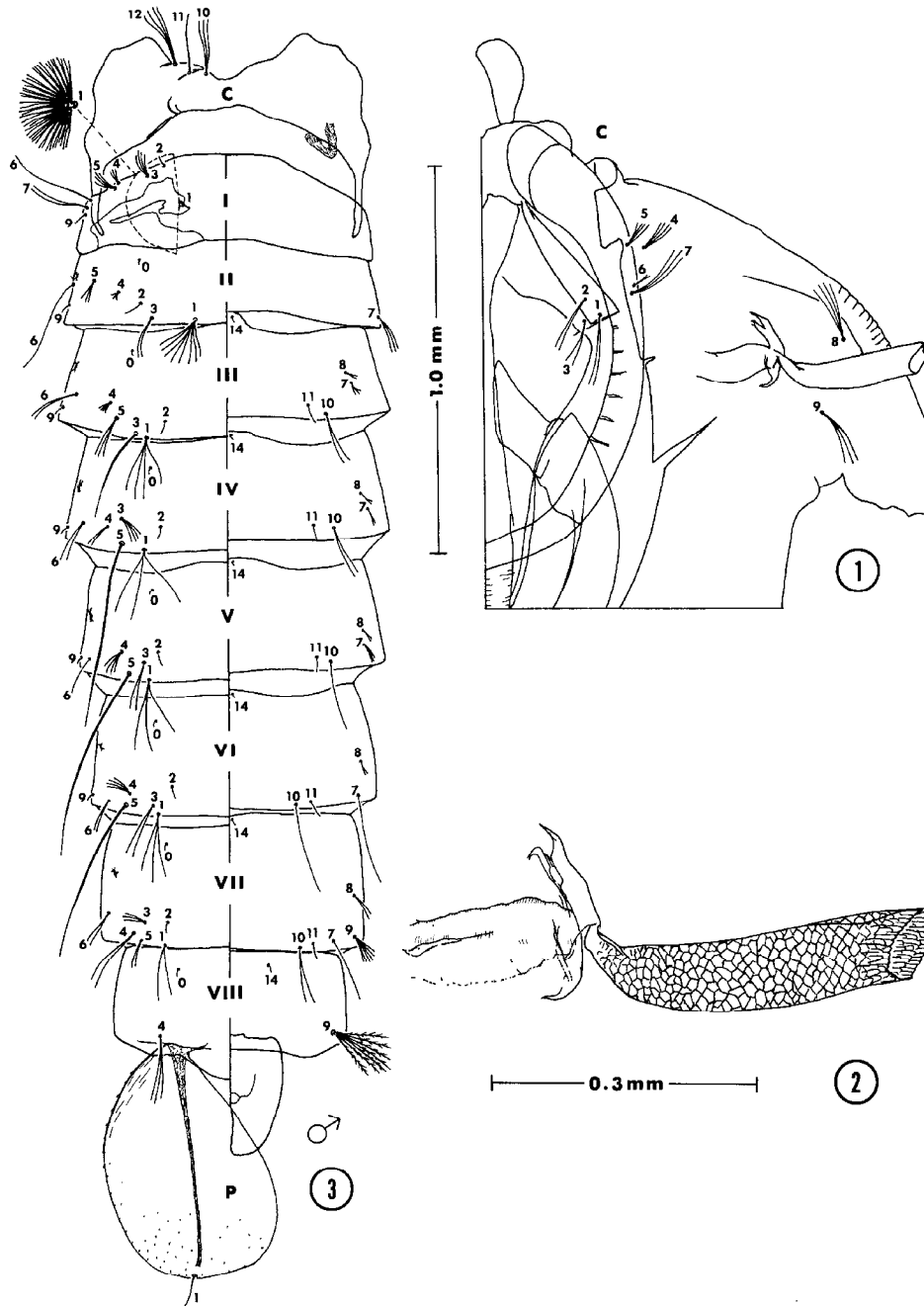


Fig. 1-3. Pupa of *Aedes dupreei* (Coquillett). 1) Cephalothorax. 2) Respiratory trumpet. 3) Metanotum, abdomen and paddle. C=cephalothorax; I-VIII=abdominal segments 1 through 8; P=paddle.

hours to 1 day 12 hours for males and 1 day 8 hours to 1 day 14 hours for females. The average time for males was 1 day 9 hours and 1 day 10 hours for females.

Additional information on the biology of this species is given by Michener (1947) and Carpenter and La Casse (1955).

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. La Casse.* 1955. Mosquitoes of North America (north of Mexico). Univ. Calif. Press, Berkeley. 360 p.
- Coquillett, D. W.* 1904. Several new Diptera from North America. Can. Entomol. 35: 10-12.
- Horsfall, W. R., and G. B. Craig, Jr.* 1956. Eggs of floodwater mosquitoes IV. Species of *Aedes* common in Illinois (Diptera: Culicidae). Ann. Entomol. Soc. Amer. 49: 368-374.
- Michener, C. D.* 1947. Mosquitoes of a limited area in southern Mississippi. Amer. Mid. Nat., 37: 325-374.
- Mitchell, E. G.* 1907. Mosquito life. G. P. Putnam's Sons, New York. 281 p.

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