

AN ANALYSIS OF THE PUPAL CHAETOTAXY OF *ANOPHELES QUADRIMACULATUS* (SAY)¹

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The normal range of variation of the chaetotaxy of pupae of one species of anopheline mosquito from a single population has not previously been known. This study shows that the chaetotaxy of *Anopheles quadrimaculatus* pupae varies considerably more than was realized when the original description of the pupa of this species was written by the senior author (1949).

The exuviae of one hundred pupae of *A. quadrimaculatus* obtained from a laboratory colony maintained by the Tulane Department of Tropical Medicine were dissected and mounted in Canada balsam for examination. The length in microns of seta 8 on segments II through VII (Table 2), and the number of branchings of the principal setae on segments II through VIII and on the paddle were recorded for each specimen.

The original description (*loc. cit.*) was based on wild-caught specimens from various localities in Louisiana and South Carolina. Because of the range of variation shown to exist by the present study a re-description in comparison with the previous one seems called for, and is presented below in simplified tabular form (Tables 1 and 2). The location of the setae is shown in Figure 1.

Number of teeth on lateral margins of paddles ranged from thirty-six to fifty-seven, with an overall average of fifty.

Reference

PENN, GEORGE HENRY. 1949. Pupae of the Nearctic anopheline mosquitoes north of Mexico. *J. Nat. Mal. Soc.*, 8(1):50-69.

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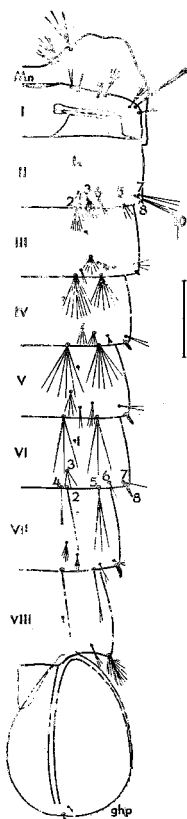


FIG. 1.—Right dorsal aspect of metanotum and abdomen of male *Anopheles quadrimaculatus* pupa. Vertical bar to right of specimen represents 0.5 mm.

1.—Number of branchings of the principal dorsal abdominal setae of *Anopheles quadrimaculatus* pupae.

Segment & seta numbers		Overall min.	Range max.	Majority range	Percent frequency	Range in Penn (1949)
II	2	5	12	5-8	80%	4-6
	5	2	6	3-4	81	3-4
	7	1	6	2-3	71	2-4
	10	1	6	3-5	82	2-5
III	2	5	15	7-12	87	7-9
	5	6	16	9-12	74	7-11
	7	2	7	3-5	80	2-4
IV	2	5	12	5-9	61	6-8
	5	4	11	6-10	90	7-8
	7	2	4	2-3	96	2-3
V	2	2	7	3-5	89	1-3
	5	3	6	4-5	73	2-3
	7	1	3	2-3	95	2-3
VI	2	1	3	2-3	94	1
	5	2	6	3-4	85	1-3
	7	1	2	2	69	1-2
VII	2	1	2	1	69	1
	5	2	5	2-4	97	1-3
	7	1	4	1-2	93	1-2
VIII	5	1	3	1-3	100	3-4
	8	10	19	13-16	68	10-16
Paddle	7	1	4	2	68	1-3
	8	1	4	1-2	73	1-2

TABLE 2.—Length in microns of seta 8 of *Anopheles quadrimaculatus* pupae.

Segment Number	Overall min.	Range max.	Average	Percent increase	Percent increase in Penn (1949) ²
II	12	24	14
III	36	60	43	207%	146%
IV	60	84	65	51	62
V	60	84	75	15	13
VI	72	108	87	17	9
VII	72	108	96	9	7

² These figures were the basis of statements made in the reference, although the figures themselves were not published.