

First Report of *Wyeomyia haynei* in Georgia,
With Comments on Identification of Larvae (Diptera, Culicidae)¹

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ABSTRACT. *Wyeomyia haynei* is reported from Georgia for the first time. The larval characters used to separate it from *Wyeomyia smithii* were studied. Of the structures previously employed, only the anal gills are useful. Setae of the anal segment do not provide reliable differentiation. Setae 14 on the pro and mesothorax were found to be helpful.

Wyeomyia haynei was described by Dodge in 1947 from a series collected in Lexington County, South Carolina, and originally identified as *Wy. smithii* (Coquillett). The type locality is designated as 8.2 miles southwest of Columbia, near the Columbia Air Base. It was subsequently reported by Weathersee and Arnold (1948) that *haynei* was probably the only species of *Wyeomyia* in South Carolina.

None of the major works on mosquitoes of North America (Dyar, 1928; Carpenter and LaCasse, 1955), the Southeastern States (Carpenter *et al.*, 1946; King *et al.*, 1960) or Georgia (Ga. Dept. Publ. Hlth., 1970) report the occurrence of any *Wyeomyia* species in Georgia. One species, *Wy. mitchellii* (Theobald), has been recorded from Georgia by Newhouse *et al.* (1966). Therefore, the present report constitutes the first record of *Wy. haynei* in Georgia.

The entomologic collections at the Center for Disease Control contain a large group of *Wyeomyia* specimens collected in Rabun County, Georgia. Material on hand is as follows: 18 ♀♀, 29 ♂♂, and 127 larvae collected on March 29, 1950, by J. E. Lane; 15 ♀♀, 24 ♂♂, 7 pupal exuviae, and 28 larvae collected on June 20, 1950, by Lane, Wall and Foote. The adults and all mounted immatures, except the seven pupae and 28 larvae collected by Lane, Wall and Foote, bear the *Wy. haynei* identification label. These seven pupae and 28 larvae are still labelled *Wy. smithii*, but the larvae possess the four anal gills just as do the other 127 larvae and are thus considered along with all the Rabun County collections to be part of a *Wy. haynei* population.

The known distribution of *Wy. haynei* at present is as follows: South Carolina and Alabama - Dodge (1947), Florida - Branch *et al.*, (1958), North Carolina - Axtell (1974), and Georgia as herein reported.

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A detailed study was made of the characters utilized by Dodge (1947) and Carpenter and LaCasse (1955) to test their value in separating *Wy. haynei* from *Wy. smithii*. The following specimens were studied, in addition to most of those *Wy. haynei* from Georgia listed above:

Haynei - South Carolina: 2 larvae from Columbia, III-44, D. E. Eyles; 18 larvae, VII-13-45, R. F. Fritz; 1 larvae from Charleston, VIII-45, R. F. Fritz.

Smithii - New York: 13 larvae, from McLean Bogs Reservation, VI-30-47, R. F. Darsie; Rhode Island: 3 larvae from Kingston, IV-5-49, H. C. Knudson; Massachusetts: 15 larvae from Belchertown, V-10-55, H. D. Pratt.

For purposes of this study, the chaetotaxy nomenclature of Belkin (1950) was employed. Characters used were the number of comb scales, the four setae on abdominal segment X and prothoracic and mesothoracic setae 14 (13 of Dodge), in addition to the anal gills. Table 1 contains an analysis of the number of branches found on the setae of X and the number of comb scales in the specimens of the two species at hand. None of the setae on X nor the number of comb scales, which were surprisingly close in the two species compared to the figures given by Dodge, provide salient taxonomic characters for separating larvae of these species.

Structures found useful in distinguishing the larvae of the two species are prothoracic seta 14 (P-14), mesothoracic seta 14 (M-14), and seta 2 on abdominal segments IV-VI. The former character was recognized by Dodge (1948) and appears to be the best method of separating the larvae, if anal gills are missing. In *Wy. haynei* P-14 is stouter but not longer than M-14, while *Wy. smithii* the opposite is true, M-14 is stouter than P-14. Setae 2-IV-VI in *Wy. haynei* are thin, medium-sized, single setae, thinner than the seta 5 on the same segments, whereas in *Wy. smithii* 2-IV-VI are quite stout, single setae, stouter than seta 5 of the same segments.

In light of the above findings, complet 3 in the larval key of Carpenter and LaCasse (1955, p. 64) is changed to read as follows:

3. Dorsal pair of anal gills much reduced, about 1/3 size of ventral pair; seta 14 of prothorax stouter than seta 14 of mesothorax. *haynei*

Dorsal pair of anal gills absent or represented by a pair of small swellings; seta 14 of mesothorax stouter than seta 14 of prothorax. *smithii*

It appears from an investigation of the Georgia and South Carolina populations of *Wy. haynei* that they might be distinct. Counts of 124 comb scale groups on Georgia specimens averaged 8.4 with a range of 4-17, while those of 42 comb scale groups on South Carolina specimens averaged 16.0, ranging from 10 to 24. Using this character the authors could recognize the State from which 90 percent of the specimens had been collected. Study of the other life cycle stages will be needed as well as additional material from each state to decide the matter.

TABLE 1. Analysis of branching of setae on anal segment (X) and total number of comb scales on abdominal segment VIII of W. haynei and W. smithii

Structure	<u>haynei</u>			<u>smithii</u>		
	Number Counted	Record of Branches Range Mean Mode	Number Counted	Record of Branches Range Mean Mode		
Seta Number						
1-X	140	1-5 2.73 2	53	1-5 3.0 3		
2-X	141	1-5 2.29 2	57	1-5 2.63 2		
3-X	144	1-4 2.4 2	55	2-5 2.56 2,3		
4-X	145	1-5 2.65 2	52	2-5 3.13 3		
Total Number		4-24 10.2 8	Total Number			
Comb Scales	162	4-24 10.2 8	57	5-21 10.3 9-13		

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