

# LIGHT TRAP STUDIES ON MOSQUITOES AND CULICOIDES IN WESTERN PUERTO RICO

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New Jersey type light traps have been used extensively in Puerto Rico during the last decade, but they have been located mostly in the eastern half of the island (Pritchard and Pratt, 1944). In the project reported on here the light trap was situated at Mayagüez, an important city of the west coast, in a place which is about 100 meters from the sea in an area that includes many houses, sugar cane fields, mangrove swamps and low level ground subject to prolonged flooding by fresh water. From March 31, 1951 through March 28, 1952 in the course of 276 trap nights, 73,010 mosquitoes were collected. *Culex* males were all identified by the terminalia but *Culex* females were counted as "*Culex* undetermined"; the members of other genera were determined on the basis of external characters. In order of abundance the 23 species of mosquitoes encountered were as follows:

*Uranotaenia lowii* Theobald, 10,980 males and 38,322 females; *Culex* undetermined, 5,658 females; *Uranotaenia cooki* Root, 199 males and 4,255 females; *Culex nigripalpus* Theobald, 2,882 males; *Deinocerites cancer* Theobald, 376 males and 2,115 females; *Anopheles albimanus* Wiedemann, 134 males and 1,399 females; *Aedes taeniorhynchus* (Wiedemann), 182 males and 1,308 females; *Anopheles vestitipennis* Dyar and Knab, 205 males and 933 females; *Culex habilitator* Dyar and Knab, 852 males; *Culex atratus* Theobald, 837 males; *Psorophora confinnis* (Lynch Arribáizaga), 83 males and 680 females; *Culex quinquefasciatus* Say, 646 males; *Anopheles grabhamii* Theobald, 42 males and 405 females; *Uranotaenia sapphirina*

(Osten Sacken), 80 males and 237 females; *Aedes tortilis* (Theobald), 50 males and 31 females; *Culex iolambdis* Dyar, 36 males; *Mansonia flaveola* (Coquillett), five males and 30 females; *Aedes mediovitatus* (Coquillett), 16 males and eight females; *Psorophora pygmaea* (Theobald), two males and seven females; *Culex bahamensis* Dyar and Knab, four males; *Culex opisthopus* Komp, four males; *Culex erraticus* (Dyar and Knab), four males; *Culex sardineræ* Fox, two males; *Aedes sollicitans* (Walker), one female.

The number of trap nights for each month was as follows: April, 26; May, 27; June, 20; July, 26; August, 20; September, 18; October, 33; November, 23; December, 18; January, 15; February, 25; and March, 25. Table 1 shows that *An. albimanus*, *Ae. taeniorhynchus*, *U. lowii* and undetermined *Culex* females and *C. nigripalpus* males were most abundant from May through September, which was the period of greatest precipitation. *D. cancer* and *An. vestitipennis* had a similar seasonal variation, but *U. cooki*, did not, being most numerous from November through March.

The trap yielded a total of 22,566 specimens of *Culicoides* distributed among eight species, as follows: *C. furens* (Poey), 16,826; *C. inamollae* Fox and Hoffman, 3,129; *C. pusillus* Lutz, 2,611; *C. foxi* Ortiz, 16; *C. loughnani jamaicensis* Edwards, 8; *C. hoffmani* Fox, 3; *C. phlebotomus* (Williston), 3; and *C. borinqueni* Fox and Hoffman, 1. Table 2 shows that the data do not permit a conclusion in regard to the seasonal variation of *furens*, except that abundance was not related to

TABLE 1. Monthly Average No. of Mosquitoes per Light Trap Night at Mayagüez, P. R. (*C. nigripalpus*, males, the others females) and the Rainfall in Inches.

Month	Rainfall	<i>albimanus</i>	<i>taeniorhynchus</i>	<i>lowii</i>	<i>Culex</i> Undet.	<i>nigripalpus</i>
April	3.63	1.3	6.2	42.5	5.5	2.3
May	5.77	3.0	17.3	174.0	35.0	24.0
June	4.54	6.4	10.2	52.2	15.6	6.0
July	14.59	12.3	15.9	463.0	40.5	20.6
August	7.51	18.4	1.2	485.0	32.1	38.6
September	13.94	13.5	0.2	264.0	22.1	16.0
October	6.80	4.5	0.0	79.8	13.8	6.5
November	7.63	0.7	0.1	69.1	17.0	2.9
December	3.29	0.6	0.1	14.7	16.5	5.1
January	3.78	0.2	0.1	4.0	22.0	1.1
February	0.31	0.4	1.0	3.1	10.0	1.0
March	1.53	1.4	0.2	13.4	18.3	2.0

TABLE 2. Monthly Average No. of *Culicoides* Specimens per Light Trap Night at Mayagüez, P. R. and the Rainfall in Inches.

Month	Rainfall	<i>furens</i>	<i>inamollae</i>	<i>pusillus</i>
April	3.63	246.5	4.0	1.7
May	5.77	125.9	3.0	0.4
June	4.54	15.8	11.4	0.2
July	14.59	33.1	16.3	3.0
August	7.51	41.3	10.6	4.4
September	13.94	46.7	15.7	7.2
October	6.80	53.2	11.8	7.7
November	7.63	53.5	19.6	26.4
December	3.29	55.0	23.1	25.2
January	3.78	97.9	24.3	57.9
February	0.31	10.9	4.6	2.6
March	1.53	5.2	2.5	1.5

rainfall. The months of greatest abundance of *pusillus* and *inamollae* were November, December and January, which is in accord with results of a previous study on the latter species at an interior situation in the island (Fox, 1952), and this is not due to the precipitation.

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