

on. Few alighted on the paper towel, and all dispersed rapidly when the light was turned on. With the same altering periods of light, and broadcasting calls of *B. terrestris*, or with periods of 40 sec. with no broadcasting, no flies came to the speaker. The 2 latter programs accounted for one-third of the 45-min broadcasting period, and were interspersed with 30 min of calls of *H. cinerea*. Thirty-two specimens of *Corethrella brakeleyi* were collected with an aspirator from the paper towel over the speaker, or from the air above it.

This represents the first recorded observation of *Corethrella* feeding, the first record of their feeding on amphibians, and circumstantial evidence that they are attracted to calls of their host.

I wish to thank David G. Young for identifying specimens and for information related to my observations.

References Cited

- Stone, A. 1968. The genus *Corethrella* in the United States (Diptera: Chaoboridae). *Fla. Entomol.* 51:183-186.
- Williams, J. A. and Edman, J. D. 1968. Occurrence of blood meals in two species of *Corethrella* in Florida. *Ann. Entomol. Soc. Amer.* 61:1336.

EFFECT OF POST-EMERGENCE AGE ON INSEMINATION OF COLONIZED MOSQUITOES¹

D. B. WOODARD² AND H. C. CHAPMAN

U. S. Department of Agriculture, Agricultural Research Service, Gulf Coast Mosquito Research, 803 Ave. J.—Chennault, Lake Charles, Louisiana 70601.

Mosquito colonies are an important and very useful asset to many research and control programs, and, in fact, many species have been colonized (Gerberg 1970). We maintain about 18-22 species in colony at our Gulf Coast Mosquito Research Laboratory, Lake Charles, Louisiana, by using the techniques described by

Chapman and Barr (1969). Many of these species were colonized from local material and have been reared for about 12 years; others were obtained from various laboratories and have been maintained in our laboratory for over 3 years.

We have noted periodically that when females from some of these colonies are forced to oviposit by confining them in a small vial with an attractive oviposition medium, some of the resulting egg rafts (or batches) were infertile. We have also observed that though virgin females of many species are reluctant to oviposit, most egg rafts from many of the colonized species always hatch, which could mean that 100% mating had occurred. Also, one could assume that the inbreeding that has occurred in older colonies would select for a strain that would provide 100% mating.

To check the true insemination rate, we selected 12 colonies of 6 genera. Then between 400 and 600 similarly aged pupae of each species, usually from the 2nd pupal picking so about half of the adults would be females, were allowed to eclose overnight in cages (30, 45, or 60 cm³) of about the same size used in the maintenance of the colony. (In several instances, two sizes of cages were used in testing the most important colonies.) The cages were kept in a room where the temperature and relative humidity were about 27°C and 57%, respectively; normal outside light was supplemented with 4 hr. of artificial light in late fall, winter, and early spring. One day after eclosion, and each day thereafter until complete mating occurred or the supply was exhausted, 25 females were removed from each cage, and the spermathecae were examined for motile sperm. The results for each species are the average of 3 replications.

Table 1 summarizes the results. Complete insemination occurred only in a few colonies (*Anopheles albimanus*, *An. quadrimaculatus*, *Aedes aegypti*, *Ae. taeniorhynchus* (large cage), and *Culiseta inornata*), even 11 days after emergence. Only *Cs. inornata* and *Uranotaenia lowii* mated day 1 after emergence. All species except *Cx. tarsalis*, *Cx. salinarius* (small cage), *Ae. triseriatus*, and *Psorophora ferox* had mated some by day; little mating of these species occurred until day 4. *Ae. triseriatus*, *Ae. taeniorhynchus* (30-cm³ cage), and *Cx. salinarius*, all of which have been in colony for 11 or more years, had the lowest rates of insemination.

Many factors including sex ratio, number of adults, light intensity, cage size, and whether the species is stenogomic or eurygamic can influence the degree of insemination. *Ae.*

¹In cooperation with McNeese State University, Lake Charles, Louisiana 70601.

²Present address: Mexico-US Screwworm Program, Apartado Postal No. 544, Tuxtla Gutierrez, Chiapas, Mexico.

Table 1. Insemination rates of 12 mosquitoes species in relation to days after emergence.

Species (years in colony at our laboratory)	Cage size (cm) ^c	Percent insemination of adult females at indicated days after emergence ^{a, b}										
		1	2	3	4	5	6	7	8	9	10	11
<i>Aedes</i>												
<i>aegypti</i> (11)	30°	0	17	75	97	100	..	..	..	..	..	..
<i>taeniorhynchus</i> (12)	30°	0	8	21	33	45	40	38	40	60	..	..
<i>taeniorhynchus</i> (12)	60°	0	9	36	73	71	89	81	86	92	100	..
<i>triseriatus</i> (11)	30°	0	0	0	7	16	39	65	68	..	..	..
<i>Anopheles</i>												
<i>albimanus</i> (5)	30°	0	39	88	99	100	..	..	..	..	..	..
<i>quadrifasciatus</i> (12)	30°	0	16	65	91	93	94	100	..	..	..	..
<i>quadrifasciatus</i> (12)	60°	0	4	44	57	69	97	96	100	..	..	..
<i>Culex</i>												
<i>p. pipiens</i> (5)	30°	0	26	61	88	97	94	..	..	..	..	..
<i>p. quinquefasciatus</i> (12)	30°	0	4	49	52	89	95	98	98	..	..	..
<i>salinarius</i> (12)	60°	0	0	0	4	7	15	12	23	30	36	52
<i>salinarius</i> (12)	46°	0	4	5	5	5	7	29	52	44	64	72
<i>tarsalis</i> (3)	30°	0	0	20	44	56	64	76	75	81	83	..
<i>Culiseta</i>												
<i>inornata</i> (12)	30°	76	89	100	..	..	..	..	..	..	..	..
<i>Psorophora</i>												
<i>ferox</i> (11)	30°	0	0	1	33	31	37	48	90	..	..	..
<i>Uranotaenia</i>												
<i>lowii</i> (8)	30°	20	61	74	80	92	88	..	..	..	..	..

^a 25 adult females dissected each day.

^b mean of 3 replications.

^c Normal rearing cage.

taeniorhynchus and *Cx. salinarius* mated most often in large cages; *An. quadrifasciatus* mated slightly more often in the small cage. Thus one cannot accurately predict the level of mating if similar numbers of adults are held in a small or a large cage unless something is known of the behavioral characteristics of that species.

Probably, in the general maintenance of our colonies, we have inadvertently compensated for the lower levels of mating by rearing larger numbers of larvae that produced sufficient

numbers of adults for our needs.

References Cited

- Chapman, H.C. and Barr, A.R. 1969. Techniques for the successful colonization of many mosquito species. *Mosquito News* 29 (4):532-535.
- Gerberg, E. J. 1970. Manual for mosquito rearing and experimental techniques. *Am. Mosq. Cont. Assoc. Bull.* 5, 109 pp.