

## COMPARISON OF THREE CATCHING METHODS FOR COLLECTING ANOPHELINE MOSQUITOES

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Cuba efforts have been directed towards the development and evaluation of an integrated control against *Anopheles albimanus*, the major vector of malaria in Cuba (I. Pérez, 1956, Ed. Universidad de La Habana, Cuba 572 p.) (I. García, 1977, Ed. Academia de Ciencias de Cuba, 205 p.). Such a kind of control demand an accumulation of knowledge of several ecological studies. The objective of the present research was to compare the effectiveness of three different methods to collect anopheline mosquitoes inhabiting close to a rice field.

Six biweekly samples of adult mosquitoes were drawn from the Guanamon de Armenteros town, in Havana Province from June through August 1989 (part of the rainy season) and from November 1989 through January 1990 (part of the dry season). The methods of collection of adult mosquitoes here used were: catching in light trap (plus lactic acid), on human bait and resting in human dwellings.

Three miniature light traps plus lactic acid as an attractant for host-seeking mosquitoes were used on each night of human bait collection at the same time (from 18:00-06:00 h). Traps were hung from fixed trees about 1.5-2.0 m above the ground. Human bait catchings were carried simultaneously out indoors and outdoors of two fixed houses by two persons. Baits took turns collecting off one another for the first 15 min of each hour. Furtherly, the following day all mosquitoes resting indoors of three fixed houses were collected by a manual aspirator (from 08:00-10:00 h).

The results of the collection data by the three methods per species are shown in the

Table. Most specimens were collected by human bait (91.2%) followed by light trap (6.1%) and resting places (2.6%). More mosquitoes were collected in the rainy season (74%) than at the dry season (26%). Four species of anophelines were collected during the survey, of these, *An. vestitipennis* and *An. albimanus* were the most abundants. Nocturnal biting collections yielded an average of 69 *An. vestitipennis* per collection and 61.5 *An. albimanus* in the rainy season whereas in the dry season the nocturnal biting collection yielded an average of 24.6 *An. vestitipennis* per collection and 12.3 *An. albimanus*. Results provided additional evidence that *An. albimanus* exhibit exophagic behaviour in the place studied whereas *An. vestitipennis* exhibit endophagic behaviour. Both species showed maximum activity before midnight in both seasons. Similar results in studying these species were obtained by A. Navarro et al. (1986, *Rev. Cub. Med. Trop.*, 38: 159-165) and M. C. Marquetti et al. (1990, *Rev. Cub. Med. Trop.*, 42: 101-108).

Catching on house diurnal resting mosquitoes were ineffective for sampling anophelines. Only *An. albimanus* and *An. vestitipennis* mosquitoes were collected indoors. These results provided evidence that the anophelines exhibit exophilic behaviour in the zone studied.

A total of 69 anopheline mosquitoes were collected in the light trap. The light trap method was the most effective for collecting culicines. This result is compatible with the data founded by (R. P. Meyer et al., 1984, *Mosq. News*, 44: 315-320).

The number of mosquitoes per each method were compared by an ANOVA test. The human bait method was more effective than the other ones ( $F = 5.84$ ;  $P < 0.01$ ).

TABLE

Comparison of mosquitoes caught by three collecting methods from Gunamon de Armenteros, Havana Province, Cuba

Species	Human biting collection				Light trap collection		Resting place collection	
	Rain		Dry		Rain	Dry	Rain	Dry
	In.	Out.	In.	Out.				
<i>An. albimanus</i>	115	254	21	53	3	10	17	8
<i>An. vestitipennis</i>	298	116	93	55	6	44	5	
<i>An. crucians</i>	3	3	—	2	2	2		
<i>An. grabhami</i>	6	10	1	3		2		
Total	422	383	115	113	11	58	22	8

In: Indoors; Out: Outdoors.