

a 61445

WORLD HEALTH  
ORGANIZATION



ORGANISATION MONDIALE  
DE LA SANTÉ

WHO/Mal/230 Add.1 ✓  
WHO/Insecticides/84 Add.1  
21 September 1959

ORIGINAL: ~~FRENCH~~ *English*

IRRITABILITY OF ADULT ANOPHELINES TO DDT  
ADDENDUM 1

At the time of preparing the English version of the present article, a new communication was received from M. Duport and collaborators presenting additional data on irritability tests carried out with adult anophelines.

The species tested were A. sacharovi and A. messeae captured in the field, and A. atroparvus from the colony of the Cantacuzino Institute, and as in the experiments reported above, engorged females were used throughout the work.

The technique employed was in general the same as the one previously described, although mosquitos were exposed for periods of 30 minutes instead of 15, and in the case of A. messeae some of the trials lasted for 60 minutes. But the most important departure from the method previously described was the testing of mosquitos singly as Brown<sup>1</sup> had done with A. albimanus in Panama, though in Brown's work it was the time lapse before the first take-off which was measured, instead of the number of take-offs during a period of observation as in the work of M. Duport and collaborators. These authors made also a parallel series of trials with batches of five mosquitos to compare the results with those obtained when testing singly. The main conclusions of M. Duport and collaborators and a summary of the comparative results are given below.

The Editor

---

<sup>1</sup> Brown, A. W. A. (1958) Bull. Wld Hlth Org. 19, 1053

"The observation on single mosquitos has been found more time-consuming. This increased the risk of variations taking place regarding daylight illumination, humidity, temperature, etc.

"The greatest irritation was produced by the highest DDT concentration used, but the irritation was not commensurate to the concentration employed.

"In general the number of take-offs was greater when using individual mosquitos than with batches of five.

"Engorged A. sacharovi are more irritable than A. messeae.

"Of the three species tested, the engorged A. atroparvus from the laboratory colony had the lowest irritability.

"Since most of the flights in the controls took place during the first two minutes, due probably to the transfer, the counting of the take-offs could start only from the third minute onwards. A period of from 15 to 20 minutes seems adequate to observe the irritant effect of DDT on the local anopheline species."

NUMBER OF TAKE-OFFS FROM DDT-TREATED PAPERS DURING 30-MINUTE PERIOD

Locality	Species	No. of mosquitoes per trial	Date (1959)	Temperature during test (°C)	Relative humidity during test (per cent.)	Number of take-offs per anopheles during 30-minute period*		
						2%	4%	Control
Enisala	<u>A. sacharovi</u>	1	2-3.7	20-23	62-64	20.3 (20)	26.6 (20)	5.9 (20)
		5	3.7	22	64	14.6 (20)	13.7 (20)	2.4 (20)
Carabill	<u>A. messeae</u>	1	6-7.7	23-24	63	16.3 (20)	18.3 (20)	3.9 (20)
		5	6.7	24	63	13.3 (20)	26.7 (20)	5.2 (20)
Stefanesti	<u>A. atroparvus</u> (Laboratory colony)	1	19-20.6	26-28	48	12.3 (20)	18 (19)	1.9 (20)
		5	17.6	25	50	12.7 (20)	14.4 (20)	1.6 (20)
Stefanesti	<u>A. atroparvus</u> (Laboratory colony)	1	29-30.6	25	63	10.9 (20)	14.5 (20)	1.2 (20)
		5	1.7	25	63	8 (20)	10.9 (20)	1.2 (20)

\* The figures in parenthesis after the number of take-offs indicate the number of mosquitos tested.