

THE WHITE ANTS OF A.R. EGYPT

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INTRODUCTION

Termites have lived in our country for thousands of years. The Pharaohs of Ancient Egypt used pine woods imported from Syria for making coffins, in order to protect the bodies of their mummies from the attack of termites.

In the last few decades termites have become one of the most important pests in both Lower and Upper Egypt, damaging many houses and buildings.

In view of the increasing interest in this problem, some basic studies of Egyptian termites, especially their distribution, feeding habits and control were recently undertaken.

DISTRIBUTION OF TERMITES IN THE A.R. E.

In this survey the following four termite species were collected: Anacanthotermes ochraceus Burm., Psammotermes hybostoma Desn., Microcerotermes eugnathus Silv. and Amitermes desertorum Desn. The first two species are the most injurious and widely distributed in the A.R. E. and cause great damage to both village dwellings and agriculture.

1. Anacanthotermes ochraceus Burm: This is a harvester termite found under semidesert conditions, and is associated with soils having a proportion of clay and only sufficient ground water to support a minimum of vegetation. It prefers the straw of wheat and rice; thus its damage to rural buildings is confined to green bricks, the main material used in constructing the buildings of the Egyptian villages.

A. ochraceus Burm. is also the most common termite in Lower Egypt. Its range of distribution extends to the desert areas on the mediterranean coast where it is found in Borg-Elarab and Matruh. Five severe infestations of this termite species were recorded in Egypt during the last fifty years. In 1930, the village of Barsic (Behara governorate) was completely abandoned by its inhabitants. In 1956, the farm of Beltagi (Abbohomas, Behara) was severely infested. Serious measures were immediately undertaken by the government to protect the buildings and to stop the farmers migrating from the area. In 1967, the village of El-Shohada (Menoufieh governorate) was recorded as the most infested area in Lower Egypt. In 1967/68, about 250 houses or more than half the number of buildings of El-Rahmania (Sharkia governorate) were heavily infested, and the infestation was quite obvious in the structural timbers of the houses as well as in the thrashing grounds of wheat and rice. In 1966, in El-Edwa (Fayoum governorate) the infestation of A. ochraceus Burm. was the heaviest in Upper Egypt.

2. Psammotermes hybostoma Desn.: This species occurs chiefly in Upper Egypt. It is a sand termite which inhabits the fringes of the Sahara and oases within the desert, wherever the sandy soil supports some vegetation. It causes great damage to woody trees. Kalaph (Fayoum

governorate), Heder (Minia governorate), Dar El-Salam & El-Selsela (Aswan governorate), Baris in the Khargah oasis and Ain-Eldin in the Dakhla oasis are the areas most infested with this species. In Khalaph there are about 200 infested houses and some of these have already been deserted by their inhabitants.

In Upper Egypt, A. ochraceus Burm. and P. hybostoma Desn. are widely distributed in both Fayoum governorate and Dakhla oasis.

3. Microcerotermes eugnathus Silv.: This is the first record of M. eugnathus Silv. in the A.R. Egypt and the infestation is restricted to the Dakhla oasis (Western desert). In 1967, the infestation was recorded in the villages of Tenida and Balat and in 1968 workers and soldiers were collected from some buildings of El-Hindaw. These are found in considerable numbers in the fences of the houses and gardens where this species attacks the dried leaves of the palm trees used in building these fences.

4. Amitermes desertorum Desn.: The damage caused by this termite species is restricted to Abu-Rawash area (Giza governorate).

FACTORS INFLUENCING THE ABUNDANCE OF TERMITES IN THE A.R. E.

Some of the factors which influence the abundance of termites in Egypt are:

1. - The materials (green bricks and mortar) used in the construction of the Egyptian buildings renders them liable to termite attack.
2. - The primitive custom of storing agricultural products and their remains on the roofs of the village buildings.
3. - Keeping the straw of wheat, maize and bean for long periods, sometimes longer than a year, in the thrashing grounds.
4. - Leaving dry branches and twigs under the trees in the gardens for long periods, months and sometimes years.
5. - Building fences, particularly those of the gardens, of green bricks supported with leaves of date palm trees.
6. - Storing cereals (by the cooperative societies) in infested stores or in the open air near infested places.

EFFECT OF SOME INSECTICIDES

Kassab and co-workers (1960) conducted a series of field experiments in areas infested with A. ochraceus Burm. in Lower Egypt. When the soil around the rural buildings made of green bricks was dusted with BHC* 20%, chlordane 40% as well as a solution of coal-tar creosote** to a depth of 50 cm. in a band 25 cm. wide surrounding the building,

* BHC and chlordane were mixed with rock phosphate at the rate of 1:4 by weight before being dusted on the bottom of the trench and then the earth was replaced.

** Coal-tar creosote was sprayed by bucket pump and mixed thoroughly with the soil as it was replaced in the trench.

satisfactory control of the infestation was obtained for more than 3 years.

Recently Kaschef and co-workers (1971) studied the toxicity of some insecticides to the workers of Amitermes desertorum Desn. using both the contact* and topical application techniques. Parathion was found most effective, followed by sevin. DDT was the least effective.

SUMMARY

Anacanthotermes ochraceus Burm. (Hodotermitidae) and Psammotermes hybostoma Desn. (Rhinotermitidae) are the most injurious and widely distributed termite species in the A. R. E.

A. ochraceus is the most common termite in Lower Egypt. High infestation occurs in Abbohomos (Behara), El-Shohada (Menoufieh), El-Rahmanieh (Sharkieh) and El-Edwa (Faoum). Its damage is confined to agricultural products and rural buildings made of green bricks.

Psammotermes hybostoma Desn. occurs chiefly in Upper Egypt. It attacks many trees such as date palm, olive, nabiq and acacia. The most infected areas are Khalaph (Fayoum), Heder (Minieh), Dar El-Salam & El-Selsela (Aswan) in Upper Egypt, Baris in Kharga oasis and Ein El-Din in Dakhla oasis.

Microcerotermes eugnathus Silv. is newly recorded in the A. R. Egypt. It has been found in Balat, Tenida and El-Hindaw of Dakhla oasis.

The infestation with Amitermes desertorum Desn. is confined to Abu-Rawash (Giza).

The study of the susceptibility of Amitermes desertorum Desn. to some insecticides showed that parathion can be recommended for its control.

* In the contact technique the workers were exposed to the insecticides in glass vials filled with fine sand up to about half inch from the top (Ebeling, 1958).

TABLE 1: Effect of some insecticides on some termites of the A.R. Egypt.

Termite sp.	Material used	Concentration	Application	Duration of exp.	Results	Author
<u>Anacantho- termes ochraceus</u>	BHC + rock phosphate (1:4)	20% BHC	Dust	6 years	Many dead termite workers and other insects were found at each inspection.	Kassab <u>et al</u> (1960)
"	Chlordane + rock phosphate (1:4)	40%	Dust	4 years	Termite infestation was stopped. No new damage occurred.	"
"	Coal-tar creosote	Commer- cial	Spray	3 years	No termites alive or dead were found. No new damage occurred.	"
	Insect-icide	Contact method LD50 µg/work-er	Topical applica-tion LD 50 µg/worker	Duration of test (hr)		
<u>Amitermes desertorum</u> Desn. (workers)	DDT (pure)	5.4	8.6	24		Kaschef <u>et al</u> (1971/72)
"	Sevin (85%)	2.4	0.21	24		"
"	Folidol E 605 50%	0.13	0.038	24		"

REFERENCES

- EBELING, W. & PENCE R.J. (1958). Laboratory evaluation of insecticides treated soils against the western subterranean termite. J. Econ. Ent., 51: 207-211
- HARRIS, W.V., (1951). Termites of the genus Anacanthotermes in North Africa and Near East (Isoptera: Hodotermitidae). Proc. R. ent. Soc. Lond. (B) 36: 79-86.
- KASCHEF, A.H., SOLIMAN, S.A. and EL-SHERIF, L.S. (1971). The toxicity of some organic insecticides to Amitermes desertorum Desn. (Isoptera, Termitidae). Z. angew. Ent. 67: 137-140.
- KASCHEF, A.H. and EL-SHERIF, L.S., (1971). Distribution of four termite species in the A.R. Egypt. Insectes Soc. 18: 227-232.
- KASSAB, A., CHAARAWI, A.M., HASSAN, M.I. and SHAHWAN, A.M. (1960). The termite problem in Egypt with special reference to control. Minist. Agric. Publs. A.R.E., 1-91.
- NOUR, H., SHAARAWI, A.M. and HILLAL, H. Non subterranean termite from Egypt (Isoptera, Kalotermitidae). Bull. Soc. ent. Egypte. 49: 321-322.