

**NESTING SYSTEM OF THE SUBTERRANEAN TERMITE  
*Anacanthotermes ochraceus* (HODOTERMITIDAE : ISOPTERA)**

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**ABSTRACT**

The nesting system of the subterranean termite *Anacanthotermes ochraceus* (Hodotermitidae : Isoptera) was studied at El-Fayoum Governorate, Egypt. A characteristic feature of the presence of the termite nests is the appearance of small conical heaps of coarse soil particles scattered all over the surface of the infested area. Every heap leads to a network of storage chambers, dwelling chambers and connecting galleries (tunnels) all excavated by workers into the soil underneath. Storage chambers are nearly conical in shape with rising roofs, semi-globular bases and flat smooth internal walls. They are used for storing collected food materials and usually occur at depths of 5–30 cm below soil surface. Dwelling chambers are more or less similar in shape to storage chambers but comparatively larger in size. They are often occupied with different aggregated termite castes, sometimes at the depth of 20 cm below soil surface, but mostly at depths of 30-60 cm and occasionally at deeper depths reaching 150 cm. Connecting galleries are cylindrical in shape, with very smooth inner walls. The nest consists of one main longitudinal tunnel with the chambers distributed along its sides, two main nearly parallel longitudinal tunnels connected with transverse tunnels with the chambers distributed along their sides, or a network of longitudinal straight to slightly curved tunnels connected with transverse tunnels joining between randomly scattered storage and dwelling chambers.

**Key words:** *Anacanthotermes ochraceus* – nesting system

**1. INTRODUCTION**

Termites are a group of social insects that belong to the order Isoptera. They are important pests in many countries especially in the arid tropics and subtropics (El-Sherif *et al.*, 2009). Kassab *et al.* (1960) and Hafez (1980) reported that there are – at least – 3 species of subterranean termites in Egypt the most common of which is *Anacanthotermes ochraceus* (Burmeister) from the family, Hodotermitidae. This particular species causes considerable damage to rural buildings constructed with mud bricks as its workers tunnel through the walls to reach the straw mixed with the sun-dried mud thus resulting in the collapse of attacked buildings. Termite workers further tunnel into the soil forming different types of complicated nesting systems. As a matter of fact, few authors described the nesting system of *Anacanthotermes ochraceus* (Clement, 1954; Kassab *et al.*, 1960 and Said, 1979) and few studies gave preliminary observations on the nesting systems of other termite species belonging to the genus *Anacanthotermes*, e.g. *A. ahngerianus* (Ghilarov,

1962), *A. turkestaicus* (Krishna and Weesner, 1969) and *A. macrocephalus* (Roonwal, 1970).

This paper contributes to the knowledge on the nesting system of *A. ochraceus* in a badly infested area located at El-Fayoum Governorate, Egypt. It is based on the findings of a previous study conducted at the same area by Abd El-latif (2003) on the delineation of termite colonies.

**2. MATERIALS AND METHODS**

The study of the nesting system of *A. ochraceus* was carried out at El-Sidia village, Sennoures district, El-Fayoum Governorate, which is long-known to be commonly infested with this particular termite species. A square piece of land measuring 400 square meters (20 x 20 m) was carefully cleaned up of any cellulose materials and devoted for a study on the delineation of termite colonies based on food consumption value, soil translocation value, duration of infestation and date of initial infestation, using P.V.C. traps filled up with clean corrugated cardboard rolls and buried horizontally into the soil to a depth of 30 cm (Abd El-latif,