TWO NEW SPECIES OF THE GENUS *ANTHOPHORA* LATREILLE FROM SINAI, EGYPT

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INTRODUCTION

Family Anthophoridae is a wild, long tonged bees (Alsina and Michener, 1964). These digger, solitary,pollen collecting bees are playing an important role in pollination of some plants (Borror,*et al. 1964*).The solitary bees are studied by Michener (1944,1965&2000)and also by Michener *et al.(1994)*. Forty eight Egyptian *Anthophora* species (under five subgenera) were studied taxonomically by Badawy (2001) .So these two species are added to the Egyptian *Anthophora* list.

MATERIAL AND METHODS

The collected specimens were pinned; the microscopic slides were made to the maxilla, 7th & 8th abdominal sternites. Illustrations were made from pinned bees and from microscopic slides. Scanning electron microscopy was made after cleaning and dehydrating the specimens in a series of alcohol (10%to 100%) for five minutes in each and finally in xylene. Then they were dried in air and coated with 200Aof gold. Scanning was carried out in the Central Laboratory, Faculty of Science, Ain Shams University (Gem Geol 1200 E.x II, 1992).

RESULTS AND DISCUSSION

Anthophora salwae n.sp.

(Figs 10, 11)

Description

Male length 13-15 mm, first antennal segment, clypeus, labrum, mandibles and frontal sides all black. Glossa without lobes on its anterior third (Fig.1), flabella with long finger like projections. Third antennal segment 2-3 times

as long as wide.Mentum 3.2-3.6 times as long as wide. Prementun 5 times as long as wide. Maxilla (Fig.4) with thirteen sharp stout dark teeth, fifteen ventral branched hairs and dense hairs anteriorly. Frons with dense white hairs, vertex and thorax dorsally with few black hairs .

Thorax laterally with yellow tinge, ventrally with long few white hairs. Fore leg has a distinct antennal cleaner (strigilis), chitinized velum and short spin (Fig.5). Mid leg without mid tarsal and mid- basitarsal brush, with mid-distitarsal brush. Hind tibia enlarged distally, with dorso-distal tibial process. Each leg with black hairs on the inner sides, white hairs on the outer sides & a ring of white hairs at the base of each segment. Abdomen with few white hairs and weak fasciae

Genitalia (Fig.2):Gonocoxite with dense hairs apicolaterally. Genital valve apex rectangular in shape, with blunt apex, with 1.75 as long as wide genital bridge 1.5times as long as wide; gonostylus 7 times as long as wide. The seventh sternite (Fig.6)with apodeme 0.7 as long as the length of disc. The eighth sternite (Fig.7) with few chitinization and rounded edge. The seventh tergite without teeth with short pygidial plate.

Female is similar to male but mid leg without mid-distitarsal brush, hind leg with distinct basitibial plate, legs with denser outer white hairs.

Type material: St. Katherine 20.3.1997(1male Holotype, 1 female Allotype, 5male Paratypes in Ain Shams coll., Entomology Dept., Faculty of Science, Cairo, Egypt).

Remark:

This species belongs to subgroup *Pyganthophora* Brooks, *Retusa* species group which has genital bridge short and narrow, penis valve apex large and thick, 1-2 times longer than wide. It can easily be distinguished from related black species *A.arabica* Priesner and *A.nigrilabris* Spinola by the black clypeus, labrum, mandibles and first antennal segment not whitish yellow as in these related species. It can also be distinguished from *A.angolensis* Dalla Torre) by the absence of black hairs on clypeus, the absence of wide (interrupted abdominal fasciae in female, besides the characteristic genitalia have wide, blunt apical genital apex (rectangular in shape).

Etymology:

This species is named after the name of my professor Dr. Salwa Kamal professor of Entomology, Ain Shams University.

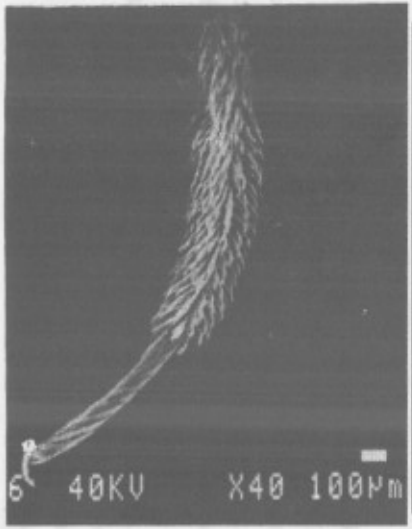

Fig. 1: Glossa of *A. Salwae n. sp.* Male

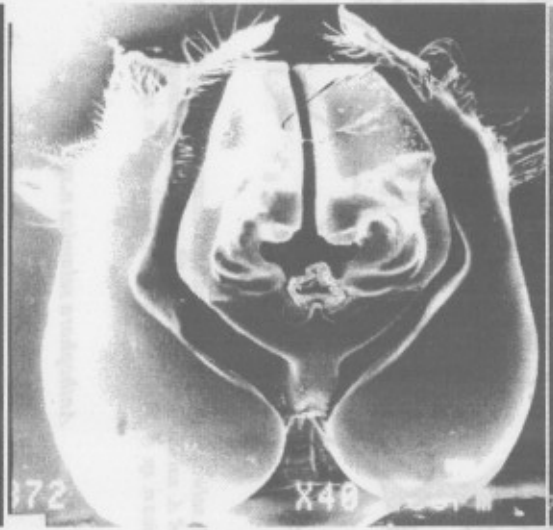

Fig. 2: Gonocoxite of *A. salwae n. sp.* Male

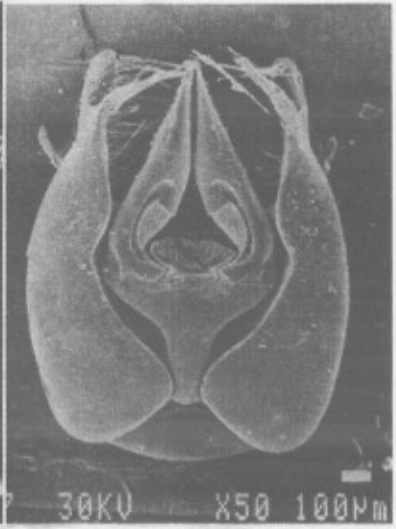

Fig. 3: Gonocoxite of *A. salamica n. sp.* Male

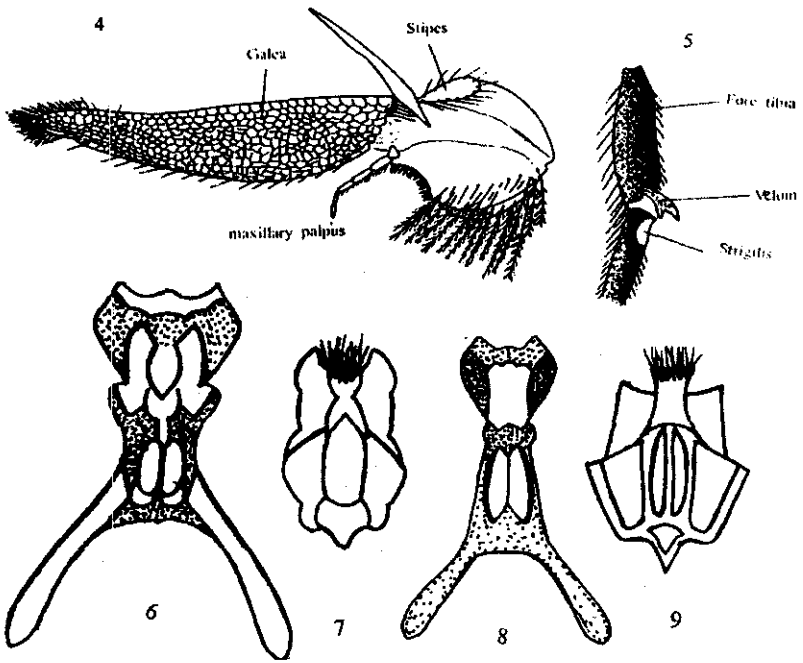

Fig. 4: Maxilla of *A. salwae n. sp.* ♂. **Fig. 5:** antennal cleaner of foreleg of *A. salwae n. sp.* ♂. **Fig. 6:** 7th sternite of *A. salwae n. sp.* ♂. **Fig. 7:** 8th sternite of *A. salwae n. sp.* ♂. **Fig. 8:** 7th sternite of *A. salamica n. sp.* ♂. **Fig. 9:** 8th sternite of *A. salamica n. sp.* ♂.

Anthophora salamica n.sp.

(Figs. 12, 13)

Description:

Male length 14-16 mm, the first antennal segment, clypeus, labrum frontal sides yellow, mandibles with yellow base. Flabellum with finger like projections, antennae yellowish-red, third, antennal segment 5-6 times as long as wide. Mentum 3.5 times as long as wide, prementum 4.5 times as long as wide, maxilla with brown teeth and few brown hairs anteriorly. Frons with whitish-yellow hairs, vertex and thorax with dense yellow hairs, tegula yellowish-red. Legs brown with brown hairs, with yellowish - white hairs on the distal and apical ring of all tarsal segments on ventral sides. mid -distitarsal brush present, mid- tarsal brush week, mid -basitarsal brush absent Abdomen brownish -black, with few brown hairs, indistinct fasciae and brown pygideal plate .

Genitalia (Fig.3): Gonocoxite with curved, semicircular outer surface, with long Lateral process, three times as long as wide. gonostylus 5 times as long as wide. Seventh sternite (Fig.8) with apodeme 0.5 as long as the length of disc, the apical part, with rectangular central large region without chitinization, median part with two elongated central delicate region. Eighth sternite with sharp elongated spiculum and sharp edges (Fig.9).

Female is similar to male, but the abdomen is larger, light brown in colour, with light brown hairs, fine yellow fasciae in the abdominal tergites 1,2,3,pygidial plate brown, with black carina. Legs with brown hairs. Hind leg with distinct first tarsal brush, the length of its hairs equals the length of the second tarsal segment.

Type Material:

Sinai 20.3.1954(1female Holotype, 1male Allotype, Ain Shams, collection Entomology Dept., Faculty of Science, Cairo, Egypt), St Katherine, 18.4.1997 (1 female Paratype).

Remark:

This species belongs to subgroup *Pyganthophora* brooks, *Rogenhoferi* species group which has the genital bridge long and narrow, three times as long as wide. But it can be easily distinguished from *A.albosignata* Friese by its light brown abdomen not black, yellowish brown legs not black, yellowish pilosity of thorax not ferruginous, in addition to seventh and eighth sternites.

Etymology:

The name of this species is derived from Arabic word Salam which means (peace, tolerance, awarding, activity, surrender & submission to God) ideals that we have learned from the honey bee.

SUMMARY

Anthophora salwae n. sp. and *Anthophora salamica* n. sp. were collected from Sinai and identified as two new species belong to subgroup *Pyganthophora* Brooks (Brooks, 1988).These two new species are described, figures for adult males and females are introduced. Male genitalia are dissected, illustrations to 7^{th} ,8^{th} abdominal sternite, maxilla and antennal cleaner of foreleg(Cane,1979) are added .Scanning electron micrographs for flabella and gonocoxites are provided, the differentiation between their related species are cleared. Holotype and Allotype are preserved in Ain Shams collection.

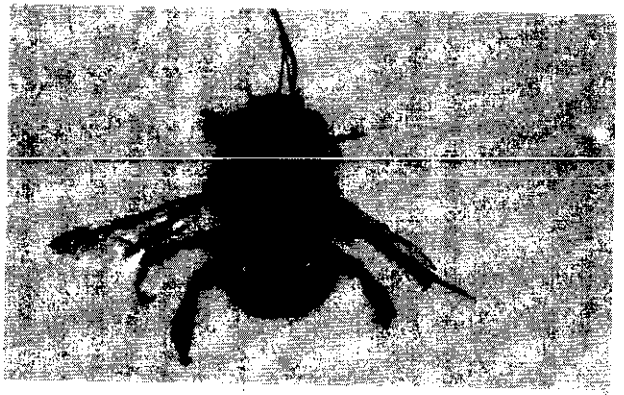

Fig. 10: Adult of *A. salwae* n. sp. Male

Fig. 11: Adult *A. salwae* n. sp. Female

Fig. 12: Adult of *A. salamica* n. sp. Male

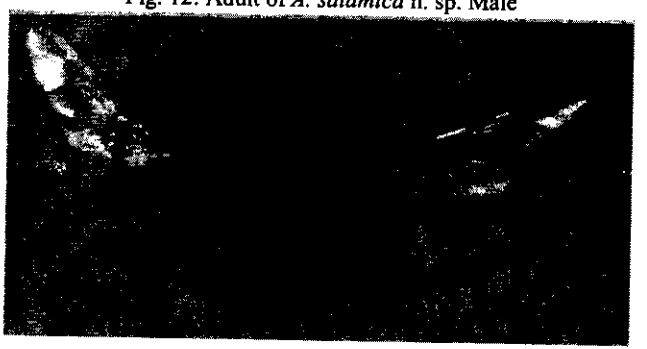

Fig. 13: Adult *A. salamica* n. sp. Female

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