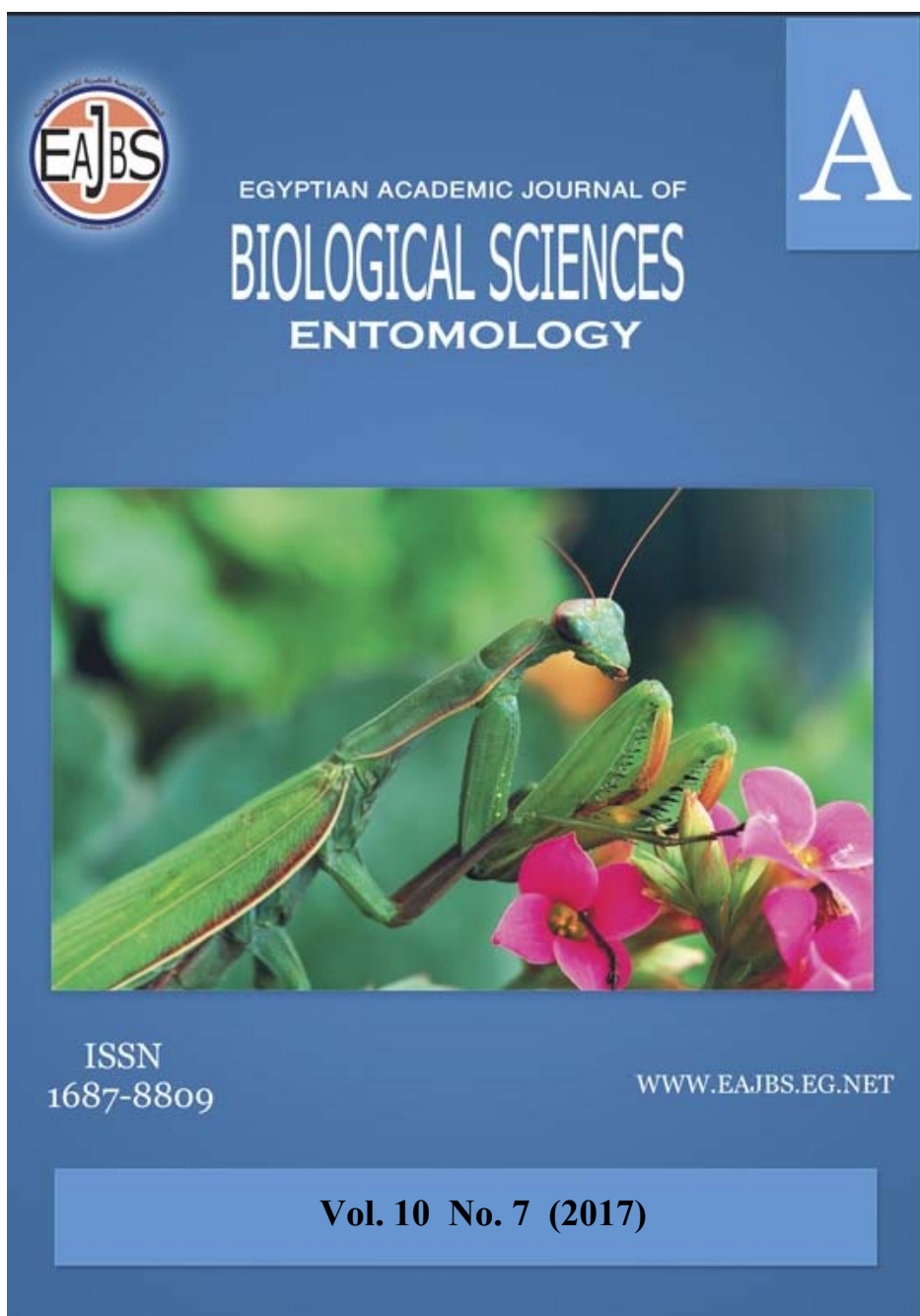


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Date Palm Host Preference of The Greater Date Moth, *Arenipses sabella* Hampson (Lepidoptera: Pyralidae) at New Valley Governorate-Egypt

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ABSTRACT

Field trials were conducted to investigate the infestation levels with the greater date moth, *Arenipses sabella* Hampson (Lepidoptera: Pyralidae) on the bunches and fruits of two common date palms (Saidi and Tamr) and the cereal cultivar (Mantor) in four Districts (El-Kharga, Paris, Balat and Mut) at the New Valley during 2015&2016 seasons.

Data of the two successive seasons in El-Kharga Oasis indicated that, Saidi (economic cultivar) was more preferred to attack by the greater date moth than Mantor. The average percentages of the cut bunch bases (CBB) which lead to loss the bunch fruits and express about the economic damage were (10.89 and 11.20%) on Saidi and (3.08 and 2.00%) on Mantor, respectively. The fruit damage for both cultivars was not noticeable.

Under Mut district, the symptoms of damage by the greater date moth was different where, the pest prefer to attack the fruit than bunch bases. The larvae was seldom feed on bunch bases of Tamr cultivar where it recorded (0.27 and 0.22%) on Tamr and (6.67 and 13.02%) on Saidi and the direct date fruit losses were (20.87 and 26.23 %) on Saidi and (47.21 and 44.62%) on Tamr during 2015 and 2016, respectively. The chemical analysis indicated that, Tamr bunch bases obtained highly Calcium and Potassium percentages (0.14 and 1.54%) than Saidi (0.12 and 1.38%), respectively. Meanwhile, the percentages of total protein and total carbohydrate (4.18 and 23.18%) were high in Saidi bunch bases than Tamr, respectively. Tamr fruits obtained highly total carbohydrate, Calcium, and Potassium percentages (61.62, 0.26 and 2.65%) than Saidi fruits (57.30, 0.14 and 1.69%), respectively. There was no significant ratio in the case of total protein.

Concerning to the incidence of *A. sabella* on Saidi variety across the four districts, this cultivar suffered from attacks with different levels. Above 80% of the tested Saidi date palm was infested. The general cut bunch bases (CBB) (about 11.00 %) was observed in El-Kharga. In Mut district, zero damage effect was obtained on the Saidi bunches and over than 20% of the Saidi fruits was lost directly.

In general, greater date moth has a large capacity to spread and infest all tested date palm under the New Valley conditions, where the average of infestation exceeded eighty percent making it one of the most important pests affecting date palm production in this governorate. Further ecological and biological studies on *A. sabella* to develop integrated pest management to combat this pest.

INTRODUCTION

The New Valley is located in the southwestern portion of the western desert of Egypt. The area is about 376505 square kilometer, which represent 37.6% of the total area of Egypt and about 56% of Egypt's western desert area. Agriculture in the New Valley Governorate is entirely restricted to five districts (El-Kharga, Paris, Balat, Mut and Farafra) in addition to East Ewinate area. Date palm (*Phoenix dactylifera*) is considered the most important cash crops in the New Valley Governorate. More than 1.8 million date palm trees are grown. The main cultivars are Saidi (semi-dry date), Tamer (dry date) and Mantor (cereal date). Beside the local consumption, dates are exported to foreign countries. The prevailing climatic condition is considered ideal for growing and fruiting of date palm.

Since the end of the twentieth century field observations and farmers' complaint indicated that, *Aphomia (Arenipses) sabella* Hampson (Lepidoptera: Pyralidae) became a major pest attacks the date trees where the rate the of infested bunches ranged between 8 and 50% in the New Valley (Gameel and Sayed, 2009 and Gameel *et al.*, 2014).

The greater date moth is one of the most important pests that attack date palm trees in several countries (Carpenter and Elmer, 1978). Symptoms of damage take several forms, the new emerged larvae move inside the inflorescence feeding on the flowers leaving black areas between the white healthy inflorescence. The larvae developed on the green fruits. The major loss is due to the larvae that chew the newly formed spathes underneath palm tree fibres and finally attack bunch stalks severely that break under the heavy weight of full ripped date fruits. Certain growth abnormalities or physiological disorders such as crown bending, dwarfing and terminal shoot bud death were also observed in few tissue culture derived date palms at the stage of flowering (Kehat and Greenberg, 1969; Abdel-Rahman *et al.*, 2007; Sudhersan and Al-Shayji, 2007 and Imam, 2012).

In Egypt, this pest was recorded as a pest attacks date palm trees in different Oases. El-Sherif *et al.*, (1998) recorded that, *A. sabella* was a frequent pest on the date palm in El-Arish region, Northern Sinai. In El- Baharia Oasis, Abdel-Rahman *et al.*, (2007) indicated that, the greater date moth became a serious pest causing enormous damages. Infested trees ranged between 41% and 100% with a general mean 60%. In Siwa Oasis, Imam, (2012) mentioned that, *A. sabella* is one of the most devastating pests that threats palm trees. Under El-Kharga Oasis-New Valley Saleh, (1974) recorded that, the rate of infestation with *A. sabella* seems to be much lower than that of *Batrachedra amydraula* Meyrick, the highest fruits infestations recorded for both species were 12.5 and 53.6%, respectively.

Generally, the previous studies under the New Valley concentrated in El-Kharga Oasis especially on the semi-dry cultivar (Saidi). There are no studies on the susceptibility of the different date palm cultivars to the infestation with greater date moth and the prevalence of this pest in different oases. Therefore, the aim of this study is to determine the extent of the spread of this pest and the nature of the damage and its percentage of loss in yield in four Districts (El-Kharga, Paris, Balat and Mut) on date palm bunch bases and fruits of two common date palms (Saidi and Tamr) and the cereal cultivar (Mantor) during 2015 and 2016.

MATERIALS AND METHODS

Paris lies 90 kilometers southern El-Kharga. Balat and Mut districts lie 140 and 200 kilometers northwest El-Kharga, respectively. Field trials were conducted in the

four Districts to study the status of the infestation with *A. sabella* on three date palm cultivars during 2015&2016 seasons.

Date palm bunches check:

In each District, five Saidi date palm fields (semi-dry date) were selected. In addition, five Mantor date palm fields (dry date) were chosen in El-Kharga and five Tamr date palm fields (dry date) were selected in Mut. Twenty date palm trees were checked in every grove (one date palm equal one replicate). In the case of bunch infestations, all bunches / one date palm from twenty replicates was examined. Inspection times were conducted at two weeks interval from the beginning of April until the harvest time (Abdel-Rahman *et al.*, 2007). The nature of bunches infestation was divided to 1: surface infestation which does not cause any yield losses but it expresses the presence and activity of the pest. 2: cut bunch bases (CBB) this was happened when the larvae of greater date moth attacked bunch bases severely that break under the heavy weight of date fruits.

Fruit infestations check:

In the case of fruit infestations, samples size 10 strands / one date palm was taken at random from twenty replicates. In each assessment fruit having symptoms of *A. sabella* infestation was recorded. Data were statistically analyzed by F-test and the means were compared according to (Snedecor and Cochran, 1971).

Chemical analysis:

In Mut district, during the maximum level of infestation with the greater date moth, samples from the fruits and bunch bases of Saidi & Tamr cultivars were taken to determine some elements and chemical compounds. Calcium (Ca), potassium (K), total protein and total carbohydrates were determined by using ICP (6200), Flame Photometer, Kjeldahl Unit and Spectrophotometer, respectively. In addition to the relative humidity which was estimated by the difference between the wet weight and the dry weight of the samples. These analyzes were conducted in the Chemical Analyses Laboratory, Faculty of Agriculture, Assiut University.

RESULTS AND DISCUSSION

Three date palm cultivars were examined to the infestation with the greater date moth in the New Valley Governorate during 2015 and 2016 seasons. Saidi variety (semi-dry) is ranked first in terms of number and importance (1.3 million trees). Mantor (cereal cultivars) comes in the second category but does not represent the importance of the farmers despite the census of up to 350 thousand trees. The dry date, Tamr come in the third grade, but cultivation is concentrated in Mut city with a total of up to 70 thousand trees. In this study the focus was on, the date palm host preference in El-Kharga and Mut oases and the incidence of *A.sabella* on Saidi variety across four districts.

Date palm host preference in El-Kharga Oasis:

The results in Table (1) indicated that generally there is no significant differences between the infestation rates on Saidi and Mantor in all tested parameter during 2015 season. The high date palm infestations, cut bunch bases(CBB), cut bunch bases per one tree and direct fruit damage (80.00,10.89, 30.40 and 0.09%) were recorded one Saidi cultivar if compared with Mantor, respectively.

Table (1): Incidence of *A.sabella* on Saidi and Mantor cultivars in El-Kharga Oasis during 2015 and 2016 seasons

Date cultivar	Date palm infestation (%)	Total bunch infestation (%)	Surface bunch infestation (%)	Cut bunch bases infestation (%)	Max. cut bunch bases/one date palm(%)	Fruit infestation (%)
Season 2015						
Saidi	80.00a	19.60a	8.71a	10.89a	30.40a	0.09a
Mantor	68.00a	21.55a	18.47a	3.08a	13.99a	0.01a
Season 2016						
Saidi	87.00a	19.17a	7.97b	11.20a	28.03a	0.05a
Mantor	82.00a	16.14a	14.14a	2.00b	9.78a	0.01a

Means followed by the same litter in each column are not significantly different at 0.05 level of probability.

Nearly the same trend of results was obtained in 2016 season except the case of cut bunch bases (CBB) where, Saidi recorded (11.20%) as compared with Mantor (2.00%). In general, data of the two seasons indicated that, Saidi was more preferred to attack by the greater date moth than Mantor and the damage concentrated on the bunches than direct injury to the fruits.

Date palm host preference in Mut Oasis:

Under Mut conditions, the symptoms of damage by the grater date moth was different where, the pest prefer to attack the fruit than bunch bases. The larvae was seldom feed on bunch bases of Tamr cultivar where it recorded (0.27 and 0.22%) on Tamr and (6.67and 13.02%) on Saidi during 2015 and 2016 seasons, respectively (Table2).

During the studying time zero CBB was observed on the two cultivars. Saidi fruits has less preferred than Tamr. The direct date fruit losses were (20.87 and 26.23 %) on Saidi and (47.21 and 44.62%) on Tamr during 2015 and 2016, respectively.

It can observe that, the behavior of this insect in feeding was different as it preferred feeding on the fruits of the Saidi and Tamr to attack the bunches. Also, Saidi fruits were less prefer than Tamr fruits.

Table(2): Incidence of *A. sabella* on Saidi and Tamr cultivars in Mut Oasis during 2015 and 2016 seasons

Date cultivar	Date palm infestation (%)	Total bunch infestation (%)	Surface bunch infestation (%)	Cut bunch bases infestation (%)	Max. cut bunch bases/one date palm(%)	Fruit infestation (%)
Season 2015						
Saidi	61.00a	6.67a	6.67a	0.00a	0.00a	20.87a
Tamr	96.00b	0.27a	0.27a	0.00a	0.00a	47.21a
Season 2016						
Saidi	77.00a	13.02a	13.02a	0.00a	0.00a	26.23a
Tamr	86.00a	0.22a	0.22a	0.00a	0.00a	44.62a

Means followed by the same litter in each column are not significantly different at 0.05 level of probability

Chemical analysis:

In an attempt to explain these results so it was necessary to conduct some chemical analysis of the fruits and bunch bases of Saidi and Tamr in Mut district. During the maximum level of infestation with *A.sabella* which was happened during the period from the end of April and mid of May samples were taken to determine some chemical compounds such as Calcium, Potassium, Total Protein, Total Carbohydrates and the Relative humidity (%).

Chemical composition analysis of the fruits and bunch bases of the two date palm cultivars in (Table3) which indicated that, there were general significant differences between the concentration ratios of the tested parameters. Tamr bunch bases obtained highly Calcium and Potassium percentages (0.14 and 1.54%) than Saidi, respectively. Meanwhile, the percentages of total protein and total carbohydrate (4.18 and 23.18%) were high in Saidi bunch bases than Tamr, respectively.

Concerning to the chemical composition of fruits of the two cultivars, Tamr fruits obtained highly total carbohydrate, Calcium, and Potassium percentages (61.62, 0.26 and 2.65%) than Saidi fruits, respectively. The Relative humidity was high (82.65%) in Saidi fruit than Tamer (80.95%). There was no significant ratio in the case of total protein.

Table (3):Chemical composition analysis of bunch bases and fruits of Saidi and Tamr date palms.

Date palm part	Date palm cultivar	Total Protein (%)	Total Carbohydrate (%)	Ca (%)	K (%)	RH (%)
Bunch base	Saidi	4.18	23.18	0.12	1.38	67.96
	Tamr	3.33	22.70	0.14	1.54	65.11
	LSD	**	*	**	**	ns
Fruit	Saidi	6.32	57.30	0.14	1.69	82.65
	Tamr	7.22	61.62	0.26	2.65	80.95
	LSD	ns	**	**	**	**

ns = Not significant

* = Significant at 0.05 level of probability

** = Significant at 0.01 level of probability

In the case of date palm host preference, data of the two seasons indicated that, Saidi was more preferred to attack by the greater date moth than Mantor in El-Kharga Oases. Under Mut conditions, the behavior of this insect pest in feeding was different as it preferred feeding on the fruits of the Saidi and Tamr to attack the bunches. Also, Saidi fruits was less prefer than Tamr. Kehat and Greenberg (1969) found that, *A. Sabella* attacks Deglet Noor, Sayer, and Zahidi palms more severely than Khadrawy, Halawy and Barhee and Sudhersan (2013) noticed that, only two date palm cultivars namely Succari and Sultana were infested with *A. sabella* larvae among the 20 cultivars tested.

The chemical composition of bunch bases and fruits of Saidi and Tamr varieties indicated that, increasing in the percentage of both Calcium and Potassium elements in both fruits and bunch bases of Tamr may be the determining factor for the preference of this insect to feed on Tamer fruits than Saidi. As recorded by Al-Shahib and Marshall (2003) and Chandrasekaran and Bahkali (2013), the chemical composition of the dates consists of high amounts of essential nutrients such as minerals (Mg, Ca, Fe, K), carbohydrates (total sugars 44–88 %, glucose and fructose 65–80 % of dry weight), vitamins, dietary fibers (6.4–11.5 %), fatty acids and proteins. The relationship between the chemical composition of date fruits and bunches and the food preference of the greater date moth was not clear in the previous studies. Generally such relationships have been previously studied by many investigators on various pests. Awmack and Leather (2002) mentioned that, host plant quality is a key determinant of the fecundity of herbivorous insects. Components of host plant quality (such as Carbon, Nitrogen, and defensive metabolites) directly affect potential and achieved herbivore fecundity. Nitrogen (N) and Phosphorus (P) are often considered to be the most limiting factors in insect

development (Huberty and Denno, 2006). However, mineral nutrients that are often overlooked can also have significant influences on insect performance. For example, Potassium (K) had a negative influence on the performance of the tobacco hornworm (*Manduca sexta*) (Stamp, 1994). Other minerals have also been found to affect insect herbivores, such as Calcium (Ca) (Scutareanu and Loxdale, 2006).

Incidence of *A. sabella* on Saidi variety across four districts:

Saidi is considered the most important economic date palm cultivar and most widespread across the oases of the New Valley. This is the first attempt to study the prevalence of this insect pest and the extent of damage it causes to Saidi across four districts.

In 2015 season, it was found that the maximum infestation with *A. sabella* (96.00 and 90.00%) were observed on the date palm of Paris and Balat, respectively. The minimum infestation ratio (61.00%) was recorded on the date palm of Mut. The general average of the infestation level was 81.75 %. About (34.21%) of the total bunches was infested in Balat recording the maximum rate of infestation. The lowest bunches infestation (6.67%) was recorded on Saidi in Mut (Table 4).

Table (4): Incidence of *A. sabella* on Saidi variety across four districts during 2015 and 2016 seasons

Districts	Date palm infestation (%)	Total bunch infestation (%)	Surface bunch infestation (%)	Cut bunch bases infestation (%)	Max. cut bunch bases/one date palm(%)	Fruit infestation (%)
Season 2015						
El-Kharga	80.00ab	19.60b	8.71b	10.89a	30.40a	0.09b
Paris	96.00a	25.11ab	24.09a	1.03b	6.59b	0.02b
Balat	90.00a	34.21a	24.83a	9.38a	30.33a	0.09b
Mut	61.00b	6.67c	6.67b	0.00b	0.00b	20.87a
Average	81.75	21.39	16.07	5.33		5.26
Season 2016						
El-Kharga	87.00a	19.17a	7.97a	11.20a	28.03a	0.05b
Paris	78.00a	19.94a	18.53a	1.41c	12.12b	0.01b
Balat	86.00a	17.88a	11.49a	6.39b	17.02b	0.06b
Mut	77.00a	13.02a	13.02a	0.00c	0.00c	26.23a
Average	82.00	17.50	12.75	4.75		6.58

Means followed by the same litter in each column are not significantly different at 0.05 level of probability

The pest induced a significant damage on the Saidi (cut bunch bases) in El-Kharga and Balat recording (10.89 and 9.38%), respectively. The low effect of the pest on the bunch bases was observed in Paris and Mut. The highest direct loss in the fruit (20.87%) was recorded on Saidi which cultivated in Mut. Saidi fruits of El-Kharga, Paris and Balat recorded the low direct infestation without any significant differences.

During 2016 season, there is no any significant difference between the infestations with the greater date moth on Saidi across the four districts. The general average of the infestation level was 82.00%. Also, the total bunches infestation recorded the same trend of results. But the important value (cut bunch bases) was obtained from the date palm in El-Kharga (11.20%). Zero CBB was noticed in Mut. As recorded during the previous season, the highest direct fruit infestation (26.23%) was found in Mut date palm.

From the data of the two successive seasons generally it can be observed that, above 80% of the tested Saidi date palm was infested with *A. sabella*. The average of the total bunches infestation were ranged between 21.39% in 2015 and 17.50% in 2016. During the two successive seasons, the general average of cut bunch bases were (5.33 and 4.75%), respectively. The maximum CBB were observed on Saidi in El-Kharga. Meanwhile zero damage effect was obtained on the date palm bunches in Mut. On the other hand under in Mut district, the pest recorded the high direct fruit infestation.

Overview on the infestation with *A. sabella* across different New Valley Districts:

The objective of this part of the study is to have an overview about the incident of the greater date moth on all date palm cultivars and in different Districts. The results of 2015 and 2016 seasons can be summarized as follows, the greater date moth infested all date palm cultivars in the four districts with an average of 81.83 and 82.66%, respectively. The average of the total bunch infestations ranged between 17.90% in 2015 and 14.39% in 2016. The mean of the cut bunch bases ranged between 4.06% in 2015 and 3.50% in 2016. The direct fruit lost was 11.38 and 11.83%, respectively (Table 5).

The highest economic damage which lead to cut and then break the bunches and loss of fruit was recorded in the El-Kharga Oasis which is cultivated the highest number of Saidi palm trees. The low CBB was obtained from Mantor followed by Tamr. The maximum direct date fruit losses were recorded on Tamr and Saidi in Mut district. Meanwhile, the minimum direct date fruit losses were recorded on Mantor. It is clear that, the greater date moth caused clear economic damage to palm trees grown in El-Kharga and Mut more than Paris and Balat.

It could be observed that, in the New Valley Governorate the greater date moth has a large capacity to spread and infest all tested date palm cultivars, where the average of infestation exceeded 80%. *A. sabella* recorded nearly the same trend of results on different countries. In Iraq, Hussain (1963) recorded that, 70% of the date palm trees were infested in Basra. In Egypt, Abdel-Rahman *et al.*, (2007) found that, the infested trees ranged between 41% and 100% with a general mean 60% Siwa Oasis.

The maximum bunches infestation was 34.21% and the average ranged between 17.90% in 2015 and 14.39% in 2016. Hussain (1963) found that, 49% of the date palm bunches were infested in Iraq. In the New Valley, the rate of infested bunches ranged between 8 and 50% as recorded by (Gameel and Sayed, 2009 and Gameel *et al.*, 2014). Al-Antary *et al.*, (2015) recorded that, great date moth considered to be one of the most economically important pests in Jordan, all trees found infested in the Ghor Kabid and Baqurah Farms, 45% and 55% of the bunches found infested.

Table (5): Incidence of *A. sabella* on different date palm cultivars across four districts during 2015 and 2016 seasons

Districts	Date palm Infestation (%)	Total bunch Infestation (%)	Surface bunch Infestation (%)	Cut bunch bases infestation (%)	Max. cut bunch bases/one date palm (%)	Fruit Infestation (%)
Season 2015						
El-Kharga (Saidi)	80.00abc	19.60b	8.71b	10.89a	30.40a	0.09c
Paris (Saidi)	96.00a	25.11ab	24.09a	1.03b	6.59b	0.02c
Balat (Saidi)	90.00ab	34.21a	24.83a	9.38a	30.33a	0.09c
Mut (Saidi)	61.00c	6.67c	6.67b	0.00b	0.00b	20.87b
Mut (Tamr)	96.00a	0.27c	0.27b	0.00b	0.00b	47.21a
El-Kharga (Mantor)	68.00bc	21.55b	18.47a	3.08b	13.99ab	0.01c
Average	81.83	17.90	13.84	4.06		11.38
Season 2016						
El-Kharga (Saidi)	87.00a	19.17a	7.97bc	11.20a	28.03a	0.05c
Paris (Saidi)	78.00a	19.94a	18.53a	1.41c	12.12b	0.01c
Balat (Saidi)	86.00a	17.88a	11.49ab	6.39b	17.02b	0.06c
Mut (Saidi)	77.00a	13.02a	13.02ab	0.00c	0.00c	26.23b
Mut (Tamr)	86.00a	0.22b	0.22c	0.00c	0.00c	44.62a
El-Kharga (Mantor)	82.00a	16.14a	14.14ab	2.00c	9.78bc	0.01c
Average	82.66	14.39	10.89	3.50		11.83

Means followed by the same litter in each column are not significantly different at 0.05 level of probability

The high cut bunch bases (CBB) which happens as a result of the feeding behavior of this pest where larvae of the greater date moth mine the spathes and bore at the stalk base causing the breakage of bunch stalk and losing its date fruits (Abdel-Rahman, *et al.*, 2007 and Imam, 2012) was recorded in the El-Kharga Oasis where, the infestation rates were (10.89 and 11.20%) on Saidi during 2015 and 2016, respectively. The low CBB was obtained from Mantor followed by Tamr. The maximum direct date fruit losses (20.87 and 26.23 %) were recorded on Saidi and Tamr (47.21 and 44.62%) in Mut district during 2015 and 2016, respectively. Meanwhile, the minimum direct date fruit losses were recorded on Mantor.

Finally it could be confirmed that, this study which was first conducted across four districts of the New Valley showed several facts such as, in general, Saidi was more preferred to attack by the greater date moth than Mantor as recorded in El-Kharga Oasis. Under Mut district, the behavior of greater date moth in feeding was different as it preferred feeding on the fruits of the Saidi and Tamr to attack the bunches. Also, Saidi fruits were less preferred than Tamr. The chemical analysis indicated that, increasing in the percentages of both Calcium and Potassium elements in both fruits and bunch bases of Tamr may be the determining factor for the preference of this insect to feed on Tamer fruits than Saidi. Under El-Kharga Oasis, the main date palm cultivar (Saidi) suffered from *A.sabella* attacks where it recorded the maximum cut bunch bases which reflect economic damage and loss of the fruit. The greater date moth (*A. sabella*) has a large capacity to spread and infested all tested date palm cultivars. All of the above requires further ecological and biological studies on *A.sabella* to develop integrated pest management to combat this pest in the presence of a decision issued by the Ministry of Agriculture in 1995 prevents the utilization of traditional pesticides in the control of agricultural pests in the of New Valley.

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ARABIC SUMMARY

التفضيل العائلي لحشرة ثاقبة العراجين (دودة الطلع الكبرى) على نخيل البلح في محافظه الوادي الجديد-مصر

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أجريت هذه الدراسة خلال موسمي 2015 و2016 لدراسة مدى إصابة اثنين من أصناف النخيل (صعيدي وتمر بالاضافة للمنتور وهو النخيل البذري بحشرة دودة الطلع الكبرى وذلك في أربع مراكز إدارية (الخارجة - باريس-بلاط-موط) بمحافظة الوادي الجديد.

أظهرت النتائج بواحة الخارجة أن الصنف الصعيدي (الصنف الاقتصادي) كان أكثر تفضيلاً لحشره ثاقبة العراجين عن المنتور.

في مركز موط لوحظ أن آفة ثاقبة العراجين تفضل التغذية على ثمار نخيل التمر عن الصعيدي وان قواعد سباطات نخيل التمر نادرا ما تصاب حيث كانت نسبة اصابه السباطات (0,27 و 0,22%) للتمر و(6,67 و 13,02%) للصعيدي وكان متوسط الفقد في محصول الثمار للصنف الصعيدي (20,87 و 26,23%) ولصنف التمر (44.62 و 47.21%) خلال موسمي 2015 و2016 على التوالي . اظهر التحليل الكيميائي لكل من ثمار وقواعد سباطات صنف الصعيدي والتمر أن ثمار التمر تحتوى على نسب عالية من كل من عنصري البوتاسيوم والكالسيوم عن الصنف الصعيدي بينما كان هناك تباين في النسب الكلية لكل من البروتين الكلى و الكربوهيدرات الكلية و الرطوبة النسبية في كلا الصنفين.

عانى الصنف الصعيدي وهو صنف نصف جاف والأكثر شيوعا بمحافظه الوادي الجديد من الاصابه بتلك الآفة ولكن بنسب مختلفة وذلك في أربع مراكز إدارية (الخارجة - باريس - بلاط - موط) محل الدراسة. أظهرت النتائج أن أكثر من 80% من اجمالى النخيل الذي تم فحصه كان مصابا بهذه الحشرة و أعلى متوسط لقطع قواعد السباطات (1%) تم تسجيله في واحة الخارجة. ويعتبر قطع حوامل السباطات هو الضرر الاقتصادي الذي تسببه هذه الحشرة حيث يؤدي إلى كسر حوامل السباطات مما يؤدي إلى فقد المحصول وهذا يحدث عادة خلال شهر أغسطس عندما تكون العزوق ثقيلة وغير قادرة على حمل الثمار.

بصفة عامة أظهرت النتائج أن لدى دوده الطلع الكبرى قدرة كبيرة على الانتشار و اصابه جميع أنواع النخيل موضع الدراسة تحت ظروف محافظة الوادي الجديد حيث تجاوز معدل الإصابة 80% مما يجعلها من أهم الآفات التي تؤثر على إنتاجيه نخيل البلح في هذه المحافظة. مما يستلزم معه مزيد من الدراسات الايكولوجية والبيولوجية لهذه الحشرة لتطوير وسائل المكافحة المتكاملة للحد من الاصابه بهذه الحشرة المدمرة.