



## **SURVEY OF NOXIOUS BIRDS IN MINIA REGION, EGYPT**

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### **ABSTRACT**

The noxious birds inhabiting the Minia University area were surveyed during two subsequent seasons 2011/2012 and 2012/2013. The house sparrow *Passer domesticus niloticus*, the hooded crow *Corvus corone sardonius*, the egyptian stock doves, *Streptopelia senegalensis aegyptiaca*, the crested lark *Calerdia cristata maculate*, the egyptian bulbul, *Pycnonotus barbatus arsiniae* and the bee eater *Merops apiaster* were the most bird species presence. The obtained data showed the significance superiority of house sparrow occurrence on trees compared with the other birds recording occurrence percentages 92.3 and 94.8% for the two observed seasons, and the lowest once on the trees were recorded with bee eater (1.7 and 2.1) in the same two seasons, respectively. On electric wires, the highest occurrence percentages (61.8 and 76.7%) were scored with hooded crows in 2011/2012 and 2012/2013 seasons, respectively, while the lowest occurrence (5.0% and 8.3) were recorded with crested lark in the both two studied seasons, respectively. House sparrow surpassed again the other birds for the occurrence on the ground recording (77.5 and 87.0%), while the lowest ones (0.0) was recorded with bee eater in the same two successive seasons, respectively. In the air the house sparrow scored the highest occurrence percentages (63.3 and 73.3%), while the egyptian bulbul recorded the lowest ones (16.6 and 23.3%), during the two studied seasons, respectively. Hooded crows recorded high percentages of occurrence in spring and autumn while the house sparrow and crested lark frequently observed in summer. The egyptian bulbul was recorded with scarce members in winter, then gradually appeared in spring reaching the highest occurrence in August. Bee eater was recorded only in spring and autumn. Generally, it was observed that the percentages of occurrence of the tested birds were higher in the second season of the study than in the first one. Preferable places for bird roosting were differed seasonally. All birds were observed in different seasons of 2011/2012 and 2012/2013 unless bee eater that was hidden in winter and summer and appeared in spring and autumn on electric wires. Egyptian bulbul birds seemed abundantly on fig trees. The egyptian stock dove in

winter dwelled the shrubs while in summer showed on date palms and olive trees in summer. In winter the house sparrow roosted on deciduous trees, while this bird resided in the evergreen trees in summer. Crested lark resided olive trees in winter and autumn but it was found on *Ficus* spp. trees during summer in both two studied seasons.

## INTRODUCTION

Harmful birds such as house sparrows, larks, hooded crows, palm doves and bee eaters, cause serious damage to many crops, wheat, barley, maize and peas in addition to some specialty seed crops as well as fruits and beneficial insects. Damage was rarely perceived to exceed 5% in cereals but was often high in specialty crops (Coleman *et al.*, 2001 in New Zealand).

The noxious bird responsible for most of the damage all over the world was house sparrow that received the most interest by researchers (Metzmacher, 1983 in Algeria; Pinowska and Krasnicki, 1985 in Poland; Mathew and Naik, 1993 in India; Piper, 1995 in USA; Lambrechts *et al.*, 1997 in France; Ringsby *et al.* 2002 in Norway; Robinson and Sutherland, 1999 in UK.; Chen and Hasieh, 2002 in Taiwan; Gil –Delgado *et al.*, 2002 in Spain.

Limited cultivated area and food insufficiency in Egypt consider a major problem appears facing the exceeding increment in Egyptian population so the extensive researches must be directed toward the harmful birds. In Egypt researches in this field were performed by El-Kifl, 1967; El-Bacoury, 1981; Khattab, 1993; Soliman, 1993; Wilson, 1993; Tolba, 2006 and Bonnah (2007). The present study aims to survey the harmful birds in Minia region

## MATERIALS AND METHODS

Survey of the harmful birds was achieved in approximately one hundred feddan of Minia University area. Five

hundred of different trees, ten electric wires (one hundred meters in length), ten areas 1000 m<sup>2</sup> of ground and the air above these areas as the occurrence places of birds were observed fortnightly at noon during 2011/2012 and 2012/ 2013 seasons. Mean of observed birds during the tested months were recorded. Birds were observed by the aim of looking –glass and Camera. The occurred different genera were hunted and identified in the laboratory according to Bledsoe and Payne (1991). Frequently occurrence of the different bird species was estimated by dividing the number of the positive bird places containing the bird species on the total bird species observed places.

## RESULTS AND DISCUSSION

### I-Monthly occurrence of harmful birds inhabiting the area of Minia University during 2011/2012 and 2012/2013 seasons:-

Table (1) shows that the noxious birds surveyed were the house sparrow *Passer domesticus niloticus*, the hooded crow *Corvus corone sardonius*, the egyptian stock doves *Streptopelia senegalensis aegyptiaca*, the crested lark *Galerdia cristata maculate*, the egyptian bulbul *Pycnontus barbatus arsine* and the bee eater *Merops apiaster*

El- Huseiny (1940), Goodman *et al.* (1989) and Bonnah (2007) indicated that the hooded crow *Corvus corone sardonius* which characteristic to be Nile valley bird spread allover Egyptian countries from Delta to Upper Egypt. El-Bacoury (1976) , Wilson (1993), El-Deeb *et al.* (1994, 1995) and Tolba (2006) reported that house sparrow, *Passer*

*domesticus niloticus* is amongst the most familiar bird species in Egypt.

Data in Table (1) show the significantly superior of the occurrence of the house sparrow during 2011/2012 season on trees followed by the crested lark, the Egyptian stock dove, the Egyptian bulbul, the hooded crow and the bee eater, recording average occurrences 92.3, 79.8, 48.8, 28.8, 16.04 and 1.7 %, respectively.

The distribution of the bird occurrences differed on electric wires (Table 2) whereas the hooded crow was in the 1<sup>st</sup> rank revealed the value of 61.6% while bee eater came in the second (29.2%), the following occurrence values were 24.0, 18.3, 8.3 and 5.0 % with the Egyptian stock dove, the house sparrow, the Egyptian bulbul and the crested lark, respectively. The hooded crows and the bee eater preferred the roosting on electric wires may be due to their behavior for regarding wide area looking for food. El-Danasoury (2002) revealed that the migratory birds could be divided into two categories only (1) perching birds included five species from them the bee-eater, *Merops apiaster* (2) Water side birds.

As for the inspected areas of ground during 2011/2012 season, the most frequently of occurrence was the house sparrow bird (77.5 %) followed by the hooded crow, the crested lark, the Egyptian stock dove and the Egyptian bulbul, revealing the occurrence percentages of 55.0, 55.0, 51.6 and 22.5%. the Bee eater is not wated on the ground (Table 3)

In the tested area of the air the most prevalence bird species was the house sparrow that significantly occurred by 63.3 % as average during the tested months of 2011/2012 as shown in Table (4). Average occurrence percentages in the air of 44.2,

43.4, 36.6, 34.2 and 16.6 were recorded with the Egyptian stock dove, the hooded crow, the crested lark, the bee eater and the Egyptian bulbul, in sequence.

Data presented in Tables (1 to 4) exhibit that the average of occurrence percentages of the hooded crows during 2011/2012 season on electric wires 61.6 that surpassed the average of occurrence on ground (55.0%) and in the air (43.4%) while the lowest (16.04%) was on trees. The occurrence of the hooded crows was high in spring months from March to May recording occurrence percentages from 26.6 to 35.4, 80.0 to 90.0, 70.0 to 80.0 and 60.0 to 70.0%, on the inspected trees, electric wires, ground and the air areas, respectively. The other high occurrence was observed in autumn months from September to November revealing from 17.6 to 27.0, 50.0 to 60.0, 60.0 to 80.0 and 40.0 to 50.0 % on the inspected trees, electric wires, ground and the air areas, respectively. These results agree with those found by Bonnah 2007 who reported that the population of the hooded crows declined in winter and summer while the population increment was clearly in spring and autumn.

Regarding the house sparrow, *Passer domesticus niloticus* the occurrence percentages on trees initiated for increasing gradually through winter and spring months of the tested seasons of 2011/2012 and reached the highest occurrence (100%) in summer months then declined gradually in autumn. The results of the present studies are conformity with those obtained by Tolba (2006) who found that the population of the house sparrow reached the maximum in July.

The crested lark occurred frequently on trees in summer as compared with the other tested seasons whereas the occurrence reached the maximum

occurrence in July (97.0%), While on electric wires the crested lark was observed only in spring and autumn by occurrence 20 and 10 %, respectively. On ground the frequently of occurrence of the crested lark was high in April and November( 80%) this may be attributed to the plenty of different plant seedlings in these periods. Abolghasem *et al* reported that most autumn diets of crested lark were seeds, largely grasses and cereals

The egyptian bulbul was scarcely occurred in winter season then gradually appeared in spring reaching the highest occurrence in August. This result may be attributed to the occurrence of fig yield in August that consider the most favorable fruit trees to the egyptian bulbul.

Egyptian stock dove was frequently found by 48.8, 24.0, 51.6 and 44.2 % on trees, electric wires, on the ground and in the air, respectively. Frequently observing of this bird on the ground agree with the finding of Statheesan *et al.*, (1990) who reported that doves of the genus *Streptopelia* are fairly terrestrial, foraging on the ground in grasslands and cultivation.

As for the inspection of 2012/2013 season, the average occurrence of noxious birds behaved in the same trend as the occurrence of 2011/2012. Table (5) exhibits the superiority of the house sparrow occupying trees by 94.8% of occurrence followed by the crested lark (86.8%), while the lowest occurrence (2.1 %) was observed with the bee eater bird on the trees. Table (6) shows that, on electric wires there is significant differences between the occurrence of the hooded crows that presented abundantly and scored 76.7 % and other birds were followed by Egyptian stock dove (38.3%) then bee eater (36.7%). The scarce number of the crested lark (8.3 %) was recorded on the electric wires.

On the ground as shown in Table (7), the house sparrow came in the front recording an average of, 87.0 % that significantly differed as compared with the other birds and followed by the hooded crow and crested lark (65.0%) per each, while the bee eater was completely disappeared on the ground all over 2012/2013 season. Harbard (1989) reported that the crested lark is largely vegetarian birds but will also eat insects, particularly beetles with food either being scavenged from the ground or dug up. On the other hand the most observed bird flight in the air was the house sparrow that significantly scored 73.3% and the lowest observed bird in the flight was the egyptian bulbul (23.3%) (Table 8). Variation between months in the occurrence of different birds in different inspected places was in the same trend with the 1<sup>st</sup> tested season of 2011/2012

## **II-Seasonal occurrence and preferable places for bird roosting:-**

Data presented in Tables (9&10) indicate that the occurrence of birds and preferable places for bird roosting were differed seasonally. All birds were observed in different seasons during 2011/2012 and 2012/2013 unless the bee eater that was hidden in winter and summer and appeared in spring and autumn, this result may be attributed to the migration of this bird escaping the cold or hot weathers in Europe or African tropical countries.

In winter the house sparrow roosting on deciduous trees such as *Poinciana*, cassia and mulberry that less shadowed for enjoying the sun worm. Contrariwise in summer these birds reside in the evergreen trees such as Chinese banyan (*Ficus* spp.), whereas these birds find the protection against the heat of sun rays.

**Table (1): Monthly occurrence percentages of harmful birds in Minia University area on 500 different trees during 2011/2012 season**

Birds		Months											Average of occurrence	
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.		Nov.
Egyptian bulbul	P.S	10.0	20.0	26.0	89	121	200	240	267	312	212	187	43	144.0
<i>Pycnonotus barbatus arsinoe</i>	Oc.	2.0	4.0	5.2	17.8	24.2	40.0	48.0	53.4	62.4	42.4	37.4	8.6	28.8 % d
Egyptian stock doves	P.S.	115	123	156	212	245	260	349	350	388	280	260	190	244.0
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	23.0	24.6	31.2	42.4	49.0	52.0	69.8	70.0	77.6	56.0	52.0	38.0	48.8 % c
Crested lark	P.S.	287	295	300	389	400	436	477	485	480	477	410	353	399.1
<i>Calerdia cristata maculata</i>	Oc.	57.4	59.0	60.0	77.8	80.0	87.2	95.4	97.0	96.0	95.4	82.0	70.6	79.8 % b
Bee eater	P.S.	0.0	0.0	0.0	12	20	11	0.0	0.0	6	26	29	0.0	8.7
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	2.4	4.0	2.2	0.0	0.0	1.2	5.2	5.8	0.0	1.7 % f
Hooded crow	P.S.	23	12	25	133	211	177	60	36	49	88	113	35	80.2
<i>Corvus corone sardonius</i>	Oc.	4.6	2.4	5.0	26.6	42.2	35.4	12.0	7.2	9.81	17.6	22.6	27.0	16.04 % e
House sparrow	P.S	345	400	422	450	487	500	500	500	500	500	497	434	461.3
<i>Passer domesticus niloticus</i>	Oc.	69.0	80.0	84.4	90.0	97.4	100	100	100	100	100	99.4	86.8	92.3 % a

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (500 trees) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05

**Table (2): Monthly occurrence of harmful birds in Minia University area on ten electric wires hundred meters in length during 2011/2012 season**

Birds		Months											Average of occurrence	
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.		Nov
Egyptian bulbul	P.S	0.0	0.0	0.0	1	1	1	2	2	2	1	0.0	0.0	0.83
<i>Pycnonotus barbatus arsinoe</i>	Oc.	0.0	0.0	0.0	10	10	10	20	20	20	10	0.0	0.0	8.3 % d
Egyptian stock doves	P.S.	2	4	3	4	5	3	0.0	0.0	2	3	2	1	2.4
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	20	40	30	40	50	30	0.0	0.0	20	30	20	10	24.0% b
Crested lark	P.S.	0.0	0.0	0.0	0.0	2	2	0.0	0.0	0.0	1	1	0.0	0.5
<i>Calerdia cristata maculata</i>	Oc.	0.0	0.0	0.0	0.0	20	20	0.0	0.0	0.0	10	10	0.0	5.0% d
Bee eater	P.S.	0.0	0.0	0.0	7	8	7	0.0	0.0	0.0	3	8	2	2.92
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	70	80	70	0.0	0.0	0.0	30	80	20	29.2 % b
Hooded crow	P.S.	4	4	5	7	8	9	5	5	6	6	7	8	6.16
<i>Corvus corone sardonius</i>	Oc.	40	40	50	70	80	90	50	50	60	60	70	80	61.6 a
House sparrow	P.S	2	2	3	3	4	3	0.0	0.0	0.0	1	1	3	1.83
<i>Passer domesticus niloticus</i>	Oc.	20	20	30	30	40	30	0.0	0.0	0.0	10	10	30	18.3 % c

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (500 trees) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05

**Table (3): Monthly frequently occurrence of harmful birds in Minia University area on ten areas of grounds(1000 m<sup>2</sup>) during 2011/2012 season.**

Birds		Months											Average of occurrence	
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.		Nov
Egyptian bulbul	P.S	0.0	0.0	0.0	2	2	2	3	4	6	4	3	1	2.25
<i>Pycnonotus barbatus arsinoe</i>	Oc.	0.0	0.0	0.0	20	20	20	30	40	60	40	30	10	22.5 % c
Egyptian stock doves	P.S.	3	4	5	6	6	7	6	6	7	5	4	3	5.16
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	30	40	50	60	60	70	60	60	70	50	40	30	51.6 % b
Crested lark	P.S.	5	3	6	7	8	6	3	3	3	7	7	8	5.5
<i>Calerdia cristata maculata</i>	Oc.	50	30	60	70	80	60	30	30	30	70	70	80	55.5% b
Bee eater	P.S.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 % d
Hooded crow	P.S.	5	5	6	8	9	9	3	2	3	5	5	6	5.5
<i>Corvus corone sardonius</i>	Oc.	50	50	60	80	90	90	30	20	30	50	50	60	55.0 % b
House sparrow	P.S	6	7	7	8	9	9	10	10	8	7	6	6	7.75
<i>Passer domesticus niloticus</i>	Oc.	60	70	70	90	90	100	90	100	80	70	60	60	77.5 a

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (500 trees) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05

**Table (4): Monthly frequently occurrence of harmful birds in Minia University area in the air above the inspected ground areas during 2011/2012 season**

Birds		Months												Average of occurrence
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.	Nov	
Egyptian bulbul	P.S.	0.0	0.0	0.0	1	2	3	3	4	4	2	1	0.0	1.66
<i>Pycnonotus barbatus arsinoe</i>	Oc.	0.0	0.0	0.0	10	20	30	30	40	40	20	10	0.0	16.6 % c
Egyptian stock doves	P.S.	2	3	4	6	5	6	5	5	6	4	4	3	4.42
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	20	30	40	60	50	60	50	50	60	40	40	30	44.2 % b
Crested lark	P.S.	3	4	4	5	6	6	5	3	3	2	2	1	3.66
<i>Calerdia cristata maculata</i>	Oc.	30	40	40	50	60	60	50	30	30	20	20	10	36.6 % b
Bee eater	P.S.	0.0	0.0	0.0	8	9	8	0.0	0.0	0.0	5	8	3	3.42
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	80	90	80	0.0	0.0	0.0	50	80	30	34.2 % b
Hooded crow	P.S.	4	3	4	6	7	7	3	2	3	4	4	5	4.33
<i>Corvus corone sardonius</i>	Oc.	40	30	40	60	70	70	30	20	30	40	40	50	43.4% b
House sparrow	P.S.	4	5	5	6	6	7	8	10	9	7	5	4	6.33
<i>Passer domesticus niloticus</i>	Oc.	40	50	50	60	60	70	80	100	90	70	50	40	63.3% a

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (500 trees) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05



**Table (5): Monthly occurrence of harmful birds in Minia University area on 500 different trees during 2012/2013 season**

Birds		Months											Average of occurrence	
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.		Nov
Egyptian bulbul	P.S	10	10	30	107	145	240	288	320	374	254	224	52	171.2
<i>Pycnonotus barbatus arsinoe</i>	Oc.	0.02	0.02	0.06	21.4	29	48	57.6	64	74.8	50.8	44.8	10.4	34.2%
Egyptian stock doves	P.S.	138	148	187	254	294	312	419	420	466	336	312	228	292.8
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	27.6	29.6	37.4	50.8	58.8	62.4	83.8	84	93.2	67.2	62.4	45.6	58.6%
Crested lark	P.S.	344	354	360	400	467	480	480	500	500	480	450	390	433.75
<i>Calerdia cristata maculata</i>	Oc.	68.8	70.8	72	80	93.4	96	96	100	100	96	90	78	86.8%
Bee eater	P.S.	0.0	0.0	0.0	15	24	13	0.0	0.0	8	31	35	0.0	10.5
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	3	4.8	2.6	0.0	0.0	1.6	6.2	7	0.0	2.1
Hooded crow	P.S.	28	15	30	160	253	212	72	43	59	105	135	42	96.2
<i>Corvus corone sardonius</i>	Oc.	5.6	3	6	32	50.6	42.4	14.4	8.6	11.8	21	27	8.4	19.2
House sparrow	P.S	414	455	478	480	487	500	500	500	500	500	450	424	474.0
<i>Passer domesticus niloticus</i>	Oc.	82.8	91	95.6	96	97.4	100	100	100	100	100	90	84.8	94.8

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (500 trees) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05

**Table (6): Monthly occurrence of harmful birds in Minia University area on ten electric wires hundred meters in length during 2012/2013season**

Birds		Months											Average of occurrence	
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.		Nov
Egyptian bulbul	P.S	0.0	0.0	0.0	2	2	2	3	3	3	2	0.0	0.0	1.4
<i>Pycnonotus barbatus arsinoe</i>	Oc.	0.0	0.0	0.0	20	20	20	30	30	30	20	0.0	0.0	14.2 %
Egyptian stock doves	P.S.	3	6	5	6	8	5	0.0	0.0	3	5	3	2	3.8
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	30	60	50	60	80	50	0.0	0.0	30	50	30	20	38.3% b
Crested lark	P.S.	0.0	0.0	0.0	0.0	3	3	0.0	0.0	0.0	2	2	0.0	0.8
<i>Calerdia cristata maculata</i>	Oc.	0.0	0.0	0.0	0.0	30	30	0.0	0.0	0.0	20	20	0.0	8.3%
Bee eater	P.S.	0.0	0.0	0.0	9	9	9	0.0	0.0	0.0	5	9	3	3.7
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	90	90	90	0.0	0.0	0.0	50	90	30	36.7 % b
Hooded crow	P.S.	6	6	8	8	9	9	8	8	7	7	7	9	7.7
<i>Corvus corone sardonius</i>	Oc.	60	60	80	80	90	90	80	80	70	70	70	90	76.7% a
House sparrow	P.S	3	3	5	5	6	5	0.0	0.0	0.0	2	2	5	3
<i>Passer domesticus niloticus</i>	Oc.	30	30	50	50	60	50	0.0	0.0	0.0	20	20	50	30 % b

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (10 electric) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05

**Table (7): Monthly frequently occurrence of harmful birds in Minia University area on ten areas of grounds (1000 m<sup>2</sup>) during 2012/2013 season**

Birds		Months											Average of occurrence	
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.		Nov
Egyptian bulbul	P.S	0	0	0	2	2	2	4	5	7	5	4	1	2.7
<i>Pycnonotus barbatus arsinoe</i>	Oc.	0.0	0.0	0.0	20	20	20	40	50	70	50	40	10	26.7 % c
Egyptian stock doves	P.S.	4	5	6	7	7	8	7	7	8	6	5	4	6.2
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	40	50	60	70	70	80	70	70	80	60	50	40	61.7 % b
Crested lark	P.S.	6	4	7	8	9	7	4	4	4	8	8	9	6.5
<i>Calerdia cristata maculata</i>	Oc.	60	40	70	80	90	70	40	40	40	80	80	90	65.0% b
Bee eater	P.S.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 % d
Hooded crow	P.S.	6	6	7	9	10	10	4	3	4	6	6	7	6.5
<i>Corvus corone sardonius</i>	Oc.	60	60	70	90	100	100	40	30	40	60	60	70	65 % b
House sparrow	P.S	7	8	8	10	10	10	10	10	9	8	7	7	8.7
<i>Passer domesticus niloticus</i>	Oc.	70	80	90	100	100	100	100	100	90	80	70	70	87.0% a

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (10 areas) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05

**Table (8): Monthly frequently occurrence of harmful birds in Minia University area in the air above the inspected ground areas during 2012/2013 season**

Birds		Months											Average of occurrence	
		Dec.	Jan.	Feb.	March	April	May	Jun	July	Aug.	Sep.	Oct.		Nov
Egyptian bulbul	P.S.	0.0	0.0	0.0	2	3	4	4	5	5	3	2	0.0	2.3
<i>Pycnonotus barbatus arsinoe</i>	Oc.				20	30	40	40	50	50	30	20	0.0	23.3 % d
Egyptian stock doves	P.S.	3	4	5	7	7	7	6	6	8	5	5	5	5.7
<i>Streptopelia senegalensis aegyptiaca</i>	Oc.	30	40	50	70	70	70	60	60	80	50	50	50	56.7 % b
Crested lark	P.S.	5	5	6	6	7	7	6	5	4	3	3	2	4.9
<i>Calertia cristata maculata</i>	Oc.	50	50	60	00	70	70	60	50	40	30	30	20	49.2 % b
Bee eater	P.S.	0.0	0.0	0.0	9	9	9	0.0	0.0	0.0	6	8	5	3.8
<i>Merops apiaster</i>	Oc.	0.0	0.0	0.0	90	90	90	0.0	0.0	0.0	60	80	50	38.3 % c
Hooded crow	P.S.	6	4	5	7	7	8	4	3	4	6	5	5	5.3
<i>Corvus corone sardonius</i>	Oc.	60	40	50	70	70	80	40	30	40	60	50	50	53.3% b
House sparrow	P.S.	5	7	7	8	7	7	9	10	10	7	6	5	7.3
<i>Passer domesticus niloticus</i>	Oc.	50	70	70	80	70	70	90	100	100	70	60	50	73.3% a

P.S.=Number of positive observed places containing the bird species

Oc.=Occurrence % =Positive observed places containing the bird species / the total number of observed places (10 areas) ×100

Average occurrence % followed by the same letter do not differ significantly according to Chi square test at P=0.05

**Table (9): Seasonal occurrence and preferred places for resting of the surveyed noxious birds inhabiting the area of Minia University farm during the seasons of 2011/ 2012**

<b>Bird</b>	<b>Winter</b>	<b>Spring</b>	<b>Summer</b>	<b>Autumn</b>
Egyptian bulbul	+	+	+	+
<i>Pycnonotus barbatus arsinoe</i>				
Preferred place for resting	Bougainvillea,	Common fig	Common fig	Poinciana
Egyptian stock doves	+	+	+	+
<i>Streptopelia senegalensis aegyptiaca</i>				
Preferred place for resting	Bougainvillea	Date palm	Date palm, Olive	Date palm, Eucalypt
Crested lark	+	+	+	+
<i>Calerdia cristata maculata</i>				
Preferred place for resting	Olive, Lantana	Chinese Banyan,	Chinese Banyan	Olive
Bee eater	-	+	-	+
<i>Merops apiaster</i>				
Preferred place for resting	-	Electric wires	-	Electric wires
Hooded crow	+	+	+	+
<i>Corvus corone sardonius</i>				
Preferred place for resting	Poinciana trees, Electric wires,	Date Palms, Electric wires	Date Palms, Olive	Date palms, Eucalypt
House sparrow	+	+	+	+
<i>Passer domesticus niloticus</i>				
Preferred place for resting	Poinciana, Cassia, Mulberry	Chinese Banyan	Chinese Banyan	Salix

**Table (10): Seasonal occurrence and preferred places for resting of the surveyed noxious birds inhabiting the area of Minia University farm during the seasons of 2012/2013**

<b>Bird</b>	<b>Winter</b>	<b>Spring</b>	<b>Summer</b>	<b>Autumn</b>
Egyptian bulbul	+	+	+	+
<i>Pycnonotus barbatus arsinoe</i>				
Preferred place for resting	Bougainvillea, Lantana,	Common fig	Common fig, <i>Casuarina</i>	Poinciana
Egyptian stock doves	+	+	+	+
<i>Streptopelia senegalensis aegyptiaca</i>				
Preferred place for resting	Bougainvillea	Date palm	Date palm, Olive, <i>Salix</i>	Date palm, Eucalypt
Crested lark	+	+	+	+
<i>Calerdia cristata maculata</i>				
Preferred place for resting	Olive, Lantana	Chinese Banyan ( <i>F. spp.</i> ),	Chinese Banyan	Olive
Bee eater	-	+	-	+
<i>Merops apiaster</i>				
Preferred place for resting	-	Electric wires	-	Electric wires
Hooded crow	+	+	+	+
<i>Corvus corone sardonius</i>				
Preferred place for resting	Poinciana trees, Electric wires,	Date Palms, Electric wires	Date Palms, Olive	Date palms, Eucalypt
House sparrow	+	+	+	+
<i>Passer domesticus niloticus</i>				
Preferred place for resting	Poinciana, Cassia, Mulberry	Chinese Banyan	Chinese Banyan	Salix

On the other hand the Egyptian stock dove in winter dwelled the shrubs such as bougainvillea beside fences that screen this bird from the winds in this season, this bird in summer showed on date palms and olive trees. This bird was observed nesting on olive trees (Ali and Ripley, 1981).

The Egyptian bulbul birds seemed abundantly on fig trees, this may be because they have a liking for fig amongst fruits. Gill and Donsker (2013) reported that the main diet of *Pycnonotus barbatus* were fruits and nectar. This bird also found keeping shrubs such as bougainvillea in 2011/2012 season and lantana (2012/2013 season). The nest of this bird is situated inside the leafy foliage of small trees or shrubs (Clement *et al.*, 2013). Regarding the second season 2012/2013 in summer, the Egyptian bulbul was observed on common fig and *Casuarina* trees, while the Egyptian stock dove was found on date palms, olive and *Salix* spp. trees. The crested lark resided olive trees in winter and autumn but it was found in *Ficus* spp. trees during summer in both two studied seasons.

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## الملخص العربي

### حصار للطيور الضارة في منطقة المنيا، مصر

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اشتملت الدراسة الحالية على حصار الطيور الضارة في محيط جامعة المنيا / محافظة المنيا وظهرت النتائج عن وجود كل من عصفور النيل الدوري - الغراب ذو القلنسوة - القنبيرة المتوجة - البلبل المصري- الوروار الاوربي - الليمام المصري.

ولقد اوضحت النتائج تفوق عصفور النيل الدوري في التواجد على الاشجار عن بقية الطيور الاخرى الضارة خلال موسمي الدراسة 2011/ 2012 ، 2012/ 2013 مسجله 92.3 - 94.8 % خلال موسي الدراسة بينما اقل نسبة تواجد على الاشجار سجلت للوروار الاوربي بنسبة ( 1.7 - 2.1%). اما على الاسلاك الكهربائية فكانت اعلى نسبة تواجد سجلت للغراب ذو القلنسوة (61.8 - 76.7 %) بينما اقل نسبة كانت للقنبيرة المتوجة مسجلة ( 5 - 8.3%)، وبدراسة التعداد على الارض تفوق أيضاً عصفور النيل الدوري مسجلا ( 77.5 - 87 %) في موسمي الدراسة على التوالي بينما اقل نسبة تواجد (صفر %) كانت للوروار الاوربي في كلا الموسمين . في الهواء سجل عصفور النيل الدوري اعلى تواجداً (63.3 - 73.3 %) بينما البلبل المصري فقد سجل اقل نسبة تواجد في الهواء ( 16.6 - 23.3%) خلال موسمي الدراسة على التوالي .

كما لوحظ ان الغراب ذو القلنسوة كان اكثر تواجداً خلال فصلي الربيع والخريف بينما عصفور النيل الدوري والقنبيرة المتوجة كانت اكثر تواجداً في فصل الصيف ، وبالنسبة للبلبل المصري كان نادرا في فصل الشتاء ثم بدا في الظهور تدريجيا في الربيع وكان أعلى نسبة تواجد في شهر اغسطس ، وسُجِّل الوروار المصري فقط في الربيع والخريف

تواجد البلبل المصري بصورة واضحة على أشجار التين أما بالنسبة للليمام المصري فقد تواجد بصورة ملحوظة على النخيل وأشجار الزيتون ولوحظ أن عصفور النيل الدوري يلزم الأشجار المتساقطة الأوراق خلال الشتاء والأشجار المستديمة الخضرة خلال فصل الصيف.

كما لوحظ تواجداً طائر القنبيرة المتوجة في فصلي الشتاء والخريف على أشجار الزيتون أما في فصل الصيف فقد تواجدت بكثرة على أشجار الفيكس .