

## POPULATION DENSITY OF SOME COMMON WILD BIRDS AND THEIR FLUCTUATIONS IN UPPER EGYPT (ASSUIT GOVERNORATE)

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### ABSTRACT

Three replicates were selected from the areas cultivated with two crops each one of two feddans in old land and the newly reclaimed land in Assiut district The first, cultivated with wintry crop ( Wheat) while the second was the summer crop ( sorghum ) which were selected to study the population density monthly seasons of some bird species. The results statistically analysis using Duncan analysis indicated that the House sparrow (*Passer domesticus niloticus* ) was The highest population recorded from old land with monthly means 18.89 & 20.53 birds than 2.56 & 3.86 birds in new reclaimed land during 2003 & 2004 respectively Also, there was highly significant difference in population density of this bird during 2003 & 2004. Hooded crow (*Corvus corone cornix* ) recorded highly significant difference between the population density in old land, with monthly means 2.64 & 4.67 birds compared with newly reclaimed land 0.79 & 0.71 birds during 2003 & 2004 respectively .Also, there was highly significant difference between the population density during 2003 and no significant difference during 2004 . Palm dove (*Streptopelia senegalensis egyptica*) gave highly significant difference between population density in the different habitat 4.36 & 4.89 birds compared with 1.42 & 2.22 birds in the different habitat during 2003 & 2004 respectively . Also, The results revealed that There was highly significance between the seasons during season of 2003 & 2004 .

### INTRODUCTION

Many researchers introduced their papers about birds i - e - Peter et al (1980) found that the house crow has been recorded since 1976 in Ismailiya , Suez , Ras Gharib and Safaga Hovel ( 1987 ) reported that Palm dove , *Streptopelia senegalensis* was a local resident in El-Arish , Rafah area and breeds sporadically in Palm groves west to Rummana . Small numbers were regularly observed along the coast of the Gulf of Aqaba. Rana ( 1989 ) observed that density of *Passer domesticus* in India was lower during Summer and reached its peak during Spring . Barys (1993) revealed tha the most abundant bird species was *Streptopelia senegalensis* . The most densely in habitat was the shore of the islands Also it was observed that the most abundant species was *Passer domesticus* with about 4000 individuals . The second species in abundance was the Palm dove (*Streptopelia senegalensis*) with about 500 individuals . Khattab (1993) noticed that House sparrow, *Passer domesticus niloticus* ( L. ) was the most prevalent species in both old and newly reclaimed lands throughout the different seasons of the year . In old land. Palm dove , *Streptopelia senegalensis* ranked the second followed by Hooded crow, *Corvus corone cornix*. EL-Deeb et al (1995) indicated that House sparrow, *Passer*

*domesticus niloticus* ( L.) was the most prevalent species in both old and newly reclaimed lands, throughout the different year seasons . In old land , Palm dove , *Streptopelia senegalensis* ranked the second followed by Hooded crow *C . corone* . EL-Danasory (2002) studied that Palm dove , (*Streptopelia- senegalensis*) showed a significant difference in habitat, while there was no significant variance between the population density at the two years ( 1998 & 1999). He noticed also that House sparrow ( *Passer domesticus niloticus* ) showed a high significant differences between the population density under different habitats through the two years. Also he stated that population density of Hooded crow ( *Corvus corone cornix*), recorded from old land during the period of study ( 1998 & 1999), but from new reclaimed land, the mean number reached their maximum during Summer 113.16 . Aziz and Ilhami (2003) recorded during studies through the period from July 1995 to July 1996 , a total of 102 birds species belong to thirty seven families were observed in the area and 37 of these species were resident, ten of them were winter visitors, forty six were summer visitors and only nine were found to be passed migrants .

## MATERIELS AND METHODS

### Population density, monthly and seasonal fluctuation of birds

Two different crops were cultivated in each type of the agricultural zone . The first, was with wintry crop wheat while the second was the summery crop sorghum which were selected to study the population density of some bird species. Three replicates were selected from the areas cultivated with two crops , each one of two feddans in old land and the newly reclaimed land in Assiut district. represented the three geographical directions i.e. south, west and east. The population density and fluctuations of bird species were studied monthly during daytime ( Sunrise and Sunset ) at six zone mentioned before, during the period from November 2002, to October 2004 to find the relationship between population of birds and different seasons of year The results were statistically analyzed using Duncan analysis.

## RESULTS AND DISCOINS

### House sparrow, *Passer domesticus niloticus* :

The effect of habitats types on population density of House sparrow, *Passer domesticus niloticus* (L.) during November 2002 – October 2004 recorded in table. ( 1,2 ) and showed that there was highly significant difference between the population density of house sparrow at different habitats during 2003 and 2004. It was found that the mean of population density in old land was (18.89 & 20.53 bird) compared with the other habitat. The mean of population density in newly reclaimed land were (2.86 & 3.86 bird) during 2003 & 2004. Regarding to the effect of daytime, there was no significant differences between population at sunrise and sunset (9.59 & 12.15 bird) respectively during 2003, but the results revealed that there was highly significant difference between population at sunrise and sunset during 2004 (9.33 & 15.06 bird) respectively . Concerning the monthly fluctuation of

each habitats, these results showed that there was highly significant differences between the population density at months. The peak of the population density was in October, September and April of the two studied years (73.17, 30.08, 25.33 & 69.42, 32.08, 21.25 bird) respectively during 2003 & 2004 . While the minimum number was noticed through, January, The higher numbers of House sparrow were recorded during dough stage in wheat crops (April) and dough and mature stage in Sorghum crops (September and October ). Concerning the effect of habitats types on seasonal fluctuation of house sparrow results which illustrated in table. ( 3 , 4 ) showed that there was significant differences between the habitat types. In the old land the total mean numbers of House sparrow (58.38 & 61.71) bird during 2003 & 2004 compared with newly reclaimed land, the total mean were (8.53 & 12.46) bird during 2003 & 2004 respectively. Also, the results showed that there was significant differences between the seasons of the year during 2003 & 2004. The mean population reached its maximum during Autumn (70.83 & 104.33 bird), Spring 2003&2004 (32.92 & 25.33 bird ) and Summer 2003 & 2004 (22.92 & 14.67 bird). While reached its minimum during Winter 2003 & 2004 (7.25 & 4.00 bird) respectively.

The previous results agree with that found by Peter *et al* (1980) in Egypt , the house crow has been recorded since 1976 in Ismailiya , Suez , Ras Gharib and Safaga .Goodman *et al* . ( 1989 ) raveled that Hooded crow were common resident in most cultivated parts of the Nile delta and valley ( south to Aswan) Thy also found that individuals of House sparrow, were abundant breeding, resident along the North coast, in some parts of the western desert, the Nile delta and valley. Rana ( 1989 ) observed that density of *Passer domestics* in India was lower during Summer and reached its peak during Spring .Basy ( 1993 ) revealed that the most abundant bird species were *Streptopelia senegalensis* .

**Table (1): Population density and monthly distribution of House sparrow on different habitats at Assiut district during (Nov. 2002 – Oct.2003).**

Habitats	Time	Month											Mean*	
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.		Oct.
Old land	S.r	1.00	4.00	2.33	3.67	2.67	40.67	4.00	22.67	14.00	2.33	24.00	84.33	17.14A
	S.S	0.00	0.00	5.67	7.00	5.67	53.33	3.33	24.33	18.33	0.00	72.00	58.00	20.64A
	Mean*	0.50 E	2.00 E	4.00 DE	5.33 DE	4.17 DE	47.00 B	3.67 DE	23.50 C	16.17 CD	1.17 E	48.00 B	71.17 A	18.89
Newly reclaimed land	S.r	5.67	2.67	0.67	0.00	0.00	1.67	0.00	2.00	0.67	0.00	8.67	2.67	2.06B
	S.S	7.33	0.67	1.33	1.00	0.00	5.67	1.33	3.67	3.67	0.00	15.67	3.67	3.67B
	Mean*	6.50 DE	1.67 E	1.00 E	0.50 E	0.00 E	3.67 DE	0.67 E	2.83 E	2.17 E	0.00 E	12.17 CDE	3.17 DE	2.86
	S.r	3.33	3.33	1.50	1.83	1.33	21.17	2.00	12.33	7.33	1.17	16.33	43.50	9.59
	S.S	3.67	0.33	3.50	4.00	2.83	29.50	2.33	14.00	11.00	0.00	43.83	30.83	12.15
	Mean*	3.50 D	1.83D	2.50D	2.92D	2.08D	25.33B	2.17D	13.17C	9.17CD	0.58D	30.08AB	37.17A	

\* Means have the same are not significantly differed by using Duncan's analysis.

Table (2): Population density and monthly distribution of House sparrow on different habitats at Assiut district during (Nov. 2003 – Oct.2004).

Habitats	Time	Month											Mean*	
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.		Oct.
Old land	S.r	0.00	0.00	1.00	2.67	2.00	27.33	2.67	11.33	0.67	4.33	37.33	102.00	15.94B
	S.S	1.00	0.00	0.00	7.33	3.67	51.00	7.33	19.67	9.67	1.00	74.33	126.33	25.11A
	Mean*	0.50	0.00	0.50	5.00	2.83	39.17	5.00	15.50	5.17	2.67	55.83	114.1	20.53
Newly reclaimed land	S.r	1.67	0.00	0.00	1.00	0.00	2.33	0.00	2.67	1.67	0.00	4.67	18.67	2.72C
	S.S	0.67	0.33	0.00	3.67	0.00	4.33	0.67	5.00	2.00	0.67	12.00	30.67	5.00C
	Mean*	1.17	0.17	0.00	2.33	0.00	3.33	0.33	3.83	1.83	0.33	8.33	24.67	3.86
	S.r	0.83	0.00	0.50	1.83	1.00	14.83	1.33	7.00	1.17	2.17	21.00	60.33	9.33
	S.S	0.83	0.17	0.00	5.50	1.83	27.67	4.00	12.33	5.83	0.83	43.17	78.50	15.06
	Mean*	0.83	0.08D	0.25D	3.67D	1.42D	21.25	2.67	9.67D	3.50D	1.50	32.08	69.42	

Means have the same are not significantly differed by using Duncan's analysis.

Table (3) : Seasonal fluctuation of House sparrow 2003.

Habitats	Time	Season				Mean*
		Winter	Spring	Summer	Autumn	
Old land	S.r	10.00	60.67	39.00	109.67	54.83 A
	S.S	12.67	62.33	42.67	130.00	61.92 A
	Mean*	11.33 D	61.50	40.83 BC	119.83 A	58.38
Newly reclaimed land	S.r	3.33	1.67	2.67	17.00	6.17 B
	S.S	3.00	7.00	7.33	26.67	11.00 B
	Mean*	3.17 D	4.33 D	5.00 D	21.83 CD	8.58
	S.r	6.67	31.17	20.83	63.33	30.50
	S.S	7.83	34.67	25.00	78.33	36.46
	Mean*	7.25 C	32.92 B	22.92 B	70.83 A	

\* Means have the same are not significantly differed by using Duncan's analysis.

Table (4) : Seasonal fluctuation of House sparrow on different habitats at Assiut district during 2004.

Habitats	Time	Season				Mean*
		Winter	Spring	Summer	Autumn	
Old land	S.r	2.67	32.00	16.33	140.00	47.75 B
	S.S	8.33	62.00	30.33	202.00	75.67 A
	Mean*	5.50 D	47.00 B	23.33CD	171.00 A	61.71
Newly reclaimed land	S.r	1.00	2.33	4.33	28.00	8.92 C
	S.S	4.00	5.00	7.67	47.33	16.00 C
	Mean*	2.50 D	3.67 D	6.00 D	37.67 BC	12.46
	S.r	1.83	17.17	10.33	84.00	28.33
	S.S	6.17	33.50	19.00	124.67	45.83
	Mean*	4.00 C	25.33 B	14.67 B	104.33 A	

\* Means have the same are not significantly differed by using Duncan's analysis.

The most densely in habitat was the shore of the islands Also it was observed that the most abundant species was *Passer domesticus* with about 4000 individuals . The second species in abundance was the Palm dove (*Streptopelia senegalensis*) with about 500 individuals. (Soliman 1993), reported that the house sparrow *Passer domesticus niloticus* was the predominant noxious bird species over all other ones and existed in high numbers during the three seasons of the year (Spring, Summer and Autumn),

while it was found in moderate numbers during the Winter season. Also Edgar and Kershaw (1994) stated that the only common birds species to all three areas tested was the House sparrow, *Passer domesticus-niloticus* (L.) comprising between 70% & 100% of the total bird population density of birds. El - Deeb *et al* (1995), revealed that the House sparrow *Passer domesticus niloticus* was the common bird throughout the different seasons of the year in old and reclaimed areas at Sharkia Governorate. Als Melo Medericis (1996) recorded the population densities and movements of House sparrow throughout the year in Azores. Tolba (1999) stated that the survey revealed presence of only one species of House sparrow *Passer domesticus niloticus* (L.) occurring in Assiut area., EL - Danasoury (2002), mentioned that House sparrow, *Passer domesticus niloticus* showed a high significant difference between the population density of this bird under different habitat through the two years.

#### **Hooded crow, *Corvus corone cornix* :**

The effect of habitat types and daytime on population density of Hooded crow, *Corvus corone cornix* during November 2002 to October 2004 results illustrated in table. (5,6) showed that there was highly significant difference between population density of Hooded crow in different habitats during 2003 & 2004. It was found that the mean of population density in old land was (2.64 & 4.67 bird) compared with the newly reclaimed land, the mean of population density were (0.79 & 0.71 bird) during 2003 & 2004. Regarding to the effect of daytime, there was no significant difference between population density at sunrise and sunset (1.47 & 1.96 bird) during 2003. But results revealed that there was highly significant between population density of sunrise and sunset during 2004 (1.39 & 3.99) respectively. May be mainly due to the area studied was near from maize field crops during 2004. Concerning the monthly distribution of each habitat these results showed that there were significant differences between population density through months during year 2003 where the peak was in November (3.33 bird) while the number decreased to April (0.42 bird) comprised with 2004 results which showed that there was highly

significant difference between population density of months while the peak was in June (7.92 bird). and decreased during April to (1.00 bird). Concerning the effect of habitat types on seasonal fluctuation of hooded crow. Results in table. (7,8) showed that there was highly significant differences between habitat types studied, in old land. The total mean of Hooded crow numbers were (7.92 & 7.71 bird) during 2003 & 2004 season compared with the newly reclaimed land, the total means were (2.38 & 2.29 bird). Also, these results showed that there was no significant differences between the habitats types and seasons year on population density of Hooded crow. The mean number at old land in seasons Winter, Spring, Summer and Autumn (8.67, 3.67, 11.00, 8.33 & 8.67, 6.00, 8.50, 7.67 bird) during 2003 & 2004 seasons while the mean numbers at newly reclaimed land in seasons were (1.00, 1.00, 2.67, 4.83 & 2.17, 2.00, 2.67, 2.33 bird) during 2003 & 2004 respectively. From the showed results it could be observed that the mean numbers reached their maximum through 2003 & 2004 during Summer (6.83

& 5.58 bird) while minimum numbers were recorded during Spring 2003 & 2004 (2.33 & 4.00bird)

Table (5): Population density and monthly distribution of Hooded crow(Nov.2002– Oct.2003).

Habitats	Time	Month											Mean*	
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.		Oct.
Old land	S.r	6.33	3.33	2.00	3.00	1.33	1.00	1.33	3.67	2.67	2.33	1.33	0.67	2.42A
	S. S	5.33	3.33	1.67	4.00	1.67	0.67	1.33	3.00	6.00	4.33	0.67	2.33	2.86A
	Mean*	5.83	3.33	1.83	3.50	1.50	0.83	1.33	3.33	4.33	3.33	1.00	1.50	2.64
Newly reclaimed land	S.r	0.33	0.00	0.00	0.33	0.33	0.00	0.67	0.33	0.67	0.33	2.33	1.00	0.53 B
	S. S	1.33	1.00	0.00	0.67	0.00	0.00	1.00	2.00	1.00	1.00	3.67	1.00	1.06 B
	Mean*	0.83	0.50	0.00	0.50	0.17	0.00	0.83	1.17	0.83	0.67	3.00	1.00	0.79
	S.r	3.33	1.67	1.00	1.67	0.83	0.50	1.00	2.00	1.67	1.33	1.83	0.83	1.47
	S. S	3.33	2.17	0.83	2.33	0.83	0.33	1.17	2.50	3.50	2.67	2.17	1.67	1.96
	Mean*	3.33	1.72	0.92	2.00	0.83	0.42	1.08	2.25	2.58	2.00	2.00	1.25	

\* Means have the same are not significantly differed by using Duncan's analysis.

Table (6): Population density and monthly distribution of Hooded crow (Nov. 2003 – Oct.2004 ).

Habitats	Time	Month											Mean*	
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.		Oct.
Old land	S.r	1.33	0.67	1.67	2.33	4.00	0.67	2.67	11.33	0.67	0.33	0.33	0.67	2.22 B
	S. S	6.00	6.00	6.67	3.67	5.33	1.67	7.33	19.67	9.67	15.00	0.33	4.00	7.11 A
	Mean*	3.67	3.33	4.17	3.00	4.67	1.17	5.00	15.50	5.17	7.67	0.33	2.33	4.67
Newly reclaimed land	S.r	0.00	0.67	0.67	0.00	0.00	1.33	1.33	0.00	0.67	1.33	0.00	0.67	0.56 B
	S. S	0.33	2.00	0.67	0.33	1.00	0.33	0.00	0.67	1.00	1.67	0.67	1.67	0.86B
	Mean*	0.17	1.33	0.67	0.17	0.50	0.83	0.67	0.33	0.83	1.50	0.33	1.17	0.71
	S.r	0.67	0.67	1.17	1.17	2.00	1.00	2.00	5.67	0.67	0.83	0.17	0.67	1.39
	S. S	3.17	4.00	3.67	2.00	3.17	1.00	3.67	10.17	5.33	8.33	0.50	2.83	3.99
	Mean*	1.92	2.33	2.42	1.58	2.58	1.00	2.83	7.92	3.00	4.58	0.33	1.75	

\* Means have the same are not significantly differed by using Duncan's analysis.

Similar results were obtained by Goodman *et al.* (1989) revealed that Hooded crow were common resident in most cultivated parts of the Nile delta and valley (south to Aswan They also found that individuals of House sparrow, were abundant breeding, resident along the North coast, in some parts of the western desert, the Nile delta and valley . EL-Deeb *et al* ( 1995 ) cleared that Palm dove , *Streptopelia senegalensis* ranked the second followed by Hooded crow *C. corone* . El- Danasoury (2002) also stated that population density of Hooded crow ( *Corvus corone cornix*), recorded from old land during the period of study ( 1998 & 1999), but from new reclaimed land, the mean number reached their maximum during Summer 113.16 birds and Spring 36.14 birds , through 1998 & 1999 respectively while minimum number were recorded during Autumn 10.81 birds and Summer 15.23 birds through 1998 & 1999 respectively .

**Table (7) : Seasonal fluctuation of Hooded crow on different habitats at Assiut district during 2003.**

Habitats	Time	Season				Mean*
		Winter	Spring	Summer	Autumn	
Old. Land	S.r	8.33	3.67	8.67	8.33	7.25 A
	S. S	9.00	3.67	13.33	8.33	8.58 A
	Mean*	8.67 AB	3.67 BC	11.00 A	8.33 AB	7.92
Newly reclaimed land	S.r	0.33	1.00	1.33	3.67	1.58 B
	S. S	1.67	1.00	4.00	6.00	3.17 B
	Mean*	1.00 C	1.00 C	2.67 C	4.83 BC	2.38
	S.r	4.33	2.33	5.00	6.00	4.42
	S. S	5.33	2.33	8.67	7.17	5.88
	Mean*	4.83 AB	2.33 B	6.83 A	6.58 A	

\* Means have the same are not significantly differed by using Duncan's analysis.

**Table (8) : Seasonal fluctuation of Hooded crow on different habitats at Assiut district during 2004.**

Habitats	Time	Season				Mean*
		Winter	Spring	Summer	Autumn	
Old. Land	S.r	8.00	6.00	8.33	5.00	6.83 A
	S. S	9.33	6.00	8.67	10.33	8.58 A
	Mean*	8.67 A	6.00 AB	8.50 A	7.67 A	7.71
Newly reclaimed land	S.r	1.33	2.67	2.00	1.00	1.75 B
	S. S	3.00	1.33	3.33	3.67	2.83 B
	Mean*	2.17 B	2.00 B	2.67 B	2.33 B	2.29
	S.r	4.67	4.33	5.17	3.00	4.29
	S. S	6.17	3.67	6.00	7.00	5.71
	Mean*	5.42 A	4.00 A	5.58 A	5.00 A	

\* Means have the same are not significantly differed by using Duncan's analysis.

While he observed that the highest numbers of birds were recorded during Autumn ( 1718 birds ) and Spring ( 828.35 birds ) 1998 & 1999 respectively while the lower Numbers of birds were recorded in Winter ( 466.51 birds ) and Autumn ( 297.65 birds ) during 1998 & 1999 respectively . On the other hand , in old land the maximum numbers of birds were recorded during Autumn (1402.9birds) and Spring (528.9birds) of 1998 & 1999 respectively, while the lower numbers of birds were recorded in Winter ( 262.55 birds) and Autumn ( 163.5birds ) in 1989 & 1999 . respectively , when the fields were cultivated with Wheat followed by Maize , Cotton and Clover but in newly reclaimed lands number were recorded ( Summer 383.25 birds and Spring 186 birds ) and ( Spring 299.45 birds ) and ( Summer 76.5 birds ) in 1999 . respectively . Aziz and Ilhami (2003) recorded during his studies period from July 1995 to July 1996 , a total of 102 birds species from 37 families were observed in the area and 37 of these species were resident, ten of them were Winter visitors, forty six were summer visitors and only nine were found to be passed migrants .

**Palm dove, *Streptopelia senegalensis egyptica* :**

Data illustrated in table. (9,10 ) indicated that there was highly significant difference between population density of palm dove in old land and

newly reclaimed land during 2003 & 2004. It was found that the total mean of population density in old land (4.36 & 4.89 bird) during 203 & 2004 .

Table (9) : Population density and monthly distribution of Palm dove on different habitats in Assiut district during (Nov. 2002 – Oct. 2003 ).

Habitats	Time	Month										Mean*		
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.		Sep.	Oct.
Old. Land	S.r	8.67	11.00	2.00	2.00	2.33	1.67	1.00	4.67	4.33	6.33	2.33	4.00	4.19 A
	S. S	9.67	7.33	2.67	1.00	1.67	2.33	0.00	6.00	7.33	5.33	2.00	9.00	4.53 A
	Mean*	9.17	9.17	2.33	1.50	2.00	2.00	0.50	5.33	5.83	5.83	2.17	6.50	4.36
		A	A	BCDE	CDE	CDE	CDE	E	ABCD	ABC	ABC	BCDE	AB	
Newly reclaimed land	S.r	2.67	1.67	0.67	1.00	1.00	1.33	0.00	1.00	1.33	2.00	1.67	0.00	1.19 B
	S. S	2.67	2.00	1.67	1.00	0.67	1.00	0.67	1.67	2.00	3.00	1.33	2.00	1.64 B
	Mean*	2.67	1.83	1.17	1.00	0.83	1.17	0.33	1.33	1.67	2.50	1.50	1.00	1.42
		BCDE	CDE	DE	DE	DE	DE	E	CDE	CDE	BCDE	CDE	DE	
	S.r	5.67	6.33	1.33	1.50	1.67	1.50	0.50	2.83	2.83	4.17	2.00	2.00	2.69
	S. S	6.17	4.67	2.17	1.00	1.17	1.67	0.33	3.83	4.67	4.17	1.67	5.50	3.08
	Mean*	5.92	5.50	1.75	1.25	1.42	1.58	0.42	3.33	3.75	4.17	1.83	3.75	
		A	A	BC	BC	BC	BC	C	ABC	AB	AB	BC	AB	

\* Means have the same are not significantly differed by using Duncan's analysis.

Table (10) : Population density and monthly distribution of Palm dove on different habitats in Assiut district during (Nov. 2003 – Oct.2004 ).

Habitats	Time	Month										Mean*		
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.		Sep.	Oct.
Old land	S.r	9.33	9.67	3.00	2.67	2.33	1.67	1.00	6.67	7.00	6.67	2.33	5.00	4.78 A
	S. S	11.00	7.00	1.67	1.33	2.33	1.67	3.33	2.33	12.67	5.33	6.67	4.67	5.00 A
	Mean*	10.17	8.33	2.33	2.00	2.33	1.67	2.17	4.50	9.83	6.00	4.50	4.83	4.89
		A	AB	CD	CD	CD	D	CD	CD	A	BC	BC	BCD	
Newly reclaimed land	S.r	2.00	1.67	0.00	1.67	1.00	1.00	0.67	4.67	3.67	3.33	1.00	3.33	2.00 B
	S. S	3.00	1.33	1.67	3.33	3.00	2.33	2.33	2.67	2.33	2.33	3.00	2.00	2.44 B
	Mean*	2.50	1.50	0.83	2.50	2.00	1.67	1.50	3.67	3.00	2.83	2.00	2.67	2.22
		CD	D	D	CD	CD	D	D	CD	CD	CD	CD	CD	
	S.r	5.67	5.67	1.50	2.17	1.67	1.33	0.83	5.67	5.33	5.00	1.67	4.17	3.39
	S. S	7.00	4.17	1.67	2.33	2.67	2.00	2.83	2.50	7.50	3.83	4.83	3.33	3.72
	Mean*	6.33	4.92	1.59	2.25	2.17	1.67	1.83	4.08	6.42	4.42	3.25	3.75	
		A	AB	D	BCD	CD	D	CD	ABCD	A	A	BCD	ABCD	

\* Means have the same are not significantly differed by using Duncan's analysis.

While the total mean of population density in newly reclaimed land during 2003 & 2004 (1.42 & 2.22 bird) respectively. Regarding to the effect of daytime, there was no significant differences between population density at sunrise and sunset during 2003 & 2004 (2.69,3.08 & 3.39, 3.72 bird) respectively. Concerning the monthly fluctuation in old land and newly reclaimed land. The results showed that there were highly significant differences between population densities at different months where was the peak in November 2002&2003(5.92 & 6.33 bird), decreased through October 2003 & 2004 to (3.75 & 3.7 bird) respectively. While the minimum numbers were noticed during January 2003 & 2004 (1.75 & 1.59 bird), decreased through september (1.83 & 3.25 bird) respectively. Concerning the effect of habitat types on seasonal fluctuation of Palm dove (*Streptopelia senegalensis*



*egyptica*). The results showed that there was highly significant differences between the studied habitat types during 2003 and significant difference in 2004 at old land. The total of mean numbers of palm dove birds were (13.25 & 12.75 birds) during 2003 & 2004, while the mean of numbers in newly reclaimed land were (5.83 & 9.00 bird).

**Table (11) : Seasonal fluctuation of Palm dove on different habitats in Assiut district during 2003.**

Habitats	Time	Seasons				Mean*
		Winter	Spring	Summer	Autumn	
Old land	S.r	15.00	5.00	15.33	15.00	12.58 A
	S. S	11.00	4.00	18.67	22.00	13.92 C
	Mean*	13.00 A	4.50 B	17.00 A	18.50 A	13.25
Newly reclaimed land	S.r	3.33	2.33	4.33	11.33	5.33 B
	S. S	4.67	2.33	6.00	12.33	6.33 B
	Mean*	4.00 B	2.33 B	5.17 B	11.83 A	5.83
	S.r	9.17	3.67	9.83	13.17	8.96
	S. S	7.83	3.17	12.33	17.17	10.13
	Mean*	8.50 B	3.42 C	11.08 B	15.17 A	

\* Means have the same are not significantly differed by using Duncan's analysis.

**Table (12) : Seasonal fluctuation of Palm dove on different habitats in Assiut district 2004.**

Habitats	Time	Season				Mean*
		Winter	Spring	Summer	Autumn	
Old land	S.r	3.67	4.00	15.00	16.33	9.75 BC
	S. S	5.00	7.33	27.00	23.67	15.75 A
	Mean*	4.33 C	5.67 C	21.00 A	20.00 A	12.75
Newly reclaimed land	S.r	3.33	2.67	11.67	6.67	6.08 C
	S. S	6.33	7.67	17.67	16.00	11.92 AB
	Mean*	4.83 C	5.17 C	14.67 AB	11.33 BC	9.00
	S.r	3.50	3.33	13.33	11.50	7.92
	S. S	5.67	7.50	22.33	19.83	13.83
	Mean*	4.58 B	5.42 B	17.83 A	15.67 A	

• Means have the same are not significantly differed by using Duncan's analysis

Also, the results showed that there was highly significant differences between year seasons during 2003 & 2004. The mean population density reached its maximum during Summer and Autumn 2003 & 2004 (11.08, 15.17 & 17.83, 15.67 bird), it reached its minimum during Winter and Spring 2003 & 2004 (8.50, 3.42 & 4.58, 5.42 bird) respectively. While, these results showed that there was not significant differences between the habitat types and seasons in population density of palm dove the mean numbers of Palm dove birds at different seasons in old land were (13.00, 4.50, 17.00, 18.50 & 4.33, 5.67, 21.00, 20.00 bird). While the mean of numbers Palm dove at different seasons in newly reclaimed land were (4.00, 2.33, 5.17, 11.83 & 4.83, 5.17, 14.67, 11.33 bird ) during 2003 & 2004 respectively

Similar results were recoded by Goodman *et al.* (1986) reported that *Streptopelia senegalensis*, in Egypt, was locally common breeding birds

in all major western desert oases, except Farafra. Hovel (1987) reported that Palm dove, *Streptopelia senegalensis* was a local resident in El-Arish, Rafah area and breeds sporadically in Palm groves west to Rummana. Small numbers were regularly observed along the coast of the Gulf of Aqaba. Soliman (1993) studied that the House sparrow, *Passer domesticus niloticus* was the predominant noxious bird species in the studied area at Kafr EL-Sheikh Governorate, while Palm dove, *Streptopelia senegalensis* and Crested lark, *Galereda cristata* ranked in the second order after House sparrow. On the other hand, Spanish sparrow, *Passer hispaniolensis* and Starling, *Sturns vulgaris* were existed in the tested area, as migrators during the three seasons Autumn, Winter and Spring. Khattab (1993) noticed that House sparrow, *Passer domesticus niloticus* (L.) was the most prevalent species in both old and newly reclaimed lands throughout the different seasons of the year. In old land, Palm dove, *Streptopelia senegalensis* ranked the second followed by Hooded crow, *Corvus corone cornix*. Soliman (1999) studied that Palm dove birds were recorded in fields, Buildings and Shouna of the ten counties belonging to Kafr EL-Sheikh Governorate. EL-Danasory (2002) studied that Palm dove, (*Streptopelia senegalensis*) showed a significant difference in habitat, while there was no significant variance between the population density at the two years (1998 & 1999).

#### SUMMARY

Population density, monthly and seasonal fluctuation of some bird species: House sparrow (*Passer domesticus niloticus*). The highest population of this species were recorded from old land then new reclaimed land during 2003 & 2004. Also, there was highly significant difference in population density of this bird during 2003 & 2004. Hooded crow (*Corvus corone cornix*). There was highly significant difference between the population density of hooded crow in old land, compared with newly reclaimed land during 2003 & 2004. Also, there was highly significant difference between the population density during 2003 and no significant difference during 2004. Palm dove (*Streptopelia senegalensis egyptica*). There was highly significant difference between population density of the palm dove in the different habitat. Also, The results revealed that there was highly significant between the seasons during 2003 & 2004.

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الكثافة العددية لبعض الطيور الشائعة وتذبذباتها خلال العام في محافظة أسيوط  
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تم تقدير الكثافة العددية والتوزيع الشهري كذلك الموسمي لبعض الأنواع المختلفة للطيور البرية في كلا من الأراضي القديمة و الأراضي الحديثة الاستصلاح وقد اظهرت النتائج ما يلي :-

- 1- عصفور النيل الدوري *Passer domesticus niloticus*  
سجل أعلى تعداد لهذا النوع في الأراضي القديمة عن الأراضي الحديثة الاستصلاح خلال عامي ٢٠٠٣ و ٢٠٠٤م ، كذلك هناك فروق معنوية عالية بين الكثافة العددية لهذا الطائر خلال مواسم السنة .
- 2- الغراب البليدي *Corvus corone cornix*  
يوجد فرق معنوي بين الكثافة العددية لهذا الطائر في الأراضي القديمة عن الأراضي الحديثة الاستصلاح حيث سجل أعلى تعداد في الأراضي القديمة مقارنة بالأراضي الحديثة خلال عام ٢٠٠٣م و ٢٠٠٤م ، كما يوجد فرق معنوي جدا بين تعداد هذا الطائر خلال مواسم السنة لعام ٢٠٠٣م و ٢٠٠٤م . وأعلى كثافة كانت في فصل الصيف والخريف خلال سنتي الدراسة .
- 3- اليمام المصري *Streptopelia senegalensis egyptica*  
هناك فروق معنوية عالية بين الكثافة العددية لطائر اليمام البليدي في البيئات المختلفة محل الدراسة ، كما توجد فروق معنوية عالية بين مواسم السنة خلال عام ٢٠٠٣م و ٢٠٠٤م .

