



## Mesostigmatid Mites Associated with Wild Birds at Qalubia Governorate

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### ABSTRACT

This study was conducted in five districts (Abo-Zaabal, Al-Gabal alasar, Al-Kalag, Al-Khanka and Al-Qnater) at Qalubia Governorate (Egypt) during two successive years (2015 - 2016) to identify the mesostigmatid mites associated with wild birds and it's nests . Sixty four adult individuals, twenty three nestlings and thirteen nests following thirteen bird species under eleven families and eight orders were examined. These orders are Bucerotiformes, Charadriiformes, Columbiformes, Coraciiformes, Cuculiformes, Passeriformes , Pelecaniformes and Strigiformes .The bird species are Egyptian Hoopoe, Senegal thick-knee, Spur-winged plover , Laughing dove, White throated king fisher, Senegal coucal, Graceful warble, Hooded crow, House sparrow, Cattle egret, Little egret ,Black-crowned night heron and Little owl. Classification of collected mites revealed the presence of thirty five mite species belonging to nineteen genera under seven families, three suborders under order Gamasida and superorder Parasitiformes .The mites families are Dermanyssidae , Rhinonyssidae, Ascidae, Blattisociidae, Laelapidae, Macronyssidae and Uropodidae. The highest occurrence in the collected mite species were collected from Cattle egret and House sparrow nests. Parasitic mites were collected from (skin, feather and nasal cavities).

**Key words:** Parasitic mites, Mesostigmatid mites, Wild birds, Nests.

### INTRODUCTION

Recently studies were conducted on the ectoparasites associated with wild birds regarding to its importance for human and his animals whereas the infestations of ectoparasites causes nestling mortality, nest desertion and transmit pathogens.(Hoogstraal *et al.*, 1964, Feare 1976, Wheelwright and Boersma 1979). Also the arthropod ectoparasites impact poultry and involves the stressing of the bird, feeding on the bird, and vectoring of disease organisms to the birds, and that causes economic losses (Mohamed and Rakha 1980, Axtell and Arends 1990).The transmitted pathogens by ectoparasites to human and his farm animals including viruses, bacteria, rickettsiae, protozoa, nematods, cestodes, skin fungi and etc. (Hopla *et al.*, 1994). Many species of mites founding on birds and causes harms to it, some of the collected mites of the common Egyptian resident birds,

house sparrow (*Passer domesticus niloticus*) and laughing dove (*Streptopelia senegalensis aegyptiaca*) have medical and veterinary importance whereas affected on the flying ability of birds and their migration for food and vital processes (Morsy *et al.*,1999). Many of mites associated with birds follow mesostigmatid order which is wide spread. So that this study aimed to determine mesostigmatid mites associated with some wild birds at the study areas. The work included extracts the mesostigmatid mites from some portions of birds as feather, skin and nose added to that the bird nests. Some mites were parasitic but on other hand some mites were semiparasitic ,phoretic, fungivorus and predacious and exudates feeders. Some of studies conducted at Egypt on avian ectoparasites (Metwally *et al.*, 2016).

### MATERIAL AND METHODS

The examined material included the bird's body whether was dead or life nestlings or adult added to that the bird nests. The dead birds were hunting by shotgun number 1 and 2, and each bird was placed individually in labeled bags of polyethylene then directly were transmuting to laboratory for examination ,and sometimes frozes or refregation in about3<sup>o</sup>c for maximum 3 days then examining .On other hand, the life birds were catching whether adult birds which shooted but still alive or nestlings which catched from nests in rockaries of aquatic birds and from houses and trees in some bird species during breeding season were placed into cloth or perforated carton bags then removed to the lab for examination . Also, the bird nests were collected by hands and put in separate big polyethylene sacs. The examined materials as the dead birds in the first were swepted by camel hair brush (no.2-10) on aclean white blastic sheat and the extracted ectoparasites were picked by camel hair brush (no.00) under stereomicroscope. The picked mites cleared by placing in lactic acid solution from 2 days to weak in some cases. After the dead bird brushed placed into amodiffied tullgren funnels to extract the remanent mites and the mites were received in petri-dishes with water solution. Also, the nests were placed into the funnels, and the received mites in petri-dishes were picked and cleared by the same way. Life birds were brushed on clean plastic white sheet, all the plumage brushed specially primaries, scondaries, the neck,the portion under the tail, the tail feather and the nasal cavities were brushed.The clearing mites were mounted on glass slides using drop of Hoyer's medium and identified according to Lindquist and Evans (1965), Hughes (1976), Zaher(1978), Summer and price (1970) and Volgin (1998). Also the bird species were identified according to Bruun and Baha el-din (1985), Porter and Cottridge (2000) and Porter and Aspinnall (2010).

### RESULTS AND DISCUSSION

Data in Table (1) clear the classification of the collected mites and revealed the presence of 35 mite species belonging to 19 genera under 7 families, these are belonging to 3 sub order under order Gamasida and super order parasitiformes .

#### A-Superorder parasitiformes

This super order included one order, ( Gamasida)

**1- Order: Gamasida** was represented by 3 suborders and 7 families include 19 genera and 35 species.

**1-1 Suborder: Dermanyssina** was represented by two families, Dermanyssidae and Rhinonyssidae.

**Family Dermanyssidae** was represented by two species *Dermanyssus gallinae* (De Geer) from Al-Kalag district and *Dermanyssus alaudae* (Schrenk) from Al-Gabal alasar district, all of them were collected from nest of *Streptopelia senegalensis aegyptiaca* (Laughing dove) with high number.

**Family Rhinonyssidae** was represented by one species *Rhinonyssidus* sp. which was found in the nasal cavities of *Passer domesticus niloticus* (House sparrow) with little number at Al-Kalag district.

**1-2 Suborder: Monogynaspida** was represented by 4 families these families are Ascidae, Blattisociidae, Laelapidae and Macronyssidae.

**Family Ascidae** was represented by 8 species, *Lasioseius aegypticus* (Afifi), collected from *P. d. niloticus* nests at Al-Kalag district, *Lasioseius lindquisti* (Nasr and Abou awad) collected from *Ardeola ibis ibis* nests also the same mite species had been found on *A. ibis* nestlings with few number at Al-Qnater district; *Lasioseius peritremus* (Nasr and Abou awad) found on adult individuals of *Halcyon smyrnensis* at Abo-Zaabal district; *Protogamasillus biforealis* (Genis, Loot and Ryke) was recorded on *A. ibis* nests at Al-Qnater district; *Protogamasillus denticus* (Nasr) collected from nests of two bird species at two districts *P. d. niloticus* at Al-Kalag district and *A. ibis* at Al-Qnater district; *Protogamasillus* sp. was collected from *A. ibis* nests with high number at Al-Qnater district and from adult individuals of *Halcyon smyrnensis* at Abo-Zaabal district. Also two species of mites; *Proctolaelaps pygmaeus* (J. Muller) and *Proctolaelaps striatus* (Afifi, Hassan and El. Bishlawy) were collected from *P. d. niloticus* nests at Al-Kalag district. All mites of this family were with moderate number except *Protogamasillus* sp. and *Lasioseius lindquisti*.

**Family Blattisociidae** was represented by 2 species *Blattisocius keegani* (Fox) collected from *P. d. niloticus* nests with high number, at Al-Kalag district and *Blattisocius tarsalis* (Berlese) from *A. ibis* nests with moderate number at Al-Qnater district.

**Family Laelapidae** was represented by 7 species these species are *Androlaelaps casalis* (Berlese) which found on adult individuals of 2 bird species, *Athene noctua noctua* Little owl with moderate number, and *Prinia gracilis* with few number, all of them was at Al-Gabal alasar district; *Androlaelaps kifili* (Metwally and Ibrahim) was collected from nest of *S.s. aegyptiaca* with few number at Al-Kalag district; *Chelanyssus aethiopicus* (Hirst) from *A. ibis* nests with few number at Al-Qnater district; *Eulaelaps novus* (Vitzthum) was collected with moderate number from *P. d. niloticus* nests at Al-Kalag district and from adult individuals of *Burhinus senegalensis* at Al-Gabal alasar district; *Eulaelaps stabularis* (Cl. Koch) found on adult individual of *Hoplopterus spinosus* with few number at Al-Gabal alasar district; *Hypoaspis orientalis* (Elbadri and Nasr) from adult individual of *Burhinus senegalensis* with moderate number at Al-Gabal alasar district and *Hypoaspis wahbi* (Metwally and Ibrahim) collected from adult individual of *Prinia gracilis* with few number at Al-Gabal alasar district.

**Family Macronyssidae** was represented by 12 species, these species are *Cryptonyssus desultorius* (Radovesky) from adult individuals of *Centropus senegalensis aegyptius* with few number at Al-Gabal alasar district; *Macronyssus ellipticus* (Kolenti) with high number and *Macronyssus japonicas* (Radovesky) with moderate number were

collected from *P. d. niloticus* nests at Abo-Zaabal district; Also *Ophionyssus saurorum* (Oudemans) was collected from *A. ibis* nests at Al-Qnater district with few number, *Ornithonyssus bacoti* (Hirst) had been found on adult individuals of 2 bird species *A. ibis* at Al-Qnater district with moderate number and *Egretta garzetta* at Abo-Zaabal district with few number; *Ornithonyssus pipistrelli* (Oudemans) which collected from 3 bird species *P. d. niloticus* nests at Al-Kalag district and *A. ibis* nests at Al-Qnater district, both species was with moderate number. The third bird species was *Nycticorax n. nycticorax* at Abo-Zaabal district, mites collected from adult individual with few number; *Ornithonyssus* sp.1 collected from *P. d. niloticus* nests with moderate number at Al-Kalag district; *Ornithonyssus* sp.2 and *Pellonyssus* sp. all of the two species had been found on adult individuals of *Upupa epops major* with moderate number at Al-Gabal alasfar district, add to that there were three species follow genus *Steatonyssus* collected from different types of *P. d. niloticus*, *Steatonyssus leptus* (Radovesky) collected from nests with high number at Al-Kalag district, *Steatonyssus occidentalis* (Ewing) had been found on nestlings with moderate number and on adult individuals with few number at Al-Khanka district and the third species was *Steatonyssus periblepharus* (Kolenati) collected from nests with moderate number at Al-Kalag district.

### 1-3 Suborder: Uropodina

**Family Uropodidae** was represented by 3 species *Chiropturopoda bakeri* (Zaher and Afifi) found on adult individual of *Nycticorax n. nycticorax* with few number at Al-Gabal alasfar district, *Trichouropoda patavina* (Canestrini) collected from adult individuals of *Corvus cornix sardonius* with moderate number at Al-Khanka district and *Uroobovella krantzi* (Zaher and Afifi) collected from adult individual of *Egretta garzetta* with few number at Abo-Zaabal district.

Our study agree with **Abd-Allah (1993)** who collected *Blattisocius keegani* from House sparrow nests and *Dermanyssus* sp, *Androlaelaps* sp from palm dove nests, also gamasid mites including to 6 Families : Ascidae, Blattisociidae, Laelapidae, Macronyssidae, Uropodidae and Dermanyssidae.

Also our results semi agree with **Fenda and Pinowski (1997)**, **Soliman (1999)** they collected some mesostigmatic mites as *Androlaelaps casalis*, *Dermanyssus gallinae*, *Dermanyssus hirundinis*, *Blattisocius tarsalis* and *Proctolaelaps pygmaeus* from individuals and nests of *Passer domesticus*.

On the other hand, **El- Danasory (2002)**, **Abd-Almagid-Azza (2008)** found some ectoparasitic mites associated with Cattle egret follow Order Gamasida (*Androlaelaps* sp., *Kleemanmia plumosus*, *Ornithonyssus* sp., and *Dermanyssus* sp.) *Blattisocius tarsalis* from rock pigeon faces,

*Blattisocius keegani* from Hooded crow nests; *Protogamasillus* sp from house sparrow nests and rock pigeon faces; *Proctolaelaps pygmaeus*, *Ornithonyssus* sp and *Steatonyssus periblepharus* from house sparrow nests.

Also the obtained data in agreement with **Mahmoud et al., (2012)**, **Metwally et al., (2016)** in Egypt they isolated *Ornithonyssus bacoti*, *Ornithonyssus bursa*, *Ornithonyssus* sp., *Steatonyssus* sp., *Pellonyssus pasari* mites species from laughing dove *Streptopelia senegalensis aegyptiaca*, *Steatonyssus periblepharus*, *Pellonyssus* sp., *Uroobovella marginata*, *Hypoaspis orientalis* *Dermanyssus gallinae*, *Blattisocius tarsalis*, *Blattisocius keegani*, *Proctolaelaps pygmaeus*, *Proctolaelaps minutes*, *Ornithonyssus bacoti*,

*Macronyssus japonicas* and *Steatonyssus* sp. from nests of the Hooded crow, House sparrow, Cattle egret, Laughing dove, Common Hoopoe and Common bulbul.

**Table (1)** Incidence of Mesostigmatid mites associated with some resident and migratory wild birds at Qalubia Governorate

Order Sub Order Family	Species	Host Scientific Name	Host English Name	Examined material	Abun- -dnce	Locality
Superorder: Parasitiformes (Leach, 1815) Order: Gamasida Suborder: Dermanyssina Superfamily: Dermanysoidea Family: Dermanyssidae	<i>Dermanyssus gallinae</i> (De Geer,1778)	<i>Streptopelia senegalensis aegyptiaca</i> (Latham1790)	Laughing dove	Nest	***	Al- Kalag
	<i>Dermanyssus alaudae</i> (Schrenk,1781)				***	Al- Gabal alasar
Family: Rhinonyssidae	<i>Rhinonyssidus</i> sp.	<i>Passer domesticus niloticus</i> (L.,1758)	House sparrow	Nest	*	Al- Kalag
Suborder: Monogynaspida  Superfamily: Ascoidea  Family: Ascidae	<i>Lasioseius aegypticus</i> (Afifi,1985)	<i>Passer domesticus niloticus</i> (L.,1758)	House sparrow	Nest	**	Al- Kalag
	<i>Lasioseius lindquisti</i> (Nasr and Abou awad,1987)	<i>Ardeola ibis ibis</i> (Linnaeus, 1758)	Cattle egret	Nest Nestlings	* *	Al- Qnater
	<i>Lasioseius peritremus</i> (Nasr and Abou awad, 1987)	<i>Halcyon smyrnensis</i> (L., 1758)	White throated king Fisher	Adult	**	Abo- Zaabal
	<i>Protogamasillus biforealis</i> (Genis,Loot and Ryke)	<i>Ardeola ibis ibis</i> (L., 1758)	Cattle egret	Nest	**	Al- Qnater
	<i>Protogamasillus denticus</i> (Nasr)	<i>Passer domesticus niloticus</i> (L.)	House sparrow	Nest	**	Al- Kalag
		<i>Ardeola ibis ibis</i> (L., 758)	Cattle egret		**	Al- Qnater
	<i>Protogamasillus</i> sp.	<i>Ardeola ibis ibis</i> (L., 1758)	Cattle egret	Nest	***	Al- Qnater
		<i>Halcyon smyrnensis</i> (L., 1758)	White throated king Fisher		Adult	**

	<i>Proctolaelaps pygmaeus</i> (J.Muller,1860)	<i>Passer domesticus niloticus</i> (L.,1758)	House sparrow	Nest	**	Al-Kalag
	<i>Proctolaelaps striatus</i> (Afifi,Hassan and El.Bishlawy)				**	
Family: <b>Blattisociidae</b>	<i>Blattisocius keegani</i> (Fox,1947)	<i>Passer domesticus niloticus</i> (L.,1758)	House sparrow	Nest	***	Al-Kalag
	<i>Blattisocius tarsalis</i> (Berlese,1918)	<i>Ardeola ibis ibis</i> (L., 1758)	Cattle egret	Nest	**	Al-Qnater
Family: <b>Laelapidae</b>	<i>Androlaelaps casalis</i> (Berlese,1887)	<i>Athene noctua noctua</i> (Scopoli,1769)	Little owl	Nest	**	Al-Gabal alasfar
		<i>Prinia gracilis</i> (Lichtenstein,1823)	Graceful warble	Adult	*	Al-Gabal alasfar
	<i>Androlaelaps kifili</i> (Metwally and Ibrahim,1985)	<i>Streptopelia senegalensis aegyptiaca</i> (Latham,1790)	Laughing dove	Nest	*	Al-Kalag
	<i>Chelanyssus aethiopicus</i> (Hirst,1921)	<i>Ardeola ibis ibis</i> (L., 1758)	Cattle egret	Nest	*	Al-Qnater
	<i>Eulaelaps novus</i> (Vitzthum,1925)	<i>Passer domesticus niloticus</i> (L.)	House sparrow	Nest	**	Al-Kalag
		<i>Burhinus senegalensis</i> (Swainson, 1837)	Senegal thick-knee	Adult	**	Al-Gabal alasfar
	<i>Eulaelaps stabularis</i> (Cl.Koch,1836)	<i>Hoplopterus spinosus</i> (Cramp and Simmons (1977-1994))	Spur-winged plover	Adult	*	Al-Gabal alasfar
	<i>Hypoaspis orientalis</i> (Elbadri and Nasr)	<i>Burhinus senegalensis</i> (Swainson, 1837)	Senegal thick-knee	Adult	**	Al-Gabal alasfar
<i>Hypoaspis wahbi</i> (Metwally and Ibrahim)	<i>Prinia gracilis</i> (Lichtenstein,1823)	Graceful warble	*			
Family: <b>Macronyssidae</b>	<i>Cryptonyssus desultorius</i> (Radovesky,1975)	<i>Centropus senegalensis aegyptius</i> (Gmelin,1788)	Senegal coucal	Adult	*	Al-Gabal alasfar
	<i>Macronyssus ellipticus</i> (Kolenti)	<i>Passer domesticus niloticus</i> (L.,1758)	House sparrow	Nest	***	Abo-Zaabal
	<i>Macronyssus japonicas</i>				**	

	(Radovesky,1967)					
	<i>Ophionyssus saurorum</i> (Oudemans,1901)	<i>Ardeola ibis ibis</i> (Linnaeus, 1758)	Cattle egret	Nest	*	Al-Qnater
	<i>Ornithonyssus bacoti</i> (Hirst,1913)	<i>Ardeola ibis ibis</i> (Linnaeus, 1758)	Cattle egret	Adult	**	Al-Qnater
		<i>Egretta garzetta garzetta</i> (L., 1766)	Little egret	Adult	*	Abo-Zaabal
	<i>Ornithonyssus pipistrelli</i> (Oudemans,1904)	<i>Passer domesticus niloticus</i> (L.)	House sparrow	Nest	**	Al-Kalag
		<i>Ardeola ibis ibis</i> (L., 1758)	Cattle egret	Nest	**	Al-Qnater
		<i>Nycticorax nycticorax</i> (L.,1758)	Black-crowned night heron	Adult	*	Abo-Zaabal
	<i>Ornithonyssus</i> sp.1	<i>Passer domesticus niloticus</i> (L.,1758)	House sparrow	Nest	**	Al-Kalag
	<i>Ornithonyssus</i> sp.2	<i>Upupa epops major</i> (Brehm, 1855)	Egyptian hoopoe	Adult	**	Al-Gabal alasfar
	<i>Pellonyssus</i> sp.				**	
	<i>Steatonyssus leptus</i> (Radovesky)	<i>Passer domesticus niloticus</i> (L.,1758)	House sparrow	Nest	***	Al-Kalag
	<i>Steatonyssus occidentalis</i> (Ewing, 1933)			Nestlings	**	Al-Khanka
<i>Steatonyssus periblepharus</i> (Kolenati,1858)	Adult			*		
			Nest	**	Al-Kalag	
Suborder: Uropodina  Family: Uropodidae	<i>Chiropturopoda bakeri</i> (Zaher and Afifi)	<i>Nycticorax nycticorax</i> (L.,1758)	Black-crowned night heron	Adult	*	Abo-Zaabal
	<i>Trichouropoda patavina</i> (Canestrini)	<i>Corvus cornix sardonius</i> (Trischitta, 1939)	Sardinian hooded crow	Adult	**	Al-Khanka
	<i>Uroobovella krantzi</i> (Zaher and Afifi)	<i>Egretta garzetta garzetta</i> (L., 1766)	Little egret	Adult	*	Abo-Zaabal

\* = 1<3    \*\* = 4<10    \*\*\* = 11<100    \* = few    \*\* = moderate    \*\*\* = high

**Data in Table (2)** clear the classification of the collected wild bird species which include 13 bird species under 11 families and 8 orders. These orders are Bucerotiformes, Charadriiformes, Columbiformes, Coraciiformes, Cuculiformes, Passeriformes, Pelecaniformes, Strigiformes

**Order: Bucerotiformes**

**Family Upupidae** was represented by one species *Upupa epops major* (Brehm, 1855) Egyptian hoopoe as resident wild bird species infected by 2 mite species: *Ornithonyssus* sp.1 and *Pellonyssus* sp. .

**Order: Charadriiformes**

**Family Burhinidae** was represented by one species, *Burhinus senegalensis* (Swainson, 1837) Senegal thick-knee as a resident bird infected by 2 mite species: *E. novus* and *H. orientalis*.

**Family Charadriidae** was represented by one species, *Hoplopterus spinosus* (Cramp and Simmons (1977-1994)) Spur-winged plover as resident bird. The bird infected by one mite species: *E. stabularis*.

**Order: Columbiformes**

**Family Columbidae** was represented by one species, *Streptopelia senegalensis aegyptiaca* (Latham, 1790) Laughing dove as a common resident bird which infected by 3 mite species: *A. kifili*, *D. gallinae* and *D. alaudae*.

**Order: Coraciiformes**

**Family Halcyonidae:** This family was represented by one species, *Halcyon smyrnensis smyrnensis* (L., 1758) White throated king fisher as resident bird infected by 2 mite species: *L. peritremus* and *Protogamasillus* sp.

**Order: Cuculiformes**

**Family Cuculidae** was represented by one species, *Centropus senegalensis aegyptius* (Gmelin, 1788) Senegal coucal as resident bird infected by one mite species: *C. desultorius*.

**Order: Passeriformes**

**Family Cisticolidae** was represented by one species, *Prinia gracilis* (Lichtenstein, 1823) Graceful warble as resident bird infected by 2 mite species: *A. casalis* and *H. wahbi*.

**Family: Corvidae** was represented by one species, it is *Corvus cornix sardonius* (Trischitta, 1939) Sardinian hooded crow as a common resident bird infected by one mite species: *T. patavina*.

**Family: Passeridae** was represented by one species, *Passer domesticus niloticus* (Linnaeus, 1758) House sparrow as resident bird, which infected by 14 mite species: *B. keegani*, *E. novus*, *L. aegypticus*, *M. ellipticus*, *M. japonicas*, *O. pipistrelli*, *Ornithonyssus* sp.2, *P. denticus*, *P. pygmaus*, *P. striatus*, *S. leptus*, *S. occidentalis*, *Rhinonyssidus* sp. and *S. periblepharus*.

**Order: Pelecaniformes** was represented by one family this family is Ardeidae.

**Family: Ardeidae** was represented by 3 bird species, all of them is resident bird, these species are *Ardeola ibis ibis* (Linnaeus, 1758) Cattle egret infected by 9 mite species: *B. tarsalis*, *C. aethiopicus*, *L. lindquisti*, *P. biforealis*, *P. denticus*, *Protogamasillus* sp., *O. bacoti*, *O. pipistrelli* and *O. saurorum*. The second is *Egretta garzetta garzetta* (L., 1766) Little egret infected by 2 mite species: *U. krantzi* and *O. bacoti*. The last bird is



*Nycticorax nycticorax nycticorax* (L.) Black-crowned Night heron infected by 2 mite species: *C. bakeri* and *O. pipistrelli*.

**Order: Strigiformes**

**Family: Strigidae** was represented by one species, it is *Athene noctua* (Scopoli, 1769) Little owl as resident bird infected by one mite species: *A. cassalis*.

**Table (2)** Incidence of some resident and migratory wild bird species and its associated Mesostigmatid mites at Qalubia governorate

Order Family	Host bird Scientific name	English Name	M or R	Examined material	Mites Species	Locality
Order: Bucerotiformes Family: Upupidae	<i>Upupa epops major</i> (Brehm,1855)	Egyptian hoopoe	R	9 Adult	<i>Ornithonyssus</i> sp.1	Al- Gabal alasar
					<i>Pellonyssus</i> sp.	
Order: Charadriiformes Family: Burhinidae	<i>Burhinus senegalensis</i> (Swainson, 1837)	Senegal thick- knee	R	1 Adult	<i>Hypoaspis orientalis</i>	Al- Gabal alasar
					<i>Eulaelaps novus</i> (Vitzthum,1925)	
Family: Charadriidae	<i>Hoplopterus spinosus</i> (Cramp and Simmons (1977-1994))	Spur- winged plover	R	1 Adult	<i>Eulaelaps stabularis</i> (Koch)	Al- Gabal alasar
Order: Columbiformes Family: Columbidae	<i>Streptopelia senegalensis aegyptiaca</i> (Latham,1790)	Laughing dove	R	17 Adult 1 Nest	<i>Androlaelaps kifili</i>	Al- Kalag
					<i>Dermanyssus gallinae</i>	
					<i>Dermanyssus alaudae</i>	Al- Gabal alasar
Order: Coraciiformes Family: Halcyonidae	<i>Halcyon smyrnensis smyrnensis</i> (L.,1758)	White throated king fisher	R	3 Adult	<i>Lasioseius peritremus</i>	Abo- Zaabal
					<i>Protogamasillus</i> sp.	
Order: Cuculiformes Family: Cuculidae	<i>Centropus senegalensis aegyptius</i> (Gmelin, 1788)	Senegal coucal	R	1 Adult	<i>Cryptonyssus desultorius</i> (Radovesky)	Al- Gabal alasar
Order: Passeriformes Family: Cisticolidae	<i>Prinia gracilis</i> (Lichtenstein, 1823)	Graceful warble	R	1 Adult	<i>Androlaelaps casalis</i> (Berlese,1887) <i>Hypoaspis wahbi</i>	

Table(2) cont.

Family: Corvidae	<i>Corvus cornix sardonius</i> (Trischitta, 1939)	Sardinian hooded crow	R	21 Adult	<i>Trichouropoda patavina</i> (Canestrini)	
Family: Passeridae	<i>Passer domesticus niloticus</i> (Linnaeus, 1758)	House sparrow	R		<i>Blatisocius keegani</i>	Al-Kalag
					<i>Lasioseius aegypticus</i>	
					<i>Protogamasillus denticus</i>	
					<i>Proctolaelaps pygmaeus</i> (Muller)	
					<i>Proctolaelaps striatus</i>	
					<i>Macronyssus ellipticus</i> (Kolenti)	Abo-Zaabal
					<i>Macronyssus japonicas</i> (Radovesky)	
					<i>Ornithonyssus pipistrelli</i> (Oudemans)	Al-Kalag
					<i>Ornithonyssus sp.2</i>	
					<i>Steatonyssus leptus</i> (Radovesky)	
					<i>Steatonyssus occidentalis</i> (Ewing)	Al-khanka
					<i>Steatonyssus periblepharus</i>	Al-Kalag
					<i>Eulaelaps novus</i> (Vitzthum)	Al-Kalag
<i>Rhinonyssidus sp.</i>	Al-Kalag					
Order: Pelecaniformes Family: Ardeidae	<i>Ardeola ibis ibis</i> (Linnaeus, 1758)	Cattle egret	R	7 Adult 12 Nest 23 Nestling	<i>Blatisocius tarsalis</i> (Berlese)	Al-Qnater
					<i>Lasioseius lindquist</i>	
					<i>Protogamasillus biforealis</i>	
					<i>Protogamasillus denticus</i>	
					<i>Protogamasillus sp.</i>	
					<i>Chelanyssus aethiopicus</i> (Hirst)	
					<i>Ophionyssus saurorum</i> (Oudemans)	
					<i>Ornithonyssus bacoti</i> (Hirst)	

Table(2) cont.

					<i>Ornithonyssus pipistrelli</i> (Oudemans)	
	<i>Egretta garzetta garzetta</i> (L.,1766)	Little egret	R	1 Adult	<i>Uroobovella krantzi</i>	Abo-Zaabal
					<i>Ornithonyssus bacoti</i> (Hirst,1913)	
	<i>Nycticorax nycticorax nycticorax</i> (L.)	Black-crowned Night heron	R	1 Adult	<i>Chiropturopoda bakeri</i>	Abo-Zaabal
					<i>Ornithonyssus pipistrelli</i> (Oudemans,1904)	
Order: Strigiformes Family: Strigidae	<i>Athene noctua</i> (Scopoli, 1769)	Little owl	R	1 Adult	<i>Androlaelaps cassalis</i> (Berlese)	Al-Gabal alasar

R= resident

M =migratory

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## الملخص العربي

### الأكاروسات ذوات الثغر المتوسط المرتبطة بالطيور البرية فى محافظة القليوبية

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تم جمع بعض العينات العشوائية لبعض أنواع الطيور البرية سواء أكانت فراخ أم أفراد بالغة أم أعشاش من خمس مناطق مختلفة تابعة لمحافظة القليوبية وتمثلت هذه المناطق فى القناطر - أبوزعبل - الخانكة - الجبل الأصفر - القلج خلال عامين متتاليين (٢٠١٥-٢٠١٦) لتسجيل بعض أنواع الأكاروسات ذات الثغر المتوسط المرتبطة بهذه الطيور حيث أمكن جمع أنواع الأكاروسات من ١٣ نوعاً من الطيور البرية وكانت هذه الطيور هي ( أبو قردان والهدهد والغراب ذو القلنسوه واليمام المصرى والبلشون الأبيض وعصفور الدور النيلي والكروان السنغالى والزقراق البلدى وصياد السمك أبيض الصدر) (القاوند) والمك والهازجة الرشيقة وغراب الليل وبومة أم قويق , تتبع هذه الأنواع ١١ عائلة وهى تندرج تحت ٨ رتب وهى البجعيات وقرنبيات المنقار والعصفوريات والحماميات والزقراقيات والضوضنيات والوقواقيات والبوميات ' وقد تم فحص عدد ٦٤ فرداً بالغاً و٢٣ فرخاً و١٣ عشاً ' كذلك شمل الفحص الريش وخاصة الريش القلمى فى الأجنحة والذيل وفحص الجلد خاصة الرقبه وتحت الأجنحة وأسفل الذيل كذلك التجايف الأنفية ومن ثم كشفت النتائج عن تسجيل ٣٥ نوعاً من أنواع الأكاروسات ذات الثغر المتوسط تنتمى إلى ١٩ جنساً وتحت ٧ عائلات ' كما أوضحت النتائج أن رتبة ذات الثغر المتوسط هى أكثر الرتب إنتشاراً وأن عصفور الدور النيلي هو أكثر الأنواع إصابة بأكاروسات ذات الثغر المتوسط حيث تم تسجيل ١٤ نوعاً من الأكاروسات على عصفور الدور النيلي وأعشاشه يليه أبو قردان بعدد ٩ أنواع من أكاروسات ذات الثغر المتوسط تم جمعها من على الأفراخ والبالغين والأعشاش وباقي أنواع الطيور تقاربت من بعضها فى نسبة الإصابة والتي تراوحت بين ١-٣ من الأنواع الأكاروسية.