



MEROPS SUPERCILIOSUS PERSICUS PALLS, 1773 (CORACIIFORMES: MEROPIDAE) IN THE PROVINCES OF BAGHDAD AND BABYLON

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Abstract

The study was conducted in the governorates of Baghdad, Jadiriya and Babel / the Emam during 2017-2018. The results showed that there were no significant differences between Babil governorate and Baghdad, with the highest rate of nesting 17-16.6 days in Baghdad Governorate / Babel, respectively. And the lowest for 15-14 days in the province of Baghdad / Babylon, respectively. The highest rate of eggs was 5.6-6 eggs per governorate Baghdad / Babel respectively and the lowest reached 5-4.5 eggs in the province of Babylon / Baghdad, respectively. The incubation period for each egg was 21 days in all the transactions in both Babylon and Baghdad. The highest egg laying rate was 7-6.5 days in Babil Governorate / Baghdad, respectively. And the lowest was 5.3-4.5 days in the province of Babil / Baghdad, respectively. The highest rate of eggs was 5.6-5.5 eggs in Babil Governorate / Baghdad, respectively and the lowest was 4.6-4.5 eggs in Babil Governorate / Baghdad, respectively. The percentage of eggs hatching was 100-94.4% in Babil Governorate / Baghdad, respectively and the lowest percentage was 94.4%-91.6% in Babil Governorate / Baghdad, respectively. The highest rate of egg hatching was 7-6 days in Babil province / Baghdad, respectively and the lowest was 4.6-4.5 days in Babil / Baghdad, respectively. The highest rate of the remaining eggs was 5-5 in Babil / Baghdad respectively and the lowest was 4.3-4 in Babil / Baghdad, respectively. On the other hand, the percentage of survival of the remaining chicks was 93.3-91.6% in Babil Governorate / Baghdad respectively and the lowest percentage was 83.3%-90% in Babil Governorate / Baghdad, respectively. The average length of care for young children was 35.3-35 days in Babil governorate / Baghdad, respectively and the lowest duration was 35-33.5 days in Babil Governorate / Baghdad, respectively. It was observed that the bird lay eggs with a range of 3-9 eggs in one brood, did not notice in all study sites the presence of eggs 8. The results showed no significant differences in egg measurements, with an average egg length of 24 and 19.96 Mm, while the weight of eggs reached 6.4765. It follows from this that the bird is not different lives in different provinces.

Key words: *Merops superciliosus persicus*, Coraciiformes, Meropidae.

Introduction

Human interest in the birds of the veins is long ago. The ancient Egyptians painted pictures of a group of birds, including birds of the corridors on the walls of the temples in the form of hieroglyphics. The bird returns to the Meropidae family, which includes three species of *Merops* spp., containing 26 species called Bee-eater, where they prefer to be eaten by bees and wasps Cramp, (1999) and Bailleul-Lesuer, (2014). These birds live in different environmental zones and *M. persicus* lives in semi-desert areas, forests, plains and sand dunes. Agricultural, valleys, sandy slopes with few vegetation, sand barriers and drilling near water. The eggs hatch from March to June and have a communal living consisting

of a large group of birds or in pairs. And Ferb, Kirwan, (2012) and Derbashi, (2011). The seasonal cyclone comes in spring and summer and multiplies relatively quickly. It is one pair of male and female giving during spring and summer a flock of 15-20 birds. Al-Ali, (2011) reported that the birds of the migratory birds coming from the east in early April and continuing until the end of October at the beginning of his arrival go to the highlands and dig longitudinal tunnels ranging from 50 to 150 cm in diameter and tunnel up to 8 cm laying egg after mating and arrive. The number of eggs between 4-5 eggs, hatch eggs after 2-3 weeks and start parents feed the young insects exist and often go to the most areas where the insects are the beekeepers and continue to feed the young and after a period of 4-6 weeks grow chicks and start flying and

affect the activity of bees in sores. That these birds of great economic importance, it is useful in a particular country and harmful in another country. Asokan *et al.*, (2010) in the Tamil region of India reported 34 species of *M. orientalis*. The dimensions of eggs ranged from 23.0×20.0 mm and 18.0×14.0 mm, white weight varied between 2.0 and 5.0 ± 3.3 (0.65 g). The average egg incubation period was 14.4 ± 1.01 days and both sexes participated in incubation period. *M. orientalis* placed 56 eggs, which hatch 43 (76.7%), 36 birds flew out of the nest, making the start-up success rate 83.7%. The newly hatched eggs weighed 3.16 grams and reached a maximum of 23.16 grams on 24 days. Weight loss was observed on day 27 at 20.75 grams. Oujda Mohammed *et al.*, (2002) indicate that the number of eggs per larva is average *M. persicus* reached 6 eggs and the extent of

egg laying was 5-7 eggs while Cramp, (1985) reported that the bird of the circus *M. s. persicus* puts 6 eggs.

Due to the scarcity of life studies on this type of bird in Iraq, the study aimed to identify the life of this bird from the moment of digging the nests to the extent of the emergence of blooms as it poses a danger to honeybees in Iraq.

Materials and Methods

Determination of the nests of the study

The nests of the study were determined after the end of the bird from the digging of its nest in the study areas (Baghdad governorate / Jadriya and Babil governorate / Emam). Six nests were selected in Baghdad / Al-Jadriya governorate for a few birds' nests and nine nests were selected in Babil Governorate.

Life studies of the bird Alwarwar Iraqi

The experiment was conducted on the date and until after the identification of the nests of the study and determining the length of time it took to build the nests in both governorates. The number of eggs in each nest and egg incubation period were calculated from laying the first egg until hatching. And the duration of laying eggs / day from the first egg placed by the bird to the last egg. Counting the number of eggs perforated, the percentage of hatching, the duration of hatching / day, the number of remaining chicks and the survival rate of chicks / day. These calculations were carried out every three days using a BESSCOPE camera. This camera was installed on a design made of a stick that can be controlled by the length of the nest, To facilitate the imaging process without the camera can not take pictures from inside the tunnel without causing any harm to the nest and the other end of the stick proved to be a rule included to measure the slope angle of the tunnel and slope. Connect to the mobile device and open through Camera Fi or connect to the laptop and open through the program Webcam Max inserted into the nest very carefully to prevent damage to eggs and chicks and take videos and pictures to know the above cases.

The percentage of successful egg hatch was calculated using the following mathematical formula:



Percentage to hatch egg = number eggs hatch / number total egg thread $\times 100$

The percentage of survival of the chicks was calculated using the following mathematical formulas:

Percentage ratio for survival chicks = remaining chicks number / total macro chicks total $\times 100$.

(Asokan *et al.*, 2010)

Weight and Measurement of bird eggs rotors M.S.P:

Three nests of birds identified each nest containing three newly developed eggs. The tunnel was drilled with a small shovel, extracted from all nests with numbering and flipped with paper blades and placed in plastic cans to protect it from fracture. It was then transferred to the laboratory for measurements of egg length and width using Vernier and weight measurement using a sensitive balance (Prasanth *et al.*, 1994).

Results and Discussion

Life studies of *M. persicus*

- The life of a bird *M. persicus*:

The results of table 1, showed no significant differences in the life cycle of the rotary bird between Babil governorate and Baghdad. The highest duration was 17-16.6 days in Baghdad Governorate / Babel respectively and the lowest in 15-14 days in Babil Governorate / Baghdad, respectively. The results differed, according to Mohammed *et al.*, (2002). *M. s. Persicus* was in the third week of March and the period of digging the nest extends from 7-15 days.

The highest number of eggs in Babel was 5.6-6 eggs in Babil Governorate / Baghdad, respectively and the lowest was 4.5-5 eggs in Babil Governorate / Baghdad, respectively. This difference may be due to the difference

in quantity of food on which the female feeds on quantity and quantity before and during the process of egg laying, it was noted that the eggs are small in size, shiny white and a thin, thin semi-spherical, thin elongated, free of any spot or camouflage mark, the natural color of calcium salts.

It was noted that the eggs are placed with a time range of 1-3 days between the egg and another and therefore there is a time difference will occur in terms of hatching and growth of chicks in the same one clutch may be due to some kind of adaptation to reduce competition between chicks and reduce the effort on parents in terms of food processing or is the results agreed with Wrege and Emlen, (1991) that there is no consensus in the process of laying and hatching the eggs in the birds of the birds. This improves the ability of the older birds to monopolize limited food processing. Leads to selective death of younger chicks first.

It was observed that the bird placed only one meal during the season and may be due to the length of the nesting period laying eggs and caring for the chicks, which lasts about 11 weeks and agreed with the findings Fry and Fry, (1992) that the birds of the larvae multiply once.

The rate of incubation period of one egg was 21 days in all the transactions in both Babylon and Baghdad. It was noted that both males and females share the bosom of eggs during the day, but the largest proportion of females. At night the female was only different results were found with Muhammad and others, (2002). The average number of eggs incubation of the rotary bird *M. persicus* reached 24.3 days. Salim, (1941) found that *M. superciliosus* eggs placed 4-7 eggs in pure white spherical form and that both males and females share nesting, egg incubation and broiler breeding.

The highest egg-laying rate was 7-6.5 days in Babil

Table 1: Life cycle of the bird rotor in the provinces of Babylon and Baghdad.

Transactions	Life cycle of a bird in Babylon									
	Average duration of nest / day construction	Average number of eggs subject	Average egg incubation period /day	Average egg laying time /day	Average number of egg perforated	Rate of eggs hatching %	Average duration of hatching eggs/day	Average number of remaining chicks	Rate of survival of chicks %	Average peroid of brood/ day care
Nest 1	16.6	5	21	5.3	4.6	94.4	4.6	4.3	93.3	35
Nest 2	14	5.6	21	7	5.6	100	7	4.6	83.3	35.3
Nest 3	16.6	5.6	21	6.3	5.6	100	6.3	5	90.4	35
Life cycle of a bird in Baghdad										
Nest 1	14	4.5	21	4.5	4.5	100	4.5	4	90	33.5
Nest 2	16	6	21	6.5	5.5	91.6	6	5	91.6	35.5
Nest 3	17	5.5	21	6	5.5	100	6	5	91.6	35.5
Values LSD	2.72	1.37	1.85	1.52	1.32	7.30	1.28	1.25	7.06	3.49

Governorate / Baghdad respectively, the lowest being 5.3-4.5 days in Babil Governorate / Baghdad, respectively.

The highest rate of eggs was 5.6-5.5 eggs in Babil Governorate / Baghdad, respectively and the lowest was 4.6-4.5 eggs in Babil Governorate / Baghdad, respectively.

The percentage of eggs hatching was 100-94.4% in Babil Governorate / Baghdad, respectively and the lowest percentage was 94.4%-91.6% in Babil Governorate / Baghdad, respectively. It is observed that the hatching rate is high but there are a few eggs that do not hatch. The reason is that the eggs are not fertilized. The results agree with what Morris, (2003) said that each embryo is a single cell and this cell can not grow into a chick Unite with another cell coming from the male.

The highest rate of egg hatching was 7-6 days in Babil Governorate / Baghdad, respectively and the lowest was 4.6-4.5 days in Babil Governorate / Baghdad, respectively. It was observed that chicks immediately after hatching are small, bare, crimson-free feathers that are unable to take care of themselves and therefore rely on parents to feed them.

The highest rate of the remaining eggs was 5-5 in Babil / Baghdad respectively and the lowest was 4.3-4 in Babil / Baghdad, respectively.

The highest survival rate was 93.3-91.6% in Babil Governorate / Baghdad respectively and the lowest percentage was 83.3%-90% in Babil Governorate / Baghdad, respectively. The differences in the survival rate of chicks may be due to the intense competition among chicks on the food processed by the parents. The results agreed with Wrege and Emlen, (1991) that there is no consensus in the process of laying eggs in the birds of birds. This improves the older chicks' ability to monopolize food processing which leads to selective death of younger chicks first, or due to the lack of food supplied by parents to chicks as a result of insects in the nesting area associated with environmental conditions or hampering their processing to the chicks as a result of the inconvenience to which parents are exposed. The nests of farmers' homes and roads or the spread of diseases and epidemics among the chicks. It was noticed that there are a number of dead chickens inside some nests at the age of advanced and not removed from the nest by the parents and this may increase the spread of diseases among the rest of the chicks and reduce survival rates and the death of chicks at an advanced age this evidence that the parents sometimes unable to prepare the food for the building when they offer age for their great need for food and for the same reasons mentioned above.

The average length of care for young children was 35.3-35 days in Babil / Baghdad respectively and the lowest was 35-33.5 days in Babil / Baghdad governorate respectively. It was noticed that the chicks emerged sequentially from the nests. It appears from the observations that after the emergence of the chick, the parents continue to sponsor them for a period of one to three weeks. The reason may be to ensure their survival and to teach them the process of catching the insects to rely on themselves as the parents were observed to be fed by many insects, especially tremors while the chick watching with the procedure Some fishing attempts that it increases its success as it ages and continues to feed the chicks that are still in the nests and remain parents and children. In the nesting area until the last chick from the nests after heading to the dead and agreed with the findings of the grandmother Mgrabl, (2013) that the bird *M. persicus* takes care of the chicks when they emerge from the nests away from the breeding area. Al-Ali, (2011) pointed out that Al-Warwar flew for four to six weeks until it grew up and started flying.

The reason for the absence of significant differences in the life aspects of the birds of the larvae between Babylon and Baghdad is similar to the environmental conditions between them in terms of food and temperature and there is no significant difference between them and the bird places an egg in chambers inside the soil, thus reducing the impact of external conditions and thus the conditions are semi-fixed and similar between the two provinces.

Percentage of eggs in one brood of larvae

The results of fig. 1, showed that there was a difference in the percentage of eggs in each brood and that the highest percentage of eggs 6 was 53%, while the lowest percentage of 3 was 3%. The percentage of the number 5 was 26%. While the percentage of both 4 and 7 was 9%. The percentage of 8 and 9 was 0%.

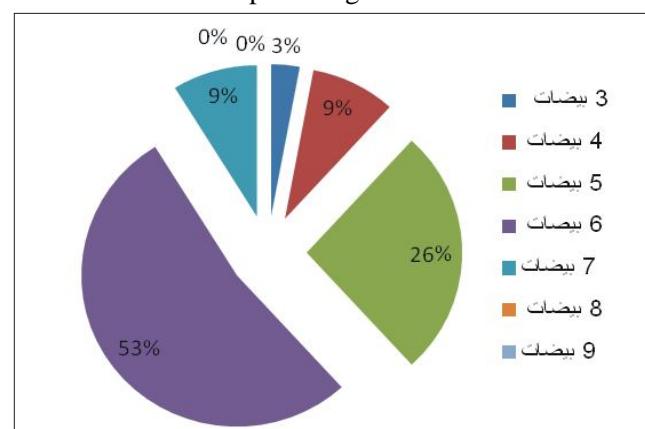


Fig. 1: The number of eggs in one clutch for *M.s. persicus* in single nests-Babylon.

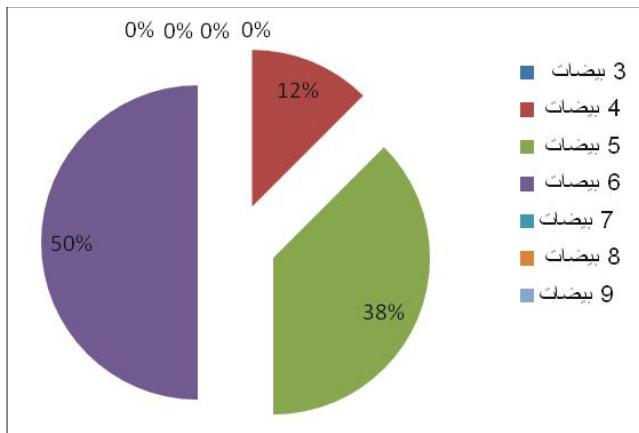


Fig. 2: The number of eggs in one clutch for *M.s. persicus* in single nests-Baghdad.

As for the individual nestlings of the province of Baghdad, the results of the study showed that there were differences in the percentage of eggs in each brood (Fig. 2). The highest percentage of eggs 6 was 50% and the lowest percentage of the number 4 was 12%. While 38% for 5 eggs. The percentage of 3, 7, 8, 9 was 0%.

As for the colony nests of the province of Babylon, the results of the study showed that there is a difference in the percentage of eggs in each brood (Fig. 3). The highest percentage of eggs 6 was 48%. While 8%, 31%, 0%, 1% of the number 4, 5, 8, 9 eggs in one brood, respectively.

It was observed that the bird lay eggs with a range of 3-9 eggs in one brood, did not notice in all study sites the presence of eggs 8. The difference in egg incubation may be due to the amount of food that the female feeds on before and during the egg-laying process. The results differ with Fry, (2001). *M. persicus* lay eggs 4-8 eggs (usually 6-7 eggs).

Rates of egg measurements of bird larvae

The results of table 2, showed no significant

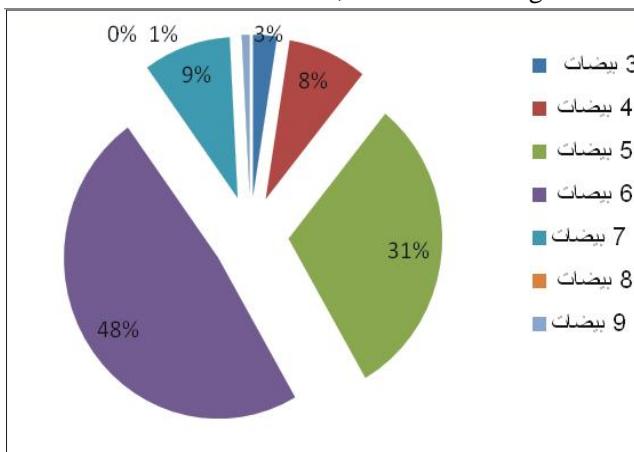


Fig. 3: The number of eggs for *M.s. persicus* in single nests-Baghdad.

Table 2: Rates of egg measurements of bird rotor in Babil Governorate.

Transactions	Egg length / mm	View the egg / mm	Weight of egg / gram
Nest 1	25	19.6	6.4245
Nest 2	24	20.3	6.5486
Nest 3	23	20	6.4565
the average	24	19.96	6.4765
Values LSD	3.47	2.09	0.822

differences in egg measurements. The highest egg lengths was 25 mm and the lowest was 23 mm. The average was 24 mm. The highest egg width was 20.3 mm and the lowest was 19.6 mm. Mm. The highest egg weight was 6.5486 grams and the lowest was 6.4245 grams and the rate was 6.4765 grams. The cause of non-variation may be gender-specific. It has been observed that the eggs are hemispherical rather than oval shape may be due to the fact that the hemispherical form contains the largest amount of nutrients for the fetus within a fixed size and the results came close to what Oujda Mohammed *et al.*, (2002) shows that the spherical shape of the eggs of the bird of *M. persicus* contains a large amount of nutrients for the fetus and measurements of 24.65 × 21.11 mm and the length of 23.3-25.7 mm for length and 20-22.2 mm for maximum width. Makatsch, (1976) reported that the egg weight in the rotary bird was 6.5 grams.

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