

# Prevalence of *Oestrus ovis* Larvae in Slaughtered Sheep of Misan City, Iraq.

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## ABSTRACT

*Oestrus ovis* Linnaeus (Diptera: Oestridae) were seen in 49 (40.83%) out of 120 sheep heads inspected between September 2017 and August 2018 in the city of Misan.

The predominance of invasion in rams (49.09%) was higher than in ewes (33.84%) however irrelevantly. The regular predominance of pervasion recorded a high rate in the autumn season (65.51%) and most reduced in Winter (17.58%). The ntensity of invasion was (1.8) hatchlings per head with transcendent of L3 (51%) contrast with L1 (22%) and L2 (27 %).

**Keywords:** *Oestrus ovis* larvae, Sheep, Misan, Iraq.

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## INTRODUCTION

*Oestrus ovis* Linnaeus (Diptera: Oestridae) is a noticeable individual right now, the veterinary significance because of the parasitic idea of the posterity of the posterity of the posterity and the frontal sinuses of sheep. Living females blend around the animals' chiefs, and settle somewhere around parting the posterity into a couple of centimeters of nostrils and once in a while around the eyes. Now, the posterity are conveyed to the nasal cavities and the nasal sinuses they structure. The term of this parasitic piece of the pattern of presence contrasts altogether from a large portion of a month to a period relying upon season and atmosphere conditions (Cobbett and Mitchell 1941).

The movement of hatching in the nasal sinus gaps can cause genuine clinical side effects, for example, nasal waste, nasal entries, and muco-purulent myasis of the frontal sinuses, thinning visit sniffing, and dyspnea (Gunalan et al. 2011). Oestrosis causing genuine monetary misfortunes as debilitates the prosperity and execution of the hosts, influencing development, fleece and milk creation (Colwell and Dorchie's 2004). A few examinations announced *O. ovis* from various nations, for example, Italy (Caracappa et al.2000) in France (Dorchies et al. 2000), In Saudi Arabia (.Alahmed,2000) India (Jagannath et al. 1989), Libya (Mohsen et al. 2015), Jordan (Abo-shehada et al.2000), and Turkey (Uslu and Dik 2006 ).However, studies in Iraq especially south on *O. ovis* is few. Along these lines point of this exploration was to examine the pervasiveness and larval weight of *O. ovis* among butchered sheep in Misan city and impact of the period in the commonness rate.

## MATERIALS AND METHODS

The study was conducted in Misan city, south of Iraq, between September 2017 to August 2018. An aggregate of 120 sheep heads from the butchers having a place with 55 male and 65 female were analyzed for *Oestrus ovis* hatchlings. Butcher's sheep heads were purchased from butchers in the city of Misan. Data about the sex of the creature is gotten from the butcher and is affirmed by the rehashed example of horns and horns (sheep for the most part without horns).

In the examination place, on the nasal sinuses, utilizing a sharp cutting edge, to the degree of the foremost sinuses, it was longitudinally divided in the dorsoventral planes. *Oestrus ovis* pups on the mucosa of the nasal septa, nasal segments, were gathered with a forceps. The quantity of *Oestrus ovis* hatchlings recouped per head and distinguished under 40x amplification of an analyzing magnifying instrument as having a place with the primary, second and third instars (Ferrar, 1987; Smith, 1989). washed with a physiological saline arrangement and was kept in a 70% liquor arrangement and analyzed as depicted by (Ferrar, 1987). Chi-square test was utilized for measurable examination of the outcomes (Petri and Watson, 2003).

## RESULTS

A sum of 120 sheep heads, having a place with 55 rams and 65 ewes, were inspected for *O. ovis* hatchlings in the present examination, 49 heads were certain for the pervasion, which gave a predominance of 49.09% and 33.84% in rams and ewes individually, and the complete predominance was 40.83%, Tables (1 and 2). There was no basic complexity between the quantity of sullied rams and sheep ( $p > 0.05$ ).

Table 1: Pervasiveness of *Oestrus ovis* hatchlings in heads of butchered sheep in Misan city.

Number of head examined	Number of infested head	Infection rate (%)	Number of larvae
120	49	40.83	91

Table 2: Predominance of *Oestrus ovis* hatchlings as indicated by sex in sheep in Misan city.

Sex	No. of examined sheep	No. of infected sheep	Prevalence (%)
Male	55	27	49.09
Female	65	22	33.83
Total	120	49	40.83

The most noteworthy occasional predominance of contamination in sheep was in the fall (65.51 %) trailed by spring (54.54%); while the least regular of invasion was in winter (17.58%). On necropsy, 91 hatchlings were gathered from the nasal sinuses of analyzed sheep heads. The hatchlings were affirmed as *Oestrus ovis* utilizing the recognizable proof by morphology, for example, yellowish white, decreasing anteriorly with noticeable advance

posteriorly, each fragment has a dim/dark band dorsally (Figure 1). Every larval stage were seen all through the whole time frame and the most noteworthy stage watched was L3 (46) trailed by L2 (25) and L1 (20) individually, with various dissemination as per the season. The most noteworthy hatchlings were acquired in the Autumn (36 hatchlings) trailed by spring (28 hatchlings), 15 in Summer and 12 in Winter. (Table 3).

Table 3: Regular predominance of *Oestrus ovis* in sheep in Misan city.

Season	No. of examined heads	Infected heads		Mean of infection (MI)	Larva 1 (L1)	Larva 2 L2	Larva 3 L3	Total larvae count (TLC)
		No.	%					
Spring	33	18	54.54	1.55	5	8	15	28
Autumn	29	19	65.51	1.8	10	6	20	36
Winter	28	5	17.58	2.4	2	6	4	12
Summer	30	7	23.33	2.1	3	5	7	15
Total	120	49	40.83	1.8	20 22%	25 27%	46 51%	91

The gross obsessive changes saw in the head of most pervaded creatures show up the nearness of sinusitis,

rhinitis, catarrhal releases blockage and blood exudates (Figure 2).

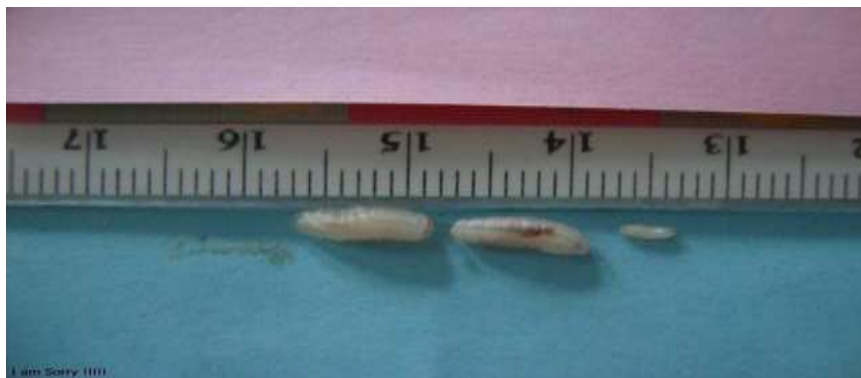


Figure 1: Morphology of Larvae of *Oestrus ovis*



Figure 2: Hatchlings of *Oestrus ovis* in the para nasal sinus of a buck (sagittal segment)

## DISCUSSION

Out of the analyzed 120 sheep heads, 40.83% were discovered contaminated with *O. ovis* hatchlings, This percentage found in the present study was high compared with previous studies in my country, (Shareef, 2001)) recorded 20.96 % in Kurdistan Region and (AL-Amery, 2007) reported 33.4% in Baghdad. Our results were also higher than those pointed by some researchers around the world such as (Amin et al., 1997 ) 8.67% in Egypt, (Karatepe et al., 2014) 22.52 % in Turkey, but less than that found at 71.1% in Spain (Alcaide et al., 2010) and 91.0% in Italy (Caracappa et al., 20005), and in considered approximate to result obtained by ((Mohsen et al. 2015) in Libya (42.33% %), and (Papadopoulos et al., 2010) in Greece (43.2%). These distinctions may be because of contrasts in topographical area, creature breed and climatic condition. The infection rate was high in males with the percentage of 49.09%, while the percentage of infection was 33.84% in females with no significant differences in infection at ( $P < 0.05$ ). This was consistent with (Mohsen et al., 2015) in Libya, This may be due to that both females and males are equally affected with predisposing factors and that the sex of the animal may not play a significant role in infection. (Table 2).

According to the seasonal distribution of infestation of study the highest range was in the autumn which was 76.92% and the lowest range was 30.76% in winter. It comes in an agreement with the study of (Ramadan et al., 2013 ) in Egypt which concluded that heavier infestations was recorded in autumn (17.91%); while the lowest seasonal peak was in winter (7.85%). Arslan et al. 2009 mentioned that the peaks of infestation in Turkey were in summer and spring while the lowest were in autumn. The reason of these differences may be due to changes in environmental conditions.

The present study pointed that out of the total of 91 larvae the L1 (13.14%), L2 (37.59%), and L3 (49.25%) were collected, L1 result was lower than that saw by ( Mohsen et al., 2015 ) and (Arslan et al., 2009) who announced L1 prevailed at 90.5% of the all out weight. Besides our outcomes concurred with (Yilma and Dorchie, 1991) who revealed that the higher level of watched larval stages was in L3 (63.4%) than L2 (26.6%) and L1 (10%). This can be considered as a result of that L1 larvae might be passed unnoticed because their small sizes or their presence in hidden places such as turbinates and ethmoid bones, and numerous L1 are demolished in the nasal holes during the hypo-biotic period (Bart and Minar, 1992).

The mean larval burden (1.8 per head), recorded in this study, was quite similar (2 per head) to that reported by (AL-Ubeidi et al., 2007) and higher than what recorded in Sudan with 1.4 (Arslan et al., 2009) but was lower than those recorded in saudia with (2.7 per head) (Papadopoulos, 2010.) 3.8 per head to that reported by (25). This distinction might be because of contrasts in the atmosphere of the districts.

The observed gross pathological changes came in agreement with (Abo-shehada et al., 2000), *Oestrus ovis* hatchlings cause horrendous harm to nasal mucosa by oral snares and

cuticular spine coming about aggravation and optional bacterial contamination (Dorchies et al., 1998).

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