

A Surveillance of Old-World Screwworm Fly *Chrysomya Bezziana* Through Myiasis Cases and Fly Trapping in Iraq

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Abstract

The OWS fly *chrysomya bezziana* was first recorded in Iraq 1996, infected livestock and causing an economic impact on them. its distributions depend on environmental condition on which survive and animal population and distribution. This paper discuss the number of myiasis cases in Iraq governorates from (1996-2020) and surveillance of Iraqis which was distributed all over the country; the infection still occurs during these years and the need of sit to eradicate it form Iraq. surveillance of old-world screwworm fly *chrysomya bezziana* through myiasis cases and fly trapping in Iraq.

Keywords: *Chrysomya Bezziana; Surveillance; Iraq*

Introduction

Myiasis cause by old world screwworm fly speices *Chrysomya bezziana*, rank *Diptera* of family: *Chalopharidae* it is an obligate parasite of mammalian host it may cause in Asia and Africa [1,2]. Causing serious economic lock in livestock and also effect human [3]. The first recorded of myiasis in Iraq 1996 [4]. Then the number of myiasis cases increasing during subsequent years mostly in 1997 more than 45000 cases which is become a risk to animal wealth to the middle east [6]. Although OWS flies have been report here and these in the Middle East [7].

Anatomic program was hold by Veterinary directorate development (AOAD, FAO, OIE and international Atomic Energy Agency (IAEA). To control this veterinarian according you the International program a team of Thirty Veterinarians s were distributed as Two Veterinarians. In each province vet hospital and the distributed of traps at all veterinary disparities by the leading of the first author. This paper discuss the myiasis cases in Iraq during the period from 1996 - 2020 in domestic animals in Iraq.

Materials and Methods

Myiasis cases were obtained from the national team of Veterinaries in each province from Veterinary hospitals extracting larvae in (70%) alcohol in a tube, sample with complete history of the cases, this includes date of collecting, place of collecting, collector name and address, species of animals infected, age and sex, type of the wound, number of animals infected in a flock and treatment given. Samples and question send in plastic bag to the CVL Entomology unit and examined under the stereomicroscope, diagnosis of larvae will be according to [8,9].

Results and Discussion

The result as show in table number 1 and 2 of myiasis cases number detected in animals in Iraqi province during the period 1996 to 2020 are given for the period from its first record in 1996 [4,5,7] until 2010 the total number increaser during from years then begin to decline from 2000 until 2006 when increases and then decline to (0) cases during the years 2008, 2009 and 2010 where some authorities decided to decline that Iraq is free from the fly, these results were reached to good surveillance and treatment of all cases by the different insecticide either locally as sprayed and dipping and with antibiotic powder [10,11] and also through veterinary extension that all for mere know is very few cases.

The infection returns to be recorded is very cases in some of the province during the years (2011, 2012, 2013). the yearly OWS cases incidence peaked in late autumn and in early winter and decline in springtime and hot summer and as mention in many references that most suitable temperature for reproduction of the fly is become (20 - 30 C°) and humidly (55 - 70%) and the emerge of pupa during (3 - 4 weeks) to adult emerge and as mention [10]. That incidence of OWS stopped at 40c and bellow 10 C°.

During these years of myiasis still occur in a temperature more than (50 C°) therefore it means that the fly resists the adverse weather and increase its long and keep its survival [12] and this differed forms (Rogers, 1998) [13] which indicate that OWS in Iraq does not survive the high temperature.

Myiasis cases were recorded in all domestic animals in Iraq include (sheep, goats, cattle, buffalo, camel, horse, donkey, dog, cat, and children) and among wild animals Fox, Pidgeon, hare, wolf, dessert cat and Gazelle [14]. The street dog and wild animals play an and important role is distribution of the infection because they can not be controlled and treatment of some infection diseases of livestock which causes ulceration much as FMD, PPR in sheep and goat pox act as predisposing factor and increase in the rate of infection when occurs during these years. hence, the distribution survives the high temperature. Of OWS was greatest and not depended on the number of animals kept at an area and this corresponded to finding of [7]. The infection still continue to occur in Iraq during the last 10 years with decrease in its occurrence but still recorded in three governorates Baghdad, Al Diwaniya, Najaf and Babel; during the last three years this anticipated that an outbreak many occur where these is a favorable condition and to prevent this the infection from heigh baring countries and to eradicate of the OWS may be achieved by the use of the sit. Iraq and international organization initiate an area wide integrated OWS program including sterile insect technique but this facing many problems for many years and need to be solved. As in the following tables 1 and 2.

Governorate	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Baghdad	1641	9488	1412	7536	2646	139	1	0	10	3	4	0	0	0	2
Diyala	1550	953	1320	3408	303	2	88	3	108	2	5	0	0	0	0
Karbala	2535	10822	2835	5945	3067	2	33	2	3	2	383	0	0	0	0
Wassit	119	871	245	654	339	0	0	0	0	0	0	0	0	0	0
Babylon	549	18101	1454	9137	921	0	0	0	0	0	8	6	3	2	3
AlDiwanyia	35	2147	404	2115	59	0	0	0	0	0	0	0	0	0	0
Anbar	11	1863	588	5735	419	0	0	0	0	0	0	0	0	0	0
Najaf	318	3056	1929	8936	693	0	0	0	0	0	0	0	0	0	0
Al-Muthana	0	463	77	56	0	0	0	0	0	0	0	0	0	0	0
Salah Aldeen	0	30	37	146	22	0	0	0	0	0	0	0	0	0	0
Thi Qar	0	148	97	257	2	0	0	0	0	0	3	0	0	0	0
Mayssan	0	3	9	10	0	0	0	0	6	1	6	4	0	1	1
Basra	0	1	18	17	0	0	0	0	515	406	1465	2	0	3	2

Table 1: Number of myiasis cases in Governorates of Iraq (1996-2010).

Governorate	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Baghdad	0	0	3	1201	2093	1340	468	308	156	18
Diyala	0	0	8	429	512	139	26	29	19	14
Karbala	0	0	0	331	0	23	0	8	5	0
Wassit	0	0	0	75	204	103	16	0	0	0
Babylon	1	2	5	375	274	60	20	33	3	5
Dewanea	0	0	0	15	336	79	107	89	71	40
Anbar	0	0	0	0	0	0	0	1	0	0
Najaf	0	0	0	52	0	93	0	32	30	11
AlMuthana	0	0	0	0	50	0	0	0	0	0
Salah AlDeen	0	0	0	0	0	0	0	0	0	0
Thi Qar	0	0	2	0	536	0	0	0	0	0
Mayssan	5	3	7	204	154	0	0	17	0	0
Basra	3	0	6	301	920	126	133	15	2	0

Table 2: Number of myiasis cases governorates of Iraq (2011-2020).

Conclusion

This article concluded that the OWS fly still continue to persist at low level in few Iraqi two or three provinces make this pest an ideal target for SIT to control and eradicate this harmful insect. The authors recommend that Iraq and the international Organization to overcome the problems of sit technique met in the country.

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