

ENVIRONMENTAL EPIDEMICAL STUDY ON OWS (*CHRYSOMYA BEZZIANA*)VILLENEUVE IN BASRAH PROVINCE \ SOUTH OF IRAQ

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ABSTRACT

Study included Basrah provinces (Fao, Abo-alkhaseib , Shatt –Al-arab, Alzubair , Deir ,Hartha,Alqurna,Almudaina,and center of Basrah)2004-2009.3453 cases ,(217 goats,80 dogs,40 buffalo,658cattle,2432 sheep, 15 horses,1 camel)were diagnosed with OWS. Lesions of myiasis were included (cutaneous ,uterine, ear, eyes, oral cavity, udder and foot).

Myiasis in dogs and buffalos with OWS because of ticks bites or FMD disease lesion. Suitable environment temperatures (30 C) (0 – 60 c). Although humidity (56%)(22-90 %) as well as wind speed (5,25 m/Se)(3,8-6,7 m/Se). This study improve that OWS survive in high temperatures (30 - 60 C) and low temperature (0 C)and infected all type in different types of animals with different cases of myiasis .Eradication of myiasis in last of that study be sure with use technique new method by vertical and horizontal spray of insecticides material with local treatment take good results healing in short time. No case detected from 2007-2009 with this technique.

INTRODUCTION

Myiasis is the infestation of any part of the body of a living vertebrates by the larvae of Diptera cause damage 1,5,8,7,6,9.Myiasis classified to partsofbodysuch as cutaneous,urogenital,ophthalmic,nasopharyngal,and intestinal myiasis,2.Many species of flies capable of causing myiasis ,species whose larvae developed only on living flesh ,killed obligated myiasis 3,4or facultative sarcobionts which can live in dead tissue 7,10.

The old world screw worm fly ,*chrysomya bezziana* is anobligatory parasite ,myiasis causing pest of living animal 11. The larvae of *chrysomya bezziana* infest living tissue thereby causing Myiasis in wide

range of worm –blood host species 8,causing loss of condition ,laminess, sterility and death 12,13.

Asimillar incidence of *chrysomya bezziana* infest F.M.D lesion of cattle has been reported in India¹⁴.

The first record of *chrysomya bezziana* in Iraq by 15, in animal and 16 in human at Basrah province. In Basrah there were many infested animal in *Calliphoridae* spp; 17 Host record include cattle, sheep, goat, buffalo, pigs, chicken, dogs, cats, horses, and man^{18,19,20}. Basrah divided to three area (south, north, center) Map 1, which show a high density with *chrysomya bezziana* fly at October which temperature 20-30 degree and humidity between 30-80% and there least density of fly at July and August show the temperature between 40-63°C with humidity between 30-90%,²¹⁽¹⁸⁾. The Arab gulf country consider endemic with *chrysomya bezziana* and its same in weather of Basrah and south of Iran environment Map(2),^{22,23,24,25,26}.

OWS fly can be a serious pest of human and particularly domesticated animal, causing severe trauma or even death and consequent economic hardship⁽²⁶⁾. The first record in Basrah in animal 1997 (one case), at 1998 (18 case),^(18,25).

MATERIAL AND METHOD

In this study used two type of traps, first Spradbery trap and second the local Basrah trap. Two traps distributed in many parts of Basrah included south, north, and center using swarm lure and Agata substances for killing fly which fall on the button of trap (OWS in stick) result were readed every 3 days Temperature, humidity, and wind speed were taken every day from Iraqi meteorological organization. Infested animals recorded treated iodine 18%, broad spectrum anti biotic, analgesic, nugasunt. larvae taken by forceps then put in 70% alcohol from injury and send to vet. laboratory to exam which show larvae belonged to Diptera-Calliphoridae- *chrysomya bezziana*.

RESULTS

The study show there were heavy infestation in animal by larvae of *chrysomya bezziana*, but there were low density of adult in traps (Spradbery or local) that means adult life the blood smear on the injuries or ticks bite happened on the animals without treated. 3453 cases of myiasis by *chrysomya bezziana* recorded from government clinic & private clinic in Basrah. Study started at November 2004 to December 2006 (3453) infected animals were diagnosis with OWS (sheep 2432, goats 217, dogs 80, buffalo 40, cattle 658, horse 15, camel 1) Tab. 1. The local area of infected (mouth, skin, umbilicus, uterus, testis, eyes, foot, tail) Tab. (2). Table (3) show OWS in goats (217), but Table (4) in dogs show (80) and in buffalo show (40) Tab.(5), 658 OWS cases show in cattle tab.(6).

Although Table (7) show there were 15 cases of Myiasis in horse.

Study prove there is more infestation in may (658) (38.5°C (Dampness))

, Jun (372) (38°C Dampness,) and December 2004 (286) Feb – (200) & other months with no infestation . the lowest infestation were sign at august with high temperature more than 50°C but from September 2006 – December 2006 there is low cases because of stopped of service in village with bad security situation .

At august 2006 we use insecticide spraying for animals , farms , animal houses , trees using agritol (50%), cyperlode(10%) and use local treatment for myiasis (asuntol (5%) , negasunt(40%), hysis (10%),iodine (18%) , alcohol (70 %)Cotton & spray(oxy tetracycline. wounds be healing after 2-3 days although using of local & spradberry trap we control for all infested of ows in animals in basrah province & we don't record any cases till now October 2008 unless (1) case at April 2007 ,this indicate that the method of spraying infested area with ows very important & perfect to control & irradiation of chrysoma bezziana fly &larvae .

Table No.(1) show the no. of infected animals with ows and relationship with months of years 2006 but Table No.7 &8 show the same at 2004 & 2005 .

No.	month	No. of infected animals	Type of animals							Tem . rate
			Horse	Chickens	Dogs	Buffalo	Goats	cattle	Sheep	
1	Jan.	115	1	-	2	3	10	15	84	18°C
2	Feb.	125	-	-	-	-	25	10	90	19°C
3	Mar.	130	1	-	2	2	15	24	85	24°C
4	Apr .	200	-	-	5	10	20	36	129	36°C
5	May.	658	9	-	17	16	23	146	445	36°C
6	Jun.	372	3	-	5	3	5	120	235	38°C
7	Jul.	65	-	-	2	-	-	29	34	38.5°C
8	Aug.	8	-	-	2	-	-	4	2	38°C
9	Sep.	zero	-	-	-	-	-	-	-	36.5°C
10	Oct.	4	-	-	-	1	1	-	2	34°C
11	Nova.	7	-	-	-	-	-	1	6	23.5°C
12	Dec.	14	-	-	-	-	-	6	5	23°C

Table No. (1

Table No. (2) 2006 shows myiasis by ows in different animals

N o	Site of infection	Number of infection
1	eye	2
2	mouth	136
3	thigh	187
4	uterus	91
5	skin	89
6	testis	26
7	tail	1560
8	hilus	41
9	ear	281
1 0	foot	19
	2432	

Table (3) **The infestation of Myiasis by *chrysomya bezziana* in sheep during 2004-2005 - 2006**

No	Site of infection	No. of infection
1	mouth	15
2	skin	39
3	leg	28
4	uterus	71
5	thigh	15
6	ear	24
7	udder	17
8	hilus	7
		217

Table (4) Infestation of Myiasis by *Chrysomya bezziana* in goat 2004,2005&2006

No	Site of infection	Number of infection
1	thigh	9
2	abdomen	7
3	leg	21
4	mouth	8
5	neck	18
6	ear	17
		80

Table (5) The infestation of myasis by *chrysomya bezziana* in dog2004,2005 &2006

N o	Site of infection	Number of infection
	Ear	5
	Leg	23
	Tail	7
	Uteru s	5
		40

Table (6) The infestation of myasis by *chrysomya bezziana* in buffalo2004, 2005,2006

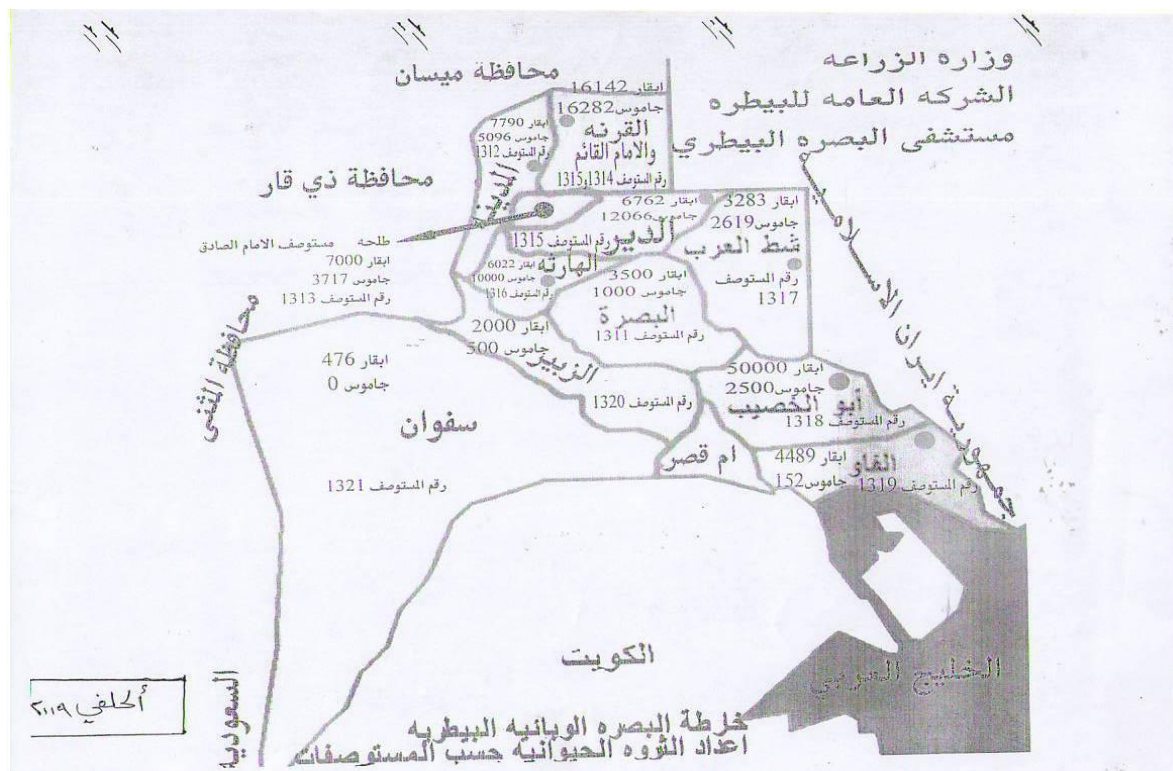
No	Site of infection	Number of infection
1	eye	4
2	mouth	11
3	thigh	24
4	uterus	339
5	skin	47
6	testis	6
7	tail	32
8	neck	11
9	hilus	37
10	ear	21
11	abdomen	20
12	foot	106
		658

Table (7) The infestation of myasis by *chrysomya bezziana* in cow
2004,2005 &2006

No.	month	No. of infected animals	Type of animals							Tem . rate	R . H . Rate
			Horse	Chickens	Dogs	Buffalo	Goats	cattle	Sheep		
1	Nov.	155	-	5	7	2	27	29	85		
2	Dec.	286	10	-	10	-	40	56	179	-2 (-4 : -6) c°	12%

Table (8) 2004 shows Myiasis by ows in different animals

No.	month	No. of infected animals	Type of animals						Tem . rate	R . H . Rate	Rate	Wind speed
			Horse	Chickens	Dogs	buffalo	Goats	cattle				
1-	Jan.	199	-	-	3	-	19	27	150	12.6	68	4.6
2-	Feb.	200	-	-	2	-	15	35	148	17.3	60	3.9
3-	Mar.	195	-	-	8	2	5	25	155	20.4	48	5.1
4-	Apr .	157	1	-	2	-	7	20	127	26.9	42	4.8
5-	May.	110	-	-	7	-	1	11	91	32.9	30	4.6
6-	Jun.	96	-	-	-	-	-	21	75	36.4	23	6.7
7-	Jul.	17	-	-	-	-	-	2	15	38.8	22	6.3
8-	Aug.	12	-	-	-	-	-	2	10	37.8	28	5.2
9-	Sep.	59	-	-	-	-	-	10	49	33.5	27	5.4
10-	Oct.	75		-	1	-	-	4	70	28.1	35	4.4
11-	Nova.	86	-	-	1	-	-	5	80	18.8	53	4.1
12-	Dec.	108	-	-	4	1	4	19	80	15.9	66	3.8



DISCUSSION

Old world screw worm (OWS) medical insect and economic insect which infected human and animal cause tissue damage in life body (6,3,7). The cause of high infestation in animal by OWS in Basra province south of Iraq because of high humidity and mild temperature (25-35 C) with regular degree of temperature (0-50 C) diagnose some fly in this lower and high degree which considered first recorded first record in this fly. Small rivers and green farms south of Basra especially Aboalkhassib happened environment to OWS reproduction. The method of animal management in south by quarantine animal by wire silk wall which cause some injuries to animal although in food and mouth disease (FMD) which cause lesion in mouth, feet and mammary gland and present of ticks external parasite on animal with manage disease especially in street dog all these lesion may good environmental source to make OWS growth with high infestation case separated to all village in Basra when adult fly laid these egg at injuries which proliferation on blood of life tissue that make OWS fly treated animal and human infestation at 2004-2006. Vertical and horizontal insecticides spray method in all farms and animal house with intermittent process (twice weekly for two months with treatment of infested animal locally and use Ivermectin injection SIC, Nagasunt powder as supportive treatment in

all animals have small or large injuries that make the percentage of infestation descending to zero at 2007 unless one case but 2008, 2009 have not record any case. This method mention to good results to eradicate of OWS in Basra without use method of infertility male fly technique which our method have low optional and coast and high speed to control the infestation in low time.

دراسة بينيه وبانيه لدودة الذبابة الحلزونية في محافظة البصرة – جنوب العراق

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الخلاصة

شملت الدراسة كافة مناطق محافظة البصرة (قضاء الفاو ، أبي الخصيب ، شط العرب ، الزبير ، مركز المحافظة ، ناحية الديار ، ناحية الهارثة ، قضاء أقرنه وقضاء المدينة) لعام 2004 - 2009. تم تسجيل (3453) إصابة (217 إصابة بدودة الذبابة الحلزونية بالماعز ، 80 في الكلاب ، 40 في الجاموس ، 658 بالأبقار ، 2432 في الأغنام ، 7 في الدواجن ، 15 بالخيول ، 1 في الإبل). حيث تم تشخيص كافة أنواع التندويد الجلدي ، الهضمي ، الرحمي ، الاذني ، العيني ، أضافه إلى تسجيل إصابات في منطقه الفم ، الضرع والقدم . كانت أسباب الاصابه بالكلاب بسبب مرض الجرب والقراد الذي يسبب تشقق الجلد والحكة ، إما إصابات الجاموس فتعزى إلى إصابتها بمرض الحمى القلاعية الذي يعمل على تشقق الفم والقدم والضرع . تراوحت درجات الحرارة خلال فترة الدراسة من صفر مئوي إلى 60 م (المعدل 30م) بينما تراوحت نسبه الرطوبة بين 22-90 (المعدل 56%) بينما بلغت سرعه الرياح تتراوح من 3,8 م/ثا – 6,7 م/ثا . أثبتت النتائج ان دودة الذبابة الحلزونية للعالم القديم OWS كانت تقاوم درجات الحرارة المرتفعه ودرجات الحرارة المنخفضة صفر مئوي.

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