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Myiasis of Domestic Animals in Iraq

M. O. Al-Ani [α], S. F. Abbas [σ], T. H. Hamzza [ρ], A. Hatem [ω], A. A. Shubar [¥] & M.S. Abdul-Rassoul [§]

Abstract- This work carried out to detect dipterous fly agents of Myiasis of domestic animals in Iraq during the year 2017. Seventy cases of Myiasis were determined in the domestic animals distributed in five provinces: Baghdad, Diyala, Wasit, Diwaniya and Basrah. Fifty one cases were wound Myiasis, and 19 were various Myiasis cases for aural five rectal, four urogenita, three ophthalmic and one oral. Four species of dipterous flies larvae: *Chrysomya bezziana*, *Chrysomya megacephala*, *Lucilia sericata*, *Chrysomya albiceps* were identified as Myiasis agents. *Chrysomyabezziana* was most prevalent species has been recording 50 injured, 27 of them injured in sheep. The larvae were collected from six species of domestic animals; sheep were more susceptible to Myiasis followed by cattle, dog, goat, buffalo and cat.

I. Introduction

Myiasis is the infestation of live animals with dipterous larvae which at least for a certain period feed on the host dead or living tissues ;liquid body substance or ingested food (Zumpt;1956). No attention has been given to myiasis in domestic animal in Iraq until the firest recorded cases of chrysomya bezziana in 1996 in Baghdad (OIE1996, Abdul-Rassol 1996) (Al.ani 1997).Veterinary directorate informed the national organization FAO,OIE ,AOAD to control the outbreak with international effort. A result of the survillence program was held through a team in the veterinary directorate with representive veterinarian in each vet hospital in each province and the distribution of Traps at all vet. dispensaries through all provinces to detect the different type of fly under the leading of the first auther and the diagnosis of the adult fly and larvae by the staff of Entomology unit and the confirmation the last auther.this paper discuss the myiasis cases detected in domestic animals in Iraq during the year 2017 and to dedicated the last auther who died during preparation of the this paper at 2018.

II. Materials and Methods

Myiasis cases were obtained from the national team veterinarias in each province from veterinary hospitals extracting larvae from animals and send them to central veterinary Diagnostic Laboratory, Entomology unit for the identification with complete history of the cases. Larvae were collected from deep wound at least ten larvae from each case dippend in worm water and then in 70% alcohol and examined by stereomi-croscope, diagnosis of larvae will be according to Spradbery1991.

Table (1): Myiasis cases of domestic animals in Iraq

No.	Kind of Myiasis	Myiasis agent		Host		Date of collection	Locality
		Species name	Larval stage	Species name	Site of infestation		
1	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	O8.O1.2017	Basrah
2	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	17.01.2017	Rashdiya,Baghdad
3	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	24.01.2017	Al-Wehda, Baghdad
4	Wound	*L. sericata*	Third	Cattle	Fatty tale	24.01.2017	Al-Taji, Baghdad
5	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	06.02.2017	Basrah
6	Wound	*L. sericata*	Third	Sheep	Leg	28.03.2017	14July, Baghdad
7	Wound	*Ch. bezziana*	Third	Dog	Head	03,04.2027	Al-Jablia, Basrah
8	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	17.04.2017	Basrah
9	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	26.04.2017	Abu Al-KhasibBasrah
10	Ophthalmic	*Ch. bezziana*	Third	Cattle	Eye	26.04.2017	Shatt Al-Arab, Basrah
11	Wound	*Ch.megacephala*	Third	Sheep	Leg	02.05.2017	Rashdiya,Baghdad
12	Wound	*Ch. bezziana*	Third	Cattle	Thigh	09.05.2017	Shatt Al-Arab, Basrah
13	Wound	*Ch. megacephala*	Third	Sheep	Fatty tale	10.05.2017	Wasit
14	Aural	*Ch. bezziana*	Third	Dog	Ear	14.05.2017	Lilian, Basrah
15	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	21.05.2017	Al-Mohanawiya,Diwaniya

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16	Urogenital	*Ch. bezziana*	Third	Cattle	vagina	23.05.2017	Al-Wehda, Baghdad
17	Wound	*Ch. bezziana*	Third	Buffalo	Abdomen	23.05.2017	Al-Wehda, Baghdad
18	Oral	*Ch. bezziana*	Third	Dog	Mouth	25.05.2017	Abu-Alkhasib, Basrah
19	Rectal	*Ch. megacephala*	Third	Cattle	Anus	29.05.2017	Rashdiya,Baghdad
20	Wound	*Ch. megacephala*	Third	Goat	Leg	29.05.2017	Rashdiya,Baghdad
21	Aural	*Ch. bezziana*	Third	Sheep	Ear	30.05.2917	Al-Qurnah, Basrah
22	Wound	*Ch. bezziana*	Third	Cattle Calf	Eye	11.06.2017	Al-Mohanawiya,Diwaniya
23	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	13.06.2017	Ghamas, Diwaniya
24	Aural	*Ch. bezziana*	Third	Dog	Ear	15.06.2017	Al-Moqdadiya, Diyala
25	Wound	*Ch. bezziana*	Third	Cattle Calf	Umbilicus	04.07.2017	Al-Wehda, Baghdad
26	Urogenital	*Ch. bezziana*	Third	Cattle	Vagina	04.07.2017	Al-Wehda, Baghdad
27	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	04.07.2017	14July, Baghdad
28	Wound	*L. sericata*	Third	Sheep	Horn	04.07.2017	14July, Baghdad
29	Wound	*L. sericata*	Third	Sheep Ewe	Udder	04.07.2017	14July, Baghdad
30	Wound	*Ch. bezziana*	Third	Cattle	Flank	12.07.2017	Baqoba, Diyala
31	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	16.07.2017	Rashdiya,Baghdad
32	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	01.08.2017	Rashdiya,Baghdad
33	Wound	*Ch. bezziana*	Third	Sheep Lamb	Umbilics	01.08.2017	Rashdiya,Baghdad
34	Aural	*Ch. bezziana*	Third	Sheep	Ear	06.08.2017	Abu-SaidaDiyala
35	Aural	*Ch. bezziana*	Third	Sheep	Ear	15.08.2017	Rashdiya,Baghdad
36	Wound	*Ch. bezziana*	Third	Sheep	Femoral	15.08.2017	Rashdiya,Baghdad
37	Wound	*Ch. bezziana*	Third	Cattle Calf	genu	14.09.2017	Jorf Al-Nadaf, Baghdad
38	Aural	*Ch. bezziana*	Third	Sheep	Ear	18.09.2017	Rashdiya,Baghdad
39	Rectal	*Ch. bezziana*	Third	Cattle	Anus	18.09.2017	Rashdiya,Baghdad
40	Rectal	*Ch. bezziana*	Third	Cattle	Anus	19.09.2017	Al-Taji, Baghdad
41	Wound	*Ch. bezziana*	Third	Cattle	Genu	18.10.2017	Diyala bridge
42	Wound	*Ch. bezziana*	Third	Sheep Lamb	Fatty tale	18.10.2017	Diyala bridge
43	Rectal	*Ch. albiceps*	Second	Cat	Anus	19.10.2017	Yarmuk, Baghdad
44	Wound	*Ch. megacephala*	Third	Sheep Ewe	Udder	21.10.2017	14July, Baghdad
45	Wound	*Ch. megacephala + Ch. alpiceps*	Third	Sheep	Thigh	21.10.2017	14July, Baghdad
46	Wound	*Ch. Megacephala + Ch. alpiceps*	Third	Cattle Calf	Umbilics	22.10.2017	14July, Baghdad
47	Wound	*Ch. Megacephala*	Third	Sheep Ram	Thigh	22.10.2017	14July, Baghdad
48	Ophthalmic	*Ch. Megacephala + Ch. alpiceps*	Third	Cattle Calf	Eye	24.10.2017	14July, Baghdad
49	Wound	*Luciliasericata+Ch. albiceps*	Third	Sheep Ewe	Thigh	25.10.2017	14July, Baghdad
50	Urogenital	*Ch. Megacephala+Ch. albiceps*	Third	Cattle	Vagina	26.10.2017	14July, Baghdad
51	Wound	*Ch. Megacephala+Ch. albiceps*	Third	Sheep Ewe	Fatty tale	26.10.2017	14July, Baghdad
52	Urogenital	*Ch. bezziana*	Third	Goat	Vagina	31.10.2017	Baghdad
53	Wound	*Ch. bezziana*	Third	Goat	Udder	01.11..2017	14July, Baghdad
54	Wound	*Ch. bezziana*	Third	Sheep Ewe	Fatty tale	01.11.2017	14July, Baghdad
55	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	01.11.2017	14July, Baghdad
56	Ophthalmic	*Ch. bezziana*	Third	Cattle Calf	Eye	01.11.2017	14July, Baghdad
57	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	05.11.2017	14July, Baghdad

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58	Wound	*Ch. bezziana*	Third	Cattle Calf	Umbilicus	05.11.2017	14July, Baghdad
59	Wound	*Ch. bezziana*	Third	Sheep Ewe	Thigh	12.11.2017	Abu-Ghraib, Baghdad
60	Wound	*Ch. bezziana*	Third	Cattle	Flank	12.11.2017	ShikhHamad, Baghdad
61	Wound	*Ch. bezziana*	Third	Dog	Fore leg	12.11.2017	Baghdad
62	Wound	*Ch. bezziana*	Third	Sheep	Thigh	13.11.2017	Rashdiya,Baghdad
63	Rectal	*Ch. bezziana*	Third	Goat	Anus	21.11.2017	Abu-SaidaDiyala
64	Wound	*Ch.megacephala* + *Ch. albiceps*	Third	Cattle	Neck	23.11.2017	ShikhHamad, Baghdad
65	Wound	*L. sericata*	Third	Sheep	Back	27.11.2017	Rashdiya, Baghdad
66	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	07.12.2017	Al-Mohanawiya, Diwaniya
67	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	11.12.2017	Al-Taji, Baghdad
68	Wound	*Ch. megacephala* *L. sericata*	Third	Sheep Ewe	Fatty tale	11.12.2017	Al-Taji, Baghdad
69	Wound	*Ch. bezziana*	Third	Sheep	Hind leg	11.12.2017	Al-Dora, Baghdad
70	Wound	*Ch. bezziana*	Third	Sheep	Fatty tale	12.12.2017	Rashdiya,Baghdad

III. Result and Discussions

A total of seventy cases of Myiasis have been collected in study area.

Table (2): Number of animal Myiasis cases according to the causal agent and hosts detection, Iraq

Agent species	Host						Sum	Percent (%)
	Buffalo	Cat	Cattel	Dog	Goat	Sheep		
Ch. albiceps	00	01	02	00	00	02	05	6.67
Ch. bezziana	01	00	14	05	03	27	50	66.67
Ch. megacephala	00	00	05	00	01	07	13	17.34
L. sericata	00	00	01	00	00	06	07	9.34

As show in table no-1wound Myiasis 51 Cases, Aural 6 cases, Rectal 5 cases, Urogenital 4, cases, Ophthalmic 3 cases, Oral 1 cases.

In table no(.2) Four species chrysomybezziana, ch.megacephala, ch.albices and lucilia sericata were identified as etiological agent of the myiasis, Ch. Bezziana (50) cases represent 66.67%, ch.megacephala (13),17.34% L.sericata (7), 9.34%, ch.alpiceps (5), 6.67%.

Among animals most myiasis were determined in sheep (39), represent 5.57%, then catlle (20), 2.85%, dog (5),0.71% ,Goat (4),0.57%, buffalo (1),0.14% and cats1.70 .*Ch. bezziana* (50), *Ch. megacephala* (13), *L. sericata (*7), *Ch. albiceps* 5. 75 *Ch. bezziana* 66.67%, *Ch. megacephala* 17.34%, *L. sericata* 9.34%, *Ch. albiceps* 6.67%) 3. Sheep 39, Cattle 20, Dog 5, Goat 4, Buffalo 1, Cat 1.70

Among animal the part of animal body envolved as fallow Fatty tail 22 case, Thigh 6 case, Ear 6 case, Anus 5 case, Leg 5 case, Umbolicus 4 case, Vagina 4 case, Eye 4 case, Udder 3 case, Genu 2 case, Flank 2 case and one case for each of: Abdomen, Back, Femoral, Head, Horn, Mouth, Nek. Among months the number of regesterd cases are in November 13 case, October 12 case, May 11 case, July 7 case, August 5 case, December 5 case, September 4 case, Janeuary 4 cases, Apri 4 casel, June 3 case, February 1 case, March 1 case.

There are many literature about myiasis in animals or human worldwide (Zumpts, 1965 and spradbery, 1991)inIraq. Abul-hab, 1980, Al-Ani 2014, Abdul-rassoul etal 2018) In this studay chrysomya bezziana still the most important causes of myiasis and was the predominant species in Iraq. L.sericata was also detected as a myiasis causing agent and this in agreement with result of abdul_rassoul etal, 2018. It was observed during the diagnosis of larvae that the third stage larvae were found in the most of the cases, 1stage and second stage larvae were very less detected fallow up myiasis in Iraq still continuing through a strict programe during every year.

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