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TICKS (ACRINA) FROM DOMESTIC ANIMALS IN CENTRAL IRAQ

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SUMMARY

A survey was done to study the ticks of domestic animals in Baghdad and some neighboring areas in 1987. Two genera with 3 species and two new subspecies of ticks were identified. Hyalomma marginatum turanica pomerantsev was the most abundant among the population of the domestic animals than the other two species Hyalomma anatolicum excavatum Koch and Rhipicephalus turanicus Pomeratsev and Matikashvili. Older age and colored animals were more infested with ticks than the young and lightly colored. Ticks were mostly found attaching firmly to skin of ears and udder in females and near the scrotum in males.

INTRODUCTION

The discomfort and irritation caused by the bites of ticks are of public veterinary health importance. Tick bites also affect production of domestic animals[1]. Now ticks are among the most efficient arthropod vectors of viruses, rickettsia, bacteria and protozoa, and are able to cause paralysis through neurotoxic salivary secretions[2,3].

The Victorial capacity of ticks is enhanced by a number of behavioral parameters such as that they attach firmly, suck blood, feed slowly and may go unnoticed by man for lengthy periods of time. Some Species are capable of transstadial transmission of disease agents.

Hyalomma species were suspected as vectors of crimen haemorogic fever in the middle East[4]. *Hubbard*[5] identified some speices ticks and dsitribution in Iraq. *Hoogstraal* and *Kaiser*[6] reviewed the tick in Iraq, and recorded 7 species of Hyalomma Rhipicephalus and Boophilus. Then *Robson* and *Robb*[7] studied the seasonal occurance and distribution of some species of Hyalomma, Rhipicephalus and Boophilus in Iraq. This study was initiated to identify the ticks attack farm animals and to find that relationship between the degree of infestation and some of the animal chracters.

MATERIALS AND METHODS

This survey was conducted in Baghdad and neighboring rural areas of Jiser Diala and Al-Rashdiyah.

A number of 1224 domestic animals were examined including cattle, goats, sheep, horses and camels. The ticks were picked and preserved in 70% Ethanol. The examined animals were chosen randomely from each collection, then individually inspected. The areas examined for the presence of ticks were between legs around the udder in the females, near the sctrotum in the males, under the abdomen, around the tail base, inside and outside ears and on the face of both sexes. Gauze soaked with chloroform was used for anesthetizing ticks before picking.

In the laboratory ticks were processed with potassium hydroxide 10% for hours to digest the animal flesh which is firmly attached to the mouth parts of ticks. The keys of *Hoogstraal et al.*[8] Was used for the identification of

ticks. The identification of ticks was checked by *H. Y. Wassef* of the NAMRU 3 in Cairo.

RESULTS

Two genera, three species and two new subspecies of ticks were collected from domestic animals. These ticks were Hyalomma marginatum turanicum Pomerantsev, Hyalomma anatolicum excavatum Koch, and Rhipicephalus turanicus Pomerantsev and Matikashvili.

Table (1) shows that all of the females of domestic animals except the horse were more infested with ticks than the males. The cattle and camel had highest rate of infestation than other animals.

Table (2) shows that H.marginatum turanicum was the most abundant tick on camel, sheep, horse, and cattel. H.anatolicum excavatum was more abundant on cattlel, and horse, while R.turanicus was more abundant on goat, sheep, and horse.

Table (3) shows that the older and dark coloured animals had higher infestation rate than younger and lighter coloured animals. It was also found that the ticks prefer to attach to the smooth areas of the body. Ears, udders in the females and the scrotum in the males, and between legs at the inner surface of the animals.

DISCUSSION

The result of this survey showed that H.marginatum turanicum infested a wide range of hosts, camel, cattle, horse, and sheep. *Hoogstraal* and *Kaiser*[6] reported the same results.

The immature of this species are usually found in the semidesert and vegetation areas[9]. H.marginatum turanicum is carrier of the haemorrhagic fever pathogen in central and south Asia[10]. It is likely that this species play a role in carrying the haemorrhagic fever pathogen in Iraq. *Al-Tikreeti et al.*[11] reported that 4.5% of the haemorrhagic fever in Iraq were among village people who are in contact with cattle and sheep.

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Table 1 :Infestation (%) of different animals with ticks.

Sex	Cattle		Goat		Sheep		Horse		Camel		Buffalo	
	no.*	%	no.*	%	no.*	%	no.*	%	no.*	%	no.*	%
Female	205	17.07	57	5.26	433	8.37	62	1.61	31	32.25	40	
Male	131	2.29	26	0	187	7.48	23	13.04	19	10.52	10	0
Total	335	19.36	83	5.26	610	15.58	85	14.15	50	42.77	50	0

*=no. Of animal examined

Table 2 :Percentage of tick species on different animals

Kind of animal	Tick species (%)			
	Sex	H.m.turaicum	H.a.excavatum	R.turanicus
Cattle	F	82.67	17.33	-
(335)*	M	83.13	16.87	-
Goat	F	-	-	100
(83)*	M	-	-	100
Sheep	F	32	-	68
(610)*	M	37.67	-	62.33
Horse	F	25	25	50
(85)*	M	41.67	33.33	25
Camel	F	85.41	14.58	-
(50)*	M	83.87	16.13	-
Buffalo	F	-	-	-
(50)*	M	-	-	-

*=no. Of animals examined

Table 3 :Infestation (%) among different animals with different characters

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	cattle		Sheep		Goat		Horse		Camel		Buffalo	
Age												
	Age	%	Age	%	Age	%	Age	%	Age	%	Age	%
Non-infes. animal %	3m - 6y	11.30	3m - 4y	5.90	3m -4y	27.71	1-7y	1.17	1-6y	13.96	1-6y	100
Infested animals %	3m - 6y	88.70	3m - 4y	94.10	3-5y	72.29	7-14y	98.83	5-7y	86.31		
Colour												
	No.*	%	No.*	%	No.*	%	No.*	%	No.*	%	No.*	%
Non-infe. animals %	13 B	7.55	490 T&B	83.76	60 B	100	4B	4.76	16 BR	28.57	50	100
	75 B&W	43.60	95 T	16.23			26 BR	30.95	23T	41.07		
	37 R	21.15					47 BR&W	55.95	11W	9.64		
	47 B&W	27.32					7 B&W	8.33				
Infested(%)	25 B	65.78	27 B&T	77.14	23B	100	1Br	100	6T	100		
	12 B&W	31.15	8T	22.85								
	1 Br&W	2.63										
Body area												
	%		%		%		%		%		%	
Area Infested(%)	mame between leg	33.72 76.28	Fat Tail	100	Ear	100	Ear	100	betw. leg neck	83.64 16.36	—	—

* = No. of animals examined, B = black, W = white, R = red, T = tend, Br =brown

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مسح القراد من مختلف الحيوانات الاليفة في وسط العراق

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الخلاصة

أجرى مسح القراد من مختلف الحيوانات الأليفة في بغداد وضواحيها وقد تم تشخيص جنسين وثلاثة أنواع وأثنين دون النوع .

وجد بأن القراد Hyalomma marginatum turanica Pomerantsev ينتشر وبأعداد كبيرة على مختلف الحيوانات وسجل كل من دون النوع :

Hyalomma anatolicum excavatum koch and Rhipicephalus turanicus Pomeratsev and Matikashvili.

كما وجد بأن الحيوانات الأقل عمراً وذات الألوان الفاتحة أكثر أصابة بالقراد من الحيوانات الأكبر عمراً وأغمق لوناً... ولوحظ بأن موقع الأصابة بالقراد في الأذان والضرع والأماكن الأخرى الخالية من الشعر.