

SPECIES OF THE SOFT TICK GENUS *ARGAS* (ACARINA , IXODOIDEA) IN IRAQ

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SUMMARY

A total 474 argasid ticks removed from 617 hosts including bats , rodents , and birds were found belong to four species of the genus *Argas* . One of which *A . reflexus* is reported for the first time for Iraq . Some informations regarding the infestation rate , intensity and some biological data are provided .

INTRODUCTION

Only limited number of works are available on the ticks of Iraq . All of these works concerned with both ixodid and argasid ticks . Hoogstraal and Kaiser (1958) carried out the most comprehensive one reporting 21 species including *Argas persicus* Latreille , 1829 and *A . vespertilionis* Latreille , 1802 . Shamsuddin and Mohammad (1988) recorded *A . persicus* only , while Abdul - Rassoul and Mohammad (1988) added *A . confusus* Hoogstraal , 1955 to the list of the Iraqi ticks .

In most of the previous works *Argas* spp . constitute always the lowest number of the collections although these ticks are of veterinary importance , this is probably because of their behaviour patterns since they are only present on the host for a short time .

The present work is designed to give more informations on the Iraqi species of the genus *Argas* including report of *A . reflexus* (Fabricius , 1794) for the first time .

MATERIALS AND METHODS

A total of 474 ticks off 617 hosts were collected during Feb . , 1992 to July , 1994 from 11 localities mostly from west and middle of Iraq . The hosts include 9 birds (3 spp .) , 514 bats (3 spp .) and 12 rodents (2 spp .) . All tick samples were kept in 70% alcohol .

In addition , several collections of argasid ticks were examined for taxonomical purpose , those include : Iraq Natural History Museum collection (Baghdad) ; Biological Research Center (Formerly) ; personal collection of the author (Baghdad) and specimens donated by Mr . S . S , Berwary of Tikrit University

RESULTS AND DISCUSSION

Table 1 summarizes the results of this study. This showed that *Argas persicus* consisted 91.8% of the bulk sample. It was widely distributed in the studied area. The other three spp. were rare, each of *A. confusus* and *A. vespertilionis* hosts include only mammals and *A. vespertilionis* constituted 3.2% while *A. reflexus* represented only 1.9%. List of hosts of *A. confusus* and *A. vespertilionis* included only mammals (3 spp. of bats and 2 spp. of rodents). Of the total sample, adults represented 14.8%, nymphs 42.4% and larvae 42.8%.

Argas persicus is widely distributed tick throughout Iraq wherever poultry established and usually with heavy infestation (Shamsuddin and Mohammad, 1988). The present work showed that the infestation concentrate on the house-raised fowl and this coincided with sharp reduction of poultry production during the four recent years. From table 1 it is obvious that it attains highest infestation rate among the other species. Sex ratio of *A. persicus* showed that males represent 46.2%. This is hard to explain since most collection were made on or near the hosts at different hours of the day.

Argas reflexus is reported in this study from two sites in Baghdad, in Suq Al-Ghazel market which is a big market for different kinds of birds and other animals, and at the building of Natural History Museum in Bab Al-Muadham. In the first case the host was the domestic pigeon *Columba livia*. Several specimens were collected from one cage of this bird. The cage, which is made of reed, provides a suitable shelter for the ticks. While in the second case three specimens were captured at a shelf outside a window which is usually used as a roost of feral pigeon. Report of this tick from two places in Baghdad suggest that it may have well established population in Baghdad area since the mean number of tick / host ranks second after *A. persicus* (table 1). This finding supports Hoogstraal and Kaiser (1958) suspicion that this species is likely to occur in Iraq.

Argas confusus is a rare tick although it was reported from three host species and two sites (Baghdad and Kerbala) since the mean number of ticks / host is 0.063 (table 1). It seems to have a special pattern of distribution. The present data showed that *A. confusus* is confined to bats inhabiting the limestone caves which are found along Euphrates river in west and middle of Iraq. Bats, however, show some local migratory behaviour (Harrison 1964) and leave very limited choices for ticks. Some rodents living near these biotopes seem to be suitable alternative hosts during the absence of the original hosts. Getting of *A. confusus* from jerboa, *Allactaga euphratica* on 15th November coincides with the migration of the bat *Asellia tridens murriana*. Harrison (1956) had observed seasonal change in the number of these bats in Iraq. He noted that large numbers appeared in Summer, but during late Autumn their number dwindle, a few lingering on until the end of November and none during Winter although the caves seemed ideal for hibernation.

Argas vespertilionis: the only host of this tick showed in this study was the tomb bat *Taphozous nudiventris magnus* collected in Baghdad and Kerbala. Hoogstraal and Kaiser (1958) reported it from *Pipstrellus kuhlii* and *T. n. magnus*. The infestation rate of this tick along with the mean number of tick / host seem to be low when compared with the other species of ticks. This is may be, partially, for its probable host specificity.

Argas sp.: only one nymph collected off a rodent *Gerbillus henleyi* at Rutba west of Iraq on November 1981. It is an early stage nymph with a large hole through the body, so its specific identity is practically impossible. Its presence may indicate that some other species of *Argas* remained to be discovered.

Table 1 ; Tick and host species , percent of infestation and mean tick \ host

Tick species	host species	no . host examined	no .infested	% inf.	no. ticks	males	females	NN	LL	mean tick host
<i>Argas confusus</i>	<i>Asellia tridens</i>	131	5	3.8	6	1	1	4	-	0.046
	<i>Pipestrellus kuhlii</i>	82	3	3.7	6	1	-	2	3	0.073
	<i>Allactaga euphratica</i>	11	1	9.1	2	-	1	1	-	0.182
	Total	224	9	4.01	14	2	2	7	3	0.063
<i>A. persicus</i>	<i>Gallus gallus</i>	45	9	20	389	27	14	162	186	8.64
	<i>Meleagrus gallopavo</i>	15	6	40	46	7	5	27	7	3.07
	Total	60	15	25	435	34	19	189	193	7.25
<i>A. reflexus</i>	<i>Columbo livia</i>	31	1	3.2	9	2	1	-	6	0.29
	<i>Tophozous nudiventris</i>	301	2	0.66	15	1	9	4	1	0.05
	<i>Gerbillus henleyi</i>	1	1	-	-	-	-	1	-	-

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انواع جنس القراد اللين *Argas* في العراق

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الخلاصة

تم جمع 484 نموذجاً من القراد اللين من 617 مضيفاً "بضمنها الخفافيش ، القوارض والطيور ووجدت بانها تعود الى اربعة انواع منها *A. reflexus* يسجل لأول مرة في العراق اعطيت بعض المعلومات حول معدل الاصابة و شدتها و بعض النواحي الحياتية .