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ARABIC SUMMERY	

### Summary

The aim of the present work is to study the epidemiology of the blood parasites (*Babesia bigemina*, *Babesia bovis* and *Theileria annulata*) amongst farm animals (cattle and buffaloes) in Gharbia Governorate using Giemsa stain blood film, indirect fluorescence antibody technique for diagnosis of *Babesia*, besides ELISA test for *Theileria annulata*. This work was done in different seasons of the year and different ages of the animals in the period of September 2001 to August 2003, examining (1000 native breeds' cattle, 1632 mixed breed cattle and 1220 buffaloes) by blood film and for the presence of ticks on them, as well probing its type. The samples were collected from six localities in Gharbia Governorate (Tanta, El-Mehalla El-Kobra, Bassiun, Kotoor, El Santa and Kafr- El Ziat).

The highest incidence of *Babesia bigemina* using blood film examination was in mixed breed cattle being (0.92%), followed by native breed cattle (0.3%). While in buffaloes the incidence was zero%. And the highest incidence of *Babesia bigemina* amongst mixed breed cattle in Gharbia Governorate was in autumn (1.86%), followed by summer season (1.74%). While during spring and winter, the incidence of *Babesia bigemina* was (0 and 0.23%). Among native breed cattle the incidence in autumn, spring, summer and winter was 0.97, 0.34, 0 and 0%. While in native breed cattle the prevalence of positive animals in IFA test to *Babesia bigemina* in spring was (20%), in summer was (4.44%), in winter (5%) and the lowest incidence was in autumn (2.5%).

In mixed breed cattle the prevalence of positive animals in IFA test to *Babesia bigemina* in spring was (27.5%), in summer was (4.44%), in winter (7.5%) and the lowest incidence was in autumn (0%).

In buffaloes the highest incidence of animals positive in IFAT to *Babesia bigemina* antibodies was in summer (8.8%), then during spring (5%) and in both winter and autumn the incidence was 0% and 2.5% in both two seasons.

Among native breed cattle the prevalence of *Babesia bigemina* in animals less than 3 years, animals between 3 to 6 years old and over 6 years was 0.44, 0.36 and 0 % respectively. Concerning *Babesia bovis*, the incidence was 0 % in all the three mentioned age groups. Among mixed breed cattle the prevalence of *Babesia bigemina* was 1.06, 1.19 and 0.6 % respectively

*Babesia bovis* Using stained blood films was of rare occurrence; and only found in mixed breed cattle (0.12%). And only established during autumn season (0.21%). *Babesia bovis* using IFAT was in mixed breeds cattle in summer, autumn, winter and spring 8.8, 5, 0 and 0% respectively.

In native breed cattle in summer, autumn, winter and spring the incidence of positive animals in IFA test was 6.67, 5, 0 and 0% respectively.

In buffaloes in summer, autumn, winter and spring the incidence of positive animals in IFA test was 4.44, 2.5, 2.5 and 0% out respectively.

Seasonal incidence of *Theileria annulata* in stained blood films of cattle and buffaloes in Gharbia Governorate show the highest incidence in buffaloes was during spring season (27.6%), followed by winter season (11.76%), while in summer and autumn the incidence was lower (7.02%) and (5.58%) respectively. In cattle as a general the incidence of animals positive in blood stained films to *Theileria annulata* Koch's blue bodies was higher in winter being in mixed breed and native breed cattle (12.41 and 9.73 %) then in spring (7.62 and 8.97 %), followed by autumn (5.99 and 1.95 %) and it was in summer ( 5.21 and 3.38 %) respectively.

Concerning seasonal variation in buffaloes the peak of the incidence of *Theileria annulata* positive animals using ELISA in Gharbia governorate was in spring followed by winter , summer and lastly in autumn being 47.6%,29.23%,16.9% and 10 % .

On the other hand on cattle the peak of the incidence of *Theileria annulata* positive animals using ELISA in Gharbia governorate was in winter followed by spring, summer and lastly in autumn being in mixed breed cattle 29.5%,25.4%,19.4% and 15.7%; and in native breed cattle 27.8%, 26.1%, 19.5% and 15.7%.

Concerning seasonal variation in buffaloes the peak of the incidence of *Theileria annulata* positive animals using IFAT in Gharbia Governorate was in spring followed by winter , summer and lastly in autumn being 38 %,24 %,14 % and 8 % respectively.

The incidence of *Theileria annulata* positive to IFAT in native breed cattle was high in winter followed by spring, summer and autumn being 22 %,20 %,16 % and 10 % respectively.

The incidence of *Theileria annulata* positive to IFAT in mixed breed cattle was high in winter followed by spring, summer and autumn being 24 %, 18 %, 12% and 10 % respectively.

Among native breed cattle the percentage of animals infected by *Boophilus annulatus* and *Hyalomma anatolicum* in autumn, winter, spring and summer was (9.27 and 1.95 %), (0.34 and 0.33 %), (0.34 and 0.34 %) and (4.35 and 2.99 %) respectively.

In mixed breed cattle the percentage of animals infected by *Boophilus annulatus* and *Hyalomma anatolicum* in autumn ,winter , spring and summer was (32.44 and 2.27 %), (4.92 and 0.23 %), (5.77 and 1.16 %) and (19.1 and 6.6 %) respectively.

Concerning tick infection in buffaloes the percentage of animals infected by *Boophilus annulatus* and *Hyalomma anatolicum* in autumn ,winter , spring and summer was (2.39 and 2.79 %) , (0.27 and 0.27 %), (0.427 and 1.26 %) and (1.4 and 3.65 %) respectively.