**Étude des ectoparasites chez les bovins en Azerbaïdjan « Baku et ses provinces »**

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**Résumé**

Les ectoparasites piquent leurs hôtes et entrainent des troubles d’ordre allergiques et anaphylactiques. Ils peuvent être à l’origine d’une baisse de la production laitière et celle de la viande. Certaines larves de mouche peuvent causer des myiases, d’autres ectoparasites sont considérés comme vecteurs de maladies virales, bactériennes et parasitaires.

**Matériels et Méthodes**

Cette étude a été réalisée dans le but de mettre en évidence la prévalence des ectoparasites infestant des bovins à Baku et ses provinces en Azerbaïdjan durant une période s’étalant de Janvier à Décembre 2021. Un total 1608 bovins dont 1304 locales, 221 Simmental et 83 Holstein races de bovins ont été examinés et prélevés.

**Résultats et Discussion**

Parmi les 1608 bovins examinés 232 (14.43%) bovins étaient porteurs d’ectoparasites. Au centre de Baku, 122 bovins (11/122, 9.01%) ; À Merdekan, 210 bovins (21/210, 10%) ; À Bilgeh, 212 bovins (37/212, 17.45%) ; À Mastaga, 255 bovins (69/255, 27.05%) ; À Bine, 218 bovins (45/218, 20.64%) ; À Qala, 191 bovins (29/ 191, 15.18%) ; à Turkan, les 109 bovins examinés étaient tous négatifs ; À Ramana, 20 bovins parmi 291 (6.87%) été infestés par des ectoparasites. Les races bovines locales femelles âgées de 2 à 6 ans étaient les plus infestées. Dans cette étude, une espèce de poux, *Haematopinus eurysternus* (Phthiraptera), deux espèces de mouche, *Stomoxys* *calcitrans* (Diptera : Muscidae) et *Hippobosca equina* (Diptera : Hippoboscidae) et six espèces de tique, *Hyalomma marginatum*, *Hyalomma excavatum*, *Hyalomma detritum*, *Rhipicephalus* (*Boophilus*) *annulatus*, *Rhipicephalus bursa*, *Ixodes* spp. (Ixodidae) ont été identifiées. Dans cette étude le nombre d’espèces d’ectoparasite collecté sur les bovins, n’était pas suffisant car un traitement antiparasitaire a été administré dans certains élevages tels que les élevages intensifs

**Mots clés :** Azerbaïdjan, bovins, ectoparasite, tiques, Hippoboscidae.

**Studies on ectoparasites of cattle and their prevalence in cattle in Baku province in Azerbaijan**

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**Abstract**

Ectoparasites cause allergic and anaphylactic problems on their hosts, and they may cause a decrease in the production of milk and meat. Some fly’s larvae can cause myiasis. Some ectoparasites are vector of viral, bacterial, rickettsial and parasitic diseases. Researchers work on taxonomy, systematics, morphology and life cycles of parasites in order to highlight the host – vector relationship, for the protection of animal and human health. Ectoparasites live on or some tissue of the animal’s body either temporarily or permanently. Ectoparasites can be host-specific or non-specific. They can be located on head, neck, belly, breasts, back, tail and genital organs, etc... They cause hair and weight loss of animals. They can suck blood of their hosts, and transmit several vector-borne diseases.

**Material and Method:**

This study was carried out in order to defined the prevalence of ectoparasites in cattle in Baku and its provinces; Merdekan, Bilgeh, Mastaga, Bine, Qala, Turkan and Ramana in Azerbaijan, between January – December 2021. In this period, a total of 1608 cattle; 1304 local, 221 Simmental and 83 Holstein breeds were examined. All the cattle were examined macroscopically. The ectoparasites were collected by using pliers. The ectoparasites were put in tubes which containing alcohol 70%. The tubes were labelled (date, age, sex, breed, locality). They were identified to genera and/or to species under stereo - zoom or binocular microscope. The ticks and Hippoboscid flies were identified directly under stereo microscope. The lice samples were placed in 10% KOH at least for 24 hours, then they were washed in distilled water and transferred to alcohol 70% and 95% for 24 hours in each step. Later they were mounted in Canada balsam on the slides. The slides were stored in incubator at 50°C for two to three weeks.

Results and Discussion:

Among the 1608 cattle examined, 232 (14.43%) were infested with ectoparasites. In Baku center, 11 cattle (9.01%) of 122; in Merdekan, 21 (10%) of 210; in Bilgeh, 37 (17.45%) of 212; in Mastaga, 69 (27.05%) of 255; in Bine, 45 (20.64%) of 218; in Qala, 45 (20.64%) of 191; in Ramana, 20 (6.87%) of 291 cattle were found to be infested with ectoparasites. But, in Turkan, all the examined cattle were negative. Infestation rate was highest in local breeds, females, 2-6 years old. Generally, the parasitic infestation rate varies to age and the sex of the animal. The distribution of parasites also depends on locality, climate, flora and life conditions of cattle.

In this study, one louse species, *Haematopinus eurysternus* (Phthiraptera), two flies species *Stomoxys* *calcitrans* (Diptera: Muscidae) and *Hippobosca equina* (Diptera: Hippoboscidae), and six tick species *Hyalomma marginatum*, *Hyalomma excavatum*, *Hyalomma detritum*, *Rhipicephalus* (*Boophilus*) *annulatus*, *Rhipicephalus bursa*, *Ixodes* spp. (Ixodidae) were detected.

*Hyalomma* species are vectors of important diseases of humans and animals. *Hy. marginatum* main vector of CCHF (Crimean-Congo hemorrhagic fever) in Mediterranean basin. It is a zoonotic disease, and it causes high mortality in human beings. People working in agriculture sector or in farms are more exposed to this disease. All the tick species found in this study can be responsible for transmission of Theileriosis, Babesiosis and Anaplasmosis in cattle, sheep, goats, horses and canines.

*Stomoxys calcitrans* is known as stable fly or charbon fly. They live in places where find plenty of manure and dung. They suck blood of hosts, and transmit *Bacillus anthracis* (Anthrax). They also transmit of equine infectious anemia virus, West Nile Fever Virus or Rift Valley Fever Virus.

*Hippobosca equina* is a hematophagous fly species. They parasitize on horses; however, they occasionally can be found in cattle and sheep.

During this study, the number of ectoparasite collected from cattle is not sufficient. Because antiparasitic treatment has been used in the farms, especially in intensive breeding. So, more studies should be done in order to identify all the ectoparasite species in the territory of Azerbaijan.

**Keywords:** Azerbaijan, cattle, ectoparasite, tick, Hippoboscidae.