Ixodidae and The Diseases They Carry

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Abstract
The article provides information about ixodidae and their significance in the spread of invasive and infectious diseases of cattle, as well as recommended modern methods of combating ixodidae.

Introduction
Ixodidae from the ancestral ages are widespread in nature and pose a great danger to animal breeding and humanity. Ixodid ticks entering the Ixodoidea order are important in the epizootology of various invasive and infectious diseases of animals and people. They parasitize on the animals and people body simultaneously carry various pathogens of the disease, including animal pyroplasmidoses, hemorrhagic fever, scabies and others.

Ticks and diseases they carry.
In veterinary medicine, the study of acaryformes and parasitoformes ticks is important. The acaryformes detachment combines most ixodoidea ticks. They are small compared to other ticks, they lack larynx, sigma and abdominal shields. There are suckers and nails on the legs. The genitals are pronounced. From these families, scabies and feather ticks cause great economic damage. In the order of parasitoformes, the most widespread ticks are gamazoidea (gamazoid) and ixodidea (ixodide) and cause great economic damage to livestock. In ixode ticks, the head and chest are united and "prosoma" is created. Due to the fact that the legs are divided into members, they are called arthropods. Throat nerve nodes are united by thoracic nerve chains. In arthropods, sensillas fulfill the duties of receptor systems. With the help of a sensilla, it determines food sources, gender, temperature, chemicals. With the help of the sensilla, the impulse through the nerve plexus is transmitted to the nervous system. In arthropods, blood circulation is scattered, the heart is tubular, as a result of pulsation, cellular structures are provided with nutrients. Blood (hemolymph) yellow-red, there are form elements. Breathing is carried out with the help of trachea. Arthropods feed on the host's blood or tissue fluid. They are different-sex, reproduce with the help of sexual insemination, bring out the egg, larvae are introduced from the egg, from the larva they overlie on nymphs.

Parasitoform ticks simultaneously with parasitization on the host body carry pathogens of parasitic and infectious diseases, and acariform ticks of scabies. Some oribatid ticks have significance as an intermediate host in some ribbon (monisiosis) helminths.

The parasitoforms order combining the ticks Ixodoidea-ixodoid and Gamasoidea separates the families Ixodidea-ixode and argasidae-argazid.

Factors for the transfer of cattle pyroplasmosis pathogens by ixodidae were first observed by Romanian researcher Kilborn and Smith in 1893 and it is recognized as an invention. This invention played a major role in establishing the transfer of pathogens with arthropods.

The body of the ichsodia ticks is oval, not membered. The front part is located khartum (trunk). Khartum has a base, two palps, two chelicea and hypostomes. Palps of ixode ticks perform sensitivity
duties. With the help of a palp on the body of animals, they choose a place for attachment. The ventral part of the chelicera eats armed with a hypostome. Ticks with the help of khartum attach to the body of animals. Mature phases of ticks (imago) take on an oval shape. The color of hungry ticks is yellow-brown with a dark tint (photo). Mature ticks (imago) and nymphs have four pairs of legs, and nymphs have three pairs of legs and six segments. With the help of long legs, ticks are able to overcome a long road. The mouth apparatus founded by the Khartoums has a base and a khartoum (gnatosome).

The base of the khartum is formed by chitins. The hypostome consists of the lower jaw with the help of which they attach to the body and penetrate the skin of animals.

Chelicera consists of the chitin of the upper jaw and is located inside the hypostoma. The base of its special pocket. The hypostome and chelicera constituting one tubule of the pocket releases saliva directly to the affected skin, and animal blood is sucked through the affected skin. The tick digestive systems consist of the oral cavity, khartoum, salivary glands, throat, short esophagus, stomach, thin and thick intestine, rectal bladder and anal opening. The respiratory systems of ticks consist of a throat, the respiratory system is located in a special peritrem plate. Many ticks have eyes. The sexual systems of females consist of a seed, seminal tubules, sex slits, and additional glands. During sexual intercourse, they expand the sexual crevices of females with their hartums and introduce spermatophores. In females, the sex system consists of an ovary, an egg wire, a uterus, a vagina of the sex glands of the sex slits.

In studying the pathogens spread role of protozoan, bacterial and fungal diseases, the scientific works of domestic researchers V.L. Yakimov, A.V. Belitzer, E.P. Dzhenkovsky, A.A. Markov and U.Ya.Uzakova deserve attention.

*Feeding ticks on the body of animals*

*Ixodidae (stages of imago)*
Ixodidae parasitize on the body of animals carry pathogens of the disease pyroplasmodiosis, hemorrhagic fever, ku-fever and others, along with this cause great damage to the national economy.

Ticks are carriers of tick-borne encephalitis, typhus, ku-fever, tularemia, Crimea-Congo, hemorrhagic fever and other contagious diseases. Ixodidae feed on the blood of animals and people transmit the pathogens of the disease in a transmissible way. The economic damage caused by pyroplasmosidoses is calculated by the loss of life and reduced productivity of animals, as well as the cost of veterinary and sanitary measures.

According to literature sources in all regions of our Republic, from 8 to 11% of existing animals get pyroplasmosidoses. Of which tayleriosis is 70%, pyroplasmosis 18 and babesiosis 12%. It should be noted that tayleriosis is found in all regions of the republic, and pyroplasmosis and babesiosis in pastures where there are biotopes for the development of Boophilus calcaratus ticks (photo): pastures where there is high humidity, shrubs, on the coast of aryks and rivers.

The hemoparasitic disease of cattle coincides with the active periods of life (warm seasons) of ixodidae, in this regard the disease is seasonal. With simultaneous parasitization on animal body, ticks transfer pathogens of pyroplasmosis, babesiosis and tayleriosis onto animal body. Carriers of pyroplasmosis, babesiosis, the one-hive tick Boophilus calcaratus all its three (larva, nymph, imago) stages of development are carried out simultaneously on the body of that animal. After tick larvae suck on the body of animals, the first clinical signs of pyroplasmosis and parasitic reactions appear after 8-11 days. In sick animals, body temperature will increase to 41 degrees, loss of appetite is observed, anemia and hemoglobinuria are observed, hematopoiesis is disturbed.

The peak of the disease occurs in May and July months.

According to U.Ya.Uzakova (1972), 7 species of the Hyalomma family are observed in the regions of our Republic:
1. Hyalomma detritum
2. Hyalomma anatolicum
The remaining five species-Hyalomma asiaticum, Hyalomma plumbeum, Hyalomma dromedary, Hyalomma aegypti, Hyalomma scupense are not important in the spread of teileriosis, but they can spread viral diseases. In this regard, it is necessary to develop and implement modern measures to combat ixodidae and the diseases they cause according to the following scheme:

- to study the significance of ixodid ticks in the spread of bovine piroplasmidosis and viral diseases by means of anamnestic data and veterinary reports, clinical, parasitological and viral studies;
- to study the fauna of ixodid ticks in different geographical and climatic conditions and establish their significance in the spread of parasitic and viral diseases;
- isolate strains of parasitic and infectious diseases by culturing ticks on animal bodies;
- develop local preparations against theileriosis, pyroplasmosis and babesiosis and study their effectiveness;
- to save cattle belonging to private, farms and subsistence farms as much as possible through the use of new, harmless acaricide preparations;
- constantly keep the pastures where the animals regularly graze under control, and it is necessary to clean the pastures from various debris, bushes and carry out agro-cultivation activities;
- when carrying out measures against ticks it is necessary to improve the sanitary condition of the premises and around the premises where animals are kept.

When carrying out preventive measures against bovine piroplasmidosis, it is first necessary to develop and implement measures aimed at increasing natural immunity and preventing pathways of infection. The implementation of such expedient measures is also important in the prevention of viral (mainly Crimean-Congo) diseases in humans. Crim-Congo hemorrhagic fever is a dangerous viral disease in...
humans that is naturally infected through ixodid ticks.

Crim-Congo mainly manifests itself during the spring and summer. Seasonality of the disease is related to the active life period of ticks. The disease mainly occurs in people who are engaged in animal husbandry. The disease runs with an acute course, there is fever, trembling of the human body, muscle pain and rash, redness of the face, neck, chest, bleeding from the nose, gastrointestinal tract and from the uterus. In many cases there is a severe course and death.

When carrying out measures against ticks it is necessary to take into account the biological and environmental properties of ticks. As we mentioned earlier, vectors of the disease live and spend one stage of their development on the premises, and on pastures. Therefore, measures against ticks should be carried out regularly using acaricide preparations and improving the veterinary and sanitary condition of the premises.

In the autumn period of the year, the room where you plan to keep animals should be cleaned of debris, and then treated with acaricide drugs. After that, you can bring the animals indoors. It is also necessary to carry out similar activities in pastures. It is also necessary to carry out agromelioration measures, which leads to a partial reduction of ticks in nature.

Reference:


