

## SCABIES MITE-SARCOPTES SCABIEI

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**Abstract.** *The article provides information about diseases caused by scabies mites and their symptoms.*

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During the warm season, ticks, blood-sucking parasites, become more active and pose a serious danger to animals. The tick itself is not dangerous for a dog, but its bite can cause the development of deadly diseases - piroplasmosis, bartonellosis, Lyme disease, hepatozoonosis and ehrlichiosis.

Scabies is an inflammatory skin disease in dogs caused by tiny parasitic mites. There are two main types of scabies: sarcoptic mange and demodectic mange, with different causes and symptoms. It is important to be able to identify the characteristics of each type and understand the difference between them. Although scabies is rarely fatal, early detection of this unpleasant disease can easily speed up the treatment process.

Sarcoptic mange, or scabies itch, usually causes severe itching. A dog may scratch its fur incessantly to relieve itching. As a result of constant scratching and biting, the parasite easily spreads to other parts of the animal's skin. The itching can be so intense that the dog sometimes forgets to fulfill its natural needs, such as eating, drinking and resting.

Severe cases of sarcoptosis, caused by secondary infection by bacteria or fungi, cause severe itching of the dog's skin, which can result in white, crusty sores on the dog's skin, but this does not happen in all cases. In addition, dogs with severe secondary infections often suffer from weight loss, fever, or swollen lymph nodes. Localized demodicosis, the most dangerous variant of this skin fungus, usually results in one or two "sparse" or completely hairless spots on the dog's skin. Usually, a small affected area does not cause inflammation or irritation, condition and does not cause severe itching. If local demodicosis does not go away on its own, it can eventually spread throughout the dog's body, resulting in generalized demodicosis. Many sparse or bald spots appear on the whole body of the animal. The diameter of these spots (patches) can grow up to 2.5 centimeters. The skin in these places is red and very itchy. There are wounds on the itchy scratched skin, sometimes it causes the development of other infections. These secondary infections cause symptoms similar to sarcoptosis: fever, weight loss, swollen lymph nodes, etc. In some cases, demodicosis turns into a form called demodectic pododermatitis. These mange-causing mites occur when they become deeply embedded in a dog's paw, making them very difficult to remove. This form of the disease is usually manifested as swollen and inflamed paws. The worst condition is usually under the nails, and this type of scabies is often accompanied by a secondary infection. Thus, these diseases caused by mange mites are one of the types of seasonal diseases that occur in dogs. Especially in domestic dogs, these diseases are very rare (if they don't get infected from a walk), even if they get infected from the street, within a month, there are cases of wool migration

in the skin around the eyes, under the armpits, so that it can quickly strengthen the immune system. easily treated with injections and application of 5% iodine solution.

When infected with a tick, itching is formed. The main cause of itching in an animal will be a severe allergic reaction to ticks and their waste products. Usually, this reaction occurs 2-3 weeks after infection. If the animal has already been infected and cured in its life, then with repeated infection, the reaction occurs much faster, after only 1-2 days. This is due to the fact that the body has already met with this antigen and knows how to act. If the pet has a good immune system and the correct immune response is formed, then the infection can proceed without signs of itching, and even self-healing is possible. Another cause of scratching may be secondary infection of the skin. Bacteria that get on damaged skin can also cause severe itching due to increased reproduction.

Our scientific research has revealed an infection of a domestic dog with a street dog. Since the pet gets vaccinated every year, the signs of the lesion appeared after 2 months. It was noticed that a yard dog went into the house of a domestic dog in November and spent the night there. The yard dog had obvious signs of demodicosis,

*Demodex canis* is an intradermal mite, which is the smallest representative of its genus, its dimensions reach only 0.25-0.3 mm. Its habitat is hair follicles. Unlike other tick-borne parasites, demodex is a normal inhabitant of the animal's skin. With careful examination of skin scrapings of healthy dogs, demodex can be found in many animals. It gets on the skin of newborn puppies from the mother in the first 2-3 days of life. It can cause disease (demodicosis) only against the background of a decrease in immunity in a dog. That is, a dog suffering from demodicosis is not contagious to other animals. A tick cannot live in the environment. The disease can manifest itself in two forms: localized and generalized. The plan of further treatment and prognoses will depend on the established form. Itching is not typical for demodicosis, but may occur with secondary infection.

In our experiments, the dog was fed abundantly, in addition to dog food, vitamins and vegetable supplements were given to food. Since the dog was vaccinated, the signs appeared after 2 months, that is, when the dog gave birth to puppies. Since during this period the mother dog weakens and the parasite begins to manifest itself. The first signs appeared around the eye and under the armpit. In places where it is damp and warm. This probably gave the optimal environment for tick activation. Also, after 2 weeks, the puppies also showed signs of infection, which quickly manifested itself in the weak and small. In puppies, it is seen under the armpits and around the eye. Mandatory treatment with 5% iodine solution was carried out. The mother was vaccinated anew and injected with vitamins that strengthen the immune system. The signs of the lesion began to fade after 2 weeks. A dog that infected a pet was observed in May, without any signs of infection with ticks. Since in the spring dogs use young shoots of herbs, palm trees, they get vitamins from the environment in a kind of way and strengthen the immune system by providing the body's needs.

The following year, the parasite was not detected in the domestic dog and puppies.

In addition to demodicosis, dogs have 2 more types of scabies infection.

*Heiletiella* is a mite that lives in the surface layers of the skin. Parasites of light yellow or white color can be found on the skin and coat, the size is small (0.25-0.5 mm). You cannot see the parasite itself with the naked eye, but you can note a large amount of dandruff on the skin, the second name of this disease is "wandering dandruff". Ticks feed on skin particles, lymph and other

body fluids of the host, and during a bite they can cause an itching sensation in the animal. Infection occurs mainly from sick animals. In the environment, the tick is not able to reproduce, but can live up to 2 weeks under favorable conditions.

Sarcoptosis (*sarcoptes scabiei*)-mites from the genus *Sarcoptes* are the smallest parasites of yellow–white or white color, which can only be seen with a microscope, their size reaches only 0.14-0.45 mm. In addition to dogs, they can also infect other canids (raccoon dog, fox, wolf), which often serve as a source of infection for a dog walking in the forest. Their habitat and reproduction is the epidermal layer of the skin, that is, the surface layer. They feed on inflammatory fluid, lymph, and epidermal cells. Sarcoptosis is a very contagious disease. Infection is possible even with indirect contact. Ticks can live indoors for up to 6 days, but under favorable conditions (high humidity and temperature from +10 to +15 ° C) they are able to survive and be contagious for up to three weeks. It is sarcoptosis that is called true scabies in dogs, so let's focus on this disease in more detail.

Infection with sarcoptosis occurs through contact. That is, when a healthy dog communicates with a sick dog, the risk of infection is very high. Ticks are very mobile and easily move from one animal to another. Sometimes the source may be an asymptomatic carrier, that is, a dog that does not have any clinical manifestations of the disease. In rare cases, infection is possible even through care items or bedding. Foxes, arctic foxes, raccoon dogs, and wolves can also be a source of the disease. Stray dogs and wild animals are a natural reservoir of the disease. Other tick-borne diseases are transmitted in a similar way, however, unlike *sarcoptes*, ticks such as *cheiletiella* and *otodex*, in addition to dogs, can parasitize cats.

The demodex tick is considered a normal inhabitant of the dog's skin, and clinical signs develop with a decrease in the overall immunity of the body. Small puppies, elderly animals, animals with endocrine diseases, oncological processes, and immunodeficiency are at risk. Thus, it is impossible to get infected from an animal with demodicosis.

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