

## **Ecogenesis of ECTO and Endoparasites in Animals**

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### **Abstract**

The article presents information on the ecogenesis of common pest ecto- and endoparasites among farm and laboratory animals, as well as in the areas of livestock farms.

**Keywords:** *Bovicola, ecogenesis, ecology, ectoparasite, endoparasite, zoophile, synbovil, parasite, tick, fauna.*

### **INTRODUCTION**

In recent years, as a result of the increasing pressure of anthropogenic factors, anomalous and technogenic phenomena on nature, serious bioecological shifts and successions are taking place, as a result of which the migration of harmful and beneficial species in biocenoses increases, biodiversity is destroyed, atypical, persistent, mutant, resistant biopathogens, new parasitic systems, exogenous populations, a new faunistic state arises. There are cases of especially dangerous transmissible and natural foci of diseases that were previously reduced or disappeared. Therefore, it is important to study the ecogenesis (migration, prognosis,

phenomenology, and others) of harmful ecto- and endoparasites among agricultural and laboratory animals, as well as the creation of new harmless methods and biochemical means to combat them. Their solution makes it possible to create a healthy epizootological and epidemiological environment, a clean ecological sanitary and hygienic environment and a balance between people and animals, in settlements and livestock farms, in biocenoses in general.

### **Purpose of the study.**

The study of the ecogenesis of ecto- and endoparasites parasitizing in the body of

agricultural and laboratory animals, and the creation of new non-invasive methods and biochemical means of combating them.

### Material and research methodology.

These bioecological, phenological, entomological, acarological, morphological, parasitological, migratory, sanitary, toxic-hygienic, therapeutic, preventive, economic, microbiological and other studies are accepted in modern biomethodology and veterinary medical science (E. Odum, A.N. Severtsev, V.N. Sukacheva, K. Willy, Dete, Yaroslav Weiser, Herbert Ross, Paul De Bach, N.I. Agrinsky, V.V. Yakhontov, P.A. Petrishcheva, G.V. Gulyaev, A.M. Dubitsky, A.A. Nepoklonov, A. Ruzimurodov and other scientists) were carried out with the help of special teaching aids, tables and indicators.

Research results. Research work is carried out in different regions, that is, “Chorvador Urakov Sh.” 21 heads of sheep and 67 heads of cattle in the farm, 44 heads of cattle, 32 heads of sheep and 21 heads of goats in the “Plem Chorvadori” farm of Payarik district, 52 heads of cattle, 44 heads of sheep and 26 heads of goats, belonging to the farm “Istiklol” and 31 sheep and 7 heads of personal cattle belonging to a resident of the

village “Boshkuduk” of the Nurabad district, “Boboev U.”, 45 heads belonging to the livestock farm “Navbakhor Charos bogi” and the livestock farm “Chirkai” in Kitabsky district of Kashkadarya region 50 heads of cattle, more than 32,000 heads of sheep of Karakul breed belonging to Nurata Karakol breeding limited liability company of Navoi region, more than 2,000 heads of Orenburg Angora white goats in the direction of Tivit, 2,279 heads belonging to a farm “Andijan breed of goats” of Altynkol district, Andijan region of cattle, 175 ov sheep and 785 goats, Dami-ata farm, Nukus region, Republic of Karakalpakstan 84 head of cattle, 30 head of sheep and 47 head of goats belonging to the farm, 400 head of cattle, 120 head of sheep and 80 head of goats belonging to the farm “Koniratbay-Mekhri”, 42 heads of white mice, 68 heads of rabbits in the vivariums of the Research Institute of Veterinary Medicine. Parasitological studies were carried out on 42 white mice, 68 rabbits, 8 cattle and 24 sheep in the vivariums of the Veterinary Research Institute, a total of 3036 cattle, 32477 sheep, 2959 goats, 2 dogs and other animals. they were collected and their morphology was studied, the species, genus, and taxonomy were determined (Table 1).

**Table 1. Epizootic data on the ecogenesis of ecto- and endoparasites recorded among animals**

Types of animals	Types of ecto and endoparasites found	Names of diagnosed parasitic diseases	
In cattle:	Hyalomma anatolicum	Hyalommosis	Acarozis
	Hyalomma plumbeum	Hyalommosis	Acarozis
	Hyalomma detritum	Hyalommosis	Acarozis
	Rhipicephalus sanguineus	Ripicephalosis	Acarozis
	Rhipicephalus bursa	Ripicephalosis	Acarozis
	Rhipicephalus turanicus	Ripicephalosis	Acarozis

	<i>Alveonasus lahorensis</i>	Alveonasosis	Acarozis
	<i>Dermacentor marginatus</i>	Dermacentorosis	Acarozis
	<i>Dermacentor</i> spp.	Dermacentorosis	Acarozis
	<i>Dermacentor dagestanicus</i>	Dermacentorosis	Acarozis
	<i>Boophilus calcaratus</i>	Boophilosis	Acarozis
	<i>Haematopinus eurytarnus</i>	Hematopinosis	Entomosis
	<i>Linognathus vituli</i>	Linognathosis	Entomosis
	<i>Psoroptes bovis</i>	Psoroptosis	Entomosis
	<i>Bovicola bovis</i>	Bovicolez	Entomosis
	<i>Hypoderma bovis</i>	Hypodermatitis	Entomosis
In Sheep:	<i>Bovicola ovis</i>	Bovicolez	Entomosis
	<i>Psoroptes ovis</i>	Psoroptosis	Acarozis
	<i>Sarcoptes ovis</i>	Sarcoptosis	Acarozis
	<i>Rhipicephalus bursa</i>	Rhipicephalosis	Acarozis
	<i>Oestrus ovis</i>	Estrosis	Entomosis
	<i>Ctenocephalides ovis</i>	Ctenocephalidosis	Entomosis
In Goats:	<i>Rhipicephalus bursa</i>	Rhipicephalosis	Acarozis
	<i>Bovicola caprae</i>	Bovicolez	Entomosis
	<i>Ctenocephalides caprae</i>	Ctenocephalidosis	Entomosis
	<i>Linognathidae caprae</i>	Linognathosis	Entomosis
In Donkeys:	<i>Bovicola equi</i>	Bovicolez	Entomosis
In Poultry:	<i>Menacanthus stramineus</i>	Menacanthosis	Entomosis
	<i>Argas persicus</i>	Argasidosis	Entomosis
	<i>Goniocotes hologaster</i>	Goniocotosis	Entomosis
	<i>Dermanyssus gallinae</i>	Dermanissosis	Acarozis
In Dogs:	<i>Trichodectes canis</i>	Trihodectosis	Entomosis
	<i>Rhipicephalus turanicus</i>	Rhipicephalosis	Acarozis
	<i>Ctenocephalides canis</i>	Ctenocephalidosis	Entomosis

In white mouse:	Allodermanyssus sanguineus	Allodermanysosis	Acarozis
	Laelaps echidninus	Laylapsosis	Acarozis
In Guinea pig:	Gliricola porcelli	Clericosis	Entomosis
In Rabbit:	Rhipicephalus bursa	Ripicephalosis	Acarozis
On livestock farms:	Musca domestica		Entomosis
	Stomoxys calcitrans		Entomosis
	Lyperosia titillans		Entomosis

Among agricultural and laboratory animals, it was noticed that such parasitic diseases as bovicosis, linognathosis, ripicephalosis, hyalommosis are very common (Fig. 1, 2, 3, 4, 5, 6).

**Figure 1. B.caprae and L. caprae**



**Figure 2. Hyalomma anatolicum**



**Figure 3. Rhipicephalus bursa**



**Figure 4. Ctenocephalides caprae**



**Figure 5. *S.calcitrans*****Figure 6. *L.titillans***

in the body of animals throughout the year, mainly in November-May, pathogens of ixodidosis (ixodid ticks) are more common in late spring and summer months, nymph forms are also observed in the winter months, and the alveonase mite mainly causes alveonase epizootics in winter.

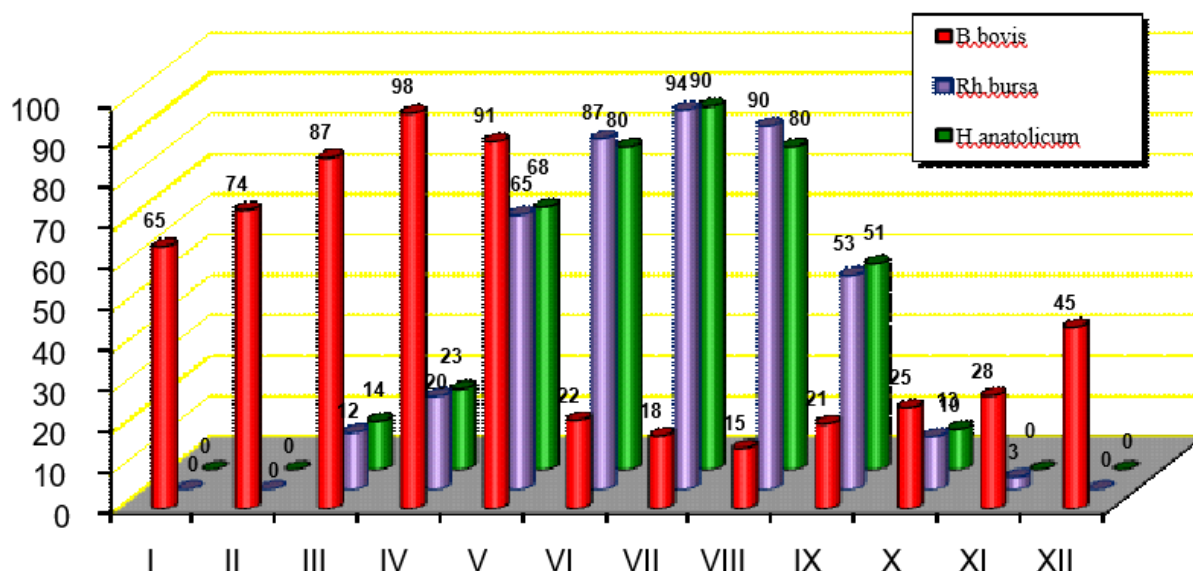
Migration of sinbovil flies starts from the 2nd decade of April and continues until the 3rd decade of October. Symbionts multiply as much as possible in the summer period on livestock farms and pastures and cause severe harm to farm animals. As a result, performance is reduced. In addition, flies are carriers of some infectious and parasitic diseases.

*Hyalomma plumbeum*, *H. anatolicum*, *H. detritum*, *Rhipicephalus bursa*, *Rh.turanicus* ticks that spread pathogens of human and animal transmissible diseases among farm animals, such as plague, Crimean Congo fever, tularemia, tick-borne encephalitis, piroplasmidoses in livestock farms of our Republic migration began in the third decade of March. An increase in the occurrence of nymphs and adults of ixodid ticks was noted in May, June and July (Table 2, Diagram 1).

It is noted that pathogens of entomotic diseases (bovicolas, trichodectes and others) are present

**Table 2 Infection of cattle with dominant ectoparasites by months**

s/n	The name of the found parasites	Extensive damage by month, %											
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
1.	<i>Bovicola bovis</i>	65	74	87	98	91	22	18	15	21	25	28	45
2.	<i>Rhipicephalus bursa</i>	0	0	14	23	68	87	94	90	53	13	3	0
3.	<i>Hyalomma anatolicum</i>	0	0	12	20	65	80	90	80	51	10	0	0

**Diagram 1. Infection of cattle with dominant ectoparasites by months**

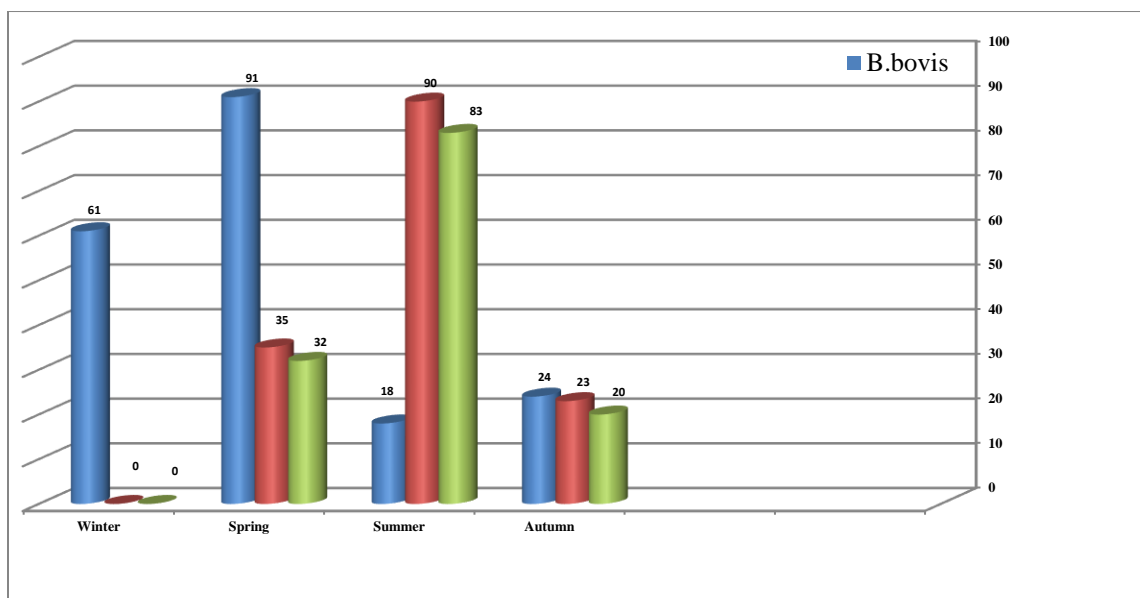
The reasons for the spread of the dominant ectoparasite *Bovicola bovis*, the most common among cattle, in these months are high air humidity, dense keeping of animals in enclosed spaces and relatively low resistance of animals, inadequate zoohygienic requirements of premises in which animals are kept. are observed, the food ration does not meet the

regulatory requirements, which, in our opinion, is associated with factors such as the level of provision.

It was revealed that the degree of extensive infection with these dominant ectoparasites, common among cattle, is similar to that in sheep (Table 3, Diagram 2).

**Table 3 Seasonal prevalence of dominant ectoparasites among cattle**

s/n	The name of the found parasites	Extensive damage by month, %			
		Winter	Spring	Summer	Autumn
1.	<i>Bovicola bovis</i>	61,3	92.0	18.3	24.6
2.	<i>Rhipicephalus bursa</i>	0	35	90.3	22.7
3.	<i>Hyalomma anatolicum</i>	0	32.3	83.3	20.3

**Diagram 2. Dynamics of the seasonal distribution of the dominant ectoparasites of cattle**

Thus, among large and small horned animals, the dominant species of ectoparasites belonging to the genera *Bovicola*, *Rhipicephalus*, *Hyalomma*, *Ctenocephalidae*, and endoparasites belonging to the genera *Hypoderma*, *Psoroptes* and *Oestrus* were identified. It has been established that representatives of the genus *Bovicola* are most common in winter and spring, while ticks of the genera *Rhipicephalus* and *Hyalomma* are most common in summer.

## CONCLUSIONS

1. In the conditions of livestock farms in Samarkand, Kashkadarya, Navoi, Andijan regions, 41 species of ecto- and endoparasites and parasitic diseases were found to be widespread among agricultural and laboratory animals.

2. From ecto- and endoparasites in farm animals - *Bovicola bovis*, *B. ovis*, *B. caprae*, *Ctenocephalides caprae*, *Ct. ovis*, *Oestrus ovis*, *Hyalomma anatolicum*, *H. plumbeum*, *Rhipicephalus bursa*, in dogs *Trichodectes canis*, *Rhipicephalus turanicus*,

*Stenocephalides canis* and among laboratory animals, the species *Allodermamyssus sanguineus*, *Rhipicephalus bursa* are widespread as the main dominant species.

3. Among the large and small horned *Bovicola bovis*, *B. ovis*, *B. caprae*, insects are mainly in the winter and spring months - maximum - 61-91%, and in the summer and autumn months - up to 18-24% minimum, *Hyalomma anatolicum*, *H. plumbeum*, ticks *Rhipicephalus bursa* and it was noted that more in the summer months - 83-90%, and a minimum of 20-35% in the spring and autumn months, and the endoparasite *Hypoderma bovis* is more common in the spring months.

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