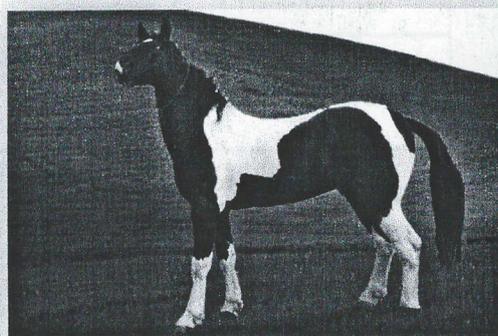
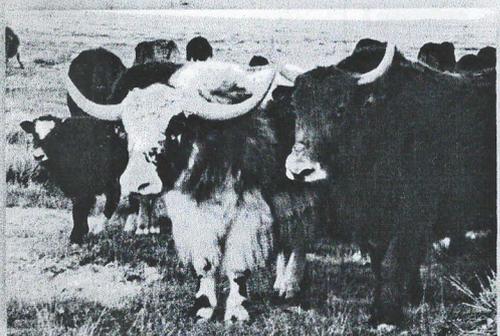


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# “Veterinary Problems of Central Asia - Food Security: The Use of Modern Ways of Diagnostics and Prophylaxis of Infectious Diseases of Animals”



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**Larval form and biology of Echinococcus granulosus**

Introduction

**Introduction**

There are distinguished three stages in developing process of Echinococcus granulosus larval form: egg, oncosphere and the larva-cyst.

**Egg.** Egg in Echinococcus granulosus uterus is also called as embryonic. It consists of 6 covers: three external capsules, vitelline layer, external cover embryophore and three - external cover embryophore, proper embryophore and internal cover of embryophore.

**Oncosphere.** This word also has meaning of egg on veterinary practice. Really, egg in the Echinococcus

granulosus uterus is called the embryonic egg. What about eggs in uterus of dogs, infected by Echinococcus granulosus, so it is called oncosphere. Egg distinguishes from oncosphere by that, it has 6 covers, but oncosphere, missed already three external covers of capsule, vitelline cover, external cover of embryophore, saves just three ones - external cover of embryophore, own embryophore and internal cover of embryophore.

**Larval-cyst (bladder, cyst)** - the pre-adult protodes. Larval-cyst of Echinococcus granulosus correspond receptacle of much more quantity of larva - protocoel, which has formed of front part of protodes with rudiment on

## CURRICULUM VITAE



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## Larval form morphology of Echinococcus granulosus Batsch, 1786

**Katharina Brugger**

### Introduction

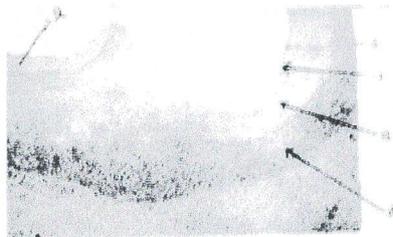
There are distinguished three stages in developing process of Echinococcus granulosus larval form: egg, oncosphere and the larvo-cysts.

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granulosus uterus is called the embryonic egg. What about eggs in faeces of dogs, infected by Echinococcus granulosus, so it is called oncosphere. Egg distinguishes from oncosphere by that, it has 6 covers, but oncosphere, missed already three external covers of capsule, vitelline cover, external cover of embryophore, saves just three ones - external cover of embryophore, own embryophore and internal cover of embryophore.

**Larval-cyst.** (bladder, cyst) - the pre-adult cestodes. Larval-cyst of Echinococcus granulosus correspond receptacle of much more quantity of larva - protoscolex, which has formed of front part of cestodes with rudiment on



**Fig. 1.** Histo-cut of *Echinococcus* larval-cyst on 180th day after infection. Thickening is rudiment of nidifugous capsules.

1-cuticular cover; 2-the connecting-tissue capsule; 3-germinative layer; a) fibrous layer; b) cell layer.



**Fig. 3.** Hysto-cut of the *Echinococcus* larval-cyst on 270th day after infection. Developing protoscolex in the larval-cyst.



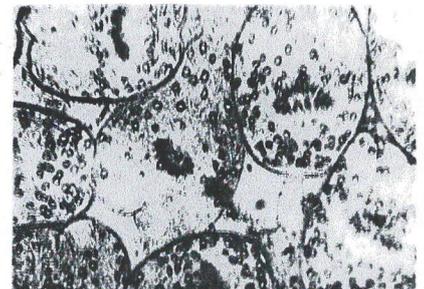
**Fig. 5.** Hysto-cut of the *Echinococcus* larval-cyst on 450th day after infection. The larval-cyst cavity from wether, filled with ripe and unripe protoscolex.



**Fig 2.** Hysto-cut of the *Echinococcus* larval-cyst on 270th day after infection. Initial phase of nidifugous capsules forming.



**Fig. 4.** Hysto-cut of the *Echinococcus* larval-cyst on 360th day after infection. Protoscolex is in the end-forming phase. The hooks crown is forming.



**Fig.6.** The ripe protoscolex, revealed in *Echinococcus* larval-cysts on 570th day after infection.

the back part of neck of the future genital organs, other parts of body and including 3-4 hydatid.

#### **Materials and methods**

We spied on developing of larval-cyst in sheep organism, experimentally infected with *Echinococcus granulosus*. There are used 50 heads of karakul race sheep during the experiment. Animals were divided into 42 experimental and 8 control groups. Each animal was given via mouth per 5 thousand oncosphere of *E. granulosus* of dogs - donors via mouth. Sheep was revealed on 180th, 270th, 360th, 450th, 510th and 570th day after infection. On slaughter of animals, larval-cysts were researched by the instrumentally of microscope.

#### **Research results**

On 180th day after infection, larval-cysts had cuticular and germinative cover in researching sheep. There was

noticed a thin layer of young connecting tissue around of larval-cyst. Microscopically, germinative layer was presented in a large quantity of polymorphous cells with great cores form, in centre of which were small cores. Many elevations projected from germinative layer thickness, the elevations were rudiments of nidifugous capsule (fig. 1). There is clearly seen narrow stria of cuticular cover under germinative layer.

So, on 450th day after infection, developing of most protoscolex in the larval-cysts finished. There was found, that in the organism of few movable geld animals, the larval-cysts of *Echinococcus* finds better sphere of habitation, wherewith their developing progresses more intensively, in our experiences on wethers. A form of *E. granulosus* protoscolex is rounded, size in the range of 165-180 x 113-119 mkm.