**Features of examination of the ocular fundus of the *Phoca sibirica***

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**ABSTRACT.** The research purpose is to study the possibility of applying Tropicamide 1% for examining the fundus of the Baikal seal. Unlike terrestrial mammals, in marine mammals, the use of mydriatics does not cause required pupil expansion. This is due to the peculiarity of location of the pupil dilator muscle. It is located perpendicular to the sphincter muscle and more closely adjacent to the iris base. Moreover, the dilator expands posteriorly over the enlarged base of each ciliary process. Tropicamide 1% causes small mydriasis (approximately 1/3 of the possible maximum pupil expansion), which is enough to examine the central part of the fundus, but not enough to examine its periphery. Four-fold drug instillation with an interval of 15 minutes in absolute darkness is required to achieve persistent mydriasis. The optic disc is round. There are 8-9 retinal vessels that flow into the optic nerve. Unlike dogs and cats, the Baikal seal has arteries and veins of the retina of identical diameters. A reflective plate (tapetum lucidum) is visible. Its color varies from yellow-green to blue and gray depending on the age.

**Keywords:** Baikal seal, pupil, Tropicamide 1%, mydriasis, fundus

**Introduction**

Unlike most terrestrial mammals, in pinnipeds the use of mydriatics does not cause required pupil expansion. This is due to the peculiarities of the anatomical structure of the pupil dilator, which differs from that of terrestrial mammals. The dilator muscle is perpendicular to the sphincter muscle and more closely adjacent to the iris base. Moreover, the dilator expands posteriorly over the enlarged base of each ciliary process (Miller et al., 2010).

Subconjunctival administration of atropine causes partial expansion of the pupil. For example, in the fur seal, the duration is up to 4 days (Barnes and Smith, 2004). 1: 1000 epinephrine without preservatives introduced into the anterior eye chamber causes a better pupil dilatation (up to 10 mm) which is three parts of the dilated pupil in dogs (Colitz et al., 2010).

**Material and methods**

The research object was seals from the sealarium of Irkutsk region. The following research methods were employed: application of 1% midriacil (Tropicamide 1%); fundus ophthalmoscopy with a PanOptic panoramic ophthalmoscope; photographic recording.

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visible. Its color varies from yellow green to blue and gray depending on the age.

**Conclusion**

The use of Tropicamide 1% for examining the fundus is possible; 3-4-fold instillation of drops with an interval of 15 minutes is required to achieve persistent mydriasis. The resulting pupil dilatation is sufficient to examine the central part of the fundus, but it is impossible to examine the fundus periphery.

**References**

