

**The Causes and Diagnostics of the Emerging Disease Associated with Cutaneous Papillomatous Lesions of  
the Sand Lizards (*Lacerta agilis*) from the Georgian Black Sea Coast.**

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## Abstract.

Beginning from the year of 2000, cutaneous papillomatous lesions have been noticed in *Lacerta agilis grusinica*, which inhabits the Georgian Black Sea coastal region. Affected lizards rapidly die in captivity, most likely, from the consequences of an emerging disease associated with cutaneous papillomatous lesions. Similar lesions have been previously reported for green lizards, *Lacerta viridis*. According to recent publications, electron microscopy has revealed presence of the reoviral and papovaviral particles in the papillomatous lesions of green lizards (Cooper et al., 1982; Ugurtas et al., 2008). In the other study reptile *Herpesvirus* was diagnosed in green lizards affected by papilloma using PCR (Literak et al., 2010). Both, *Reovirus* and *Herpesvirus* can be associated with clinical symptoms in lizards, while papillomaviruses (*Papovaviridae* family) cause tissue-restricted benign tumors (Marschang, 2011). Lethal infections as well as skin lesions in *Lacerta spp.* could be caused by viruses from the family *Iridoviridae* (de Matos et al., 2011). In our study we intended to find out the causes of the disease in the sand lizards affected by papilloma from Anaklia, Georgian Black Sea Coast, using histology and diagnostic PCR tests. Histological images revealed benign nature of the papillomatous lesions and absence of metastasis in the internal organs. However, brain edema, inflammation and necrosis were detected in the liver of one of the affected by papilloma lizards. Also similar inflammation and necrosis were detected in the liver and kidney of a lizard from the same population, which was not affected by papilloma. Infiltration of the affected organs by lymphocytes signified the presence of a viral infection in the lizards. We suggest that due to the same type of the histological picture in the affected organs, both lizards, with and without papilloma, suffered from the same viral infection. We were not able to obtain positive controls for the PCR tests on *Reovirus*, *Herpesvirus* and *Papillomavirus*, and cannot rely on our results associated with these viruses. However, we obtained the PCR products in the tests on Invertebrate Iridoviruses and *Ranavirus*. For the final diagnosis the sequencing of the PCR products should be performed.