Occurrence of reovirus infection in Muscovy ducks (*Cairina moschata*) in south western Poland

G. Woźniakowski¹, E. Samorek-Salamonowicz¹, A. Gawel²

¹ Department of Poultry Viral Diseases, National Veterinary Research Institute, Al. Partyzantów 57, 24-100 Pulawy, Poland
² Department of Epizootiology and Clinic of Bird and Exotic Animals, Wrocław University of Environmental and Life Sciences, Grunwald Square 45, 50-366 Wrocław, Poland

**Abstract**

During the summer 2012 an incidence of high mortality, above 44 percent, in two flocks of Muscovy ducklings in Poland was noted. The clinical signs included considerable weight loss and inability to walk.

During the post-mortem evaluations dehydration and enteritis, gouty kidneys as well as hemorrhagic liver and spleen lesions were found. The laboratory diagnosis included agar gel precipitation assay (AGP) as well as polymerase chain reaction (PCR) or reverse transcription PCR for the presence of goose parvovirus (GPV), duck circovirus (DuCV), duck reovirus (DRV) and avian reovirus (ARV). Interestingly, the examinations performed by AGP showed partial reactivity of liver homogenates from Muscovy ducklings with chicken S1133 antiserum. The presence of duck reovirus RNA was also detected by real-time RT-PCR targeting the chicken reovirus sigma NS fragment, while the sequencing showed major similarity to chicken S1133, 1733, GX/2010/1 and TARV-MN2 reovirus strains. The virus sequence was also related to a previously isolated TH11 strain from Muscovy ducks in China.

Further study is needed in order to explain the particular epidemiology of the reovirus infection of Muscovy ducklings.

**Key words:** Muscovy ducklings, avian reovirus, sigma NS sequence analysis

**Introduction**

Reoviruses isolated from poultry and waterfowl are termed avian reoviruses (ARVs) and belong to the *Orthoreovirus* genus (Simmons et al. 1972, Gouvea et al. 1982). The ARV virions are non-enveloped with icosahedral symmetry. The capsids contain segmented double-stranded RNA (dsRNA) which consists of three classes: large (L1-L3), medium (M1-M3) and small (S1-S4) segments. Eight of the translated segments encode three categories of structural proteins: λ encoded by L genes, μ encoded by M genes and...