

Poultry as a Carrier of *Chlamydia gallinacea*

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Abstract : Chlamydiaceae are Gram-negative bacteria distributed worldwide in animals and humans. One of them is *Chlamydia gallinacea* recently discovered. Available data show that *C. gallinacea* is dominant chlamydial agent found in poultry in European and Asian countries. The aim of the studies was screening of poultry flocks in order to evaluate frequency of *C. gallinacea* shedding and genetic diversity. Sampling was conducted in different regions of Poland in 2019-2020. Overall, 1466 cloacal/oral swabs were collected in duplicate from 146 apparently healthy poultry flocks including chickens, turkeys, ducks, geese and quails. Dry swabs were used for DNA extraction. DNA extracts were screened using a Chlamydiaceae 23S rRNA real-time PCR assay. To identify *Chlamydia* species, specific real-time PCR assays were performed. Furthermore, selected samples were used for sequencing based on ompA gene fragments and variable domains (VD1-2, VD3-4). In total, 10.3% of the tested flocks were Chlamydiaceae-positive (15/146 farms). The presence of Chlamydiaceae was confirmed mainly in chickens (13/92 farms) but also in turkey (1/19 farms) and goose (1/26 farms) flocks. Eleven flocks were identified as *C. gallinacea*-positive while four flocks remained unclassified. Phylogenetic analysis revealed at least 16 genetic variants of *C. gallinacea*. Research showed that Chlamydiaceae occur in a poultry flock in Poland. The strains of *C. gallinacea* as dominant species show genetic variability.

Keywords : *C. gallinacea*, emerging agent, poultry, real-time PCR

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