

## **Molecular Detection of *Mycoplasma Haemofelis*, 'Candidatus *Mycoplasma Haemominutum*' in Feral Cats in South Korea**

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**Introduction:** The feline hemoplasmas, *Mycoplasma haemofelis* and 'Candidatus *Mycoplasma haemominutum*', were previously ascribed to *Haemobartonella felis* strains Ohio-Florida and California-Birmingham, respectively, which cause hemolytic anemia, thrombocytopenia, fever and jaundice. Both species have been shown to exhibit worldwide geographical distribution; however, there have been no reports in cats in South Korea. The aim of the present study was to use polymerase chain reaction technology to determine if both organisms exist in naturally infected cats in South Korea.

**Materials and methods:** Forty eight samples of feline blood were retrieved for PCR analysis from Haemaru Animal Hospital admitted to a Trap-Neuter-Return (TNR) program in Seong-Nam city from March to April 2006. The samples were transported to the laboratory with a cold pack for testing. Genomic DNA extraction was performed according to the manufacturer's instructions. Purified DNAs were stored at -20°C and used as the template for PCR amplification. The PCR assay was conducted to detect and differentiate *Mycoplasma haemofelis* and 'Candidatus *Mycoplasma haemominutum*' by using specific primers based on 16S rRNA gene fragments. Results of the PCR were confirmed by subsequent sequence analysis.

**Results:** DNAs were amplified from two (4.17%) of 48 feline blood samples. One sample (PCV=23.6L/L, reticulocyte count=0.4%) was positive for *Mycoplasma haemofelis* and another sample (PCV=30.2L/L) was positive for both *Mycoplasma haemofelis* and 'Candidatus *Mycoplasma haemominutum*'.

**Clinical relevance:** This is the first molecular detection of *Mycoplasma haemofelis* and 'Candidatus *Mycoplasma haemominutum*' from feral cat in South Korea. It strongly suggests the existence of *Mycoplasma haemofelis* and 'Candidatus *Mycoplasma haemominutum*' infection in South Korea. If PCR were used as a tool for a broad survey of cats in South Korea, it would help to determine the geographic extent and prevalence of hemoplasma infection. It might also help to clarify the role of *Mycoplasma haemofelis* and 'Candidatus *Mycoplasma haemominutum*' in clinical disease, provide insight into latency states, and identify risk factors for infection. In addition, the PCR assay can be an effective clinical tool for the detection and differentiation of both organisms in cat.

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