Lung Worm (*Metastrongylus elongatus*) Infection in Wild Boars (*Sus scrofa*) of the Demilitarized Zone, Korea

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The Korean demilitarized zone (DMZ) is a strip of land 248 km long and approximately 4 km wide crossing the Korean Peninsula at the 38th parallel; it serves as a buffer zone between South Korea and North Korea. Because human use has been carefully restricted for >50 yr, the DMZ is one of the best-preserved areas of temperate habitat in the world. Because of limited access, there have been very few reports of diseases of wild animals in or near the DMZ. Wild boars (*Sus scrofa*) frequently descend from the mountains to farm fields for food, increasing the opportunity for contact with domestic animals and humans and becoming a potential risk for spreading livestock and zoonotic diseases in Korea.

Lung worm is a nematode affecting wild boars and other domestic and wild animals worldwide (Bowman et al., 2003). The prevalence of infection in wild boars is approximately 50% to 100% wherever it is found (Pence et al., 1988; Humbert and Henry, 1989; Eslami and Farsad-Hamdi, 1992; Gipson et al., 1999; de la Muela et al., 2001; Solaymani-Mohammadi et al., 2003; Morita et al., 2006; Järvis et al., 2007). Although it is common in other mountain areas, there are no reports of lung worm infection in wild boars of Korea.

In June 2008, two young female wild boars, approximately 40 cm long, were found dead in the DMZ and presented to the Gangwondo Wildlife Medical Rescue Center (Chuncheon, Korea) for necropsy. The wild boars were emaciated, with shrunken eyes and tough dry hair. One had hemorrhagic nasal discharge. All lobes of the lungs of both animals were diffusely swollen, edematous, and reddened (Fig. 1A). A large amount of clear, foamy fluid and >200 slender, white nematodes (4–7 cm long; Fig. 1B) were visible in the trachea and bronchial trees. The nematodes were identified as *Metastrongylus elongatus*, morphologically characterized by a single long spicule, a well-developed genital cone, a cloaca, a male bursa (Fig. 1C), an absence of female prevulvar dilatation, and eggs in the vulva (Fig. 1D). The thick-shelled eggs (~50×40 μm) were fully developed (inset, Fig. 1D). Morphology of the adults and eggs was consistent with *M. elongatus* (Bowman et al., 2003; Morita et al., 2007). In addition, a few nematodes (about 5 cm long) were found in the abdominal cavity near the kidneys of both wild boars. Based on morphology, these nematodes were identified as *Stephanurus dentatus*, the swine kidney worm (Lichtenfels and Tromba, 1972). No other gross lesions were noted.

Histopathologically, the bronchi of the affected lungs were severely dilated and filled with inflammatory cells and desquamated epithelial cells admixed with mucus. Sections of nematodes in the bronchial lumina identified gut, ovary, uterus with undeveloped eggs, and some released eggs (Fig. 1E, F). Inflammatory cells (eosinophils, lymphocytes, and macrophages) infiltrated around the affected bronchi and bronchioles. Alveolar spaces of the affected lobules were filled with fluid (alveolar edema) and inflammatory...