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## Increase in cattle fascioliasis in coastal area of Thua Thien Hue Province, Vietnam and its association with irrigation system

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Fascioliasis is one of the most important zoonotic diseases in Vietnam. It has been reported that infected cattle are mainly observed in low hilly and plain areas where cattle grazing place is shared with paddy fields or water plants for human consumption and prevalence of *Fasciola* spp., infection in cattle are rare in sandy and salty coastal plain areas. However, recently, high prevalence of cattle fascioliasis was reported in coastal area in Thua Thien Hue Province, Vietnam. Irrigation system has been constructed in coastal area from plain area for expanding paddy field. In this study, in order to investigate the impact of the irrigation system to the expansion of cattle fascioliasis in coastal area, prevalence of cattle fascioliasis and infectivity of intermediate host snail with *Fasciola* spp., were compared in coastal area with or without well-established irrigation system. Total of 205 cattle fecal samples and 2573 intermediate host snails of *Fasciola* spp., were collected from 4 communes with well-established irrigation system connected with pure water from plain area (area A; communes, Quang Ngan, Sia Town, Vinh My and Quang Phuoc) and from 4 communes where irrigation systems are partially constructed but not functionally working (area B; communes, Phu Dien, Quang Cong, Vinh Thanh and Thuan An). Prevalence of *Fasciola* spp., in cattle from communes in area A was 41.3% (25.0-52.2%), which was extremely higher than the prevalence in cattle from area B that was 8% (2.0-15.4%). Infectivity of intermediate host snails, *Lymnaea* spp., from area A and area B were 9.8% (6.3-50.0%) and 3.4% (0-5.7%), respectively. Considering that cattle fascioliasis rare in coastal area before irrigation systems were introduced, these results suggested that *Fasciola* parasites are introduced to coastal plain area from endemic plain area through irrigation system. Interestingly, the density of intermediate host snails were not different between area A (29.6 snail/m<sup>2</sup>) and area B (32.5 snail/m<sup>2</sup>), indicating the habitat for snails are not dependent on the irrigation system.

### Biography

Nguyen Thi Nga has completed her Doctor of Veterinary Medicine at Hue University of Agricultural and Forestry, Vietnam, Master of Science in the field of Animal Science at Graduate School of Agriculture and Life Science, The University of Tokyo, Japan. She is currently pursuing her PhD studying on establishment of the efficiency diagnosis method for early detecting cattle fascioliasis applicable for field research in Central Vietnam one of the hot spot of human fascioliasis in the world.

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