



The Contamination of Free-Living Amoebae in Tap Water

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Background and Objective: Free-living amoebae (FLA) are worldwide distribution in various environments, including soil, water and dust etc. The member of FLA are include pathogen and non-pathogen amoeba. Moreover, some FLA can act as a host of other pathogenic microorganisms such as *Hartmannella*, *Vannella*, *Mayorella* and *Acanthamoeba*. The objective of this study is to investigate the contamination of FLA in tap water in Khon Kaen province.

Materials and Methods: Sixty-one tap water samples from three districts including Namphong, Kranaun and Samsung in Khon Kaen province were collected and cultured onto 1.5% non-nutrient agar (NNA) plates overlaid with *Escherichia coli*. The presence of FLA were based on morphological analysis.

Results: twenty-one samples out of 61 were positive (34.43%). After morphological analysis, trophozoite stage

of FLA were similar to *Vannella*, *Paradermamoeba*, *Hartmannella*, *Mayorella*, *Nuclearia* and the other 4 different forms of trophozoite. Moreover, the results revealed two different sizes of cyst form.

Conclusion: This study investigated the presence of FLA in tap water in Khon Kaen province. The results revealed FLA that has been reported to be the agent of amoebic keratitis, *Hartmannella* and amoebae include *Vannella* and *Mayorella* that have been reported to be the vectors of pathogenic microorganisms such as *Pseudomonas aeruginosa* and *Amoebophilus simplex* respectively. However, these finding need to confirm the genus and species level by molecular technique.

Keywords: free living amoebae, tap water, culture, Khon Kaen

