



Molecular genetic analysis of ancient DNA

Origin and distribution of domestic and wild animals using ancient DNA.



The analysis of ancient DNA is playing an important role in conservation genetic, phylogenetic and population genetic analyses, as it allows incorporating extinct species into DNA sequence trees and adds time depth to population genetics studies. Ancient DNA studies have been used to test the historical theories resulting from archaeological studies. The historical studies regarding dispersal and domestication of domestic animals could imply human demographic history. In the case of wild animals, ancient DNA studies could give us a clue when wild animals have been domesticated and the origin of those animals.

Genotypic variation of dengue virus

Serotype & genotype identification of dengue virus in mosquitoes



Dengue diseases are mosquito-borne infectious diseases and considered as a significant public health burden of more than 100 countries, including Thailand. Several factors have been proposed to be associated with dengue disease pathogenesis, including viral virulence. The virulence of dengue virus could be possibly determined by the virus genetic background since different genotypes may cause different symptoms.

The aim of this project is to estimate the prevalence of dengue serotypes and evaluate dengue genotypic variations in mosquito vectors living in the endemic areas in Thailand and to examine the relationship between the prevalence of dengue viruses in mosquito vectors and the dengue diseases incidence. We expected that the results of this project would be useful for developing an effective public plan for preventing dengue virus infection in Thailand.

Diversity of microorganisms

Isolation and identification of microbes in gut of earthworms.

Trash overloading is one of the environmental problem in many countries. To solve this problem, earthworms have been used for waste management. The degradation of organic waste occurs in the gut of earthworms and it was found that gut microorganisms have a major role in the process. Isolation and identification of the gut microbiota using culture and unculture methods would provide us the bacterial and fungal diversity living in earthworms' gut. The information might be useful for the improvement of waste management in the future.

Here, we will screen and isolate of bacteria and fungi residing in the gut of earthworms which some of them might be used to improve the efficiency of organic waste management.

