Detection of monkey malaria parasites in fecal samples

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Zoonoses give a big impact to human beings. Before the outbreak of the zoonoses, it would be desirable that we should find a pathogen in wild animals and give an alert to the public to prevent them.

Plasmodium knowlesi is primarily a malaria parasite for macaques. Recently, many human *P. knowlesi* infections have been detected in Sarawak, Malaysia and some of them showed severe symptoms. Even though blood examination is a gold standard of malaria diagnosis, it is problematic to take a blood from wild monkeys to examine their infection with malaria. It would be possible to construct the substitutive diagnosis, if we could detect malaria parasites from non-invasive samples.

Copro-molecular methods have been utilized by us to detect the pathogen and phylogenetic studies against intestinal helminthes. *Plasmodium* spp. was recently detected in the fecal samples of Chimpanzees by French researchers. We attempted to apply this method to detection of *Plasmodium* DNA that may be discharged to host feces. In this presentation, we will report a progress for detecting parasite DNA in fecal samples obtained from a monkey experimentally infected with *P. knowlesi* and how to standardize copro-PCR method for malaria diagnosis.