Development of *Leishmania siamensis* in Axenic Culture

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"*Leishmania siamensis*" has been identified as a causative agent of leishmaniasis in Thailand. *Leishmania* parasites have a digenetic life cycle alternating between amastigotes and promastigotes in vertebrate hosts and sandfly vectors, respectively. In this study, the development of *L. siamensis* in axenic culture was analyzed by light and scanning electron microscopy. Parasite culture was initiated with amastigotes in Schneider's *Drosophila* medium supplemented with 20% FCS, pH 7.0 at 26°C. Changes in the morphology of the parasites were observed for 10 days. Results showed that at least 6 developmental stages were found including amastigotes, procyclic, nectomonad, leptomonad and metacyclic promastigotes, and paramastigotes. Amastigotes differentiated into procyclic forms on the first day of cultivation. Nectomonad forms were observed from day 2 and then gradually decreased to 10-20% by day 10. Leptomonad forms were seen from day 3, and increased continuously and predominated until day 10. Paramastigotes were rarely seen early in cultures but this form steeply increased on day 7 to 29% of the population. Metacyclic promastigotes were found from day 5 and increased continuously to 36% of the population by day 10. Aggregated or rosette forms and dividing parasites were also observed in culture during the exponential phase of growth. This work provides a culture system that could be used for further studies and *in vitro* drug screening of *L. siamensis* in the future.