

EXAMPLE
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Poster

Infectious diseases

Detection of *Borrelia* in rodents and *Ixodes* ticks in Sarawak, Malaysia

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Abstract: The genus *Borrelia* is the causative agent of Lyme disease (LD) and relapsing fever (RF) in humans. In Malaysia, there have been serological evidences of LD; however, there has been no report about the occurrence of its etiological agent in Sarawak, Malaysian Borneo. The aim of this study was to detect and characterize *Borrelia* in rodents and *Ixodes* ticks from primary forests (Gunung Gading National Park: GGNP; Kubah National Park: KNP) and an oil palm (OP) plantation. *Borrelia yangtzensis* was detected in 43.8 % (14/32) of *Ixodes granulatus*; most of the positive tick samples were from the OP plantation (13/14). Out of 56 rodents, *B. yangtzensis* was detected in four *Rattus* spp. from the OP plantation and *B. miyamotoi* was detected in one *Sundamys muelleri* from GGNP. Further, the positive samples of *B. yangtzensis* were randomly selected for a Multilocus Sequence Analysis (MLSA) using eight housekeeping genes. The MLSA for the successfully amplified tick samples revealed a clustering with the sequences of *B. yangtzensis* isolated from Japan and China. This study is the first evidence of *B. miyamotoi* in Malaysia and *B. yangtzensis* in Sarawak, Malaysian Borneo. Furthermore, *B. yangtzensis* may be endemic to Sarawak as it was detected in both rodents and ticks. Since these borrelial species are pathogenic and suspected human pathogen, our results suggest that RF and LD might be overlooked in Sarawak. Moreover, the results of our study provide a new geographical record of the *Borrelia* spp. in Malaysia.

Keywords: *Borrelia miyamotoi*, *Borrelia yangtzensis*, *Ixodes*, rodent, Sarawak