Molecular Evidence of Speciation Between Island and Continental Populations of *Anopheles (Cellia) sundaicus* (Diptera: Culicidae), a Principal Malaria Vector Taxon in Southeast Asia

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*Anopheles sundaicus s.l.* is a principal malaria vector taxon on islands and along the coastal areas of Southeast Asia. It has a wide geographical distribution and exhibits a high level of ecological and behavioral variability. Study of this taxon is crucial for understanding its biology and implementing effective vector control measures. We compared populations of *An. sundaicus* from Vietnam, Thailand, and
Malaysian Borneo by using two mitochondrial DNA markers: cytochrome oxidase I and cytochrome b. Genetic divergence, geographic separation, and cladistic analysis of relationships revealed the presence of two cryptic species: *Anopheles sundaicus s.s.* on Malaysian Borneo and *An. sundaicus* species A in coastal areas of Thailand and Vietnam. A polymerase chain reaction (PCR) assay was developed to easily identify these two species throughout their geographic distributions. The assay was based on sequence characterized amplified region derived from random amplified polymorphic DNA. This PCR identification method needs to be validated and adapted for the recognition of other possible species in the Sundaicus Complex.

**Key Words:** *Anopheles sundaicus*, malaria vector, mitochondrial DNA markers, speciation, identification PCR