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Original Article

## Morphological and odorant-binding protein 1 gene intron 1 sequence variations in *Anopheles stephensi* from Jaffna city in northern Sri Lanka

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First published: 15 July 2022

<https://doi.org/10.1111/mve.12595>

**Funding information:** National Science Foundation Sri Lanka, Grant/Award Number: RPHS/2016/D02

# Abstract

Three *Anopheles stephensi* biotypes have historically been differentiated through variations in the mode numbers of egg ridges and adult spiracular indices. *Anopheles stephensi* odorant-binding protein 1 gene (*AsteObp1*) sequences in Iran and Afghanistan have been recently interpreted to suggest that the three biotypes are sibling species. *AsteObp1* intron 1 sequences, mode numbers of egg ridges and spiracular indices of *An. stephensi* in Jaffna city in Sri Lanka were therefore investigated in field-collected mosquitoes and short-term laboratory colonies established from them. *AsteObp1* intron 1 sequences revealed the region to be polymorphic with four unique sequences, ASJF1–4, present in both short-term laboratory colonies and field-collected *An. stephensi*. The spiracular index did not relate to the mode number of egg ridges in Jaffna *An. stephensi*. The results suggested that numbers of egg ridges, spiracular indices and *AsteObp1* intron 1 sequences were not useful for differentiating *An. stephensi* biotypes in Jaffna. It is proposed that the observed differences between *An. stephensi* mosquitoes in Jaffna now result from normal population variance in the context of rapidly changing bionomics in India and northern Sri Lanka.