A-43: Characterization of DNA probes that detect sibling species A from B and C of *Anopheles culicifacies* complex

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DNA sequences Rep217 and Rep121, isolated from species B of *Anopheles culicifacies (A.c.)* have been used to distinguish species A from B and C of A.c. complex. The basis of this assay is that Rep217 and Rep121 occur at a higher copy number in species B and C than in A, as revealed by dot-blot hybridization assays of genomic DNA. Southern hybridization of genomic DNA samples of A.c (B) digested with *Alu*I *Rsa*I and *Sau*3AI enzymes has revealed two highly intense bands

of approximate length 200bp and 500bp with Rep217 and a 'smear' with Rep121. The results of Southern hybridization assays and DNA sequence analyses have shown that Rep217 and Rep121 are highly repetitive sequences with a length and base composition of 217bp, 47% GC and 121bp, 39% GC, respectively. Furthermore, the sequence data have confirmed the results of Southern hybridization assays by revealing the absence of internal repeats in Rep217 and the presence of a tandemly repeated DNA element of 17bp throughout the Rep121 sequence. Further studies are being carried out to isolate and sequence the homologues of Rep217 and Rep121 from other members of the A.c complex, for the possible development of probes to distinguish all the members of the complex.