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Structural variations in Y chromosome compatible with the presence of apecies B and E of the Anopheles culicifacies complex (Diptera: Culicidae) in Sri Lanka

Anopheles culicifacies Giles sensu lato is the major vector of malaria in Sri Lanka, India and Pakistan. Cytotaxonomic studies have helped to identify five sibling species in the taxon *An culicifacies*. These have been designated as species A,B,C,D and E respectively . They also showed different biological characteristics such as seasonal prevalence, host feeding preference, susceptibility to insecticides and parasites. Among these sibling species only species A, C,D and E are the major vectors while B is a poor vector of malaria. Polytene chromosome banding pattern studies recognized only the presence of species B in Sri Lanka. Studies with a DNA probe suggested that species A is absent in Sri Lanka. Species B and E can be distinguished on the basis of arm ratio of Y chromosome thought they occur sympatrically and have same diagnostic banding pattern in polytene chromosome. Examination for structural variations in Y chromosome of metaphase brain cells of late III and early IV instar larvae of progeny of field caught *An culicifacies s.l.* females from different areas in Sri Lanka revealed the presence of two forms on the basis of arm ratios. Type I, with an arm ratio between 1.5 and 2.5 is designated as a submetacentric Y chromosome and type II, with an arm ratio between 3.6 and 4.5, is designated as an acrocentric Y chromosome. Type I is similar to the dominant malaria vector species E and type II to the poor vector species B in Tamil Nadu, India