

Molecular mechanism for pyrethroid resistance in the major African Malaria vector *An. funestus*.

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Anopheles funestus Giles is one of the major African malaria vectors able to transmit the human malaria parasite *Plasmodium falciparum*. Control of this vector has traditionally been based on the use of insecticides, particularly pyrethroids. Pyrethroid resistance in *An. funestus* was shown to have a severe impact on malaria transmission in South Africa during 1999-2000. Initial analysis of the resistance phenotype indicated a metabolic resistance mechanism based on increased monooxygenases (P450s) detoxification. Subsequent molecular analysis of pyrethroid resistant *An. funestus* has revealed overexpression of one major class of P450s, designated CYP6. A total of 12 CYP6 genes have thus far been isolated in an ongoing study designed to identify the P450 gene conferring the resistance phenotype. This study will enhance our understanding of metabolically mediated insecticide resistance in *An. funestus*.