

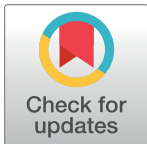
CORRECTION

Correction: Contemporary status of insecticide resistance in the major *Aedes* vectors of arboviruses infecting humans

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After the publication of this article [1] the authors noticed citation errors in Table 2. The citations for item 5 listed under pyrethroids and items 2, 3, and 4 listed under temephos refer to the wrong references and these citations have been corrected in the updated Table 2 below. The citations for items 1, 3 and 4 listed under pyrethroids and item 1 listed under temephos are also incorrect and should cite references that have been omitted from the reference list. These citations have been corrected in the updated Table 2 below and the following corresponding references 79–82 should be added to the reference list:

79. Bariami V, Jones CM, Poupardin R, Vontas J, Ranson H. Gene amplification, ABC transporters and cytochrome P450s: unraveling the molecular basis of pyrethroid resistance in the dengue vector, *Aedes aegypti*. *PLoS Negl Trop Dis*. 2012;6: e1692. pmid:22720108
80. Saavedra-Rodriguez K, Suarez AF, Salas IF, Strode C, Ranson H, Hemingway J, et al. Transcription of detoxification genes after permethrin selection in the mosquito *Aedes aegypti*. *Insect Mol Biol*. 2012;21: 61–77. pmid:22032702
81. David J-P, Faucon F, Chandor-Proust A, Poupardin R, Riaz MA, Bonin A, et al. Comparative analysis of response to selection with three insecticides in the dengue mosquito *Aedes aegypti* using mRNA sequencing. *BMC Genomics*. 2014;15: 174. pmid:24593293
82. Strode C, de Melo-Santos M, Magalhaes T, Araujo A, Ayres C. Expression profile of genes during resistance reversal in a temephos selected strain of the dengue vector, *Aedes aegypti*. *PLoS One*. 2012;7: e39439. pmid: 22870187



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Updated Table

Table 2. The main genes identified by transcriptomic studies specifically targeting expression responses to insecticide selection or exposure.

| Species | Source | Selection | RR | Genes detected as overexpressed | Ref. |
|-----------------------|--------------|----------------|-----------------------|---|------|
| pyrethroids | | | | | |
| <i>Aedes aegypti</i> | Cuba, Cayman | historical | 30–1,000 ^A | CYP9J9*, CYP9J10*, CYP9J26*, CYP9J27*, CYP9J28* , CYP6BB2* , 3 other P450 or related genes*, GSTE4*, ABCB4*, 2 UGT genes* | [79] |
| <i>Ae. aegypti</i> | Singapore | 10 generations | 1,650 ^B | CYP9M4, CYP9M5, CYP9M6, CYP6Z7, CYP6Z8, CYP6BB2 , CYP6F2, CYP6F3, 2 other P450 or related genes | [52] |
| <i>Ae. aegypti</i> | Mexico, Peru | 5 generations | 2.1–10.2 ^A | CYP9J28* , CYP9J32*, CYP9J9*, 8 other P450 genes*, 2 CCE genes*, 2 GST genes*, aldo-keto reductase 4118* | [80] |
| <i>Ae. aegypti</i> | Bora Bora | 10 generations | 3.78 ^C | aldo-keto reductase 4088 | [81] |
| <i>Ae. albopictus</i> | Malaysia | exposure | | CYP6P12, 16 other P450 genes, 2CCE genes, 5 GST genes, 1 UGT gene, 1 aldehyde oxidase gene, 11 cuticular protein genes, multiple other gene families | [55] |
| temephos | | | | | |
| <i>Ae. aegypti</i> | Brazil | 20 generations | 175 ^D | CYP6N12 , CCEAE3A , GSTX2 , Aldehyde oxidase AO10382 | [82] |
| <i>Ae. aegypti</i> | Thailand | exposure | 5.9–9.85 ^E | CCEAE3A , CCEAE6A , 1 other CCE gene, CYP6Z8 , CYP9M9 , CYP6AH1, CYP4H28 | [59] |
| <i>Ae. aegypti</i> | Colombia | exposure | 15 ^{A,E} | CYP6N12 , CYP6M11 , CYP6F3 , 1 UGT gene | [19] |
| <i>Ae. aegypti</i> | Mexico, Peru | 5 generations | 42–390 ^A | CYP4H28 , CYP6F3 , CYP6Z8 , CYP9M9 , 9 other P450 genes (8 CYP6 or CYP9), 8 GST genes, 10 CCE genes, AO10382 , 7 other Redox genes | [57] |
| <i>Ae. albopictus</i> | Greece | 12 generations | 6.4 ^F | CCEAE6A , CCEAE3A , 1 other CCE gene, CYP6M11 , 7 other P450 genes, GSTX2 , 1 other GST gene, 1 ABC gene, 5 UGT genes | [14] |

Bold text denotes genes detected across studies; underlined text denotes genes detected across species.

The susceptible strain used to calculate the RR was New Orleans (A), SMK (B), Bora Bora (C), Rockefeller (D), Phatthalung (E) or a parental unselected line (F).

* genes significant in 2 or more comparisons.

Abbreviations: CCE, carboxy/cholinesterases; GST, glutathione S-transferases; P450, cytochrome P450 monooxygenases; RR, resistance ratio; Ref., Reference; UGT, UDP-glycosyltransferases.

<https://doi.org/10.1371/journal.pntd.0009084.t001>

References

1. Moyes CL, Vontas J, Martins AJ, Ng LC, Koou SY, Dusfour I, et al. (2017) Contemporary status of insecticide resistance in the major *Aedes* vectors of arboviruses infecting humans. *PLoS Negl Trop Dis* 11(7): e0005625. <https://doi.org/10.1371/journal.pntd.0005625> PMID: 28727779