

## GEPHE SUMMARY

	Gephebase Gene		GepheID
esterase A8 and B8 ( <a href="https://www.gephebase.org/search-criteria?/and+Gene">https://www.gephebase.org/search-criteria?/and+Gene</a> Gephebase= <sup>^</sup> esterase A8 and B8 <sup>^</sup> #gephebase-summary-title)		GP00002641	
	Entry Status	Courtier	Main curator
Published			

## PHENOTYPIC CHANGE

	Trait Category		
Physiology ( <a href="https://www.gephebase.org/search-criteria?/and+Trait">https://www.gephebase.org/search-criteria?/and+Trait</a> Category= <sup>^</sup> Physiology <sup>^</sup> #gephebase-summary-title)			
	Trait		
Xenobiotic resistance (insecticide) ( <a href="https://www.gephebase.org/search-criteria?/and+Trait">https://www.gephebase.org/search-criteria?/and+Trait</a> = <sup>^</sup> Xenobiotic resistance (insecticide) <sup>^</sup> #gephebase-summary-title)			
	Trait State in Taxon A		
Culex pipiens - sensitive			
	Trait State in Taxon B		
Culex pipiens - resistant from China			
	Ancestral State		
Taxon A			
	Taxonomic Status		
Intraspecific ( <a href="https://www.gephebase.org/search-criteria?/and+Taxonomic">https://www.gephebase.org/search-criteria?/and+Taxonomic</a> Status= <sup>^</sup> Intraspecific <sup>^</sup> #gephebase-summary-title)			
Taxon A		Taxon B	
	Latin Name		Latin Name
Culex pipiens ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon">https://www.gephebase.org/search-criteria?/and+Taxon</a> and Synonyms= <sup>^</sup> Culex pipiens <sup>^</sup> #gephebase-summary-title)		Culex pipiens ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon">https://www.gephebase.org/search-criteria?/and+Taxon</a> and Synonyms= <sup>^</sup> Culex pipiens <sup>^</sup> #gephebase-summary-title)	
	Common Name		Common Name
northern house mosquito		northern house mosquito	
	Synonyms		Synonyms
Culex agilis; Culex autogenicus; Culex azoriensis; Culex bicolor; Culex bifurcatus; Culex calcitrans; Culex calloti; Culex comitatus; Culex consobrinus; Culex dipseticus; Culex disjunctus; Culex doliorum; Culex domesticus; Culex erectus; Culex fasciatus; Culex haematophagus; Culex longefurcatus; Culex luteus; Culex marginalis; Culex melanorhinus; Culex meridionalis; Culex osakaensis; Culex pallipes; Culex phytophagus; Culex quasimodestus; Culex rufinus; Culex rufus; Culex sternopunctatus; Culex thoracicus; Culex torridus; Culex trifurcatus; Culex unistriatus; Culex varioannulatus; northern house mosquito; Culex pipiens Linnaeus, 1758		Culex agilis; Culex autogenicus; Culex azoriensis; Culex bicolor; Culex bifurcatus; Culex calcitrans; Culex calloti; Culex comitatus; Culex consobrinus; Culex dipseticus; Culex disjunctus; Culex doliorum; Culex domesticus; Culex erectus; Culex fasciatus; Culex haematophagus; Culex longefurcatus; Culex luteus; Culex marginalis; Culex melanorhinus; Culex meridionalis; Culex osakaensis; Culex pallipes; Culex phytophagus; Culex quasimodestus; Culex rufinus; Culex rufus; Culex sternopunctatus; Culex thoracicus; Culex torridus; Culex trifurcatus; Culex unistriatus; Culex varioannulatus; northern house mosquito; Culex pipiens Linnaeus, 1758	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Nematocera; Culicomorpha; Culicoidea; Culicidae; Culicinae; Culicini; Culex; Culex; Culex pipiens complex		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Nematocera; Culicomorpha; Culicoidea; Culicidae; Culicinae; Culicini; Culex; Culex; Culex pipiens complex	
	Parent		Parent
Culex pipiens complex () - (Rank: no rank) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=518105">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=518105</a> )		Culex pipiens complex () - (Rank: no rank) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=518105">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=518105</a> )	
	NCBI Taxonomy ID		NCBI Taxonomy ID
7175 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7175">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7175</a> )		7175 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7175">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7175</a> )	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

## GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Culex pipiens
B1		P16854 ( <a href="http://www.uniprot.org/uniprot/P16854">http://www.uniprot.org/uniprot/P16854</a> )	
	Synonyms		GenebankID or UniProtKB
-		()	
	String		
-			
	Sequence Similarities		
Belongs to the type-B carboxylesterase/lipase family.			
	GO - Molecular Function		
GO:0052689 : carboxylic ester hydrolase activity ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0052689">https://www.ebi.ac.uk/QuickGO/term/GO:0052689</a> )			

GO - Biological Process

-

GO - Cellular Component

-

No ([#https://www.gephebase.org/search-criteria?/and+Presumptive Null=^No^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive+Null+No))

Presumptive Null

Gene Amplification ([#https://www.gephebase.org/search-criteria?/and+Molecular Type=^Gene Amplification^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Molecular+Type+Gene+Amplification))

Molecular Type

Insertion ([#https://www.gephebase.org/search-criteria?/and+Aberration Type=^Insertion^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Aberration+Type+Insertion))

Aberration Type

-

Insertion Size

coamplification of both esterase loci (Est-2 and Est-3)

Molecular Details of the Mutation

Candidate Gene ([#https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Candidate Gene^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Experimental+Evidence+Candidate+Gene))

Experimental Evidence

A new esterase gene amplification involved in OP resistance in *Culex pipiens* mosquitoes from China. (1998) (<https://pubmed.ncbi.nlm.nih.gov/10230522>)

Main Reference

Qiao CL; Marquine M; Pasteur N; Raymond M

Authors

Two overproduced esterases (A8 and B8) not previously described were found in southern China. They provide a low resistance level to organophosphate (OP) insecticides, and correspond to a coamplification of both esterase loci (Est-2 and Est-3) classically involved in OP resistance for this mosquito species. This coamplification is distinct from all other similar events thus far reported. The peculiar situation in southern China, where numerous OP resistance alleles at these two loci were found, is discussed in comparison with the Mediterranean situation, the only one with a similar diversity of overproduced esterases.

Abstract

Additional References

## RELATED GEPHE

5 (Acetylcholinesterase (Ace-1), Cpm1, esterase B4, esterase B5, para (kdr)) ([#https://www.gephebase.org/search-criteria?/or+Taxon ID=^7175^/and+Trait=Xenobiotic resistance/and+groupHaplotypes=true#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Taxon+ID+7175+and+Trait=Xenobiotic+resistance+and+groupHaplotypes=true))

Related Genes

No matches found.

Related Haplotypes

## EXTERNAL LINKS

## COMMENTS

@Parallelism