

GEPHE SUMMARY

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

PHENOTYPIC CHANGE

Trait Category		
Physiology (https://www.gephebase.org/search-criteria?/and+Trait Category=^Physiology^#gephebase-summary-title)	Trait	
Xenobiotic resistance (insecticide) (https://www.gephebase.org/search-criteria?/and+Trait-^Xenobiotic+resistance+(insecticide)^#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 (https://www.gephebase.org/search-criteria?/and+Taxonomic Status=^Intraspecific^#gephebase-summary-title)		
Taxon A		Taxon B
	Latin Name	Latin Name
Culex pipiens (#gephebase-summary-title)	Culex pipiens (#gephebase-summary-title)	
northern house mosquito	Common Name	Common Name
	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	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) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 518105)	Culex pipiens complex () - (Rank: no rank) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 518105)	NCBI Taxonomy ID
7175 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7175)		NCBI Taxonomy ID
	is Taxon A an Infraspecies?	is Taxon B an Infraspecies?
No	No	

GENOTYPIC CHANGE

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

GO - Biological Process

GO - Cellular Component

No (https://www.gephebase.org/search-criteria?/and+Presumptive+Null=%No%#gephebase-summary-title)	Presumptive Null
Gene Amplification (https://www.gephebase.org/search-criteria?/and+Molecular+Type=%Gene+Amplification%#gephebase-summary-title)	Molecular Type
Insertion (https://www.gephebase.org/search-criteria?/and+Aberration+Type=%Insertion%#gephebase-summary-title)	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)	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)	Related Genes
No matches found.	Related Haplotypes

EXTERNAL LINKS

COMMENTS

@Parallelism