

GEPHE SUMMARY

	Gephebase Gene		GepheID
R2R3-Myb (<a +r2r3-myb+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+R2R3-Myb+"#gephebase-summary-title)	GP00000948		
	Entry Status	Martin	Main curator
Published			

PHENOTYPIC CHANGE

	Trait Category		
Morphology (<a +morphology+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait+Category=">https://www.gephebase.org/search-criteria?/and+Trait+Category="+Morphology+"#gephebase-summary-title)		Trait	
Coloration (flowers) (<a +coloration+(flowers)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Coloration+(flowers)+"#gephebase-summary-title)			
	Trait State in Taxon A		
Phlox drummondii - Blue-colored flowers		Trait State in Taxon B	
Phlox drummondii - Red-colored flowers			
	Ancestral State		
Data not curated		Taxonomic Status	
Intraspecific (<a +intraspecific+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status="+Intraspecific+"#gephebase-summary-title)			
	Taxon A		Taxon B
	Latin Name		Latin Name
Phlox drummondii (<a +phlox+drummondii+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Phlox+drummondii+"#gephebase-summary-title)		Phlox drummondii (<a +phlox+drummondii+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Phlox+drummondii+"#gephebase-summary-title)	
	Common Name		Common Name
-		-	
	Synonyms		Synonyms
Phlox drummondii Hook.; Phlox drummondii		Phlox drummondii Hook.; Phlox drummondii	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetales; asterids; Ericales; Polemoniaceae; Phlox		cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetales; asterids; Ericales; Polemoniaceae; Phlox	
	Parent		Parent
Phlox (phloxes) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=40749)		Phlox (phloxes) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=40749)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
103529 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=103529)		103529 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=103529)	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Phlox drummondii
-		H8ZS70 (http://www.uniprot.org/uniprot/H8ZS70)	
	Synonyms		GenebankID or UniProtKB
-		JN572510 (https://www.ncbi.nlm.nih.gov/nucleotide/JN572510)	
	String		
-			
	Sequence Similarities		
-			
	GO - Molecular Function		
-			
	GO - Biological Process		
-			
	GO - Cellular Component		
-			
			Presumptive Null
Unknown (<a +unknown+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Presumptive+Null=">https://www.gephebase.org/search-criteria?/and+Presumptive+Null="+Unknown+"#gephebase-summary-title)			
			Molecular Type
Cis-regulatory (<a +cis-regulatory+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Molecular+Type=">https://www.gephebase.org/search-criteria?/and+Molecular+Type="+Cis-regulatory+"#gephebase-summary-title)			
			Aberration Type

Unknown (https://www.gephebase.org/search-criteria?/and+Aberration+Type=~Unknown~#gephebase-summary-title)	Molecular Details of the Mutation
unknown	
Linkage Mapping (https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=~Linkage+Mapping~#gephebase-summary-title)	Experimental Evidence
Identification of two genes causing reinforcement in the Texas wildflower <i>Phlox drummondii</i> . (2011) (https://pubmed.ncbi.nlm.nih.gov/21217687)	Main Reference
Hopkins R; Rausher MD	Authors
Species formation generates biological diversity and occurs when traits evolve that prevent gene flow between populations. Discerning the number and distribution of genes underlying these traits and, in a few cases, identifying the genes involved, has greatly enhanced our understanding over the past 15 years of species formation (reviewed by Noor and Feder and Wolf et al.). However, this work has almost exclusively focused on traits that restrict gene flow between populations that have evolved as a by-product of genetic divergence between geographically isolated populations. By contrast, little is known about the characteristics of genes associated with reinforcement, the process by which natural selection directly favours restricted gene flow during the formation of species. Here we identify changes in two genes that appear to cause a flower colour change in <i>Phlox drummondii</i> , which previous work has shown contributes to reinforcement. Both changes involve cis-regulatory mutations to genes in the anthocyanin biosynthetic pathway (ABP). Because one change is recessive whereas the other is dominant, hybrid offspring produce an intermediate flower colour that is visited less by pollinators, and is presumably maladaptive. Thus genetic change selected to increase prezygotic isolation also appears to result in increased postzygotic isolation.	Abstract
	Additional References

RELATED GEPHE

1 (flavonoid 3';5'-hydroxylase (F3'5'H)) (https://www.gephebase.org/search-criteria?/or+Taxon+ID=~103529~/and+Trait=Coloration/and+groupHaplotypes=true#gephebase-summary-title)	Related Genes
No matches found.	Related Haplotypes

EXTERNAL LINKS

COMMENTS