

GEPHE SUMMARY

	Gephebase Gene	GepheID
Distal-less (<a +distal-less+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+Distal-less+"#gephebase-summary-title)	GP00000229	
	Entry Status	Martin
Published		Main curator

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 (wing) (<a +coloration+(wing)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Coloration+(wing)+"#gephebase-summary-title)			
	Trait State in Taxon A		
Bicyclus anynana - selected for small eyespots		Trait State in Taxon B	
Bicyclus anynana - selected for large eyespots			
	Ancestral State		
Data not curated		Taxonomic Status	
Domesticated (<a +domesticated+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status="+Domesticated+"#gephebase-summary-title)			
	Taxon A		Taxon B
	Latin Name		Latin Name
Bicyclus anynana (<a +bicyclus+anynana+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Bicyclus+anynana+"#gephebase-summary-title)		Bicyclus anynana (<a +bicyclus+anynana+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Bicyclus+anynana+"#gephebase-summary-title)	
	Common Name		Common Name
squinting bush brown		squinting bush brown	
	Synonyms		Synonyms
squinting bush brown; Bicyclus anynana (Butler, 1879); Bicyclus anyana		squinting bush brown; Bicyclus anynana (Butler, 1879); Bicyclus anyana	
	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; Amphiesmenoptera; Lepidoptera; Glossata; Neolepidoptera; Heteroneura; Ditrysia; Obtectomera; Papilionoidea; Nymphalidae; Satyrinae; Satyrini; Mycalesina; Bicyclus		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Amphiesmenoptera; Lepidoptera; Glossata; Neolepidoptera; Heteroneura; Ditrysia; Obtectomera; Papilionoidea; Nymphalidae; Satyrinae; Satyrini; Mycalesina; Bicyclus	
	Parent		Parent
Bicyclus (bush browns) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=110367)		Bicyclus (bush browns) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=110367)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
110368 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=110368)		110368 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=110368)	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name	UniProtKB Drosophila melanogaster
DII		P20009 (http://www.uniprot.org/uniprot/P20009)
	Synonyms	GenebankID or UniProtKB
2.7; Art; Ba; BcDNA:LP01770; CG3629; dll; DLL; Dmel\CG3629; E(Arp); En(Arp); I(2)01092; I(2)387; BR		AAL69325 (https://www.ncbi.nlm.nih.gov/nucleotide/AAL69325)
	String	
-		
	Sequence Similarities	
-		
	GO - Molecular Function	
GO:0043565 : sequence-specific DNA binding (https://www.ebi.ac.uk/QuickGO/term/GO:0043565)		
	GO - Biological Process	
GO:0045893 : positive regulation of transcription, DNA-templated (https://www.ebi.ac.uk/QuickGO/term/GO:0045893)		
GO:0010629 : negative regulation of gene expression (https://www.ebi.ac.uk/QuickGO/term/GO:0010629)		

GO:0048264 : determination of ventral identity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0048264>)
GO:0007480 : imaginal disc-derived leg morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007480>)
GO:0007487 : analia development (<https://www.ebi.ac.uk/QuickGO/term/GO:0007487>)
GO:0007469 : antennal development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007469>)
GO:0035215 : genital disc development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035215>)
GO:0035114 : imaginal disc-derived appendage morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035114>)
GO:0007485 : imaginal disc-derived male genitalia development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007485>)
GO:0008587 : imaginal disc-derived wing margin morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0008587>)
GO:0007479 : leg disc proximal/distal pattern formation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007479>)
GO:0016319 : mushroom body development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0016319>)
GO:0042048 : olfactory behavior (<https://www.ebi.ac.uk/QuickGO/term/GO:0042048>)
GO:0021553 : olfactory nerve development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0021553>)
GO:0048728 : proboscis development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0048728>)
GO:0007449 : proximal/distal pattern formation, imaginal disc
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007449>)
GO:0010092 : specification of animal organ identity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0010092>)

GO - Cellular Component

GO:0005634 : nucleus (<https://www.ebi.ac.uk/QuickGO/term/GO:0005634>)

Unknown (<https://www.gephebase.org/search-criteria?/and+Presumptive Null=^Unknown^#gephebase-summary-title>)

Cis-regulatory (<https://www.gephebase.org/search-criteria?/and+Molecular Type=^Cis-regulatory^#gephebase-summary-title>)

Unknown (<https://www.gephebase.org/search-criteria?/and+Aberration Type=^Unknown^#gephebase-summary-title>)

unknown

Linkage Mapping (<https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Linkage Mapping^#gephebase-summary-title>)

Contribution of Distal-less to quantitative variation in butterfly eyespots. (2002) (<https://pubmed.ncbi.nlm.nih.gov/11797007>)

Beldade P; Brakefield PM; Long AD

The colour patterns decorating butterfly wings provide ideal material to study the reciprocal interactions between evolution and development. They are visually compelling products of selection, often with a clear adaptive value, and are amenable to a detailed developmental characterization. Research on wing-pattern evolution and development has focused on the eyespots of the tropical butterfly *Bicyclus anynana*. There is quantitative variation for several features of eyespot morphology but the actual genes contributing to such variation are unknown. On the other hand, studies of gene expression patterns in wing primordia have implicated different developmental pathways in eyespot formation. To link these two sets of information we need to identify which genes within the implicated pathways contribute to the quantitative variation accessible to natural selection. Here we begin to bridge this gap by demonstrating linkage between DNA polymorphisms in the candidate gene *Distal-less* (*Dll*) and eyespot size in *B. anynana*.

RELATED GEPHE

No matches found.

No matches found.

EXTERNAL LINKS

COMMENTS

