GEPHE SUMMARY

Gephebase Gene
ROSEA (https://www.gephebase.org/search-criteria?/and+Gene Gephebase=^ROSEA^#gephebase-summary-title)

GepheID
GP00000997

Entry Status
Published

Main curator
Martin

PHENOTYPIC CHANGE

Trait Category
Morphology (https://www.gephebase.org/search-criteria?/and+Trait Category=^Morphology^#gephebase-summary-title)

Trait
Coloration (flowers) (https://www.gephebase.org/search-criteria?/and+Trait=^Coloration (flowers)^#gephebase-summary-title)

Trait State in Taxon A
Antirrhinum majus pseudomajus

Trait State in Taxon B
Antirrhinum majus striatum

Ancestral State
Data not curated

Taxonomic Status
Intraspecific (https://www.gephebase.org/search-criteria?/and+Taxonomic Status=^Intraspecific^#gephebase-summary-title)

Taxon A

Latin Name
Antirrhinum majus (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Antirrhinum majus^#gephebase-summary-title)

Common Name
snapdragon

Synonyms
snapdragon; garden snapdragon; Antirrhinum majus L.; Anthirrhinum majus

Rank
species

Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; asterids; lamiids; Lamiales; Plantaginaceae; Antirrhineae; Antirrhinum

Parent
Antirrhinum (snapdragons) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4150)

NCBI Taxonomy ID
4151 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4151)

is Taxon A an Infraspecies?
Yes

Taxon A Description
Antirrhinum majus pseudomajus

Taxon B

Latin Name
Antirrhinum majus (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Antirrhinum majus^#gephebase-summary-title)

Common Name
snapdragon

Synonyms
snapdragon; garden snapdragon; Antirrhinum majus L.; Anthirrhinum majus

Rank
species

Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; asterids; lamiids; Lamiales; Plantaginaceae; Antirrhineae; Antirrhinum

Parent
Antirrhinum (snapdragons) - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4150)

NCBI Taxonomy ID
4151 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4151)

is Taxon B an Infraspecies?
Yes

Taxon B Description
Antirrhinum majus striatum

GENOTYPIC CHANGE

Generic Gene Name
ROS1

Synonyms
-

String
-

Sequence Similarities
-

GO - Molecular Function
GO:0003677 : DNA binding (https://www.ebi.ac.uk/QuickGO/term/GO:0003677)

GO - Biological Process
-

GO - Cellular Component
GO:0005634 : nucleus (https://www.ebi.ac.uk/QuickGO/term/GO:0005634)

UniProtKB Antirrhinum majus
Q2VAZ7 (http://www.uniprot.org/uniprot/Q2VAZ7)

GenebankID or UniProtKB
()

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

Molecular Type

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

Aberration Type

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

Molecular Details of the Mutation

Not identified

Experimental Evidence

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

Main Reference

Evolutionary paths underlying flower color variation in Antirrhinum. (2006) (https://pubmed.ncbi.nlm.nih.gov/16917061)

Authors

Whibley AC; Langlade NB; Andalo C; Hanna AI; Bangham A; ThÃ©baud C; Coen E

Abstract

To understand evolutionary paths connecting diverse biological forms, we defined a three-dimensional genotypic space separating two flower color morphs of Antirrhinum. A hybrid zone between morphs showed a steep cline specifically at genes controlling flower color differences, indicating that these loci are under selection. Antirrhinum species with diverse floral phenotypes formed a U-shaped cloud within the genotypic space. We propose that this cloud defines an evolutionary path that allows flower color to evolve while circumventing less-adaptive regions. Hybridization between morphs located in different arms of the U-shaped path yields low-fitness genotypes, accounting for the observed steep clines at hybrid zones.

Additional References

RELATED GEPHE

Related Genes

No matches found.

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS