

GEPHE SUMMARY

<p>fasciated (<a +fasciated+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+fasciated+"#gephebase-summary-title)</p> <p>Published</p>	<p>Gephebase Gene</p> <p>Entry Status</p>	<p>GP00000305</p> <p>Martin</p>	<p>GepheID</p> <p>Main curator</p>
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PHENOTYPIC CHANGE

<p>Trait #1</p> <p>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)</p> <p>Fruit size (<a +fruit+size+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Fruit+size+"#gephebase-summary-title)</p> <p>Lycopersicon pennellii</p> <p>Solanum lycopersicum LA2371</p>	<p>Trait Category</p> <p>Trait</p> <p>Trait State in Taxon A</p> <p>Trait State in Taxon B</p>
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<p>Trait #2</p> <p>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)</p> <p>Fruit architecture (<a +fruit+architecture+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Fruit+architecture+"#gephebase-summary-title)</p> <p>-</p> <p>-</p>	<p>Trait Category</p> <p>Trait</p> <p>Trait State in Taxon A</p> <p>Trait State in Taxon B</p>
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<p>Data not curated</p> <p>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)</p>	<p>Ancestral State</p> <p>Taxonomic Status</p>
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Taxon A	Latin Name	Taxon B	Latin Name
<p>Solanum pennellii (<a +solanum+pennellii+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Solanum+pennellii+"#gephebase-summary-title)</p> <p>-</p> <p>Lycopersicon pennellii; Lycopersicon pennellii; Lycopesion pennellii; Solanum pennellii; Lycopersicon pennellii (Correll) D'Arcy; Solanum pennellii Correll</p> <p>species</p> <p>cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; asterids; lamiids; Solanales; Solanaceae; Solanoideae; Solaneae; Solanum; Lycopersicon</p> <p>Lycopersicon () - (Rank: subgenus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=49274)</p> <p>28526 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=28526)</p> <p>No</p>	<p>Common Name</p> <p>Synonyms</p> <p>Rank</p> <p>Lineage</p> <p>Parent</p> <p>NCBI Taxonomy ID</p> <p>is Taxon A an Intraspecies?</p>	<p>Solanum lycopersicum (<a +solanum+lycopersicum+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Solanum+lycopersicum+"#gephebase-summary-title)</p> <p>tomato</p> <p>Lycopersicon esculentum var. esculentum; Solanum esculentum; Solanum lycopersicum var. humboldtii; tomato; Lycopersicon esculentum Mill.; Solanum esculentum Dunal; Solanum lycopersicum L.; Lycopersicon lycopersicum; Lycopersicon esculentum; Solanum lycopersicon</p> <p>species</p> <p>cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; asterids; lamiids; Solanales; Solanaceae; Solanoideae; Solaneae; Solanum; Lycopersicon</p> <p>Lycopersicon () - (Rank: subgenus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=49274)</p> <p>4081 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4081)</p> <p>Yes</p> <p>Taxon B Description</p>	<p>Common Name</p> <p>Synonyms</p> <p>Rank</p> <p>Lineage</p> <p>Parent</p> <p>NCBI Taxonomy ID</p> <p>is Taxon B an Intraspecies?</p> <p>Solanum lycopersicum LA2371</p>

GENOTYPIC CHANGE

fasciated	Generic Gene Name	B2YHV8 (http://www.uniprot.org/uniprot/B2YHV8)	UniProtKB Solanum lycopersicum
SIYABBY2b; 100191118	Synonyms	EU557674 (https://www.ncbi.nlm.nih.gov/nuccore/EU557674)	GenebankID or UniProtKB
4081.Solyc11g071810.1.1 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=4081.Solyc11g071810.1.1)	String		
-	Sequence Similarities		
-	GO - Molecular Function		
	GO - Biological Process		
GO:0007275 : multicellular organism development (https://www.ebi.ac.uk/QuickGO/term/GO:0007275)			
GO:0045165 : cell fate commitment (https://www.ebi.ac.uk/QuickGO/term/GO:0045165)			
GO:0010158 : abaxial cell fate specification (https://www.ebi.ac.uk/QuickGO/term/GO:0010158)			
	GO - Cellular Component		
GO:0005634 : nucleus (https://www.ebi.ac.uk/QuickGO/term/GO:0005634)			
No (https://www.gephebase.org/search-criteria?/and+Presumptive Null=^No^#gephebase-summary-title)			Presumptive Null
Cis-regulatory (https://www.gephebase.org/search-criteria?/and+Molecular Type=^Cis-regulatory^#gephebase-summary-title)			Molecular Type
Unknown (https://www.gephebase.org/search-criteria?/and+Aberration Type=^Unknown^#gephebase-summary-title)			Aberration Type
Possibly 7-bp and 6- to 8-kb insertion in the first intron			Molecular Details of the Mutation
Linkage Mapping (https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Linkage Mapping^#gephebase-summary-title)			Experimental Evidence
Regulatory change in YABBY-like transcription factor led to evolution of extreme fruit size during tomato domestication. (2008) (https://pubmed.ncbi.nlm.nih.gov/18469814)			Main Reference
Cong B; Barrero LS; Tanksley SD			Authors
Plant domestication represents an accelerated form of evolution, resulting in exaggerated changes in the tissues and organs of greatest interest to humans (for example, seeds, roots and tubers). One of the most extreme cases has been the evolution of tomato fruit. Cultivated tomato plants produce fruit as much as 1,000 times larger than those of their wild progenitors. Quantitative trait mapping studies have shown that a relatively small number of genes were involved in this dramatic transition, and these genes control two processes: cell cycle and organ number determination. The key gene in the first process has been isolated and corresponds to fw2.2, a negative regulator of cell division. However, until now, nothing was known about the molecular basis of the second process. Here, we show that the second major step in the evolution of extreme fruit size was the result of a regulatory change of a YABBY-like transcription factor (fasciated) that controls carpel number during flower and/or fruit development.			Abstract
			Additional References

RELATED GEPHE

No matches found.	Related Genes
No matches found.	Related Haplotypes

EXTERNAL LINKS

COMMENTS