

# GEPHE SUMMARY

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

## PHENOTYPIC CHANGE

Trait #1	Trait Category
Morphology ( <a href="https://www.gephebase.org/search-criteria/?and+Trait+Category=Morphology">#gephebase-summary-title)</a>	Trait
Fruit size ( <a href="https://www.gephebase.org/search-criteria/?and+Trait=^Fruit+size">#gephebase-summary-title)</a>	Trait State in Taxon A
<i>Lycopersicon pennellii</i>	Trait State in Taxon B
<i>Solanum lycopersicum LA2371</i>	

Trait #2	Trait Category
Morphology ( <a href="https://www.gephebase.org/search-criteria/?and+Trait+Category=Morphology">#gephebase-summary-title)</a>	Trait
Fruit architecture ( <a href="https://www.gephebase.org/search-criteria/?and+Trait=^Fruit+architecture">#gephebase-summary-title)</a>	Trait State in Taxon A
-	Trait State in Taxon B
-	

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

## GENOTYPIC CHANGE

	Generic Gene Name	UniProtKB Solanum lycopersicum
fasciated	B2YHV8 ( <a href="http://www.uniprot.org/uniprot/B2YHV8">http://www.uniprot.org/uniprot/B2YHV8</a> )	
SIYABBY2b; 100191118	Synonyms	GenebankID or UniProtKB
4081.Solyc11g071810.1.1 ( <a href="http://string-db.org/newstring_cgi/show_network_section.pl?identifier=4081.Solyc11g071810.1.1">http://string-db.org/newstring_cgi/show_network_section.pl?identifier=4081.Solyc11g071810.1.1</a> )	String	EU557674 ( <a href="https://www.ncbi.nlm.nih.gov/nuccore/EU557674">https://www.ncbi.nlm.nih.gov/nuccore/EU557674</a> )
	Sequence Similarities	
-	GO - Molecular Function	
-	GO - Biological Process	
GO:0007275 : multicellular organism development ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0007275">https://www.ebi.ac.uk/QuickGO/term/GO:0007275</a> )		
GO:0045165 : cell fate commitment ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0045165">https://www.ebi.ac.uk/QuickGO/term/GO:0045165</a> )		
GO:0010158 : abaxial cell fate specification ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0010158">https://www.ebi.ac.uk/QuickGO/term/GO:0010158</a> )		
	GO - Cellular Component	
GO:0005634 : nucleus ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0005634">https://www.ebi.ac.uk/QuickGO/term/GO:0005634</a> )		Presumptive Null
No ( <a href="https://www.gephbase.org/search-criteria/?and+Presumptive+Null=%No%#gephbase-summary-title">https://www.gephbase.org/search-criteria/?and+Presumptive+Null=%No%#gephbase-summary-title</a> )		Molecular Type
Cis-regulatory ( <a href="https://www.gephbase.org/search-criteria/?and+Molecular+Type=%Cis-regulatory%#gephbase-summary-title">https://www.gephbase.org/search-criteria/?and+Molecular+Type=%Cis-regulatory%#gephbase-summary-title</a> )		Aberration Type
Unknown ( <a href="https://www.gephbase.org/search-criteria/?and+Aberration+Type=%Unknown%#gephbase-summary-title">https://www.gephbase.org/search-criteria/?and+Aberration+Type=%Unknown%#gephbase-summary-title</a> )		Molecular Details of the Mutation
Possibly 7-bp and 6- to 8-kb insertion in the first intron		Experimental Evidence
Linkage Mapping ( <a href="https://www.gephbase.org/search-criteria/?and+Experimental+Evidence=%Linkage+Mapping%#gephbase-summary-title">https://www.gephbase.org/search-criteria/?and+Experimental+Evidence=%Linkage+Mapping%#gephbase-summary-title</a> )		Main Reference
Regulatory change in YABBY-like transcription factor led to evolution of extreme fruit size during tomato domestication. (2008) ( <a href="https://pubmed.ncbi.nlm.nih.gov/18469814">https://pubmed.ncbi.nlm.nih.gov/18469814</a> )		Authors
Cong B; Barrero LS; Tanksley SD		Abstract
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.		
		Additional References

## RELATED GEPHE

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

## EXTERNAL LINKS

## COMMENTS