

GEPHE SUMMARY

		Gephebase Gene		GepheID
Shattering1 - OsSh1 (https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=~Shattering1-OsSh1^#gephebase-summary-title)			GP00001038	
Published		Entry Status	Martin	Main curator

PHENOTYPIC CHANGE

		Trait Category		
Physiology (https://www.gephebase.org/search-criteria?/and+Trait+Category=~Physiology^#gephebase-summary-title)				
		Trait		
Seed shattering (https://www.gephebase.org/search-criteria?/and+Trait=~Seed+shattering^#gephebase-summary-title)				
		Trait State in Taxon A		
Oryza barthii; Oryza sativa wild-type				
		Trait State in Taxon B		
Oryza glaberrima (Africa; domesticated strains)				
		Ancestral State		
Taxon A				
		Taxonomic Status		
Domesticated (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=~Domesticated^#gephebase-summary-title)				
Taxon A			Taxon B	
	Latin Name			Latin Name
Oryza barthii (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=~Oryza+barthii^#gephebase-summary-title)		Oryza glaberrima (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=~Oryza+glaberrima^#gephebase-summary-title)		
	Common Name			Common Name
-		African rice		
	Synonyms			Synonyms
Oryza breviligulata; African wild rice; Oryza barthii A.Chev.; Oryza breviligulata A.Chev. & Roehr.		African rice; Oryza glaberrima Steud.		
	Rank			Rank
species		species		
	Lineage			Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Oryzoideae; Oryzaceae; Oryzinae; Oryza		cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Oryzoideae; Oryzaceae; Oryzinae; Oryza		
	Parent			Parent
Oryza () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527)		Oryza () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527)		
	NCBI Taxonomy ID			NCBI Taxonomy ID
65489 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=65489)		4538 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4538)		
	is Taxon A an Intraspecies?			is Taxon B an Intraspecies?
No		No		

GENOTYPIC CHANGE

		Generic Gene Name		UniProtKB Oryza sativa subsp. japonica
YAB2			Q10FZ7 (http://www.uniprot.org/uniprot/Q10FZ7)	
		Synonyms		GenebankID or UniProtKB
FIL2; Os03g0650000; LOC_Os03g44710			()	
		String		
39947.LOC_Os03g44710.1 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=39947.LOC_Os03g44710.1)				
		Sequence Similarities		
Belongs to the YABBY family.				
		GO - Molecular Function		
GO:0046872 : metal ion binding (https://www.ebi.ac.uk/QuickGO/term/GO:0046872)				
		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>)

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

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

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

10-100 kb

45kb deletion resulting in complete removal of OsSh1 in *O. glaberrima*; resulting in seed abscission phenotype

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

The genome sequence of African rice (*Oryza glaberrima*) and evidence for independent domestication. (2014) (<https://pubmed.ncbi.nlm.nih.gov/25064006>)

Wang M; Yu Y; Haberer G; Marri PR; Fan C; Goicoechea JL; Zuccolo A; Song X; Kudrna D; Ammiraju JS; Cossu RM; Maldonado C; Chen J; Lee S; Sisneros N; de Baynast K; Golser W; Wissotski M; Kim W; Sanchez P; Ndjiondjop MN; Sanni K; Long M; Carney J; Panaud O; Wicker T; Machado CA; Chen M; Mayer KF; Rounsley S; Wing RA

The cultivation of rice in Africa dates back more than 3,000 years. Interestingly, African rice is not of the same origin as Asian rice (*Oryza sativa* L.) but rather is an entirely different species (i.e., *Oryza glaberrima* Steud.). Here we present a high-quality assembly and annotation of the *O. glaberrima* genome and detailed analyses of its evolutionary history of domestication and selection. Population genomics analyses of 20 *O. glaberrima* and 94 *Oryza barthii* accessions support the hypothesis that *O. glaberrima* was domesticated in a single region along the Niger river as opposed to noncentric domestication events across Africa. We detected evidence for artificial selection at a genome-wide scale, as well as with a set of *O. glaberrima* genes orthologous to *O. sativa* genes that are known to be associated with domestication, thus indicating convergent yet independent selection of a common set of genes during two geographically and culturally distinct domestication processes.

RELATED GEPHE

1 (shattering4 - sh4) (<https://www.gephebase.org/search-criteria?/or+Taxon+ID=~65489^/and+Trait=Seed+shattering/or+Taxon+ID=~4538^/and+Trait=Seed+shattering/and+groupHaplotypes=true#gephebase-summary-title>)

No matches found.

EXTERNAL LINKS

COMMENTS

Presumptive Null

Molecular Type

Aberration Type

Deletion Size

Molecular Details of the Mutation

Experimental Evidence

Main Reference

Authors

Abstract

Additional References

Related Genes

Related Haplotypes