

GEPHE SUMMARY

shattering4 - sh4 ( <a href="https://www.gephebase.org/search-criteria?/and+GeneGephebase=^shattering4 - sh4^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+GeneGephebase=^shattering4 - sh4^#gephebase-summary-title</a> )		Gephebase Gene	GP00001045	GepheID
Published		Entry Status	Courtier	Main curator

PHENOTYPIC CHANGE

Physiology ( <a href="https://www.gephebase.org/search-criteria?/and+TraitCategory=^Physiology^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+TraitCategory=^Physiology^#gephebase-summary-title</a> )		Trait Category		
Seed shattering ( <a href="https://www.gephebase.org/search-criteria?/and+Trait=^Seedshattering^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait=^Seedshattering^#gephebase-summary-title</a> )		Trait		
Oryza barthii; Oryza sativa wild-type		Trait State in Taxon A		
Oryza glaberrima (Africa; domesticated strains)		Trait State in Taxon B		
Taxon A		Ancestral State		
Domesticated ( <a href="https://www.gephebase.org/search-criteria?/and+TaxonomicStatus=^Domesticated^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+TaxonomicStatus=^Domesticated^#gephebase-summary-title</a> )		Taxonomic Status		

Taxon A		Taxon B	
	Latin Name		Latin Name
Oryza barthii ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Oryza+barthii^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Oryza+barthii^#gephebase-summary-title</a> )		Oryza glaberrima ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Oryza+glaberrima^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Oryza+glaberrima^#gephebase-summary-title</a> )	
-	Common Name	African rice	Common Name
Oryza breviligulata; African wild rice; Oryza barthii A.Chev.; Oryza breviligulata A.Chev. & Roehr.	Synonyms	African rice; Oryza glaberrima Steud.	Synonyms
species	Rank	species	Rank
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Oryzoideae; Oryzaceae; Oryzinae; Oryza	Lineage	cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Oryzoideae; Oryzaceae; Oryzinae; Oryza	Lineage
Oryza () - (Rank: genus) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527</a> )	Parent	Oryza () - (Rank: genus) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527</a> )	Parent
65489 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=65489">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=65489</a> )	NCBI Taxonomy ID	4538 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4538">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4538</a> )	NCBI Taxonomy ID
No	is Taxon A an Intraspecies?	No	is Taxon B an Intraspecies?

GENOTYPIC CHANGE

sh4	Generic Gene Name	Q1PIH9 ( <a href="http://www.uniprot.org/uniprot/Q1PIH9">http://www.uniprot.org/uniprot/Q1PIH9</a> )	UniProtKB Oryza sativa subsp. indica
SHA1	Synonyms	()	GenebankID or UniProtKB
-	String		
-	Sequence Similarities		
-	GO - Molecular Function		
-	GO - Biological Process		
-	GO - Cellular Component		
No			Presumptive Null
No ( <a href="https://www.gephebase.org/search-criteria?/and+Presumptive+Null=^No^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Presumptive+Null=^No^#gephebase-summary-title</a> )			Molecular Type

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

Aberration Type

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

Molecular Details of the Mutation

several candidate mutations: ten SNPs and five small insertion/deletions leading to reduced expression

Experimental Evidence

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

Main Reference

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

Authors

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

Abstract

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.

Additional References

## RELATED GEPHE

Related Genes

1 (Shattering1 - OsSh1) (<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>)

Related Haplotypes

No matches found.

## EXTERNAL LINKS

## COMMENTS

@Parallelism Parallel Domestication of Shattering with Asian rice