funRiceGenes

Comprehensive and accurate archive of

functionally characterized rice genes

with continuous updating

Part I

Display of information in this database as static web pages

https://funricegenes.github.io/

Welcome to funRiceGenes!

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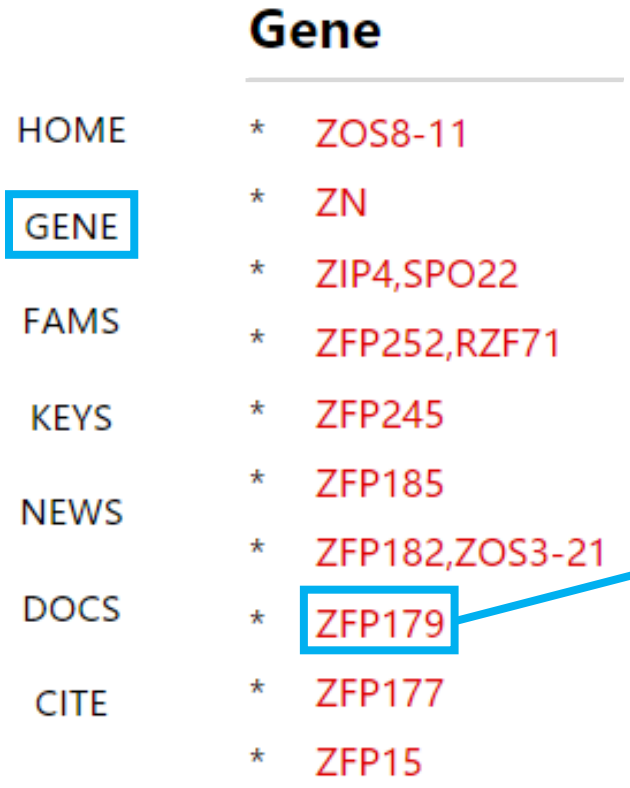
A comprehensive database of functionally characterized rice genes

- 2800+ cloned rice genes [Download↓]
- 400+ gene families [Download↓]
- 400+ keywords [Download↓]
- 4800+ literatures [Download↓]
- 200+ interaction networks [Download↓]
- Contact: ywhzau at gmail.com

At the homepage of our database, we provide the download of the whole dataset in tidy format.

To interactively query this database, go to the following site!

https://funricegenes.github.io/



The GENE menu lists 2800+ cloned rice genes.

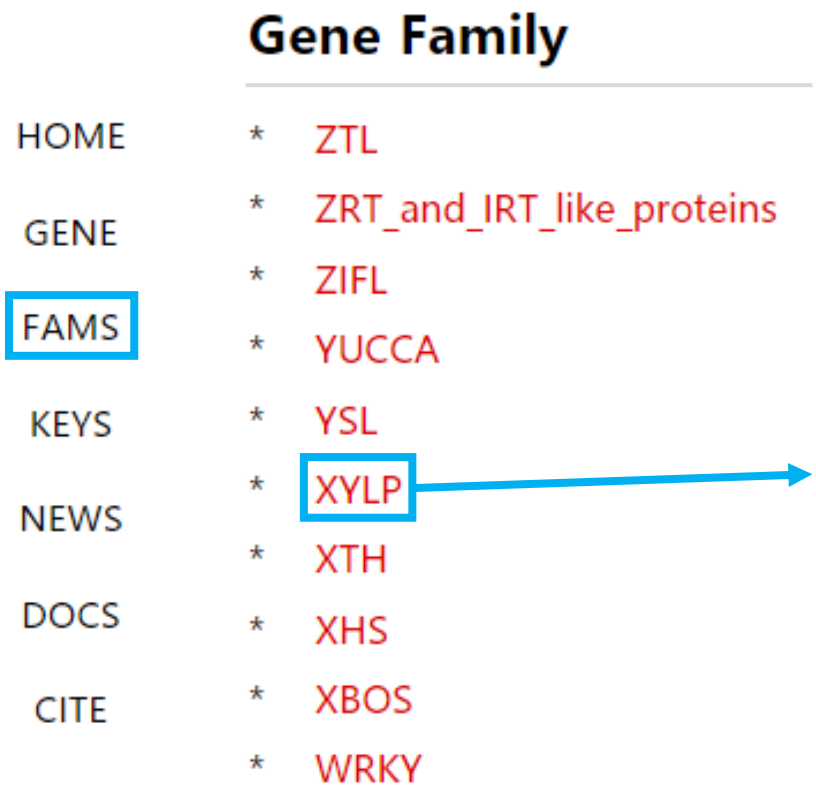
The detailed information of a gene is shown as a single page.

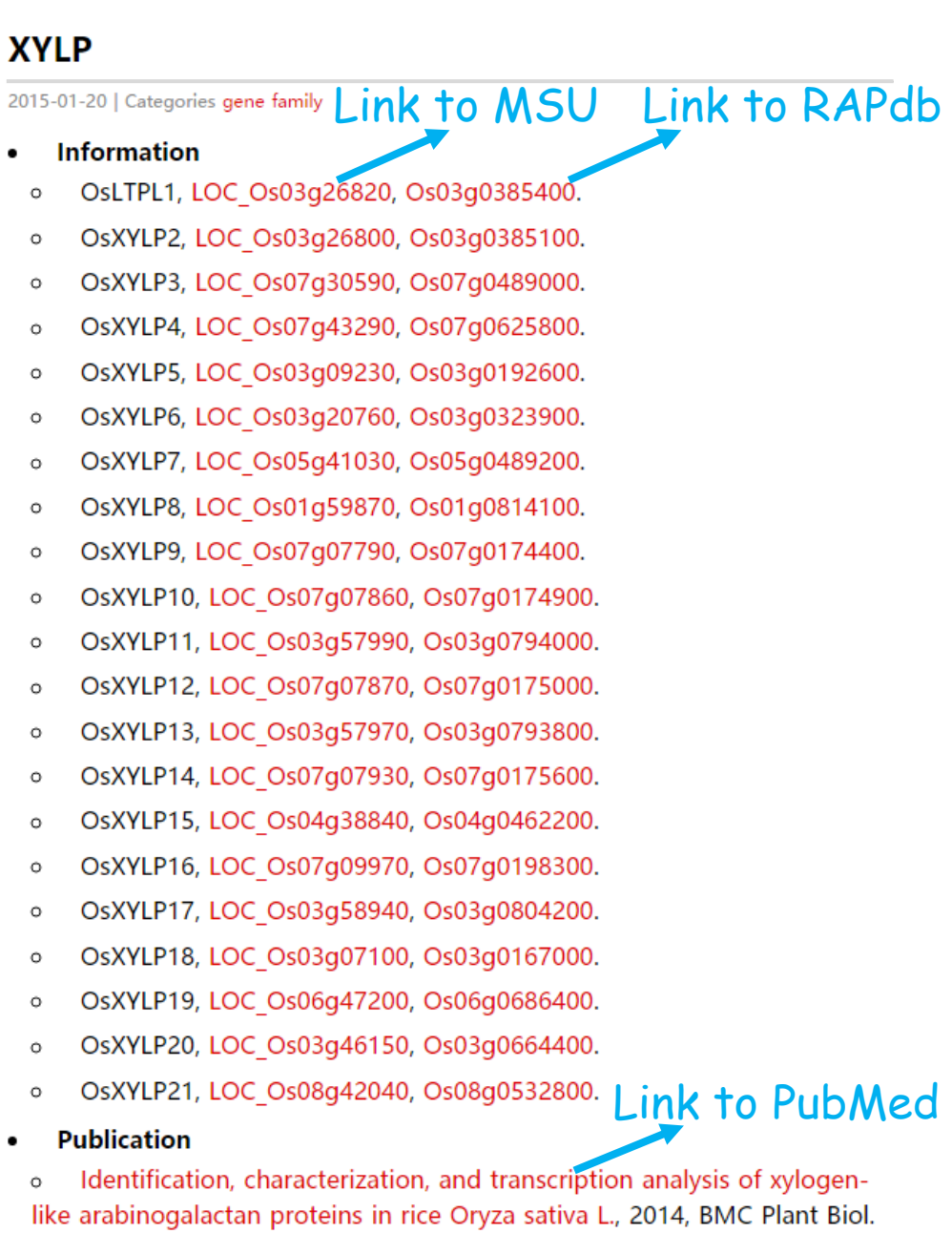
https://funricegenes.github.io/

ZFP179

2015-01-20 | Categories genes | Tags salt stress ABA seedling salt tolerance salt oxidative

- **Information**
  - Symbol: ZFP179
  - MSU: LOC_Os01g62190 → Link to MSU
  - RAPdb: Os01g0839100 → Link to RAPdb
- **Publication**
  - Functional analysis of a novel Cys2/His2-type zinc finger protein involved in salt tolerance in rice, 2010, J Exp Bot.
  - Salt-responsive ERF1 regulates reactive oxygen species-dependent signaling during the initial response to salt stress in rice, 2013, Plant Cell. → Link to PubMed
- **Genbank accession number**
  - AK108227 → Link to GenBank
- **Key message**
  - The ZFP179 transgenic rice exhibited significantly increased tolerance to oxidative stress, the reactive oxygen species (ROS)-scavenging ability, and expression levels of a number of stress-related genes, including OsDREB2A, OsP5CS OsProT, and OsLea3 under salt stress
  - Our studies suggest that ZFP179 plays a crucial role in the plant response to salt stress, and is useful in developing transgenic crops with enhanced tolerance to salt stress
  - The real-time RT-PCR analysis showed that ZFP179 was highly expressed in immature spikes, and markedly induced in the seedlings by NaCl, PEG 6000, and ABA treatments
  - Through microarray analysis, a salt-responsive zinc finger protein gene ZFP179 was identified and subsequently cloned from rice seedlings
  - Overexpression of ZFP179 in rice increased salt tolerance and the transgenic seedlings showed hypersensitivity to exogenous ABA
- **Connection** → Link to PubMed
  - **OsProT~ProT**, **ZFP179**, Functional analysis of a novel Cys2/His2-type zinc finger protein involved in salt tolerance in rice, The ZFP179 transgenic rice exhibited significantly increased tolerance to oxidative stress, the

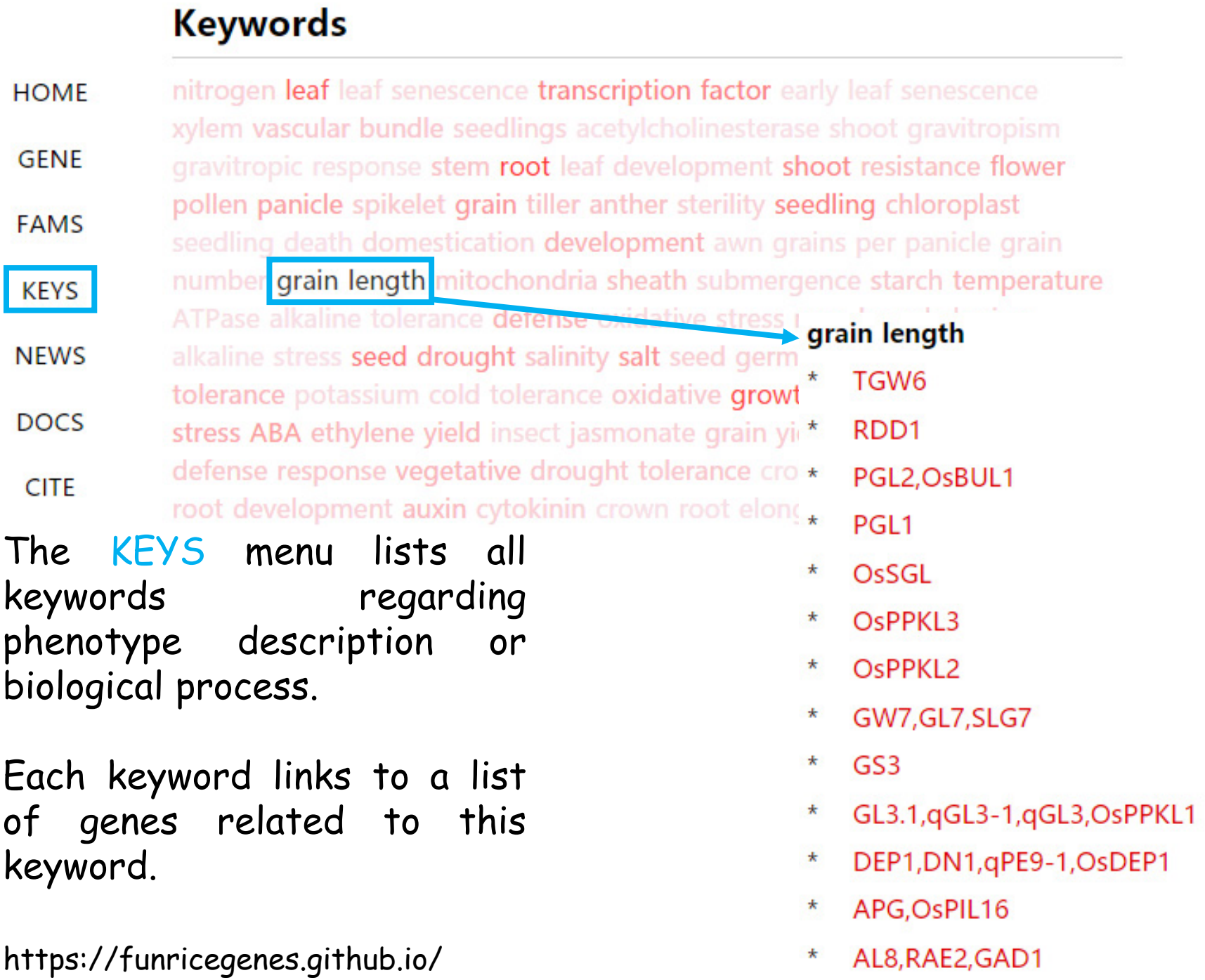




The FAMS menu lists 400+ rice gene families.

The detailed information of a gene family is shown as a single page.

https://funricegenes.github.io/



The KEYS menu lists all keywords regarding phenotype description or biological process.

Each keyword links to a list of genes related to this keyword.

https://funricegenes.github.io/

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News

- 2017/Mar/1 fix info
- 2017/Mar/1 add new accessions for OsGPCR
- 2017/Mar/1 add new pub.
- 2017/Mar/1 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 add new info for gene: OsLBD3-7
- 2017/Feb/27 add new pub.
- 2017/Feb/27 PLA3 == OsLBD3-7

The NEWS menu shows the updating information of this database.

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Literatures

1. Cloning of a cDNA encoding an importin-alpha and down-regulation of the gene by light in rice leaves, 1998, Gene.
2. Molecular cloning of a novel importin alpha homologue from rice, by which constitutive photomorphogenic 1 COP1 nuclear localization signal NLS-protein is preferentially nuclear imported, 2001, J Biol Chem.
3. Mutations of genes in synthesis of the carotenoid precursors of ABA lead to pre-harvest sprouting and photo-oxidation in rice, 2008, Plant J.
4. A pair of orthologs of a leucine-rich repeat receptor kinase-like disease resistance gene family regulates rice response to raised temperature, 2011, BMC Plant Biol.
5. The ATP-binding cassette transporter OsABCG15 is required for anther development and pollen fertility in rice, 2013, J Integr Plant Biol.
6. ABCG15 encodes an ABC transporter protein, and is essential for post-meiotic anther and pollen exine development in rice, 2013, Plant Cell Physiol.

Link to PubMed

The DOCS menu lists all the literatures archived in this database.

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To interactively query this database, go to the following site!

At the homepage of our database, we provide a link to a website allowing interactive query of this database.

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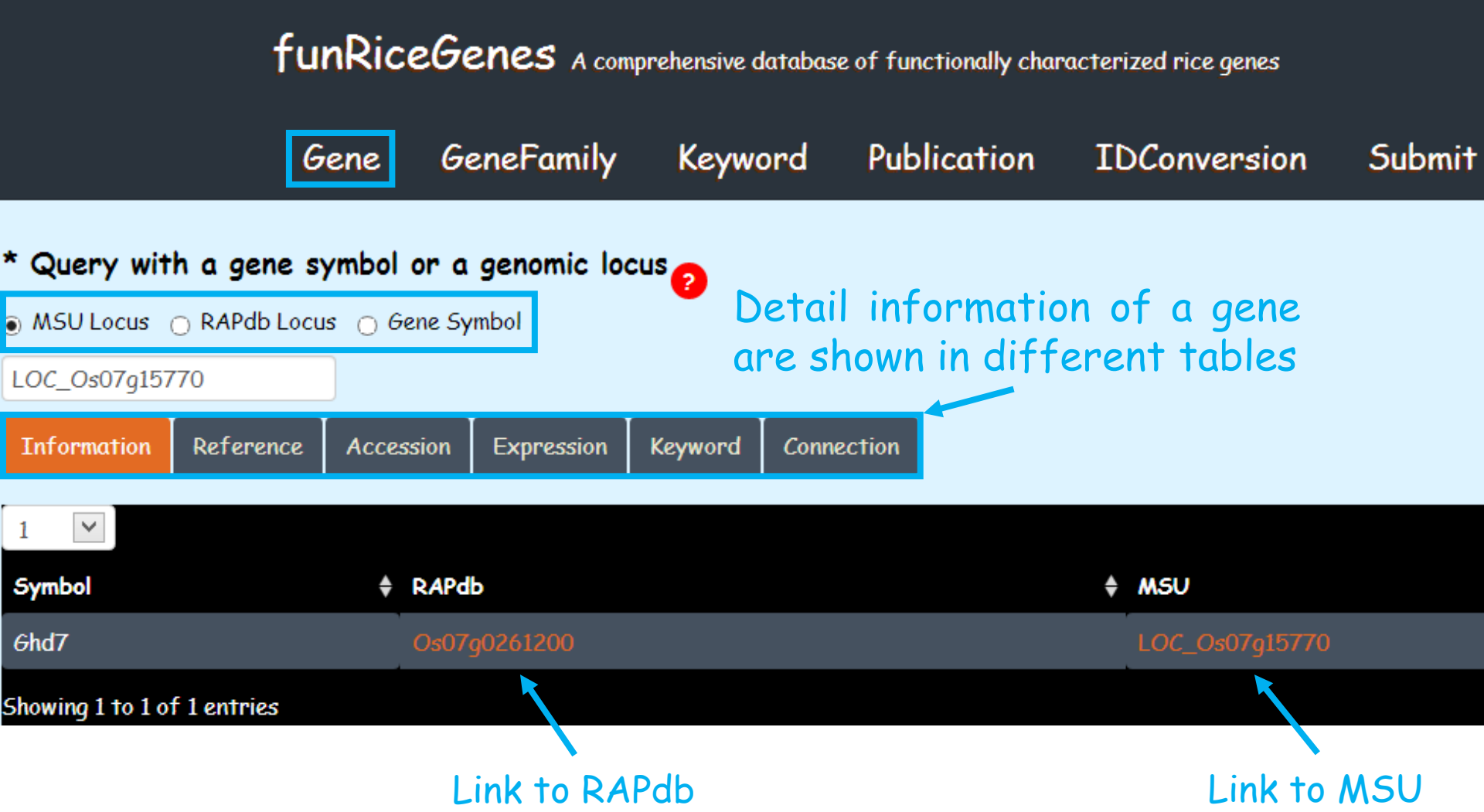
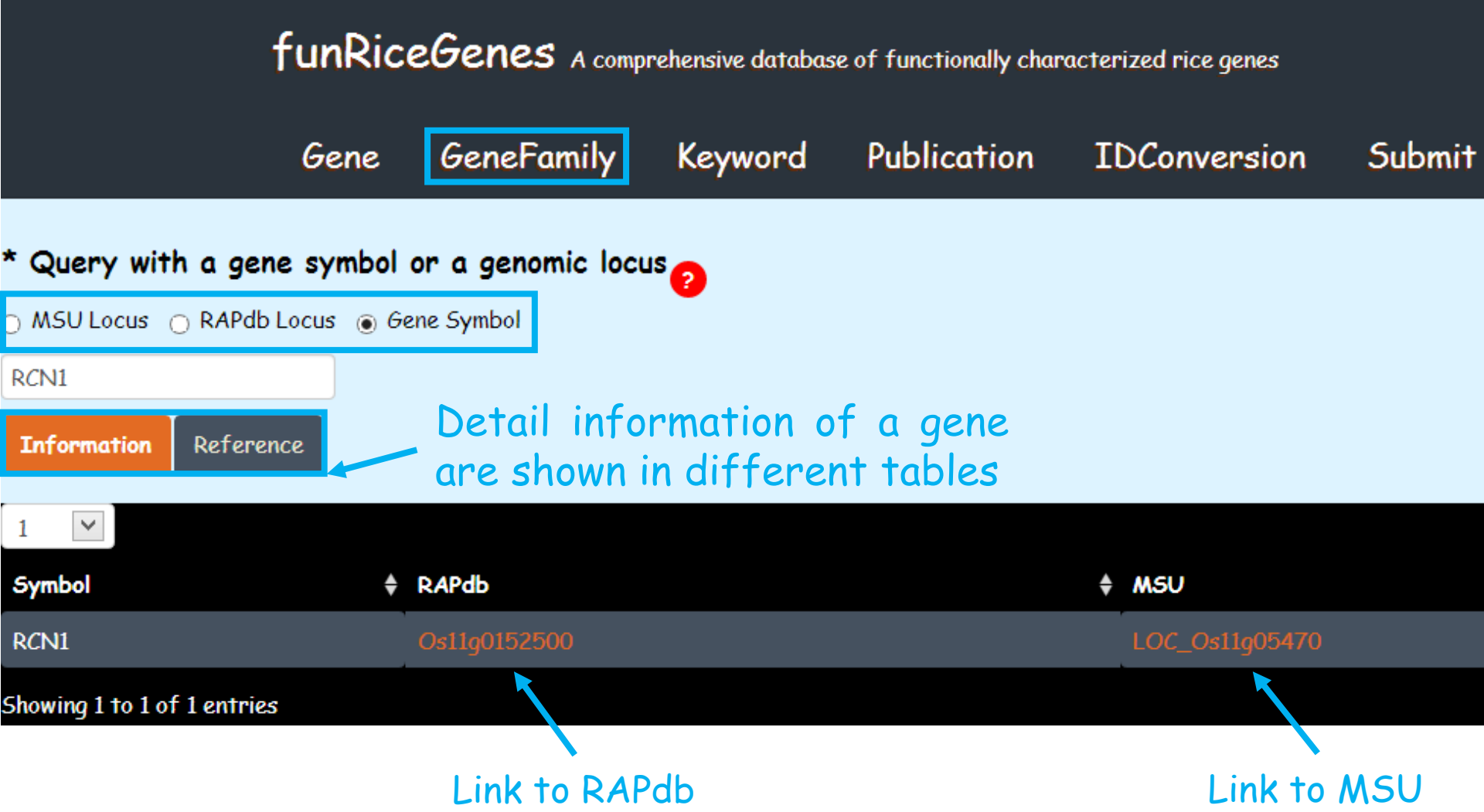
Part II

Interactive query of this database



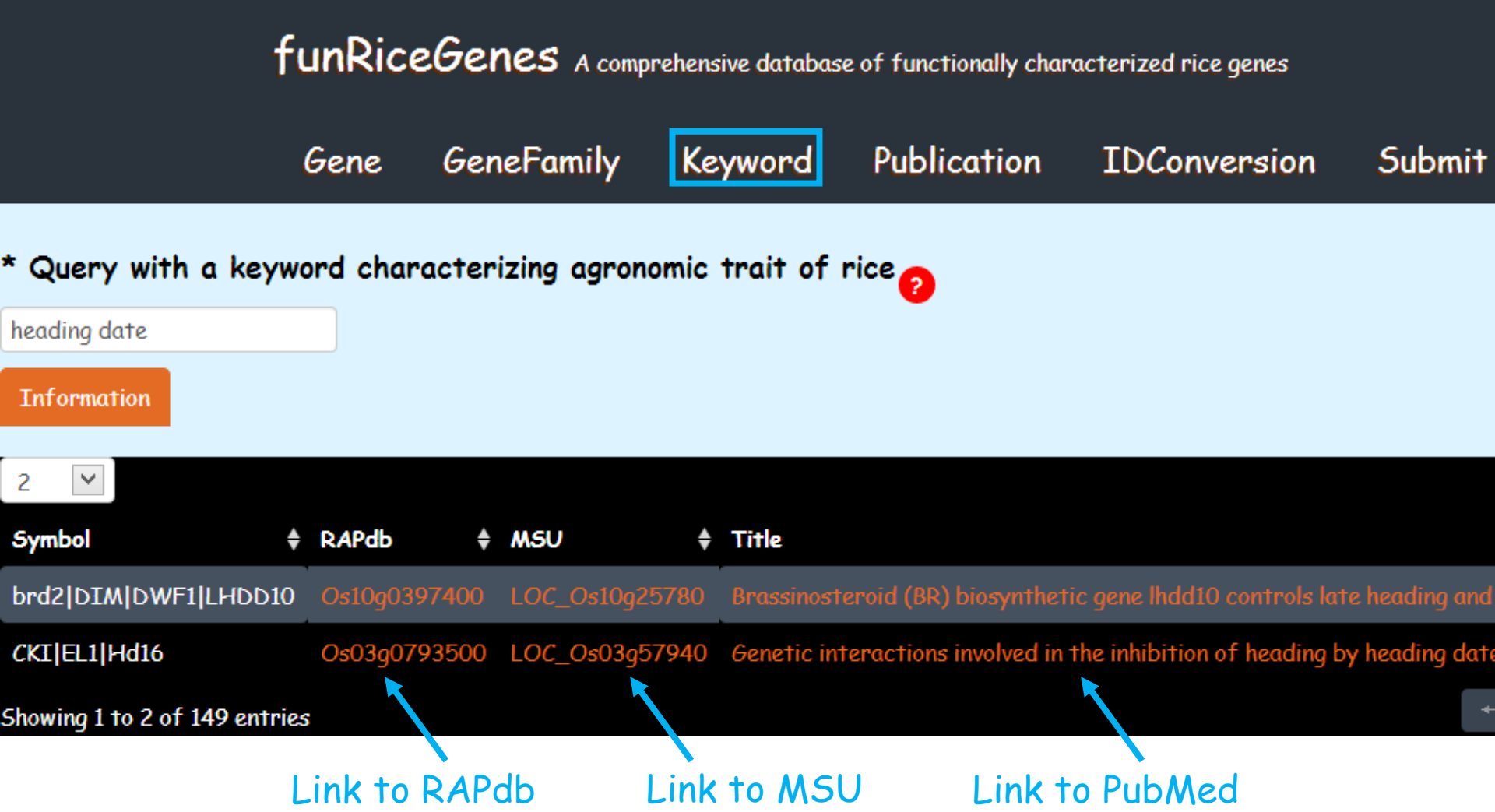
The Gene menu allows query of 2800+ genes using a MSU/RAPdb genomic locus or a gene symbol.

http://funricegenes.ncpgr.cn/



The GeneFamily menu allows query of 5000+ gene family members using a MSU/RAPdb genomic locus or a gene symbol.

http://funricegenes.ncpgr.cn/



The Keyword menu allows query of the database with keywords regarding phenotype description or biological process.

http://funricegenes.ncpgr.cn/

funRiceGenes A comprehensive database of functionally characterized rice genes

Gene GeneFamily Keyword **Publication** IDConversion Submit

* Query with any word concerning rice functional genomic studies ?

heading date

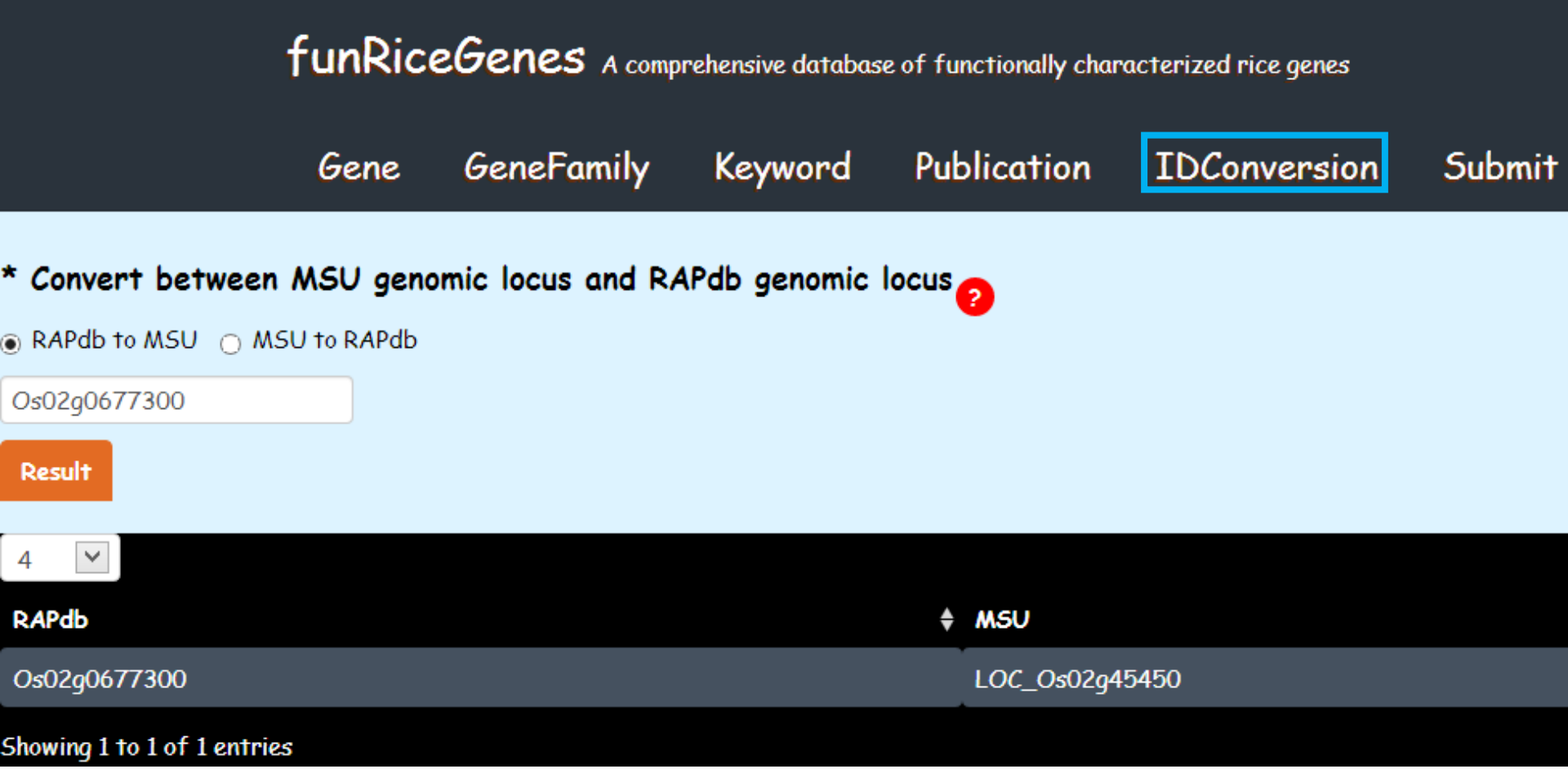
Result

The Publication menu allows query of the titles and abstracts of all publications archived in this database with any word.

1

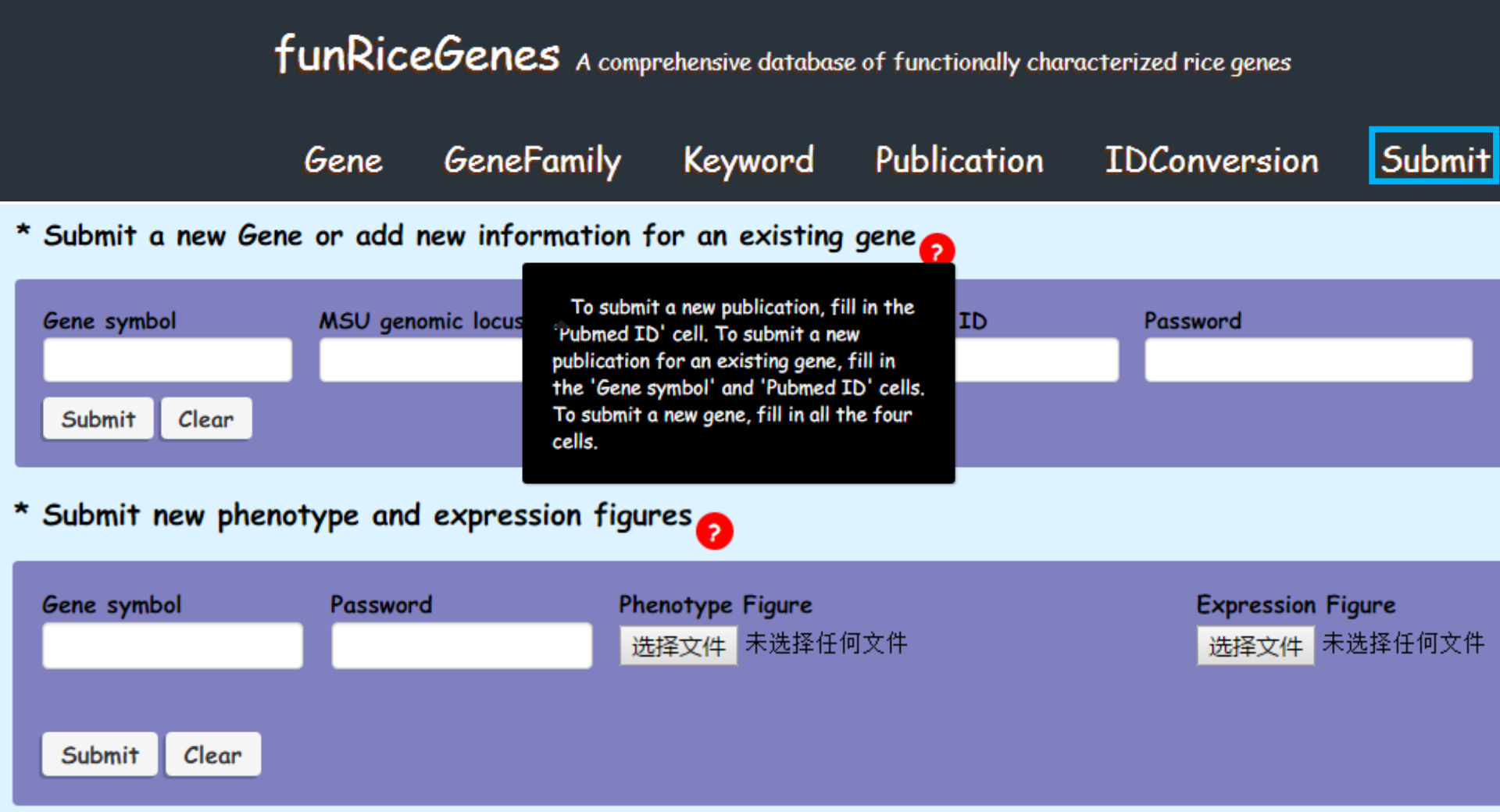
Title	Year	Journal	Affiliation	Abstract
Association of functional nucleotide polymorphisms at DTH2 with the northward expansion of rice cultivation in Asia	2013	Proc Natl Acad Sci U S A	National Key Laboratory for Crop Genetics and Germplasm Enhancement, Jiangsu Plant Gene Engineering Research Center, Nanjing	Flowering time (i.e., heading date in crops) is an important ecological tra determines growing seasons and regional adaptability of plants to speci natural environments. Rice (Oryza sativa L.) is a short-day plant that ori in the tropics. Increasing evidence suggests that the northward expansi cultivated rice was accompanied by human selection of the heading date noninductive long-day (LD) conditions. We report here the molecular clo characterization of DTH2 (for Days to heading on chromosome 2), a mi effect quantitative trait locus that promotes heading under LD conditio show that DTH2 encodes a CONSTANS-like protein that promotes hea inducing the florigen genes Heading date 3a and RICE FLOWERING LO and it acts independently of the known floral integrators Heading date Early heading date 1. Moreover, association analysis and transgenic exp

http://funricegenes.ncpgr.cn/



The IDConversion menu provides a tool to convert between a MSU genomic locus and a RAPdb genomic locus.

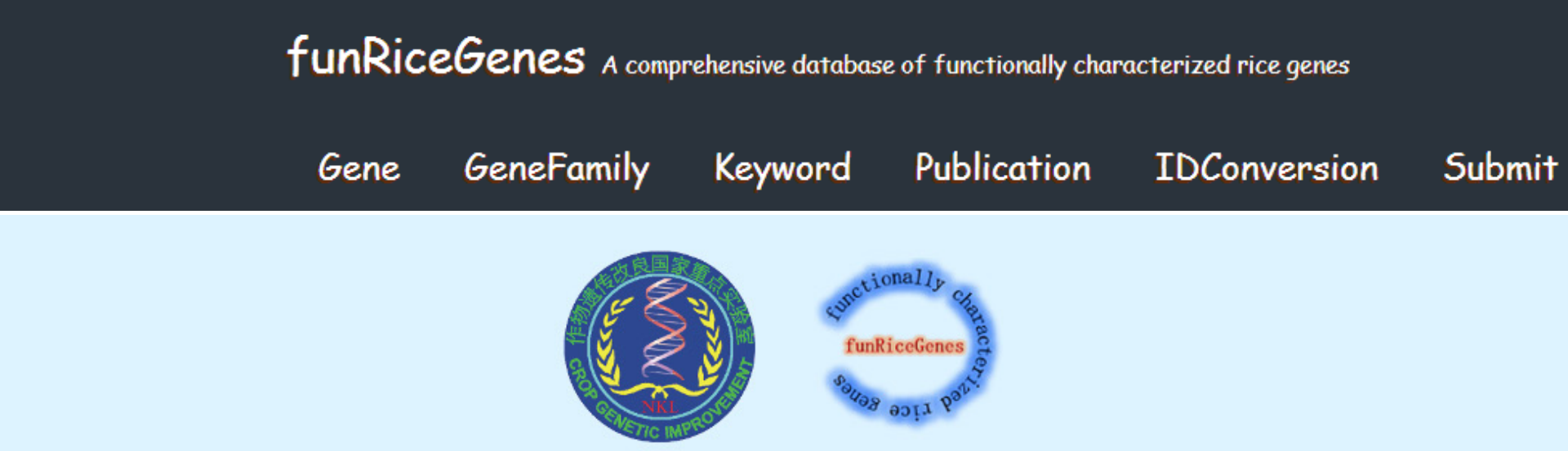
http://funricegenes.ncpgr.cn/



Our database provides tools allowing submission of new information.

Currently, only our team members have permissions to submit new information.

http://funricegenes.ncpgr.cn/



Link to https://funricegenes.github.io/

Have a nice experience in funRiceGenes database !

http://funricegenes.ncpgr.cn/