



Welcome to the 2nd issue of the CottonGen newsletter in 2023. This newsletter is issued to inform users about **new or updated data and tools in CottonGen**. In addition to new and updated data, each issue will provide more information on data or tools on the **featured tools/data** section.

## Other New Data & Tools

## New Genome Data/Functional Analysis

**Three new whole genome** assembly and annotation data contributed by CRI-CAAS, China ([Peng et al. 2022](#)):

[G. hirsutum \(AD1\) 'TX1000' genome CRI v1](#)

[G. ekmanianum \(AD6\) 'AD602' genome CRI v1](#)

[G. stephensii \(AD7\) 'AD701' genome CRI v1](#)

**CottonGen Functional Analysis** (InterProScan and KEGG, Protein Homologies, Cottongen Marker and RefTran Alignments, etc.) **added to the genome**:

[G. arboreum \(A2\) 'SXY1' genome HAU v2](#) ([Wang et al., 2022](#))

- 4500 phenotype scores of 16 traits collected on the 215 germplasm from four different locations and two years from CRI-CAAS, China.
- 435 new or add in new primer/sequence data to markers, most are type of REMAP markers and rests are SNP, RT, SRAP markers.
- [Ortholog page embedded into gene/mRNA page](#).
- [MegaSearch](#) updated to allow searching records with empty fields.
- New Trait page and ['Search Trait'](#) available.
- More tutorial videos are available: [How to search cotton markers using MegaSearch](#) and [How to view genomes linked to genetic maps](#). See the [Manual page](#) or go to our [Youtube channel](#).

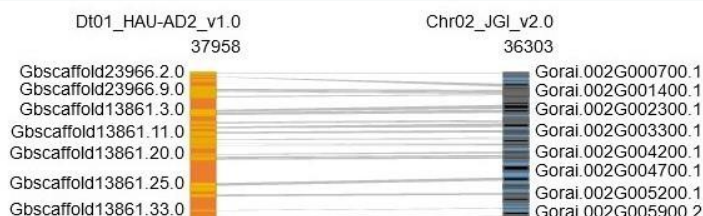
Gorai.002G024600.1, Gorai.002G024600.1-JGI\_221\_v2.1 (mRNA) *Gossypium raimondii*

- Transcript Overview
- Alignments
- Analyses
- Annotated Terms
- Homology
- InterPro
- Orthologs** ←
- Relationships
- Sequences

### Orthologs

Syntenic blocks

Syntenic block	Assembly	Species
abrlJ1772	Gossypium arboreum (A2) 'SXY1' genome CGP-BGI_v2_a1	Gossypium arboreum
bhrjL0013	Gossypium barbadense (AD2) '3-79' genome HAU_v1	Gossypium barbadense
bhrjL1331	Gossypium barbadense (AD2) '3-79' genome HAU_v1	Gossypium barbadense
hbrjL0882	Gossypium hirsutum (AD1) 'TM-1' genome CGP-BGI_v1	Gossypium hirsutum
hbrjL1589	Gossypium hirsutum (AD1) 'TM-1' genome CGP-BGI_v1	Gossypium hirsutum



Gene A	Gene B	e-value
Gbscaffold23966.2.0	Gorai.002G000700.1	3e-49
Gbscaffold23966.3.1	NA	NA
NA	Gorai.002G000800.1	NA
NA	Gorai.002G000900.1	NA



## Featured Data and Tools

### Search Marker Near by QTL

#### Did you know?

You can search for markers near by a QTL of your interest? For example, you can search markers that are near a QTL of bacterial blight resistance (qBBR) within certain genetic distance.

Using 'Search Trait' to find QTL label which equals: q + the trait's abbreviation name

Search Trait

Category: biotic stress trait

Keyword: contains blight

Search Trait

3 records were returned

#	Category	Abbreviation	Trait	Description
1	biotic stress trait	BBDI	bacterial blight	...ive incidence of bacterial blight caused by Xanthomonas citri pathovar malvacearum (Xcm) or Xanthomonas axonopodis malvacearum (Xam)
2	biotic stress trait	BBDS	bacterial blight	...rity of bacterial blight disease caused by Xanthomonas citri pathovar malvacearum (Xcm) or Xanthomonas axonopodis pv. malvacearum (Xam)
3	biotic stress trait	BBR	bacterial blight resistance	Resistance to bacterial blight [Xanthomonas citri pathovar malvacearum (Xcm) or Xanthomonas axonopodis pv. malvacearum (Xam)]

#### Search Markers on Nearby QTL

Marker Search | Marker Source | SNP Marker Search | Nearby Loci | **Nearby QTL** | Between Markers

Wild card (\*) can be used to match any QTL label.

QTL: qBBR\* (eg. qFEL\*)

Distance: 3 cM

Search

54 records were returned

#	QTL	Map	Linkage Group	Start	Stop	Neighbor	Position
1	qBBR.PE-ch5	Pima S-7 x Empire, F2 (2007)	chr05	96.50	106.90	pAR0335a	106.80
2	qBBR.PE-ch5	Pima S-7 x Empire, F2 (2007)	chr05	96.50	106.90	pAR1-28	107.80
3	qBBR.PE-ch5	Pima S-7 x Empire, F2 (2007)	chr05	96.50	106.90	pxp1-09	107.80
4	qBBR.PE-ch20	Pima S-7 x Empire, F2 (2007)	chr20	37.00	45.80	pAR0430	35.80
5	qBBR.PE-ch20	Pima S-7 x Empire, F2 (2007)	chr20	37.00	45.80	pAR0827	45.80
6	qBBR.PE-ch21	Pima S-7 x Empire, F2 (2007)	chr21/gD02	20.20	27.50	M16-040	21.80
7	qBBR.PE-ch21	Pima S-7 x Empire, F2 (2007)	chr21/gD02	20.20	27.50	pGH745	27.50
8	qBBR.PK-ch5	Palmeri x K-101, F2 (2007)	chr05	74.80	83.50	CMS04	83.10
9	qBBR.PK-ch5	Palmeri x K-101, F2 (2007)	chr05	74.80	83.50	pAR897a	76.90

Select tab 'Nearby QTL' from 'Search Markers', fill in 'QTL' label and a 'Distance' means any markers within the given distance from the QTL will be included in your search results.

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