New and Classic Features in FlyBase

Gil dos Santos, FlyBase Consortium

Presented at the 17th Canadian Drosophila Research Conference, Canfly 2023

Overview

1. What does FlyBase do?

2. Finding your favourite gene.

3. FlyBase homepage overview.

4. Navigation bar.

5. Big buttons.

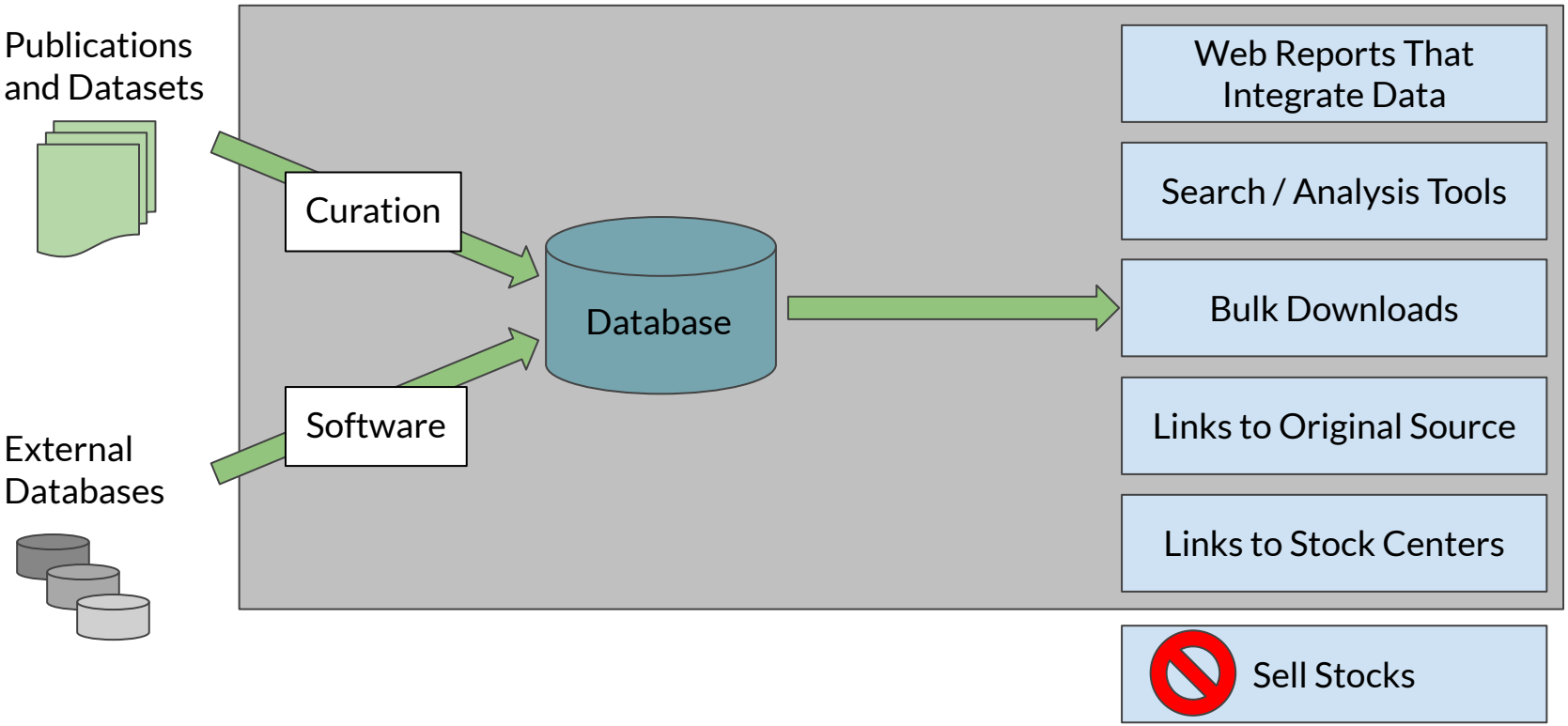
6. QuickSearch tabs.

7. External resources

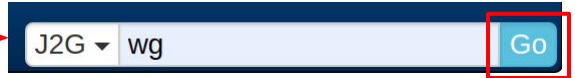
8. Connecting with FlyBase.

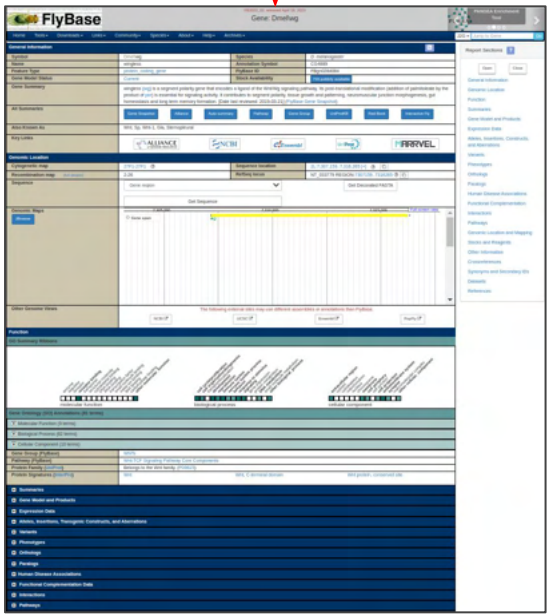
What does FlyBase do?

FlyBase is the main data warehouse for 100+ years of *Drosophila* research.



Finding your favourite gene

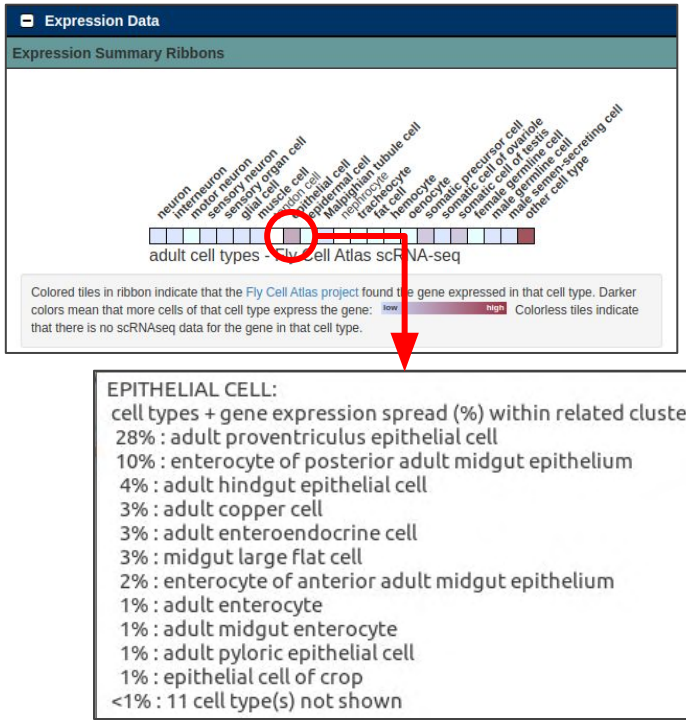




New on gene reports: scRNA-seq

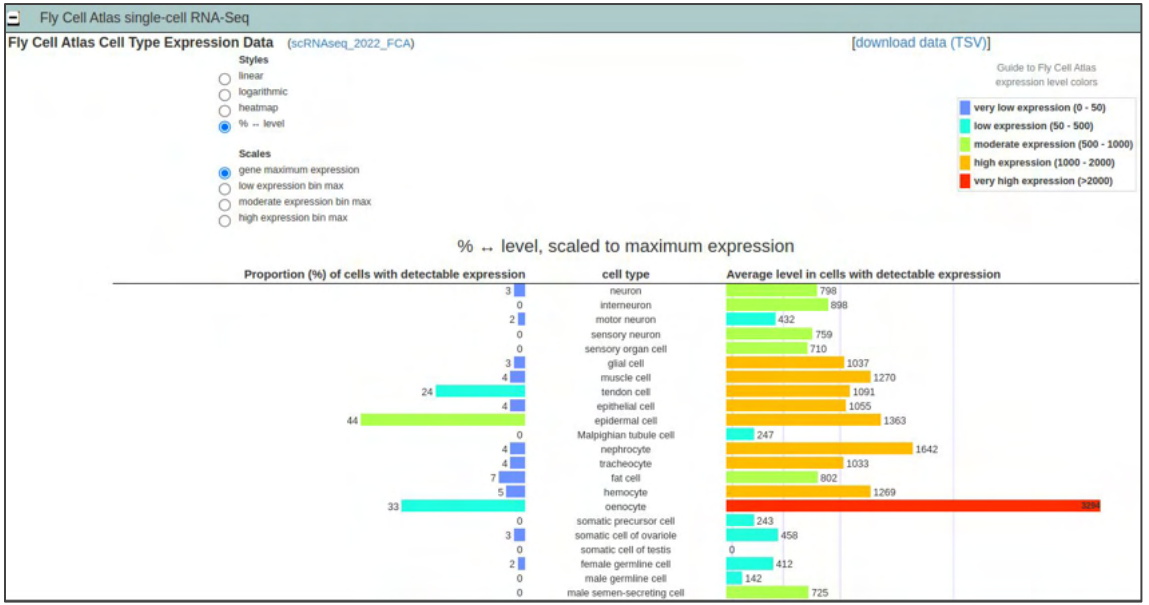
scRNA-seq expression data

Explore expression in specific cell types.



EPITHELIAL CELL:
cell types + gene expression spread (%) within related cluster :
28% : adult proventriculus epithelial cell
10% : enterocyte of posterior adult midgut epithelium
4% : adult hindgut epithelial cell
3% : adult copper cell
3% : adult enteroendocrine cell
3% : midgut large flat cell
2% : enterocyte of anterior adult midgut epithelium
1% : adult enterocyte
1% : adult midgut enterocyte
1% : adult pyloric epithelial cell
1% : epithelial cell of crop
<1% : 11 cell type(s) not shown

View expression levels and proportion of cells with expression.



FlyBase homepage overview

navigation bar

big buttons

Twitter feed

external resources

connecting with FlyBase

release version

Jump To Gene

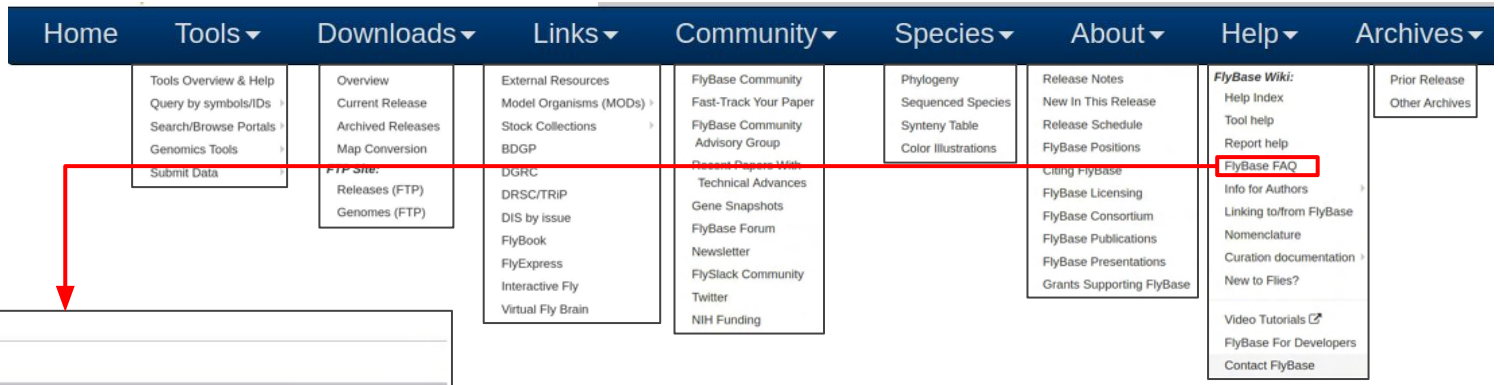
fees

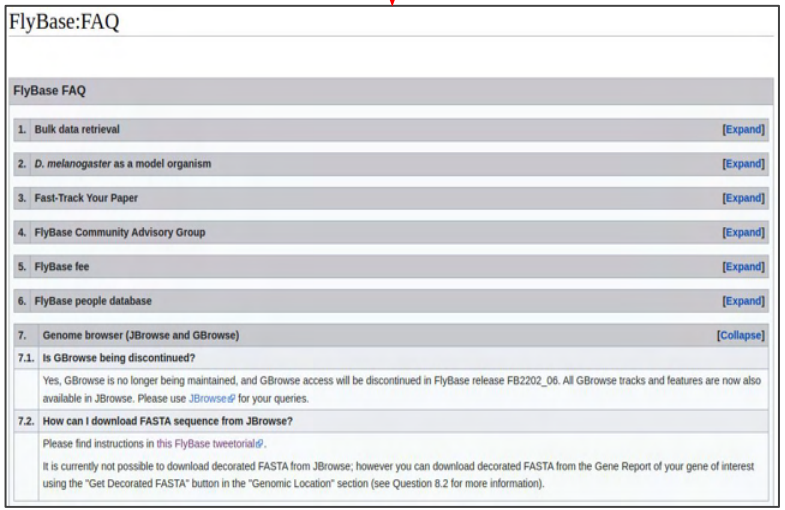
QuickSearch tabs

Commentary

Navigation bar

Access all of FlyBase tools and resources through organized menus





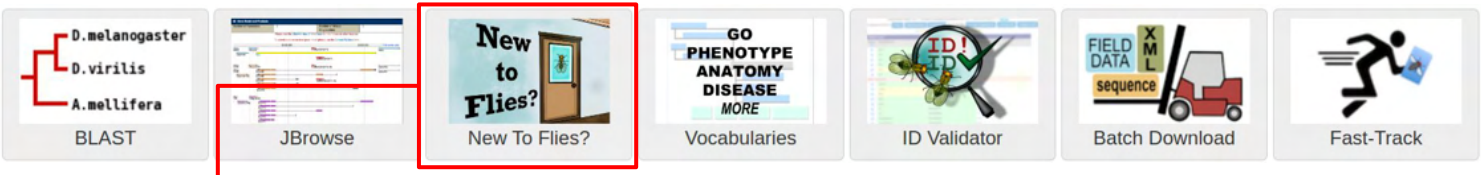
FlyBase:FAQ

FlyBase FAQ

1.	Bulk data retrieval	[Expand]
2.	*D. melanogaster* as a model organism	[Expand]
3.	Fast-Track Your Paper	[Expand]
4.	FlyBase Community Advisory Group	[Expand]
5.	FlyBase fee	[Expand]
6.	FlyBase people database	[Expand]
7.	Genome browser (JBrowse and GBrowse)	[Collapse]
7.1.	Is GBrowse being discontinued?	
	Yes, GBrowse is no longer being maintained, and GBrowse access will be discontinued in FlyBase release FB2202_06. All GBrowse tracks and features are now also available in JBrowse. Please use JBrowse for your queries.	
7.2.	How can I download FASTA sequence from JBrowse?	
	Please find instructions in this FlyBase tweetorial.	
	It is currently not possible to download decorated FASTA from JBrowse; however you can download decorated FASTA from the Gene Report of your gene of interest using the "Get Decorated FASTA" button in the "Genomic Location" section (see Question 8.2 for more information).	

Big buttons: New to Flies

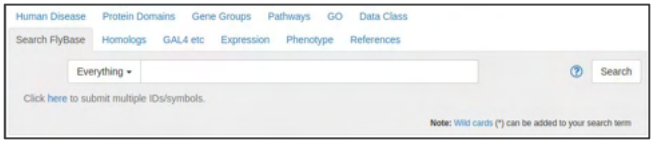
Quick access to key FlyBase tools: e.g., resources for newbies.



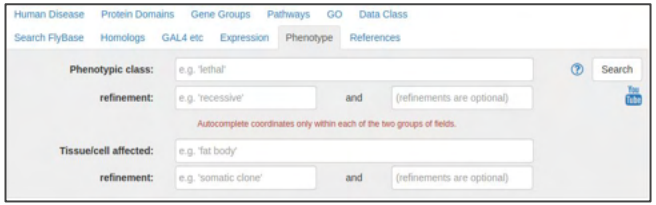
QuickSearch tabs

Various ways to search or browse FlyBase data.

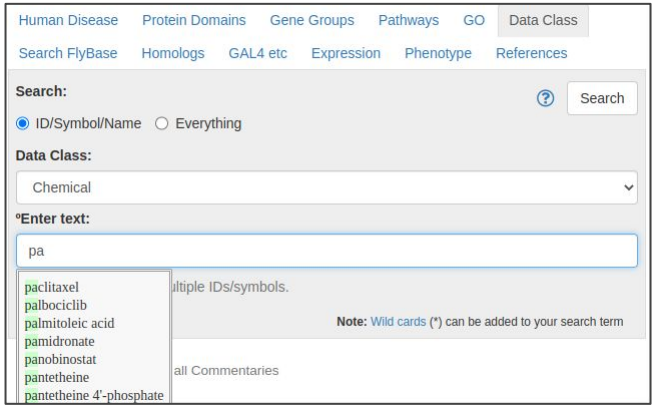
Google-esque search of everything.



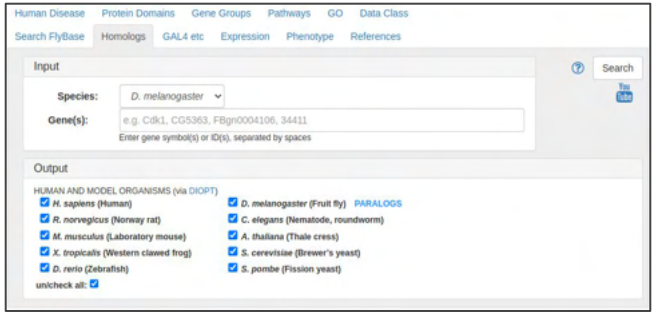
Search by phenotype.



Data class-specific search is **faster**: chemicals are new!



Search for homologs.



External resources

Featured external resources

▼ News and Outreach

FlyBase News | Community News | FlySlack | Public, Teachers, Students

▼ *Drosophila* Journals and Protocols

Fly journal | microPublication | FlyBook | Experiments with *Drosophila*

▼ Tool/Reagent Resources (wiki)

scRNA-Seq | Technical Advances | External Resources

▼ Meetings/Courses/Jobs

Meetings Courses | Positions Available

▼ *Drosophila* in Disease Research

Biomedical Research | MARRVEL | Model Matcher

▼ Inter-species

Gene2Function | MIST | iProteinDB | BioLitMine

Alliance of Genome Resources

▼ Fly Boards

Fly Board | European Drosophila Society

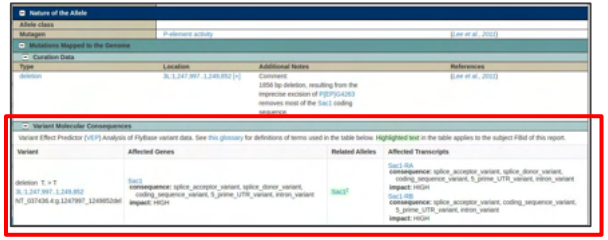
The Alliance of Genome Resources

FlyBase is a founding member (alliancegenome.org) ; data is shared both ways.

Data imports into FlyBase.

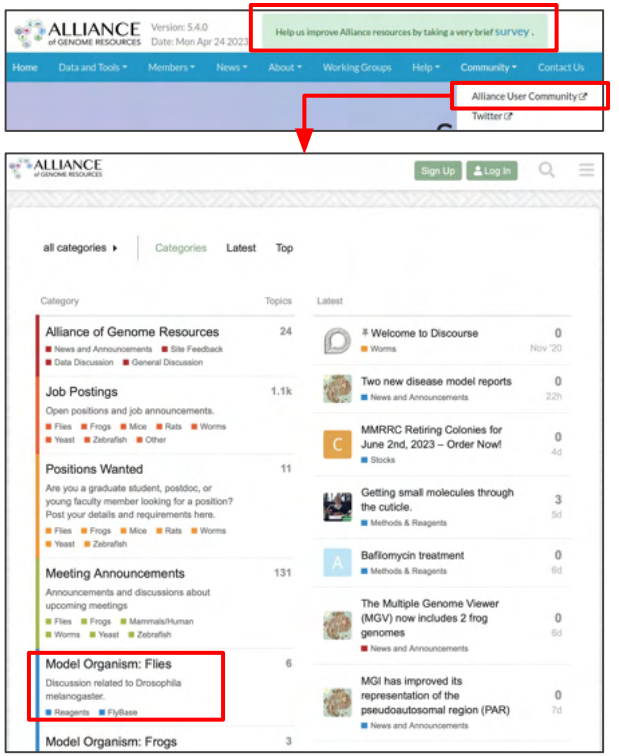
Gene reports

Allele reports



Cross-species data alignment.

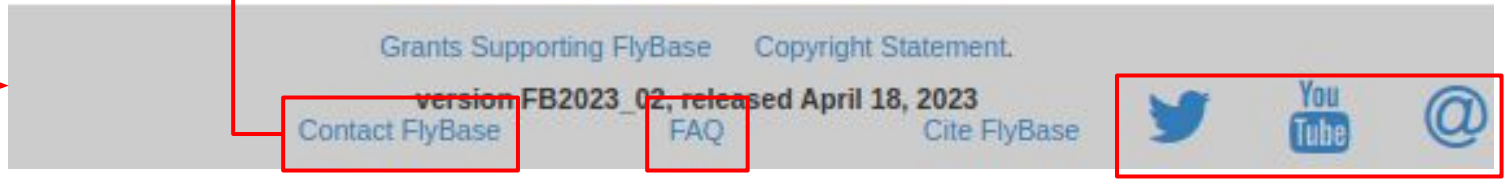
Cross-model organism forum.



Connecting with FlyBase

Ask a question, provide a suggestion, get news and helpful hints.

helpfb@morgan.harvard.edu



Acknowledgements

FlyBase @ University of Cambridge:

Nick Brown (Co-PI)
Giulia Antonazzo
Helen Attrill
Damien Goutte-Gattat
Aoife Larkin
Steven Marygold
Alex McLachlan
Gillian Millburn
Arzu Ozturk-Colak
Clare Pilgrim

FlyBase @ Harvard University:

Norbert Perrimon (PI)
Susan Russo Gelbart (PD)
Kris Broll
Lynn Crosby
Gil dos Santos
Kathleen Falls
L. Sian Gramates
Victoria Jenkins
Ian Longden
Beverley Matthews
Jolene Seme
Christopher Tabone
Pinglei Zhou
Mark Zytkovicz

FlyBase @ Indiana University:

Thomas Kaufman (Co-PI)
Brian Calvi (Co-PI)
Seth Campbell
Josh Goodman
Victor Strelets
Jim Thurmond

FlyBase @ University of New Mexico:

Richard Cripps (Co-PI)
TyAnna Lovato

We thank FlyBase users worldwide for their support.

NHGRI U41HG000739
MRC: MR/N030117/1
NSF: DBI-2035515, 2039324