Init draft: 25 Mar 2023

Last update: 03 Apr 2023

ToDO:

1. Refer to genegroup.js, prepare codes for fly\_ideogram\_test.ipynb

Check 41A1 and 2R band range,

/Users/wing/workspace/ideogram/dist/data/bands/native/drosophila-melanogaster.json

/Users/wing/workspace/ideogram/fly\_src/test.html

Gene rl out of range? Why?

**Top notes:**

1. Flybase download

<http://flybase.org/downloads/bulkdata>

1. Eweitz/ideogram

<https://github.com/eweitz/ideogram>

<https://eweitz.github.io/ideogram/>

1. Eweitz/GeneHints

<https://broadinstitute.github.io/gene-hints/?org=drosophila-melanogaster>

1. %brew update

%brew upgrade

1. After updating the source code, use npm build to generate new ideogram.min.js

(actg) wing@Yanyings-MBP ideogram % npm run build

1. In development mode, use “npm run watch” will automatically build the code changes
2. Use Ctrl+reload (hard reload) to ensure the loading of the latest changes.
3. Start: nginx  
   Stop: nginx -s stop  
   Test: nginx -t

Start nginx (at background):

(actg) wing@Yanyings-MBP ideogram % nginx

Open in browser: <http://localhost:8080/ideogram/fly_src/test.html> to see output/results

Check files: <http://localhost:8080/ideogram/>

**General notes:**

03/04/2023

1. Update /Users/wing/workspace/ideogram/dist/data/bands/native/drosophila-melanogaster.json

"2R q 41A1 326768 4500577 326768 4500577 gpos75",

Save as /Users/wing/workspace/ideogram/fly\_data/drosophila-melanogaster\_X\_OK\_41A1\_new.json

Add:

{'name': 'rl', 'chr': '2R', 'start': 1071462, 'stop': 1125927}

To /Users/wing/workspace/ideogram/fly\_src/test.html

29/03/2023

1. %brew install nginx
2. Start: nginx  
   Stop: nginx -s stop  
   Test: nginx -t   
   <http://localhost:8080/ideogram/>
3. Open in browser: http://localhost:8080/ideogram/fly\_src/test.html
4. data/bands/native/drosophila-melanogaster\_wrong.json
5. Correct bands errors, replace /Users/wing/workspace/ideogram/dist/data/bands/native/drosophila-melanogaster.json

(renamed to drosophila-melanogaster\_wrong.json)

With /Users/wing/workspace/old\_flyIdeogram/flyIdeogram\_2021/fly\_data/flyGenome\_bands/drosophila-melanogaster.json

1. Changes made in ideogram files:
2. /Users/wing/workspace/ideogram/src/js/annotations/draw.js saved to draw\_eweitz.js

Update (line 122)

function writeTrackAnnots(chrAnnot, ideo) {

var shapes,

annotHeight = ideo.config.annotationHeight;

shapes = getShapes(annotHeight);

/\*\*

\* 30/03/2023 rdcwuyy updated for adding gene name into the annotation

\*/

var g = chrAnnot.append('g').attr('id', function (d) {

return d.id;

}).attr('class', 'annot').attr('transform', function (d) {

var y = ideo.config.chrWidth + d.trackIndex \* annotHeight \* 2;

// console.error(d);

return 'translate(' + d.px + ',' + y + ')';

});

// 30/03/2023 rdcwuyy updated for adding gene name into the annotation

var lastData = null;

var lastTx = 22;

g.append('text').text(function (d) {

return d.name;

}).attr('transform', function (d) {

// console.error(lastData);

var tx = 22;

if (lastData && lastData.chr == d.chr

&& Math.abs(lastData.px - d.px) < 6) {

tx = lastTx + lastData.name.length \* 4 + 5;

}

lastData = d;

lastTx = tx;

// console.error(d);

return 'rotate(-90)translate(' + tx + ',6)';

}).on('mouseover', function (d) {

ideo.showAnnotTooltip(d, this);

}).on('mouseout', function () {

ideo.startHideAnnotTooltipTimeout();

});

g.append('path').attr('d', function (d) {

return determineShape(d, shapes);

}).attr('fill', function (d) {

return d.color;

}).on('mouseover', function (event, d) {

ideo.showAnnotTooltip(d, this);

}).on('mouseout', function () {

ideo.startHideAnnotTooltipTimeout();

});

/\*\*

\* Original begin

\*/

// chrAnnot.append('g')

// .attr('id', function(d) {return d.domId;})

// .attr('class', 'annot')

// .attr('transform', function(d) {

// var y = ideo.config.chrWidth + (d.trackIndex \* annotHeight \* 2);

// return 'translate(' + d.px + ',' + y + ')';

// })

// .append('path')

// .attr('d', function(d) {return determineShape(d, shapes);})

// .attr('fill', function(d) {return d.color;})

// .on('mouseover', function(event, d) {ideo.showAnnotTooltip(d, this);})

// .on('mouseout', function() {ideo.startHideAnnotTooltipTimeout();})

// .on('click', function(event, d) {ideo.onClickAnnot(d);});

/\*\*

\* original end

\*/

}

Update refer to:

/Users/wing/workspace/old\_flyIdeogram/flyIdeogram\_root/igeweitz/static/igeweitz/js/draw.js (line 116).

1. /Users/wing/workspace/ideogram/src/js/annotations/heatmap.js

Update line 25:

// 30/03/2023 updated by rdcwuyy original : marginHack = 7

var marginHack = 30; // TODO: Make this dynamic

Update refer to:

/Users/wing/workspace/old\_flyIdeogram/flyIdeogram\_root/igeweitz/static/igeweitz/js/heatmap.js (line 17).

1. /Users/wing/workspace/ideogram/src/js/lib.js

Update to point to local data for bands

if (location.pathname.includes('/examples/vanilla/') === false) {

return (

`http://localhost:8080/ideogram/dist/data/${dir}`

// `https://cdn.jsdelivr.net/npm/ideogram@${version}/dist/data/${dir}`

);

}

25/03/2023

1. Run Jupyter notebook tutorial of Eweitz/ideogram:

<https://github.com/eweitz/ideogram/blob/master/examples/jupyter/ideogram.ipynb>

* Install Jupyter-lab

(actg) wing@Yanyings-MBP actg % conda install -c conda-forge jupyterlab

%cd /Users/wing/workspace/actg/flyIdeogram

(actg) wing@Yanyings-MBP flyIdeogram % jupyter-lab

* Need to install ideogram

1. Fork eweitz/ideogram to rdcwuyy/ideogram (it will be public)
2. (actg) wing@Yanyings-MBP workspace % git clone [git@github.com](mailto:git@github.com):rdcwuyy/ideogram.git
3. (actg) wing@Yanyings-MBP workspace % cd ideogram

(actg) wing@Yanyings-MBP ideogram % git branch

\* master

(actg) wing@Yanyings-MBP ideogram % git checkout -b development

(actg) wing@Yanyings-MBP ideogram % git push -u origin development

1. On github/rdcwuyy, set default branch to development

Now, the git repository is fully manipulatable and can **sync fork** to get the latest code from Eweitz/ideogram.

* Update ~/.zshrc,

%nano ~/.zshrc

cd /Users/wing/workspace/ideogram

conda activate actg