User Guide for Harry Plotter

Contents

1 Introduction

Harry Plotter is a Java progam that allow you to:

- draw metacontigs anchored to linkage groups by molecular markers (see figure 2)

- draw colored linkage groups to easily identify QTL (see figure 1)

2 Prerequisites

Harry Plotter needs Java 1.5 or higher to run. If you don't have Java Runtime Environment (JRE) installed you can download it from
http://java.sun.com/javase/downloads/index.jsp

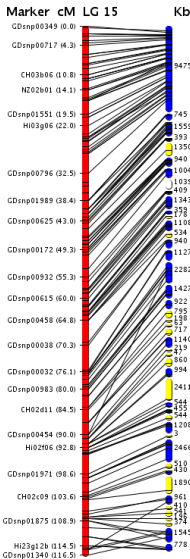Figure 1: Harry Plotter output image

Figure 2: Harry Plotter output image

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3 Usage

Depending on what you want, Harry Plotter needs different input files in order to run. To start Harry Plotter type:

```
java -jar HarryPlotter2.jar
```

3.1 Draw *Metacontigs* and *Linkage Groups*

- run Harry Plotter

- click Draw LG with markers and metacontigs

- select the markers file

- select the metacontigs file

- click the Draw LG button

Harry Plotter will draw each LG in different windows.

3.1.1 Marker file format

Every line that starts with the # character will be ignored. The marker file (see table 1) contains 8 columns divided by a tab. The fields are:

- the marker name

- the LG the marker belongs to

- the position in cM of the marker in the LG

- the position in bp of the marker in the LG

- the metacontig the marker belongs to

- the marker color: see the color box on table 3 for the color code

- set the visibility of the marker (1 visible, 0 invisible): if a marker is set to invisible only a line on both the LG and the metacontig is drawn, otherwise also the marker name is drawn.

#Marker name	LG	cM	ChrPos	Metacontig	Color	Visible
GDsnp00288	1	0	154555	265088	c1	1
GDsnp02886	1	1.5	751217	10220	c1	0
GDsnp02459	1	1.5	1430762	205724	c1	0
GDsnp02535	2	85.2	36427906	233123	c1	0
GDsnp00242	2	85.4	36289250	233123	c1	1
GDsnp00506	3	0	1029726	252094	c1	1
GDsnp00866	3	8.3	1143960	252094	c1	0

Table 1: Marker file example

#Metacontig	Length	GStart	GEnd	LG	LGStart	LGEnd	Col
265088	721160	0	0	1	0	721160	c6
10220	39539	0	0	1	721160	760699	c6
205724	889236	0	0	1	760699	1649935	c6
233123	2604087	0	0	2	33914787	36518874	c2
252094	1348651	0	0	3	0	1348651	c2

Table 2: Metacontig file example

3.1.2 Metacontig file format

The metacontig (see table 2) file contains 8, tab separeted, fields but actually only 6 of them are used. The fields are

- the metacontig name: must refer to a metacontig of the marker file

- the metacontig length

- the global start: NOT USED

- the global end: NOT USED

- the LG the metacontig belongs to

- the metacontig start position in bp of the metacontig into the LG

- the metacontig end position in bp of the metacontig into the LG

- the metacontig color: see the color box on table 3 for the color code

c1	=	black
c2	=	blue
c3	=	green
c4	=	red
c5	=	white
c6	=	yellow

Table 3: Color code

3.2 Draw colored *Linkage Group* with QTL

This function allow you to draw a rectangle that represent a linkage group with different colors depending on the position and the significance of QTL, specifying the position and values for QTL and the colors to use.

- run Harry Plotter

- click Draw colored LG with gradient

- select the data file

- select the color file

- click the Draw LG button

Harry Plotter will draw each LG in different windows.

3.2.1 Data file format

The data file contains 3 tab delimited columns (see table 4). The fields are

- the LG

- the position in cM

- the LOD value

3.2.2 Color file format

For details on the RGB color scheme refer see http://en.wikipedia.org/wiki/Rgb. The color file contains 4 tab delimited columns (see table 5). The fields are:

- the LOD value

#LG	map	lod
1	0	0
1	1	1
1	2	2
1	3	3
1	4	4
1	5	5
1	6	6
1	7	7
1	8	8
1	9	9
1	10	10

Table 4: Data file example

- the RED value of the color

- the GREEN value of the color

- the BLUE value of the color

3.3   Export and Resize

It is possible to export the generated images into a PNG or JPEG image file by selecting Export Image from the File menu of the image window. It is also possible to resize the image by selecting Adjust image size from the Edit menu of the image window, set the new width and height and click Resize.

#LOD	R	G	B
0	0	0	0
2	28	28	28
2.5	118	118	118
3	29	29	207
3.5	29	194	207
4	135	217	17
4.5	29	194	17
5	255	255	0
5.5	240	180	17
6	240	90	17
6.5	240	60	17
7	255	7	208
8	255	255	255

Table 5: Color file example