

ggplot2 scale_y_log10 notes

PMG

2/10/2015

<http://thread.gmane.org/gmane.comp.lang.r.ggplot2/10433> (<http://thread.gmane.org/gmane.comp.lang.r.ggplot2/10433>)

```
From: Dennis Murphy <djmuser@...>  
Subject: Re: log 10 scale, but tick labels in decimals  
Newsgroups: gmane.comp.lang.r.ggplot2  
Date: 2015-02-05 02:26:05 GMT (6 days, 22 hours and 14 minutes ago)  
Hi:
```

Is this what you had in mind?

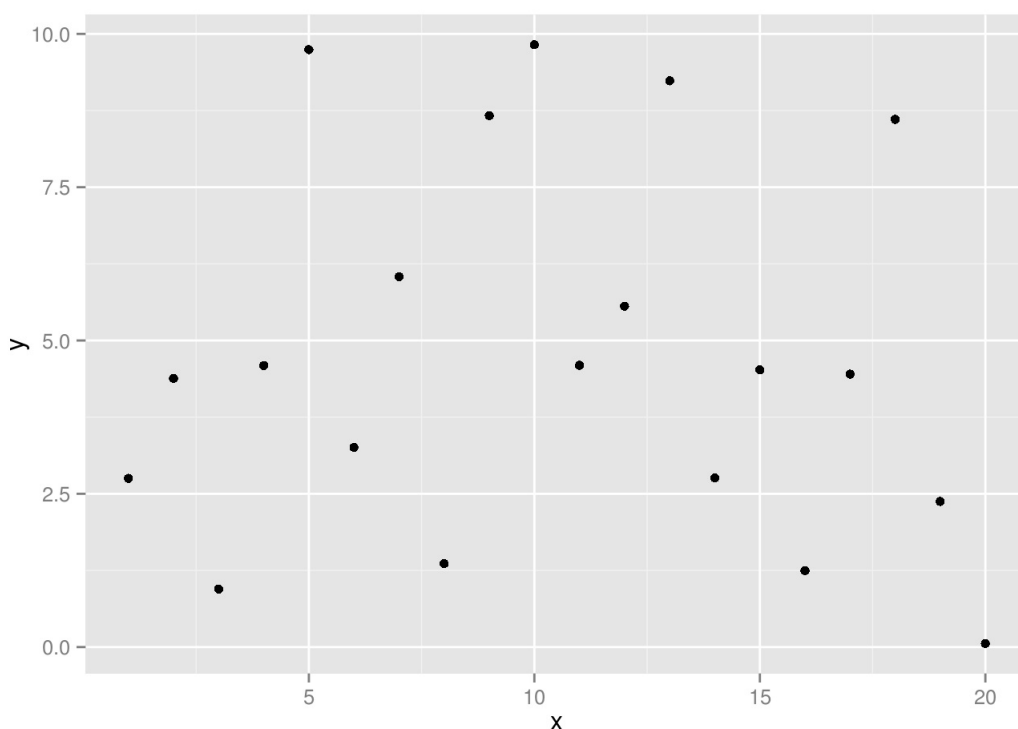
```
set.seed(253089)  
DF <- data.frame(x = 1:20, y = runif(20, 0.0001, 10))  
  
library(ggplot2)  
ggplot(DF, aes(x = x, y = y)) +  
  geom_point() +  
  scale_y_log10(limits = c(0.000, 10), breaks = c(0.01, 0.1, 0.5, 1, 5, 10))
```

Dennis

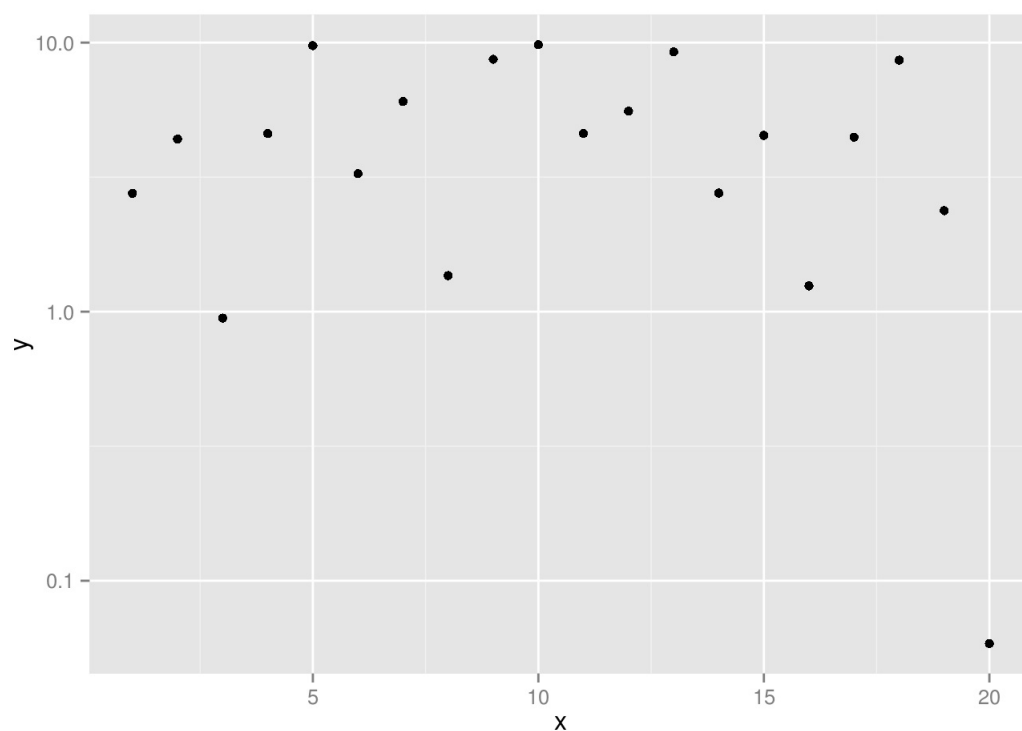
```
On Wed, Feb 4, 2015 at 3:02 PM, JR Flanders <jrflanders@...> wrote:  
> I'm struggling with how to show tick labels as decimals (0.01, 0.1, 1...)   
> rather than integers to the base 10 (-2, -1, 0...). Can any of the scales   
> arguments handle this?
```

Trying this code I realize that if you have a "0" on limits or breaks it FAILS

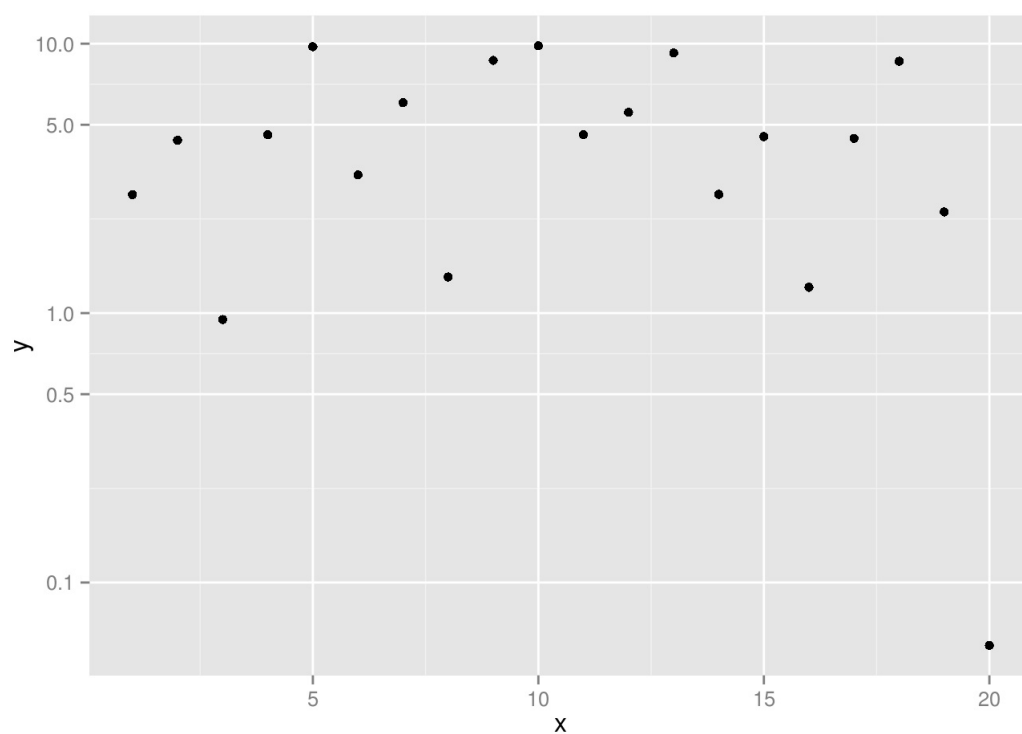
```
set.seed(253089)  
DF <- data.frame(x = 1:20, y = runif(20, 0.0001, 10))  
  
library(ggplot2)  
  
## This workd OK  
p <- ggplot(DF, aes(x = x, y = y)) +  
  geom_point()  
  
p
```



```
p+scale_y_log10()
```

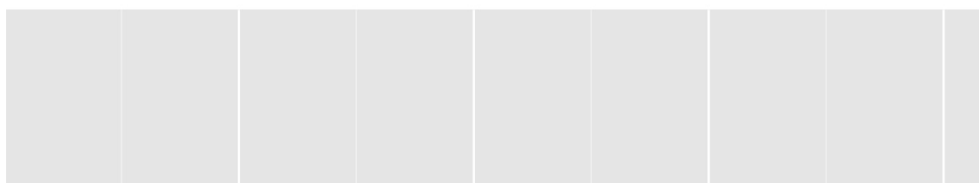


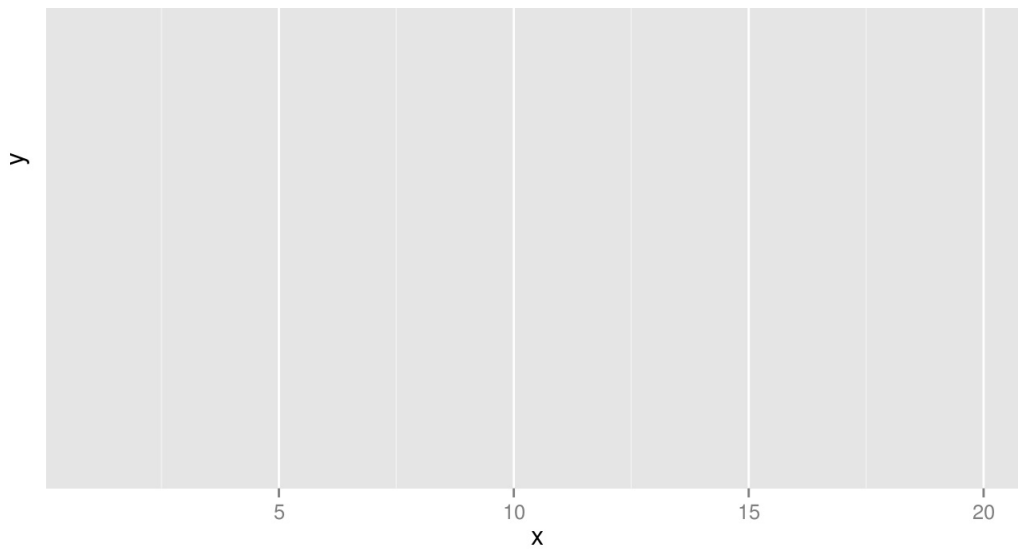
```
p+scale_y_log10( breaks = c(0.01, 0.1, 0.5, 1, 5, 10))
```



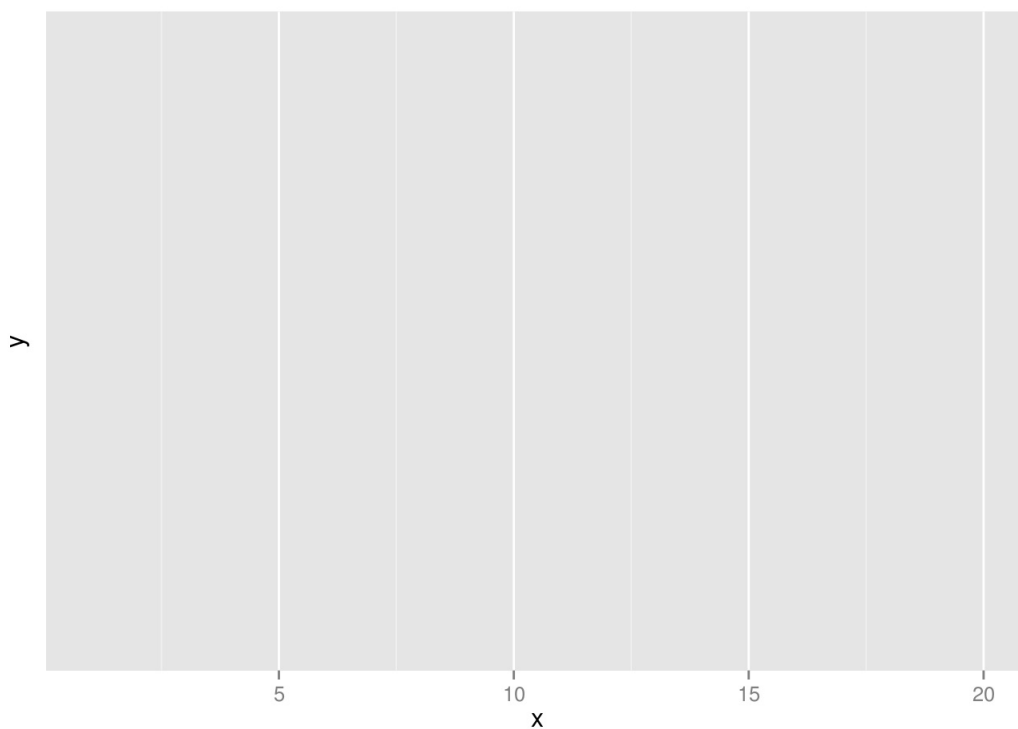
Seems that if the '0' is contained in the limits or the breaks its value is evaluated and log10 FAILS.

```
# if the 0 is one of the limits it fails !!
p+scale_y_log10( breaks = c(0.01, 0.1, 0.5, 1, 5, 10), limits = c(0, 10))
```





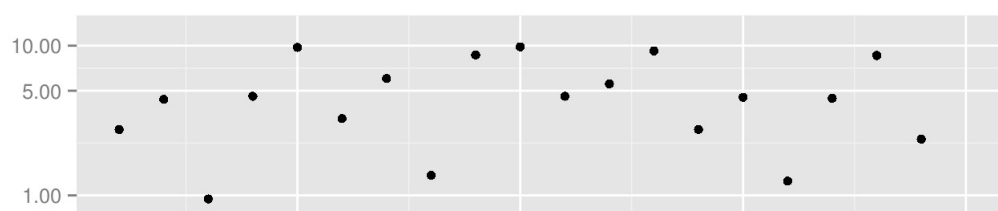
```
p+scale_y_log10( breaks = c(0.01, 0.1, 0.5, 1, 5, 10), limits = c(0.00000, 10))
```

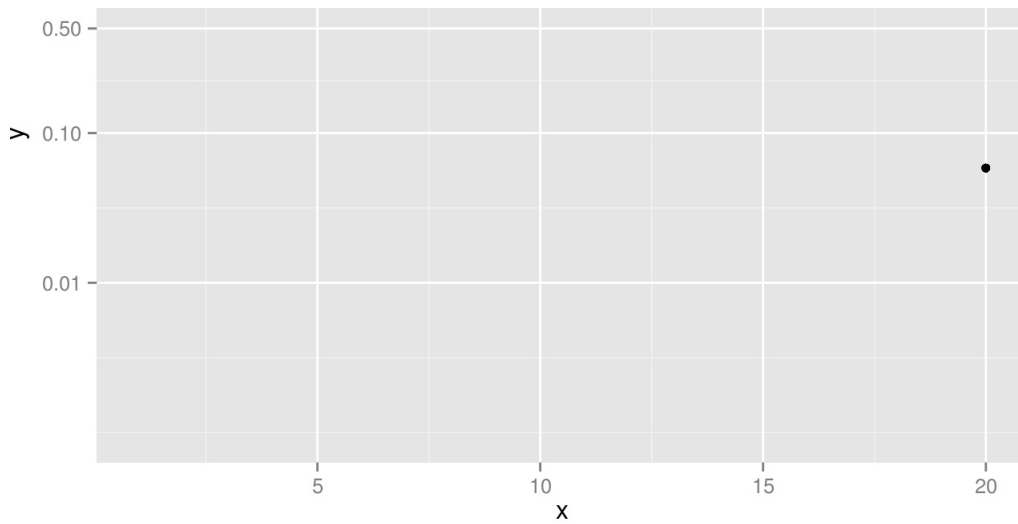


```
# if the 0 is in the breaks it fails !!
#p+scale_y_log10( breaks = c(-1,0, 10), limits = c(0.0000001, 10))
# Error in seq.default(dots[[1L]][[1L]], dots[[2L]][[1L]], length = dots[[3L]][[1L]]) :
#   'from' cannot be NA, NaN or infinite
# In addition: Warning message:
# In scale$trans$trans(breaks) : NaNs produced

#p+coord_trans( y = "log10", limits = c(0.000, 10), breaks = c(0.01, 0.1, 0.5, 1, 5, 10))
# Error in coord_trans(y = "log10", limits = c(0, 10), breaks = c(0.01,  :
#   unused arguments (limits = c(0, 10), breaks = c(0.01, 0.1, 0.5, 1, 5, 10))

# the limits
p+scale_y_log10( breaks = c(0.01, 0.1, 0.5, 1, 5, 10), limits = c(0.001, 10))
```

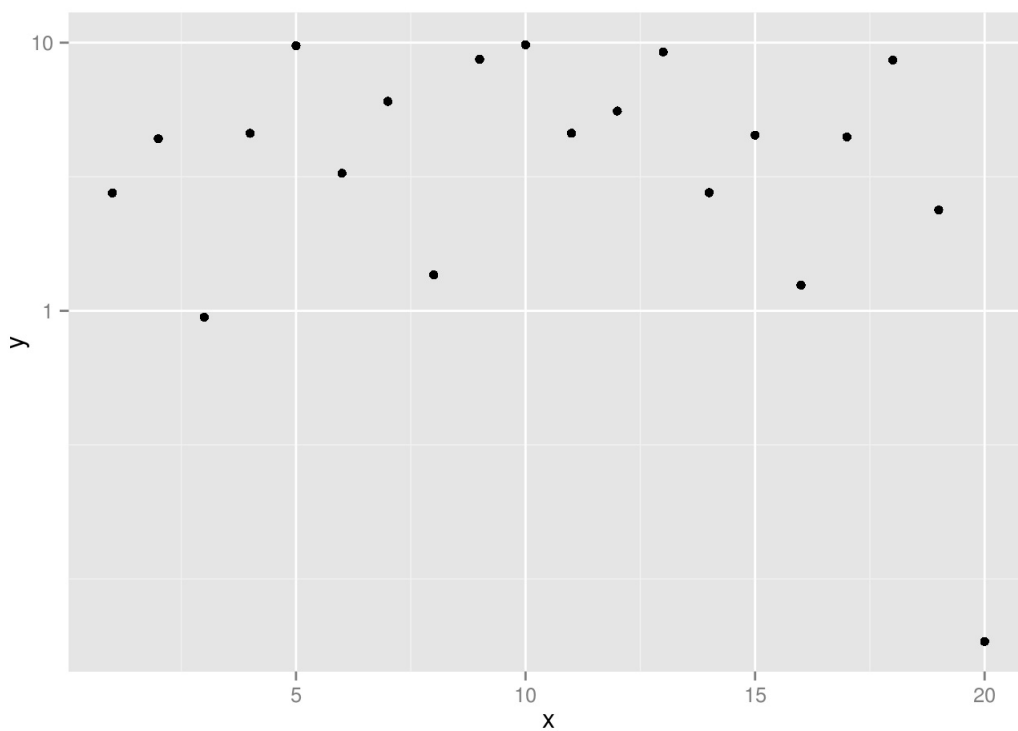




```
# the y range contain the 0 but not any of the limits itself => OK
p+scale_y_log10( breaks = c(-0.5,1,10), limits = c(-1, 10))
```

```
## Warning in trans$trans(limits): NaNs produced
```

```
## Warning in scale$trans$trans(breaks): NaNs produced
```



```
sessionInfo()
```

```
## R version 3.1.2 (2014-10-31)
## Platform: x86_64-pc-linux-gnu (64-bit)
##
## locale:
##  [1] LC_CTYPE=en_US.UTF-8 LC_NUMERIC=C LC_TIME=C
##  [4] LC_COLLATE=C LC_MONETARY=C LC_MESSAGES=C
##  [7] LC_PAPER=C LC_NAME=C LC_ADDRESS=C
## [10] LC_TELEPHONE=C LC_MEASUREMENT=C LC_IDENTIFICATION=C
##
## attached base packages:
## [1] stats graphics grDevices utils datasets methods base
##
## other attached packages:
## [1] ggplot2_1.0.0
```

```
##
## loaded via a namespace (and not attached):
## [1] MASS_7.3-37      Rcpp_0.11.4      colorspace_1.2-4 digest_0.6.8
## [5] evaluate_0.5.5   formatR_1.0      grid_3.1.2       gtable_0.1.2
## [9] htmltools_0.2.6  knitr_1.9        labeling_0.3      munsell_0.4.2
## [13] plyr_1.8.1       proto_0.3-10     reshape2_1.4.1   rmarkdown_0.5.1
## [17] scales_0.2.4     stringr_0.6.2    tools_3.1.2      yaml_2.1.13
```