

Gettin' groovy with Bookdown

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Main text

Git up! BookDowwwwn!

For the advanced Markdown-ers, you can also write and code a manuscript in markdown that can be exported to Word, with references embedded. Markdown magic! [R markdown: Publsiing workflows and manuscript](#).

I've found this does not work for html—which is fine—but the pdf and word outputs seem to flow quite well. Make sure to load the package `bookdown` and set the options for output at the top of the Markdown script as I have above— with

```
output:
bookdown::word_document2: default
bookdown::pdf_document2: default
bookdown::html_document2: default
```

Let's try to embed a figure in the document we are making now. If I wanted the reference to the figure to go chronological in the code (1 to the nth) and I name the code chunk accordingly, we can 'call the chunk' using a reference!

This uses the package `bookdown` and this approach is called **cross referencing**. It works by typing `\@ref(ref-type:chunk-name)`, which produces a linked number to the referenced object. Let's try one, here using *ref-type* = "fig" and the *code chunk name* = "test-fig". **Note** the code chunk name must not have spaces. Let's start a new page and call the code chunk

Chlorophyll?! More like bore-o-phyll! (Fig.1).

```
data<-read.csv("data/coral_data.csv")
hist(data$chla, col="seagreen", freq=F, main="Chlorophylls in coral symbionts", ylab="density",
      xlab=expression(paste("Chlorophyll", ~italic("a"+"c"[2]), ~(\mu*g~cm^-2), sep="")))
par(new=T)
lines(density(data$chla),lwd=3,col="mediumseagreen")
```

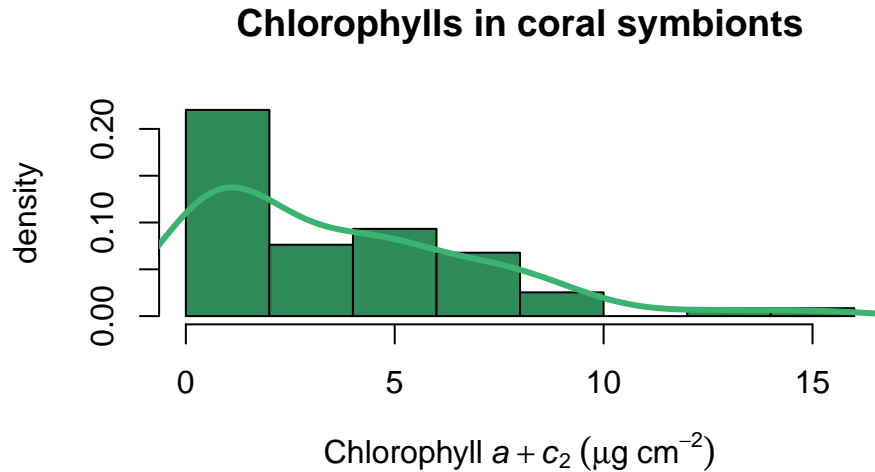


Figure 1: Chlorophyll *a* boxplot

Notice the text updates to show *Figure 1* and the code chunk (displayed above) produced the figure and adds the *Figure 1* to the caption, despite the fact that I did not directly name it Figure 1 using `fig.cap`. This is great because now R will reference these figures chronologically and link the # to the code chunk name. If a reviewer says, “I think this should be moved to the supplement and have a new Figure 1,” we can do that easily enough.

Let’s try... making another figure, this one will be figure 2—as per reviewer requests

We have appeased the reviewer with this fattened calf and a blood offering. We hope this new data with satiate the appetite of the reviewer. Please see (Fig.2), which is awesome, and chlorophyll data now in the supplement.

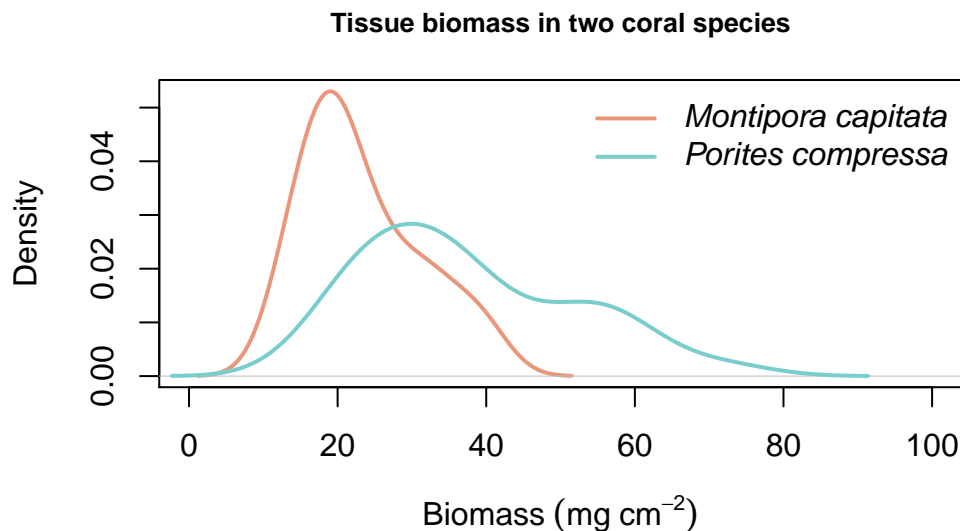


Figure 2: Coral tissue biomass

Supplementary material

Here is the chlorophyll data in a new section, with numbers restarted. We accomplished this by using the `header` information in the top of the script. (Fig.S1).

Chlorophylls in coral symbionts

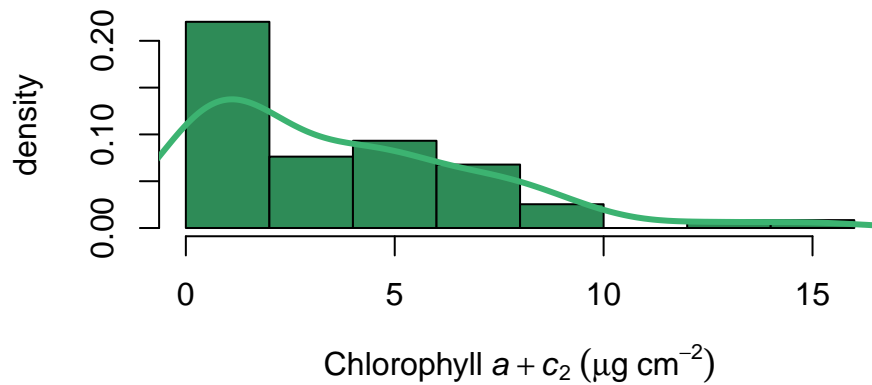


Figure S1: Chlorophyll *a* boxplot

If you knitted this for the first time, looked at the output, and said "Holy SH*T!"... I did too! Now a warning, if you knit the above with the `header=includes` segment, this may only export the way you wish for pdfs. So if exporting to word is what you want to do, there are some caveates—which might mean moving the order of chunks around so that they can be listed chronologically. BUT that is doable. You can see more on this at [Stack Overflow](#), where I got the `header=includes` info...