Thanks for your advice. We have taken full consideration of your suggestions and made the following answers.

1. The raw data consists of 13 leaves: nine extant leaves from five different herbaria specimens, and four fossil leaves. This is a thin data set. The four fossil leaves are really at the cusp for making a statistically meaningful paleo-CO_2 estimate (a minimum of five leaves is typically recommended). As for the extant leaves, couldn't a large sample from living trees be made?

Yes, we have added more specimens as suggested.

2. Kouwenberg et al. 2003 (p.2623, line 23) recommends for conifers that have ordered rows metrics related to the number of stomata per unit length. The authors should try this. Several other related points: by convention, non-stomatal bearing areas are typically excluded when calculating stomatal density and stomatal index (e.g., the bands between the stomatal rows); did the authors do this? How do your paleo-CO_2 estimates compare when using the other four possible extant calibration points? It would be helpful to know this variability. And finally, Franks et al. (2014, Geophysical Research Letters) proposed recently a new paleo-CO_2 method that does not require extant calibrations and follows plant physiological first principles, not ad-hoc calibrations. The required measurements are stomatal density, stomatal size, and leaf d13C. Your *Nageia* fossils would be an ideal application of this new method.

We have tried the method from Kouwenberg et al. (2003). The result is not as good as the original one we used. Except for the SDL, the other proxies do not work.

3. The age constraint for the fossils is only given as "late Eocene". How was this Age determined? The age uncertainty should be included in Figures 4-5 (i.e., the late Eocene is a fairly long interval).

The age is about 38.5-42.0 (Wang et al., 1994). The details of layers have published in our previous paper Liu et al. (2015) -- Xiaoyan Liu, Qi Gao & Jianhua Jin*. 2014. Late Eocene leaves of Nageia Gaertner (section Demmaroideae Mill.) from Maoming Basin of Guangdong, South China and its implication on phytogeography. Journal of Systematics and Evolution. 53(4):297–307.

4. Because the stomatal ratio approach is semi-quantitative, it is largely misleading to report 95% uncertainty bands. Also, this uncertainty analysis does not take into account uncertainty in the SR-RCO_2 transfer function (i.e., the authors assume no uncertainty)

Yes, we calculate all the individual data separately and got the 95% uncertainty bands at last. They are not taken into the function directly.

Other more minor points were corrected as suggested. Only the following points need to be stated:

p.2619, line 20: How is agroup “special”?

We explained why *Nageia* is special by the clause following the word “Podocarpaceae”.

Figure 3. Correlation between SD and SI versus CO_2 concentration for modern *Nageia motleyi.* (a) Trends of SD with CO_2 concentration for the adaxial surface. (b) Trends of SD with CO_2 concentration for the abaxial surface. (c) Trends of SI with CO_2 concentration for the adaxial surface. (d) Trends of SI with CO_2 concentration for the abaxial surface. (e) Trends of SD with CO_2 concentration for the combined data of both the leaf surfaces. (f) Trends of SI with CO_2 concentration for the combined data of both the leaf surfaces.

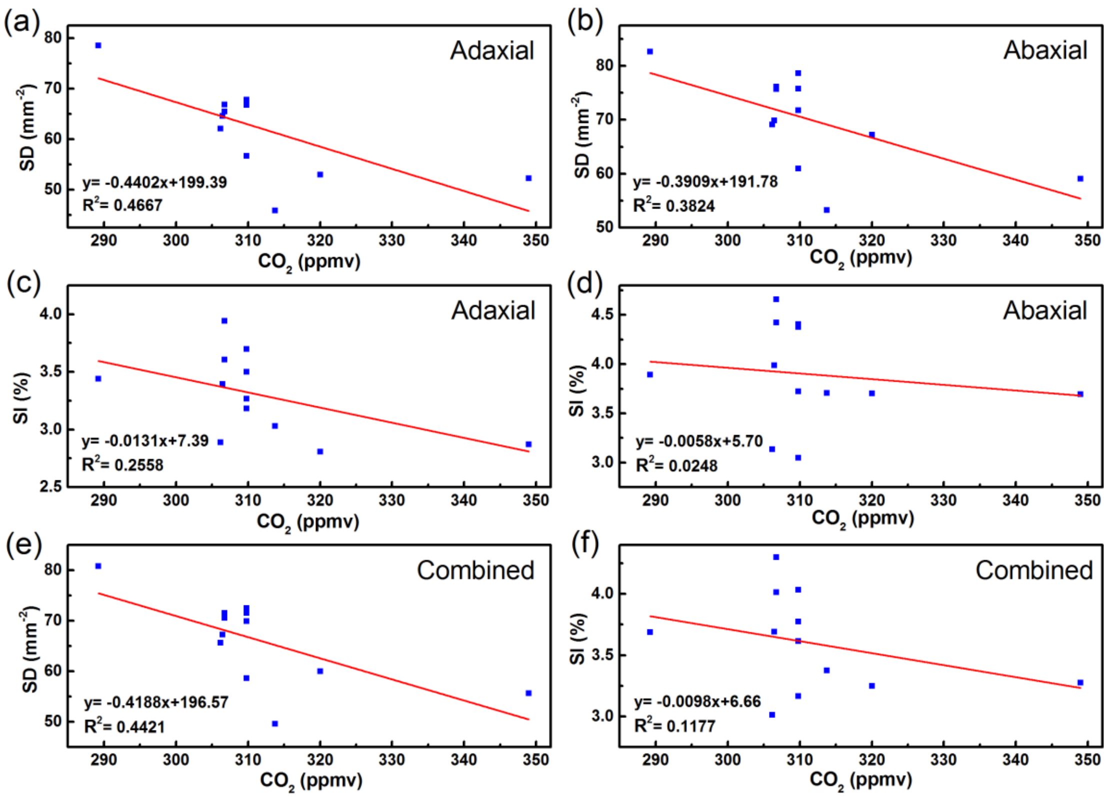
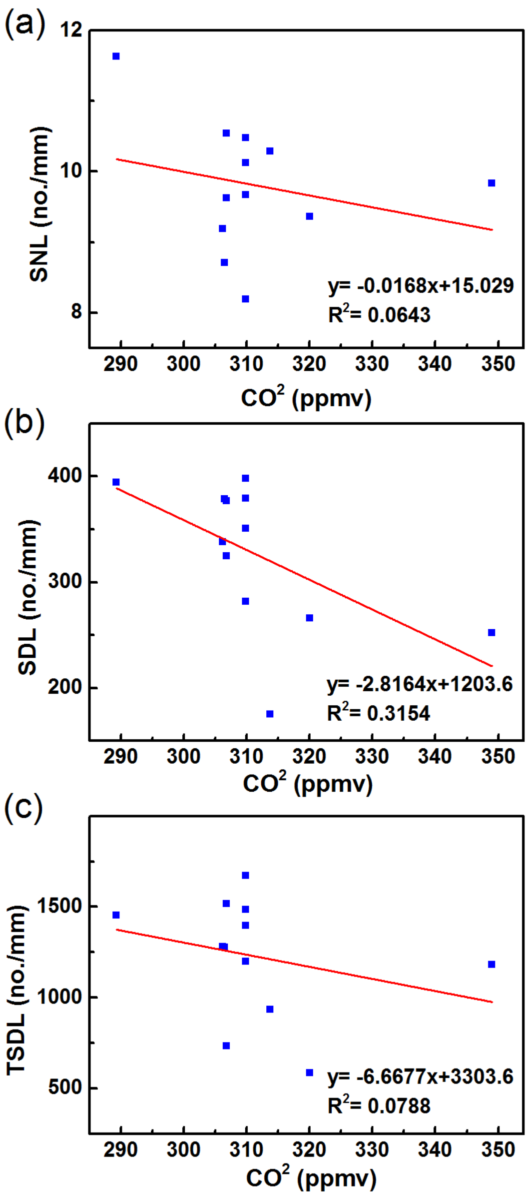


Figure 4. Correlation between SNL, SDL and TSDL versus CO_2 concentration for modern *Nageia motleyi.* (a) Trends of SNL with CO_2 concentration for the adaxial surface. (b) Trends of SDL with CO_2 concentration for the adaxial surface. (c) Trends of TSDL with CO_2 concentration for the adaxial surface.


(a)
SNL (no./mm)
12
10
8
y= -0.0168x+15.029
R2= 0.0643
290 300 310 320 330 340 350
CO2 (ppmv)
(b)
SDL (no./mm)
400
300
200
y= -2.8164x+1203.6
R2= 0.3154
290 300 310 320 330 340 350
CO2 (ppmv)
(c)
TSDL (no./mm)
1500
1000
500
y= -6.6677x+3303.6
R2= 0.0788
290 300 310 320 330 340 350
CO2 (ppmv)