1. **Original Submission**
   1. **Recommendation**

Minor Revision

**2.0 Comments to Author:**

Ref: JQSR-D-23-00045

Title: Hydroclimate variations over the last 17,000 years as measured by leaf waxes in vegetation physiognomic and rodent middens from the south-central Atacama Desert, Chile.

Matías Frugone-Álvareza, Sergio Contrerasa, Oliver Meseguer-Ruizf, Eduardo Tejosa, Antonio Delgado-Huertas, Blas Valero-Garcés, Francisca P. Díaz, Matías Briceño, Manuel Bustos-Morales, Claudio Latorre

**Overview and general recommendation**

The study of long chain n-alkyl lipids from rodent paleomiddens in the Atacama Desert can inform on long-questioned responses and thresholds to climate variations.

In this study the authors contribute to make clear what impact climate changes had on vegetation physiognomy and how it reconfigured climatic dynamics. This transfer of new results and already established climate reconstructions provides new insights on plant species distributions and their diversity on the molecular level. This study is very good written and nicely structured. I also think it fits very well into the scope of the journal. Since I haven’t read such a good study a long time and as there are only a few of such studies available especially for the Atacama Desert, I strongly recommend supporting this study with only some very minor comments just for notice.

1. please can you be more precise in the abstract, I think at some stages it is still very general (e.g., please indicate the elevational gradient you covered and so on..)
2. please use n in italics through the abstract and whole manuscript
3. Average chain length and Carbon preference index with small capital letters
4. hyperaridity not with i
5. Did you calculate the recovery of n-alkanes and n-alkanoic acids? Please add on this
6. What about contamination during sampling? Can you give information about special concerns
7. Please order the citations from old to new in the text.
8. Please watch out with the units you use. Sometimes you write gdw, then g dw or even several other options. Please harmonize that.
9. What about repetitions?
10. What about the setup of the gas chromatograph? Please add
11. How did you analyze plant coverage at the sites? Please add