Review Form 1.7

Journal Name:	**International Journal of Plant & Soil Science**
Manuscript Number:	**Ms_IJPSS_103388**
Title of the Manuscript:	**Leaf trait variation in Grewia optiva along altitudinal gradient in North western Hiamalyas.**
Type of the Article	**Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript)	**1.** In addition to its culinary and medicinal uses, *Grewia Optiva* is valued for its ability to tolerate a wide range of climatic conditions. It can grow in poor soil and is often planted as a hedge or windbreak. The plant's leaves are used as fodder for livestock, and its wood is sometimes utilized in making small tools or fuel. Overall, cultivating *Grewia Optiva* offers a range of benefits, including nutrition, medicine, income generation, biodiversity conservation, and environmental sustainability. It is an important plant species that holds cultural, economic, and ecological significance in the regions where it is grown. The author studied the altitudinal variation in leaf morphometric characteristics of *Grewia Optiva* among populations (see Table 2 and Fig 1). These features include leaf length, breadth, area, and petiole length. The present investigation showed that the leaf area steadily rose up to 800-1200 m. This counterintuitive pattern is explained by the impact of precipitation and temperature fluctuations on leaf area.	
2. Is the title of the article suitable? (If not please suggest an alternative title)	**2.** Taking into consideration the main result of this work (see the above point 1.), I would suggest the following title: "*Leaf Trait Adaptations in Grewia Optiva across Altitudinal Gradients in the North Western Himalayas*"	
3. Is the abstract of the article comprehensive?	**3.** The abstract is fine in my opinion. However, I have a couple of suggestions: i) English should be double-checked (several typos were found); ii) In literature LA stands for *Los Angeles* and not for *Leaf Area*. Therefore, if possible, I would recommend avoiding using this acronym.	
4. Are subsections and structure of the manuscript appropriate?	**4.** Yes	
5. Do you think the manuscript is scientifically correct?	**5.** I think so, although I'm not aware of the details of how the experiments were performed. However, there are some suggestions that I would like to make in this regard (see point 7. below).	
6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.	**6.** *would suggest citing the following works as well:* [1] Bresson, C.C., Y. Vitasse, A. Kremer and S. Delzon*, To what extent is the altitudinal variation of functional traits driven by genetic adaptation in European oak and beech*? Tree Physiology, 31, 1164 (2011). [2] McElwain JC, *Climate-independent paleo altimetry using stomatal density in fossil leaves as a proxy for CO2 partial pressure,* Geology 32, 1017 (2004). [3] Niinemets U., Portsmuth A, Tena D, *et al*., *Do we underestimate the importance of leaf size in plant economics? Disproportional scaling of support costs within the spectrum of leaf physiognomy,* Annals of Botany (Lond),100, 283 (2007). [4] Pyakurel, A. and Wang, J. R., *Leaf morphological variation among paper birch (Betula papyrifera Marsh.) genotypes across Canada*, Open Journal of Ecology. 3(4), 284 (2013). [5] Zahidi, A., Bani-Aameur, F. and Mousadik A., *Variability in leaf size and shape in three natural populations of Arganiaspinosa (L.) Skeels*, International Journal of Current Research and Academic Review, 1(3), 13 (2013). [6] Pluess, A.R. & Stöcklin, J., *The importance of population origin and environment on clonal and sexual reproduction in the alpine plant Geum reptans,* Functional Ecology 19, 228 (2005).	
7. Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments	**7.** *The following suggestions are intended to clarify some points.* **7a.** In Table 2, please report the values of the errors and standard deviations relating to the measurements made. **7b.** As mentioned in the above point 1., one of the main results of this work is that according to our findings, the leaf area steadily increases up to the A2 altitudinal zone. This counterintuitive pattern could be explained by the impact of precipitation and temperature fluctuations on leaf area. To validate this finding, please report also the values of the correlation coefficients and the p-values. **7c.** As we know, performing experiments on leaf trait variation in *Grewia Optiva* along an altitudinal gradient in the North Western Himalayas can present several challenges and problems. For instance: **7c-1.** Obtaining an adequate sample size and replication across altitudes is challenging. It may be difficult to find a sufficient number of *Grewia Optiva* individuals or populations within each altitude range, which can affect the statistical power and reliability of the study's findings. **7c-2.** Generally, leaf trait variation is influenced by multiple	

	environmental factors apart from altitude and temperature, light availability, soil conditions, and biotic interactions. Isolating the effects of altitude specifically on leaf traits and disentangling these interactions is generally complex and requires difficult statistical analyses to be performed. The author should explain in a few passages how he/she managed to overcome the drawbacks expressed in **7c-1.** and **7c-7d.** There is another important aspect that, in my opinion, deserves to be explored: the impact of seasonal variation on the results. Indeed, leaf traits can be influenced by seasonal changes and phenological stages of the plant. Conducting experiments along an altitudinal gradient requires careful consideration of the timing of data collection to capture the variability accurately. This may require multiple field visits over different seasons, increasing the time and effort required for the study. The author is invited to provide a brief discussion of this.	
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	**1.** Please check English; several typos were found (including in the title).	
Optional/General comments	The research topic is interesting and current. However, there are some gaps that should be filled. The above suggestions may help in this regard.	

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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