# *Supplemental Information*: Leaf carbon and nitrogen stoichiometric variation along environmental gradients

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**Table S1 Abbreviations of genera in Fig. 2.**

| Leaf habits | Abbreviation | Genus |
|---|---|---|
| Deciduous | Ac | *Acer* |
| Deciduous | Al | *Allium* |
| Deciduous | Ar | *Artemisia* |
| Deciduous | Cg | *Caragana* |
| Deciduous | Cx | *Carex* |
| Deciduous | Ls | *Lespedeza* |
| Deciduous | Ln | *Lonicera* |
| Deciduous | Pt | *Potentilla* |
| Deciduous | Qc | *Quercus* |
| Deciduous | Rb | *Rubus* |
| Deciduous | Sl | *Salsola* |
| Deciduous | Th | *Thalictrum* |
| Evergreen | Cm | *Camellia* |
| Evergreen | Cs | *Castanopsis* |
| Evergreen | Cy | *Cyclobalanopsis* |
| Evergreen | Fc | *Ficus* |
| Evergreen | Il | *Ilex* |
| Evergreen | Lt | *Lithocarpus* |
| Evergreen | Pn | *Pinus* |
| Evergreen | Rh | *Rhododendron* |
| Evergreen | Sm | *Smilax* |
| Evergreen | Sy | *Symplocos* |

**Table S2 Summary of the mixed model relating Nmass to $V_{cmax25}/M_a$, with LAI as a random effect on both the slope and the intercept.**

| | slope | intercept |
|---|---|---|

| | | | |
|---|---|---|---|
| LAI effect | | $p = 0.03$ | $p < 0.01$ |
| LAI group | 0-1 | 0.32 | 2.05 |
| | 1-2 | 0.48 | 1.85 |
| | 2-3 | 0.63 | 1.86 |
| | 3-4 | 0.65 | 1.79 |
| | 4-5 | 0.71 | 1.56 |
| | >5 | 0.74 | 1.45 |

**Fig. S1 The locations and biomes of sites in this study.** (a) Each red dot is a site from CPTDv2. (b) Whittaker plot, showing site climates as black dots.

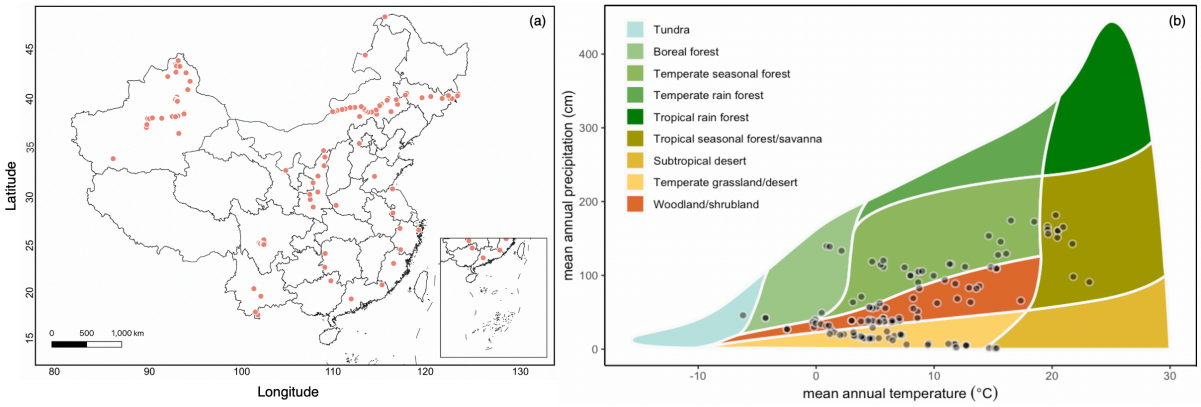


**Fig. S2 The relationships between leaf stoichiometric traits and soil C:N ratio.** Yellow and green dots are deciduous and evergreen species, respectively.

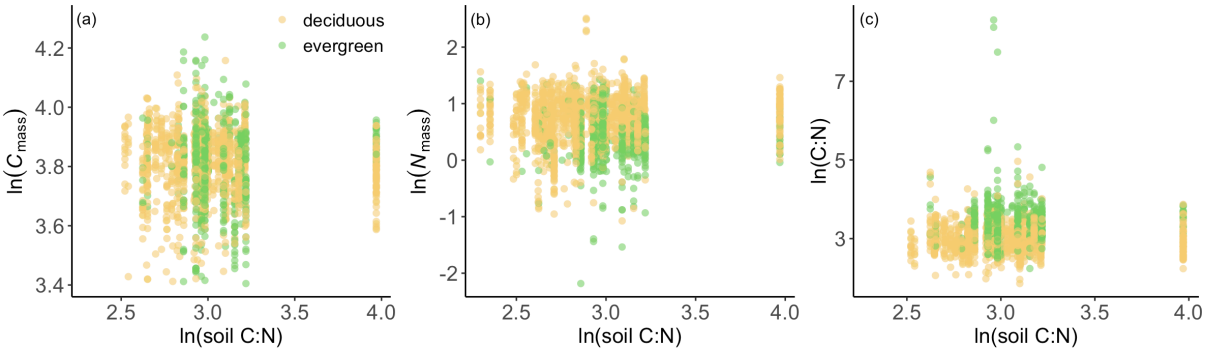


**Fig. S3 The relationship between leaf carbon ($C_{mass}$), nitrogen concentration ($N_{mass}$) and C:N ratio.** Grey lines are isolines of constant C:N ratio. The *x* and *y* axes are natural-log transformed. Yellow and green dots are deciduous and evergreen species respectively.

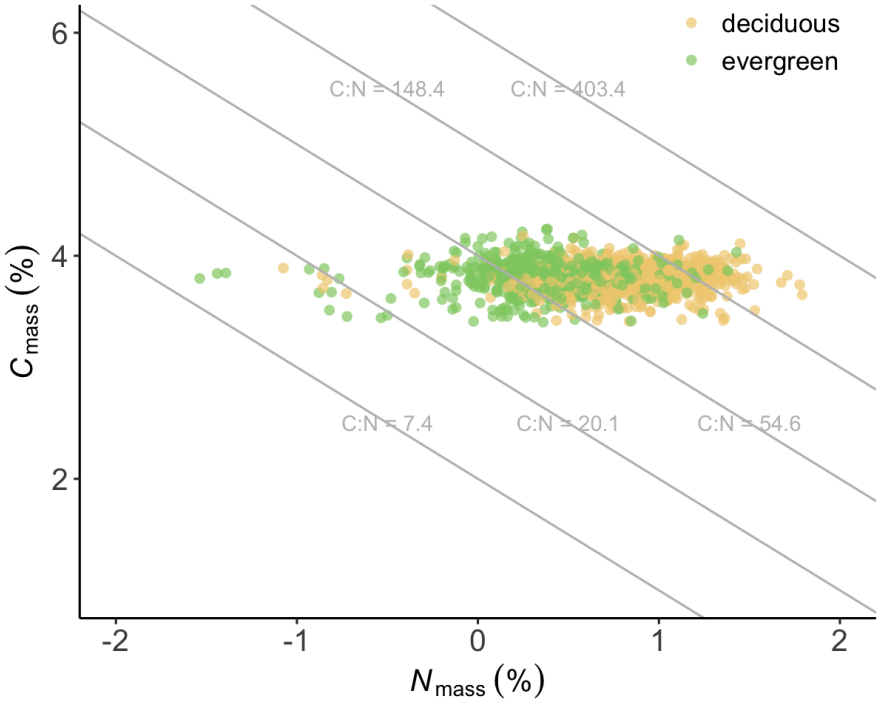


**Fig. S4 Histogram of standard deviations (SD) for the within- and between-site variation of each trait.** Dashed and solid lines represent between-site and mean within-site SD, respectively. Yellow and green colours distinguish deciduous and evergreen species.