Supporting Information. Qiu, J., and B.J. Cardinale. 2020. Scaling up biodiversity-ecosystem function relationships across space and over time. Ecology.

## Appendix S3: Additional analyses using non-standardized scale measurements

Appendix S3: Figure S1. Correlations and level of significance between net effects of plant diversity on biomass production, and non-standardized (A) temporal scale - represented as the natural $\log$ of study duration, $D_{\text {study }}$ (unit: number of days), (B) spatial scale - represented as the natural $\log$ of experimental unit size, $S_{\text {experimet }}\left(\right.$ unit: $\mathrm{m}^{2}$ ), (C) natural $\log$ of generation time (unit: number of days); and (D) natural log of body size (unit: gram) across all studies included in the analysis. We used the log-transformation for raw scale measurements since untransformed data varied several orders of magnitude across all experiments.


Appendix S3: Figure S2. Correlations and level of significance between net effects of plant diversity on biomass production, and non-standardized (A) temporal scale - represented as the natural $\log$ of study duration, $D_{\text {study }}$ (unit: number of days), (B) spatial scale - represented as the natural $\log$ of experimental unit size, $S_{\text {experimet }}\left(\right.$ unit: $\mathrm{m}^{2}$ ), (C) natural $\log$ of generation time (unit: number of days); and (D) natural log of body size (unit: gram) across all grassland studies. We used the log-transformation for raw scale measurements since untransformed data varied several orders of magnitude across all experiments.





## Appendix S3: Table S1. General linear mixed-effects model results showing how non-

 standardized spatial $(S)$ and temporal scales $(T)$ influence plant diversity effects $-L R_{n e t}$ across all grassland studies. Model was fitted by restricted maximum likelihood (REML), and significant test was performed with the Satterthwaite approximations|  |  | Estimated $\boldsymbol{\beta}$ | SE | $\boldsymbol{t}$-value | Prob. $(>\|\boldsymbol{t}\|)$ |
| :--- | :--- | :---: | :---: | :---: | :---: |
| $\boldsymbol{R}_{\text {net }}$ | Intercept | -0.552 | 0.151 | -3.67 | $<0.001$ |
|  | $S$ | -0.147 | 0.051 | -2.90 | 0.004 |
|  | $T$ | 0.157 | 0.026 | 5.98 | $<0.001$ |
|  | $S: T$ | 0.023 | 0.009 | 2.50 | 0.013 |

