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Leiden  
The Netherlands

## Phenotypic plasticity and genetic adaptation of plant functional traits on global scales

Zhou, J.

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# STELLINGEN

## (Propositions)

Behorende bij het proefschrift

### **Phenotypic plasticity and genetic adaptation of plant functional traits on global scales**

1. Plant strategies are better represented by trait-trait relationships within species than by trait-trait relationships between species (**Chapter 2**, this thesis).
2. Drivers of intraspecific trait variation differ from the drivers of species mean trait values while both sets of drivers are still not well understood (**Chapter 3**, this thesis).
3. Plants may be better at genetically adapting to changes in the environment than previously expected (**Chapter 4**, this thesis).
4. The vulnerability of a biome to climate change is represented by the combination of its phenotypic plasticity and genetic adaptation capacity (**Chapter 5**, this thesis).
5. Weak global trait-environment relationships imply we must differentiate the mechanisms of trait variation at different evolutionary and ecological scales (Anderegg, 2023) and define potential alternative strategies with different trait combinations for certain environments (Marks & Lechowicz, 2006).

6. Empirical relationships (Ordoñez et al., 2009; Wright et al., 2004) and mechanistic models (Wright et al., 2017; Wang et al., 2023) serve complementary roles in understanding trait variation.
7. Defining clear and consistent concepts is essential for advancing ecological science (Hodges, 2008; Körner, 2018).
8. *"To fully understand ecology, one must comprehend all aspects of biology, and to become a thorough biologist is to become an ecologist."* -- Edward O. Wilson (2005)
9. Completing a PhD will confer you a more plastic heart.
10. *"Understanding is love's other name."* -- Fire of Love (2022 film). This applies not only to the relationships between people, but also to the relationship with oneself and the interaction between humans and nature.

*Jianhong Zhou*

*Leiden, September 4, 2024*