

# **Recovery of woody plant species richness in secondary forests in China: a meta-analysis**

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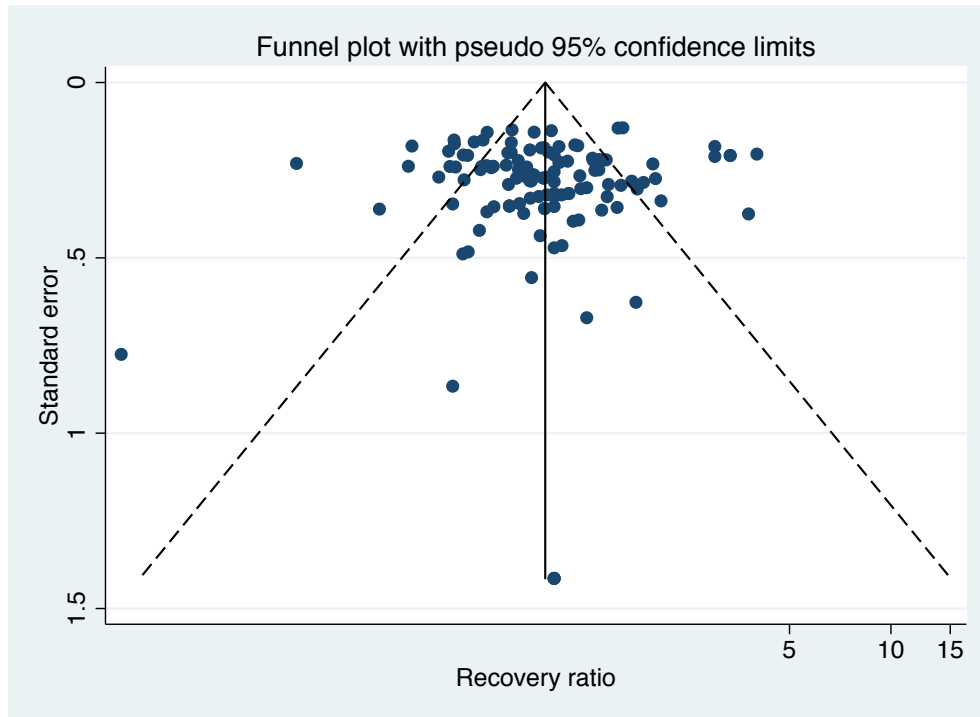
## **Supplementary Information 1**

### **Publication bias identification and sensitivity analysis**

A common concern with meta-analysis is testing for possible publication bias and to conduct sensitivity analysis to test the robustness of the results<sup>1</sup>.

Firstly, we assessed our data graphically with the funnel plot portraying the effect size against standard error of each study (Supplementary Fig. S1). Funnel plots are

extensively used to examine publication bias and significant asymmetry around the mean effect size may indicate publication bias<sup>2</sup>. Visual assessment of our funnel plot did not suggest an obvious publication bias. Then we used Begg<sup>3</sup> and Egger<sup>4</sup> tests to quantify and test the funnel-plot asymmetry. The Begg test showed a non-significant bias ( $p=0.553$ ) and the Egger regression test also showed a non-significant bias ( $p=0.796$ ). Additionally the estimation of effect size was not biased by small sample sizes ( $p=0.796$ )<sup>5</sup>. Therefore the funnel plot, Begg and Egger tests all indicated the non-significant publication bias in our dataset.



**Supplementary Fig. S1 The funnel plot of effect size and standard error.** The asymmetry around the mean effect size was not obvious ( $n=125$ ).

Next, we conducted sensitivity analysis implementing “trim and fill” method. Trim and Fill uses an iterative procedure to remove the most extreme small study, re-compute the effect size and fill the estimated study at each iteration until the funnel plot is

symmetric about the new effect size<sup>2</sup>. However, in our dataset, trim and fill analysis did not identify any extreme small studies and did not remove or fill any studies (data unchanged). This indicated the robustness of our meta-analysis results.

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## Supplementary Information 2

The detailed information of the 55 publications extracted for this meta-analysis is in Supplementary Dataset.xls.

### List of original 55 publications included in this meta-analysis

#### Publications in English

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