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Weixin Zhang, Shenglei Fu

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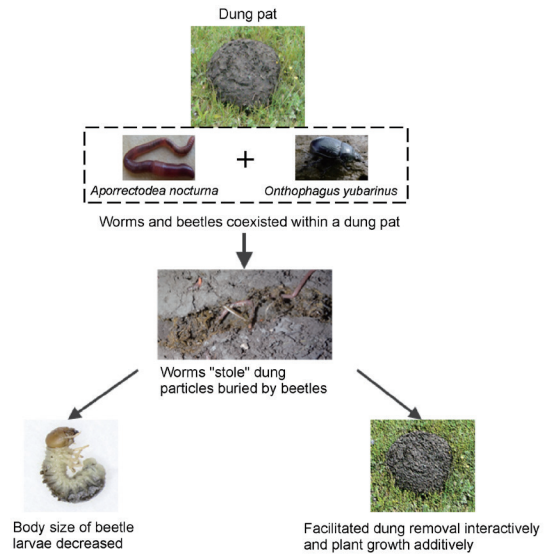
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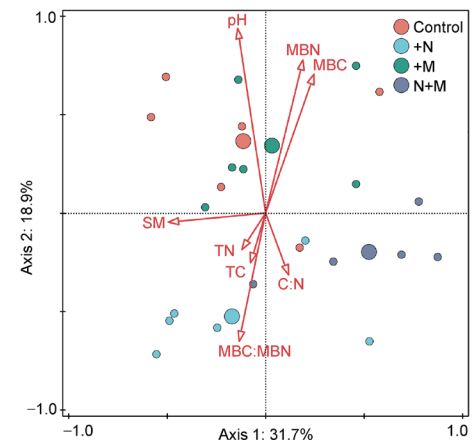
134 The effects of plant resource inputs on the energy flux of soil nematodes are affected by climate and plant resource type

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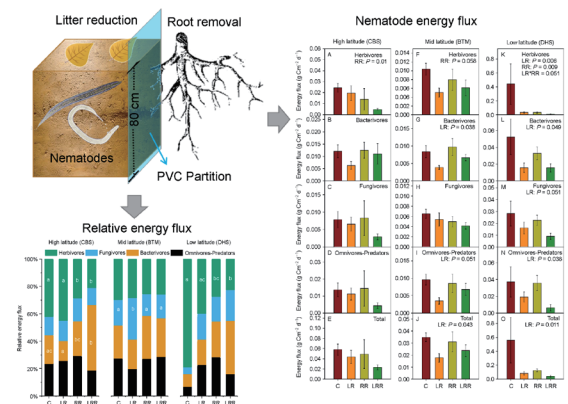
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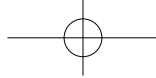


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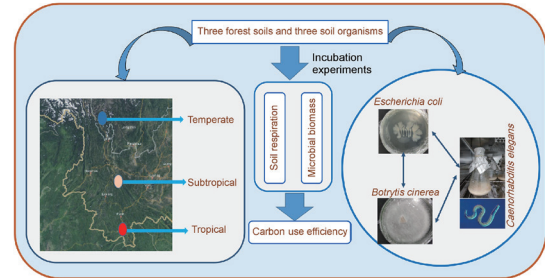
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COVER

Nematodes are widely distributed, small-bodied soil metazoans that account for more than 80% of the abundance of animals on Earth. Their global species richness is tentatively predicted to exceed 1 million. They occur in all ecosystems, with various feeding types in food webs and functional diversity. They also act as important bio-indicators, with key roles in mediating ecosystem processes. Although nematodes are so important, we still do not fully understand their community composition and the influence of the environmental factors on their distribution at different forest ecosystems. Dynamic plots of Lijiang, Ailaoshan and Xishuangbanna are three important long-term ecological observation stations. This study employed high-throughput sequencing to compare nematode communities in those plots and found that: Xishuangbanna have highest nematode richness and diversity, Lijiang and Ailaoshan have much more relative abundance of bacterial feeding nematode than Xishuangbanna. In addition, this study also found climate factors drive nematode communities distributions at the regional scale, while terrain and soil characteristics (including pH and nutrients) drive nematode communities distributions at local scales. Overall, this study improves our current understanding of key factors responsible for the biogeographical distribution of forest nematode communities at different spatial scales.



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