Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-420-AC1, 2016 © Author(s) 2016. CC-BY 3.0 License.



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Interactive comment

Interactive comment on "Comparisons of stemflow yield and efficiency between two xerophytic shrubs: the effects of leaves and implications in drought tolerance" by C. Yuan et al.

C. Yuan et al.

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Received and published: 23 November 2016

Dear Prof. Wang,

We have substantially revised our manuscript entitled as "Comparisons of stemflow yield and efficiency between two xerophytic shrubs: the effects of leaves and implications in drought tolerance" after considering all the comments made by Prof. David Dunkerley and another anonymous reviewer. These comments were of great help to improve the overall quality of this manuscript.

Please see the attached supplement (.pdf) for the detailed replies to all the comments of Reviewer #1 and Reviewer #2.

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Please also note the supplement to this comment: http://www.hydrol-earth-syst-sci-discuss.net/hess-2016-420/hess-2016-420-AC1-supplement.pdf

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-420, 2016.

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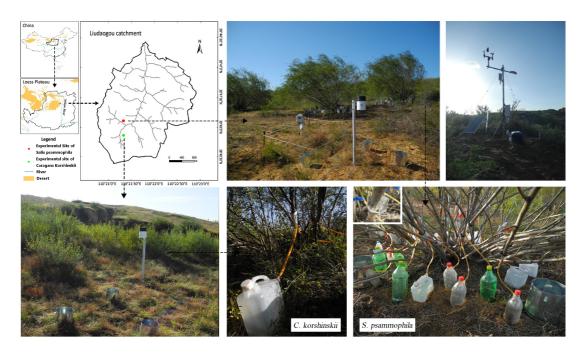


Fig. 1. Location of the experimental stands and facilities for stemflow measurements of C. korshinskii and S. psammophila at the Liudaogou catchment in the Loess Plateau of China.

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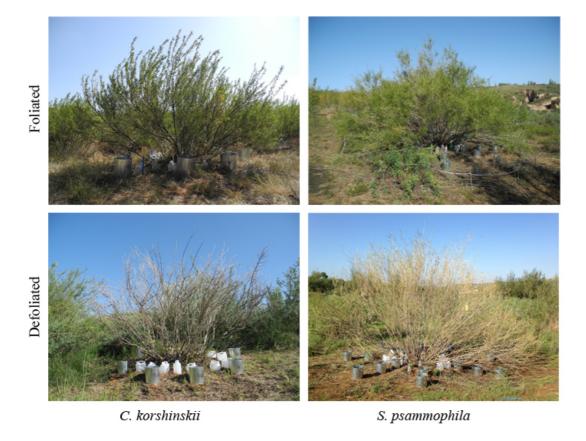


Fig. 2. The controlled experiment for stemflow yield between the foliated and manually defoliated shrubs.

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▲ Solar radiation Precipitation Arecipitation (mm) 25 20 15

Fig. 3. Meteorological characteristics of rainfall events for stemflow measurements during the 2014 and 2015 rainy seasons.

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18000 O LAB \triangle BML 16000 LNB BMS Linear regression Linear regression 14000 Estimated Leaf traits 12000 Estimated biomass Slope: 1.04 $R^2 = 0.93$ 10000 Slope: 0.96 $R^2 = 0.95$ 8000 100 6000 4000 - 50 2000 100 150 200 250 300 2000 4000 8000 10000 12000 14000 16000 18000 0 Measured leaf traits Measured biomass

Fig. 4. Verification of the allometric models for estimating the biomass and leaf traits of C. korshinskii.

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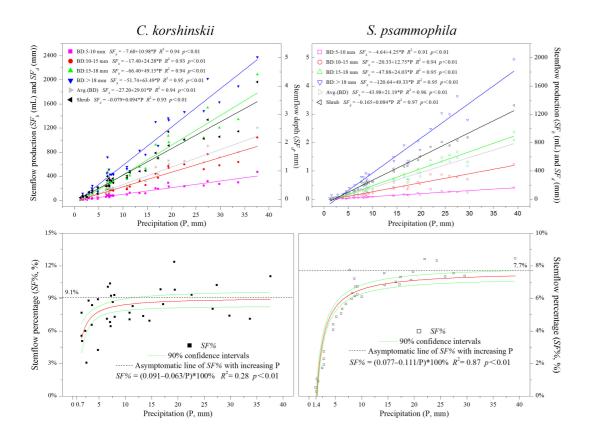


Fig. 5. Relationships of branch stemflow volume (SFb), shrub stemflow depth (SFd) and stemflow percentage (SF%) with precipitation amount (P) for C. korshinskii and S. psammophila.

C. korshinskii S. psammophila

Fig. 6. Comparison of leaf morphologies of C. korshinskii and S. psammophila.

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