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Insights into the isotopic mismatch between bulk soil water and *Salix matsudana* Koidz trunk water from root water stable isotope measurements

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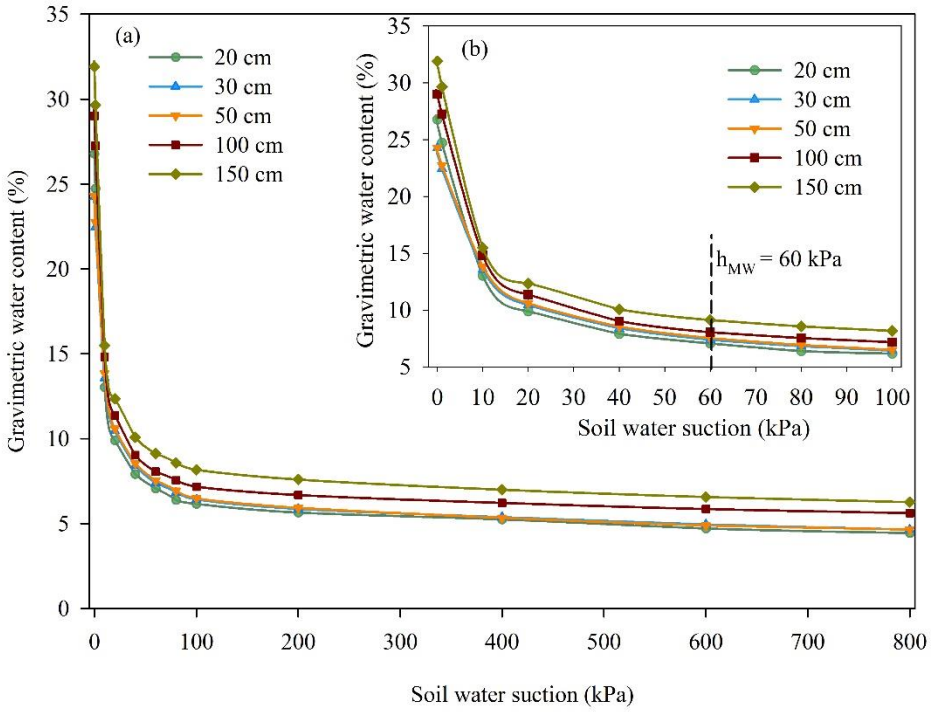

Figure S1. (a) Soil water retention curve within the 0-800 kPa suction range and (b) enlarged view of the curve in the 0-100 kPa range, measured using a CR21G high-speed centrifuge (Hitachi, Japan). Mobile water was collected from suction lysimeters (applying 60 kPa of tension).

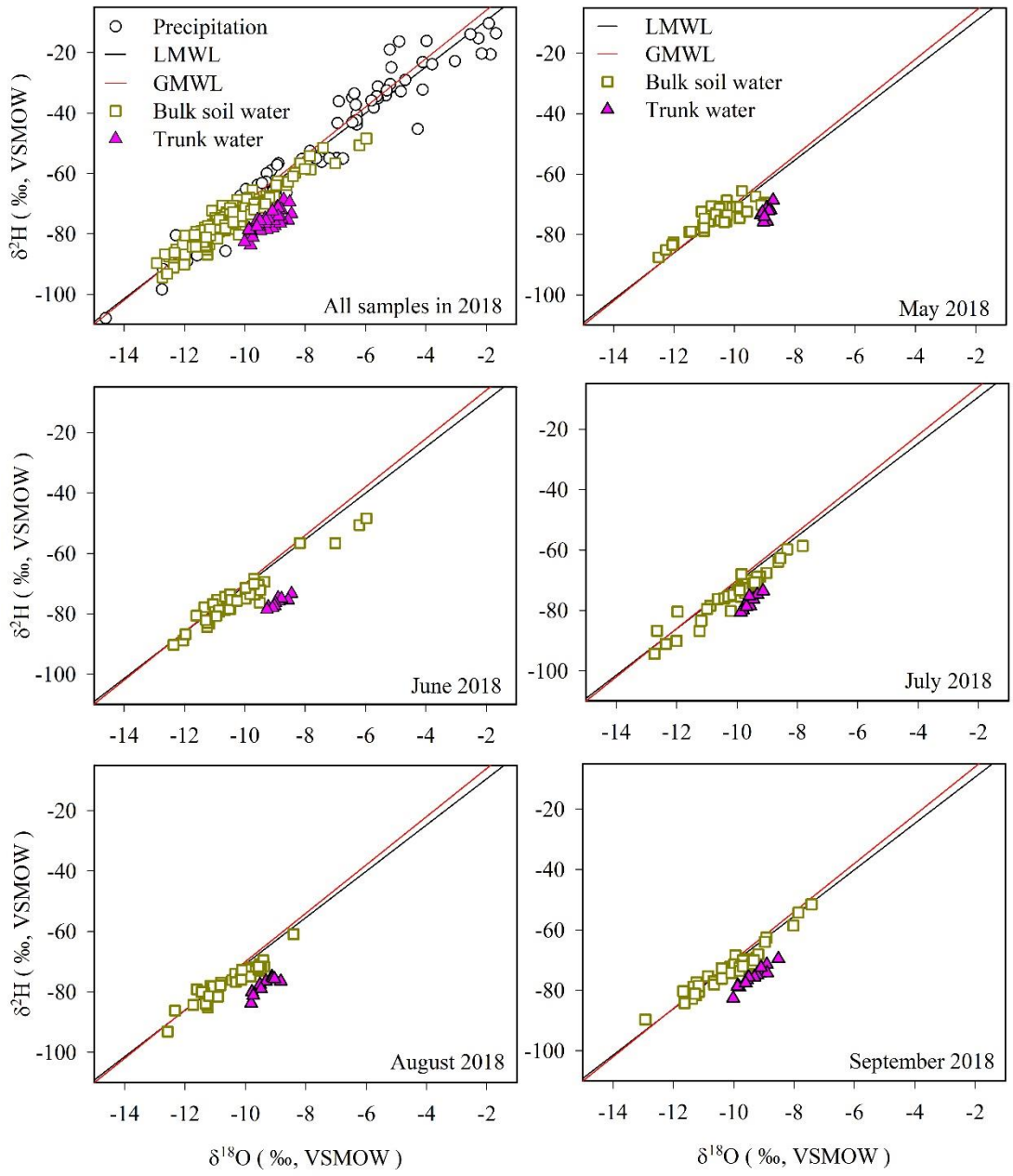

Figure S2. (a) $\delta^{18}O$ and $\delta^{2}H$ isotope values of samples collected in 2018. Plotted values include precipitation, bulk soil water, trunk water. The black line represents the 2016-2019 local meteoric water line (LMWL, $\delta^{2}H = 5.91 + 7.67\ \delta^{18}O$, $R^2 = 0.96$). The red line represents the global meteoric water line (GMWL, $\delta^{2}H = 10 + 8\ \delta^{18}O$).

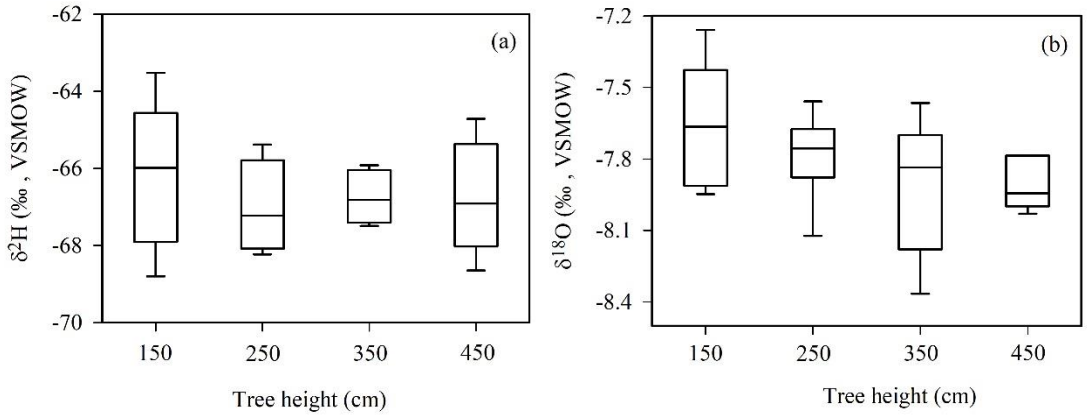

Figure S3. (a, b) Boxplots of trunk water stable isotopes ($\delta^{2}H$ and $\delta^{18}O$) at indicated tree heights. The top and bottom of each box are the 25th and 75th percentiles of the samples, respectively. The black line in each box is the sample median.

Table S1. The lc-excess values of mobile water (MW), bulk soil water (BW) at indicated depths (20, 30, 50, 100 and 150 cm), trunk water (TW) and groundwater from May to July 2019

Date	Soil water type	Soil water							Trunk water	Ground -water
		20cm	30cm	50cm	100cm	150cm	Mean-BW	Mean-MW	Mean-TW	Mean-GW
5/10	MW	--	--	--	−4.0	−3.2	−8.3b	−3.6a	−12.6c	−1.9a
	BW	−13.7	−10.5	−6.6	−5.1	−5.5				
6/10	MW	--	--	--	−3.7	−4.6	−8.7b	−4.1a	−15.1c	−2.3a
	BW	−13.3	−10.2	−6.6	−6.9	−6.8				
7/8	MW	--	--	−3.8	−2.6	−4.5	−8.8b	−3.2a	−14.8c	−3.3a
	BW	−13.2	−11.1	−8.2	−6.1	−5.4				

The "--" represents mobile water of this layer is not available with application of 60 kPa tension. Trunk water and potential water sources that do not share the same letter are significantly different ($p < 0.05$).