Supplementary materials

Spatial distribution and determinants of aboveground biomass in a subalpine coniferous forest in in southwestern China

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Table S1. Woody plant list in the Wanglang Plot.

No.	Species	Genus	Family	Number of subplots
1	*Abies faxoniana*	*Abies*	Pinaceae	611
2	*Acanthopanax giraldii*	*Acanthopanax*	Araliaceae	131
3	*Acer caesium* subsp. *giraldii*	*Acer*	Sapindaceae	60
4	*Acer caudatum* var. *prattii*	*Acer*	Sapindaceae	445
5	*Acer maximowiczii*	*Acer*	Sapindaceae	2
6	*Berberis dictyoneura*	*Berberis*	Berberidaceae	2
7	*Berberis silvataroucana*	*Berberis*	Berberidaceae	254
8	*Betula albosinensis*	*Betula*	Betulaceae	454
9	*Cerasus trichostoma*	*Cerasus*	Rosaceae	423
10	*Clematis gracilifolia*	*Clematis*	Ranunculaceae	180
11	*Clematis pogonandra*	*Clematis*	Ranunculaceae	7
12	*Clematoclethra actinidioides*	*Clematoclethra*	Actinidiaceae	268
13	*Clematoclethra faberi*	*Clematoclethra*	Actinidiaceae	54
14	*Cotoneaster acutifolius*	*Cotoneaster*	Rosaceae	48
15	*Euonymus porphyreus*	*Euonymus*	Celastraceae	585
16	*Hydrangea xanthoneura* var. *setchuenensis*	*Hydrangea*	Hydrangeaceae	4
17	*Juniperus formosana*	*Juniperus*	Cupressaceae	2
18	*Lonicera caerulea*	*Lonicera*	Caprifoliaceae	335
19	*Lonicera hispida*	*Lonicera*	Caprifoliaceae	120
20	*Lonicera nervosa*	*Lonicera*	Caprifoliaceae	617
21	*Lonicera tangutica*	*Lonicera*	Caprifoliaceae	541
22	*Lonicera trichosantha* var. *xerocalyx*	*Lonicera*	Caprifoliaceae	284
23	*Lonicera webbiana*	*Lonicera*	Caprifoliaceae	470
24	*Maddenia incisoserrata*	*Maddenia*	Rosaceae	284
25	*Padus obtusata*	*Padus*	Rosaceae	156
26	*Philadelphus purpurascens*	*Philadelphus*	Hydrangeaceae	602
27	*Picea purpurea*	*Picea*	Pinaceae	426
28	*Populus szechuanica*	*Populus*	Salicaceae	1
29	*Potentilla glabra*	*Potentilla*	Rosaceae	6
30	*Rhododendron amesiae*	*Rhododendron*	Ericaceae	22
31	*Rhododendron calophytum*	*Rhododendron*	Ericaceae	3
32	*Rhododendron oreodoxa*	*Rhododendron*	Ericaceae	85
33	*Rhododendron przewalskii*	*Rhododendron*	Ericaceae	1

34	*Rhododendron rufum*	*Rhododendron*	Ericaceae	14
35	*Rhododendron watsonii*	*Rhododendron*	Ericaceae	16
36	*Ribes setchuense*	*Ribes*	Grossulariaceae	111
37	*Ribes stenocarpum*	*Ribes*	Grossulariaceae	12
38	*Ribes tenue*	*Ribes*	Grossulariaceae	465
39	*Rosa moyesii*	*Rosa*	Rosaceae	509
40	*Rosa omeiensis*	*Rosa*	Rosaceae	442
41	*Sabina saltuaria*	*Sabina*	Cupressaceae	169
42	*Salix cheilophila*	*Salix*	Salicaceae	1
43	*Salix wallichiana*	*Salix*	Salicaceae	58
44	*Salix wolong*	*Salix*	Salicaceae	135
45	*Sorbaria arborea*	*Sorbaria*	Rosaceae	107
46	*Sorbus koehneana*	*Sorbus*	Rosaceae	584
47	*Spiraea rosthornii*	*Spiraea*	Rosaceae	1
48	*Spiraea schneideriana*	*Spiraea*	Rosaceae	24

Table S2. Importance value (IV) of woody plants in the Wanglang Plot.

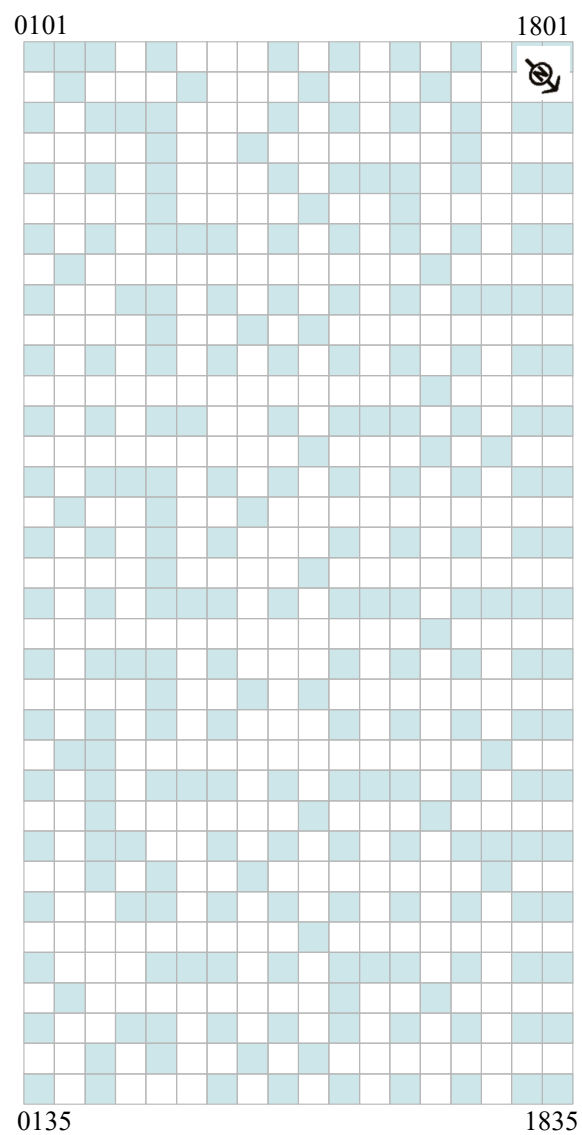| Family	Mean IV	Genus	Mean IV
Pinaceae	0.74	*Abies*	0.53
Rosaceae	0.06	*Picea*	0.21
Betulaceae	0.05	*Betula*	0.05
Sapindaceae	0.04	*Acer*	0.04
Salicaceae	0.03	*Salix*	0.03
Hydrangeaceae	0.03	*Sorbus*	0.03
Caprifoliaceae	0.02	*Philadelphus*	0.03
Cupressaceae	0.02	*Lonicera*	0.02
Celastraceae	<0.001	*Padus*	0.02
Berberidaceae	<0.001	*Sabina*	0.02
Ericaceae	<0.001	*Cerasus*	0.01
Grossulariacea	<0.001	*Rosa*	<0.001
Araliaceae	<0.001	*Maddenia*	<0.001
Actinidiaceae	<0.001	*Euonymus*	<0.001
Ranunculaceae	<0.001	*Sorbaria*	<0.001
		Berberis	<0.001
		Rhododendron	<0.001
		Ribes	<0.001
		Cotoneaster	<0.001
		Acanthopanax	<0.001
		Hydrangea	<0.001
		Populus	<0.001
		Juniperus	<0.001
		Clematoclethra	<0.001
		Clematis	<0.001
		Spiraea	<0.001
		Potentilla	<0.001

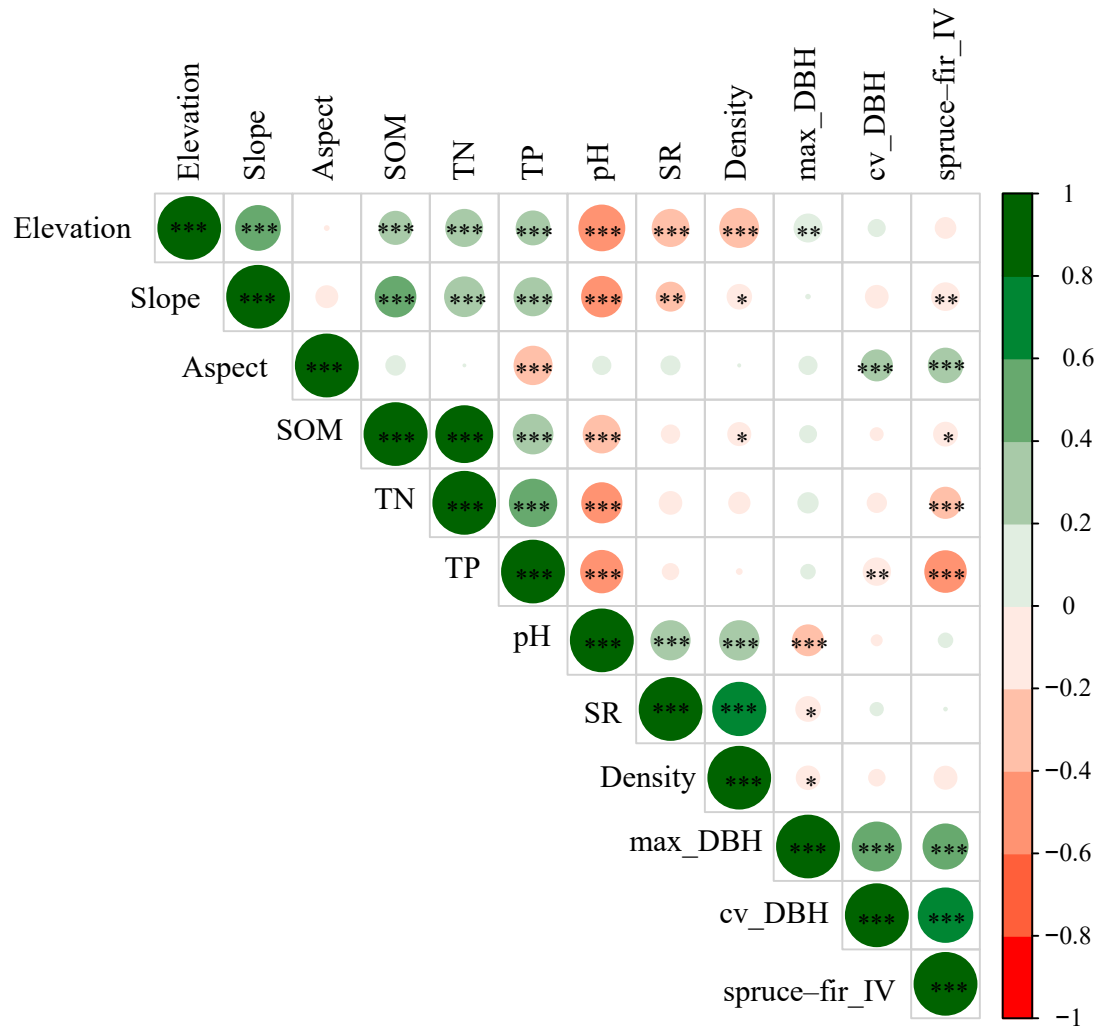**Figure S1.** Distribution of plots investigated for soil properties.

Figure S2. Correlations between topography, soil, and stand structure variables (N =234). The size and the color gradient of the circle represent Pearson's correlation coefficients. SOM, soil organic matter; TN, total nitrogen content; TP, total phosphorus content; SR, species richness; Density, stem density; max_DBH, maximum DBH; cv_DBH, DBH variance; spruce–fir_IV, important value of spruce–fir. *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$.
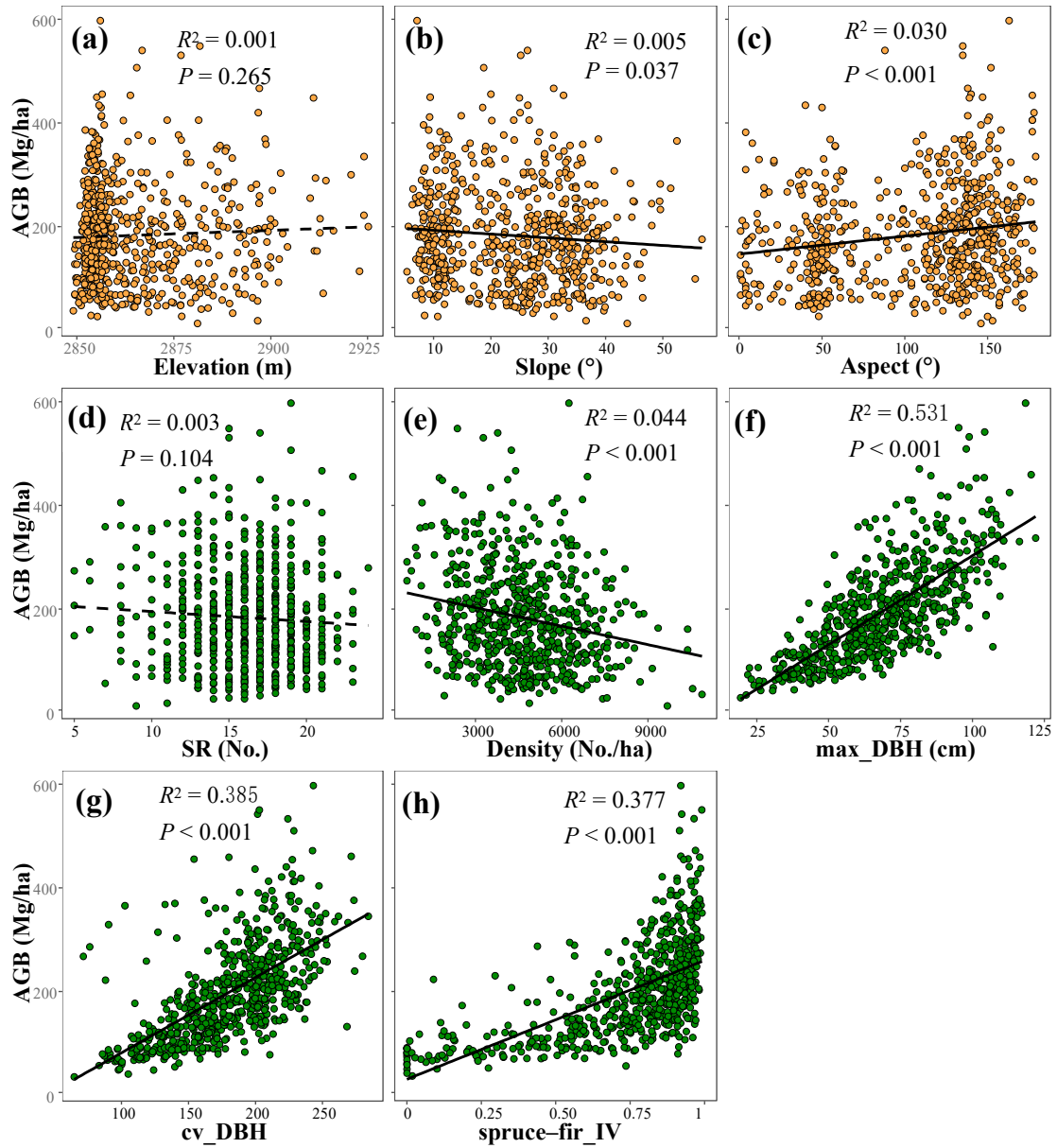
Figure S3. Regression relationships between forest aboveground biomass and topography, soil, and stand structure variables (N = 630). (a) Elevation, (b) slope, (c) aspect, (d) species richness, (e) stem density, (f) maximum DBH, (g) DBH variance, and (h) important value of spruce–fir.