

Table S1 Species found in *G. uralensis*, *R. altaicum*, and *F. sinkiangensis* communities in Altay Prefecture.

Botanical name	Plant family	genera
<i>Glycyrrhiza uralensis</i> Fisch.	Leguminosae	<i>Glycyrrhiza</i> Linn.
<i>Alhagi sparsifolia</i> Shap.	Leguminosae	<i>Alhagi</i> Gagneb.
<i>Taraxacum altaicum</i> Schischk.	Compositae	<i>Taraxacum</i> F. H. Wigg.
<i>Potentilla argentea</i> Linn.	Rosaceae	<i>Potentilla</i> L.
<i>Phragmites australis</i> Cav.	Gramineae	<i>Phragmites</i> Adans.
<i>Plantago asiatica</i> Linn.	Plantaginaceae	<i>Plantago</i> L.
<i>Aeluropus pungens</i> Bieb.	Gramineae	<i>Aeluropus</i> Trin.
<i>Sophora alopecuroides</i> Linn.	Leguminosae	<i>Sophora</i> Linn.
<i>Alchemilla pinguis</i> Juz.	Rosaceae	<i>Alchemilla</i> L.
<i>Salsola ruthenica</i> Iljin.	Chenopodiaceae	<i>Salsola</i> L.
<i>Nitraria sphaerocarpa</i> Maxim.	Zygophyllaceae	<i>Nitraria</i> L.
<i>Suaeda salsa</i> Linn.	Chenopodiaceae	<i>Suaeda</i> Forsk. ex Scop.
<i>Rheum altaicum</i> A. Los.	Polygonaceae	<i>Rheum</i> L.
<i>Sedum hybridum</i> Linn.	Crassulaceae	<i>Sedum</i> L.
<i>Berberis sibirica</i> Pall.	Berberidaceae	<i>Berberis</i> Linn.
<i>Cotoneaster multiflorus</i> Bge.	Rosaceae	<i>Cotoneaster</i> L.
<i>Anemone narcissiflora</i> Linn.	Ranunculaceae	<i>Anemone</i> L.
<i>Spiraea media</i> Schmidt.	Rosaceae	<i>Spiraea</i> L.
<i>Polygonum divaricatum</i> Linn.	Polygonaceae	<i>Polygonum</i> Linn.
<i>Heteropappus altaicus</i> Willd.	Compositae	<i>Heteropappus</i> Less.
<i>Tulipa altaica</i> Pall.	Liliaceae	<i>Tulipa</i> L.
<i>Artemisia argyi</i> H.	Compositae	<i>Artemisia</i> Linn.
<i>Lonicera microphylla</i> Willd.	Caprifoliaceae	<i>Lonicera</i> Linn.
<i>Ferula sinkiangensis</i> K. M. Shen	Umbelliferae	<i>Ferula</i> L.
<i>Salicornia europaea</i> Linn.	Chenopodiaceae	<i>Salicornia</i> L.
<i>Achnatherum splendens</i> Trin.	Gramineae	<i>Achnatherum</i> Beauv.

<i>Stipa tianschanica</i> Roshev.	Gramineae	<i>Stipa</i>
<i>Kalidium foliatum</i> Pall.	Chenopodiaceae	<i>Kalidium</i> Moq.
<i>Oxytropis aciphylla</i> Ledeb.	Leguminosae	<i>Oxytropis</i> DC.

Table S2 Test methods on physical and chemical soil properties of *G. uralensis*, *R. altaicum*, and *F. sinkiangensis* communities in Altay Prefecture.

Physical and chemical properties of soil	Instruments and methods
Soil moisture (SM)	Oven drying
Electrical conductivity (EC)	YQ-012 conductometer
pH value (PH)	Potentiometer
Total nitrogen (TN)	Heating digestion (CuSO ₄ +K ₂ SO ₄ +Se), azotometer
Total phosphorus (TP)	Heating digestion (HClO ₄ +H ₂ SO ₄), Mo-Sb colorimetry
Total potassium (TK)	Heating digestion (HClO ₄ +HF), flame photometer
Soil organic content (SOC)	K ₂ Cr ₂ O ₇ -H ₂ SO ₄ oxidation
Available nitrogen (AN)	Alkali hydrolysis diffusion
Available phosphorus (AP)	NaHCO ₃ lixiviation, Mo-Sb colorimetry
Available potassium (AK)	CH ₃ COONH ₄ lixiviation, flame photometer

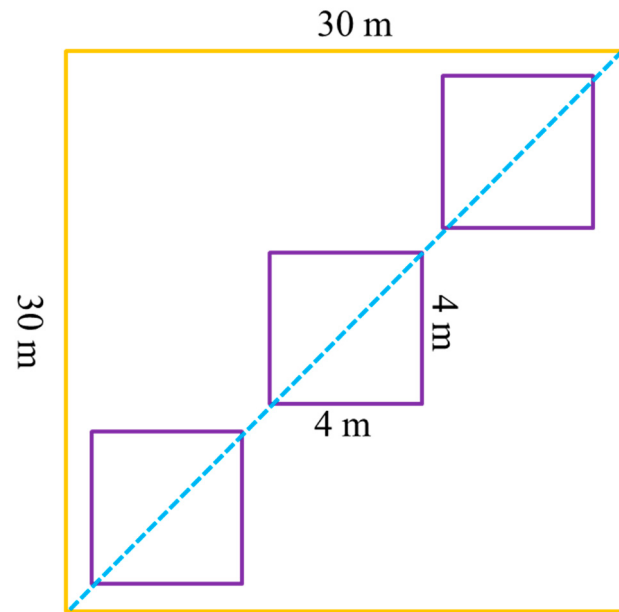


Figure S1 Sample layout of *G. uralensis*, *R. altaicum*, and *F. sinkiangensis* communities in Altay Prefecture.