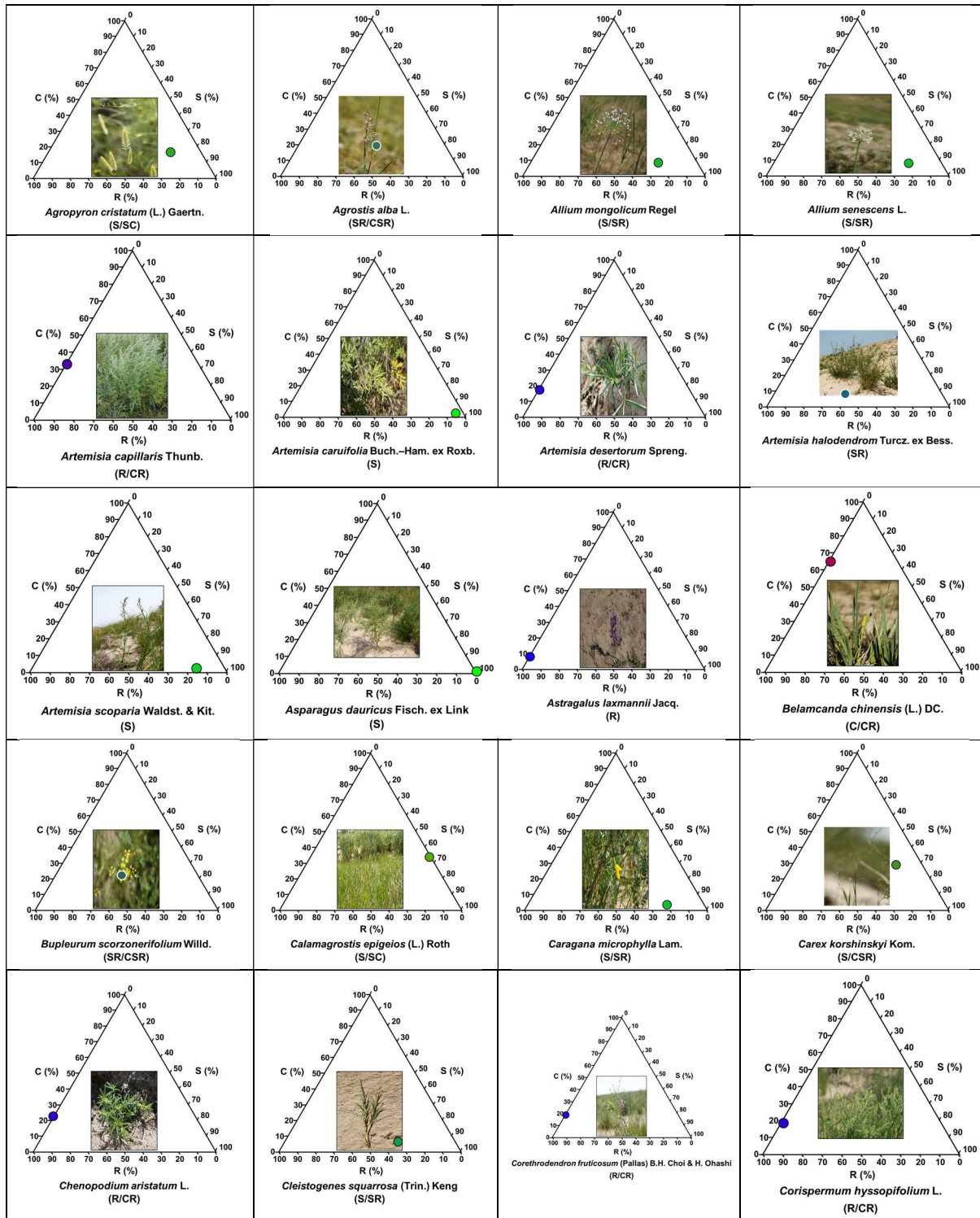
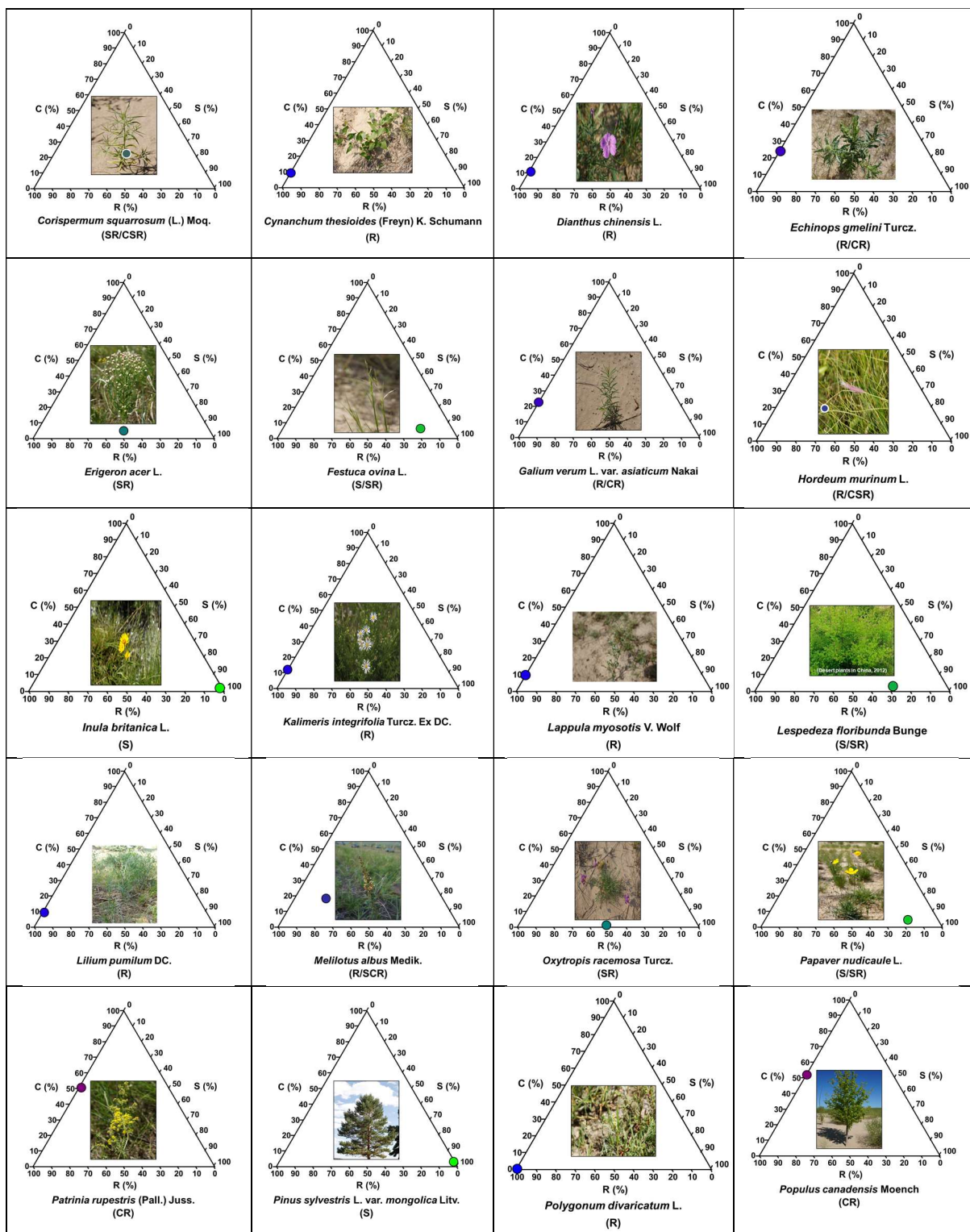


Supplementary Materials





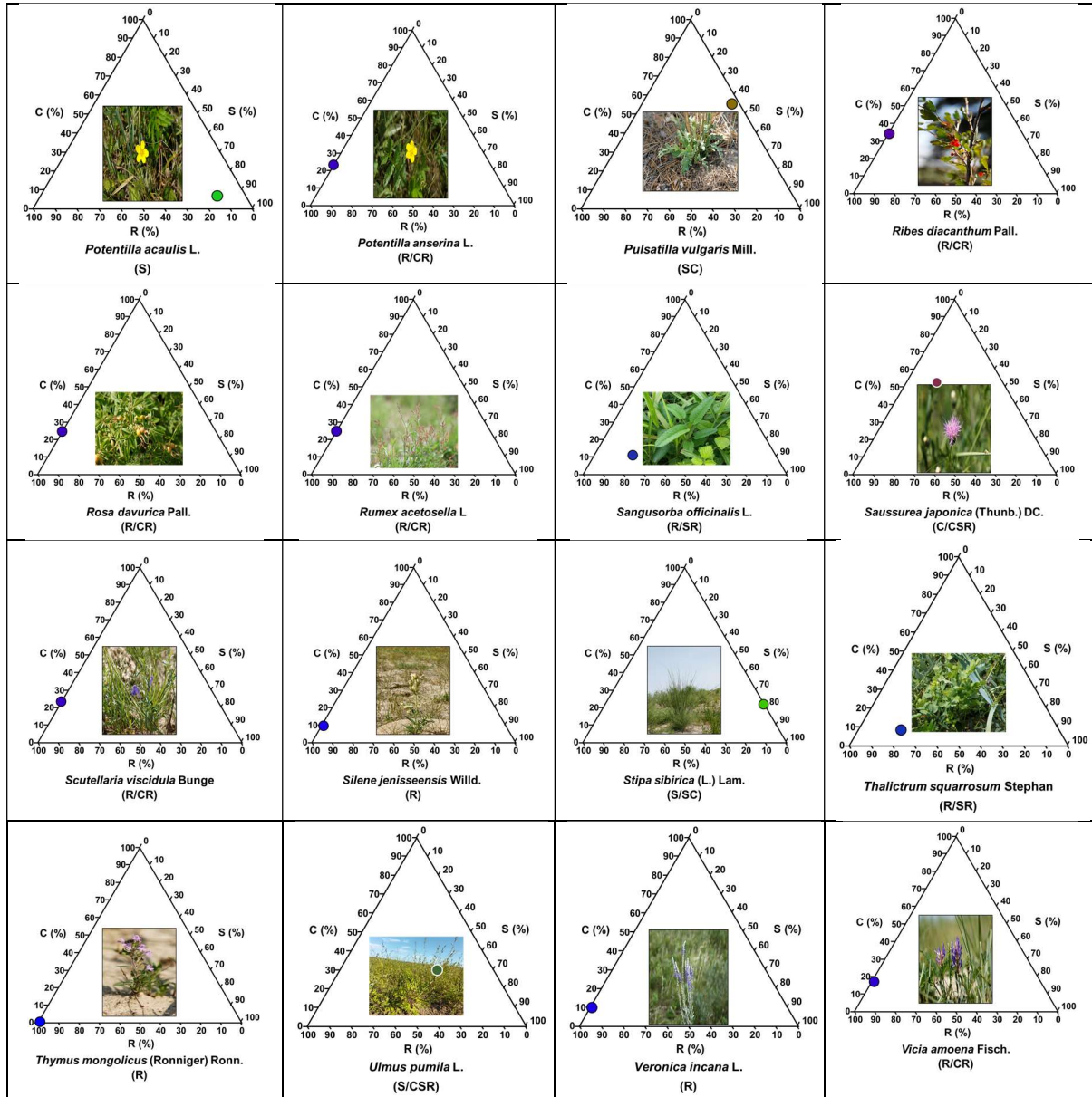


Figure S1. Scientific names and CSR ecological strategy types of plants that appeared in Hulunbuir research site. The photo located in the center of the triangle graph shows a photo of the plant, and the C-S-R strategy location is indicated by a circle above the line.

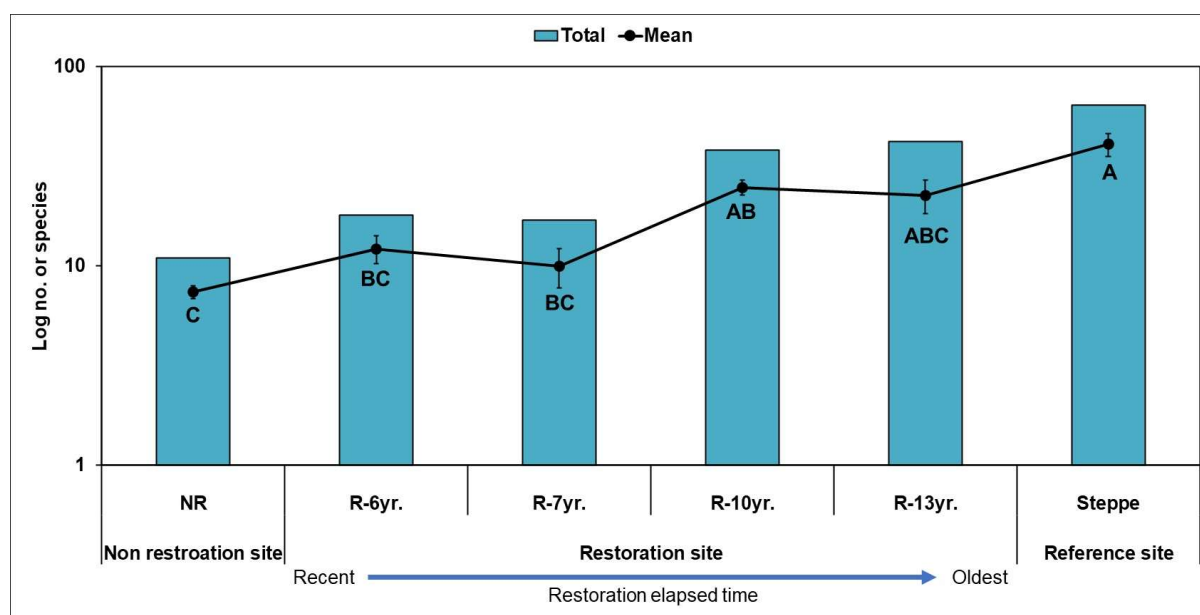


Figure S2. Comparison of plant biodiversity by research site in Hulunbuir for 5 years (2014 – 2018). Black dots represent the average number of plant species detected and error bars represent the standard deviation. Blue bars mean the total number of species present and alphabet in blue bar mean differences in mean number of species per study site. NR: site of non-restoration, R-arabic numeral yr.: site of year time after restoration. Steppe includes both temperate typical steppe (TTS) and woodland steppe (WS).

	Division	Vegetation type	Landform	Vegetation type	
Changes of vegetation due to desertification in Horqin area	Natural vegetation	<i>Populus simonii</i> <i>Salix matsudana</i> <i>Salix gordejewii</i> <i>Prunus armeniaca</i> <i>Ulmus pumila</i> and other species	Original ecosystem	Reference sites (Steppe) - TTS - WS	Changes of vegetation according to the restoration in Hulunbeier
			☉	┌	
	Primary change	<i>Agropyron cristatum</i> <i>Pennisetum flaeacidum</i>	Fixed sand dune	<i>Agropyron cristatum</i> - R-13yr.	
			☉	┌	
	Secondary change	<i>Caragana microphylla</i> <i>Setaria viridis</i>	Semi-fixed sand dune	<i>Caragana microphylla</i> - R-13yr. - R-10yr. - R-7yr.	
			☉	┌	
	Tertiary change	<i>Artemisia halodendron</i> <i>Corispermum hyssopifolium</i> <i>Salsola collina</i>	Semi-shifted sand dune	<i>Artemisia halodendron</i> <i>Corispermum hyssopifolium</i> - R-10yr. - R-7yr. - R-6yr.	
			☉	┌	
	Quarternary change	<i>Agiophyllum arenarium</i> or none	Shifted sand dune	- NR	

Figure S3. The vegetation decline of desertification areas of Horqin (Squires et al., 2009) and process of ecosystem restoration according the vegetation restoration of Hulunbeier in Inner Mongolia.