

# Distribution, characteristics and classification of *Caryopteris mongholica* community in northern China

Xiao Yu<sup>1</sup>, Ruoxuan Ji<sup>1</sup>, Tianmeng Ren<sup>1</sup>, Mengxue Niu<sup>1</sup>, Xinli Xia<sup>1</sup>, Weilun Yin<sup>1</sup>, and Chao Liu<sup>1</sup>

<sup>1</sup>Beijing Forestry University

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## Abstract

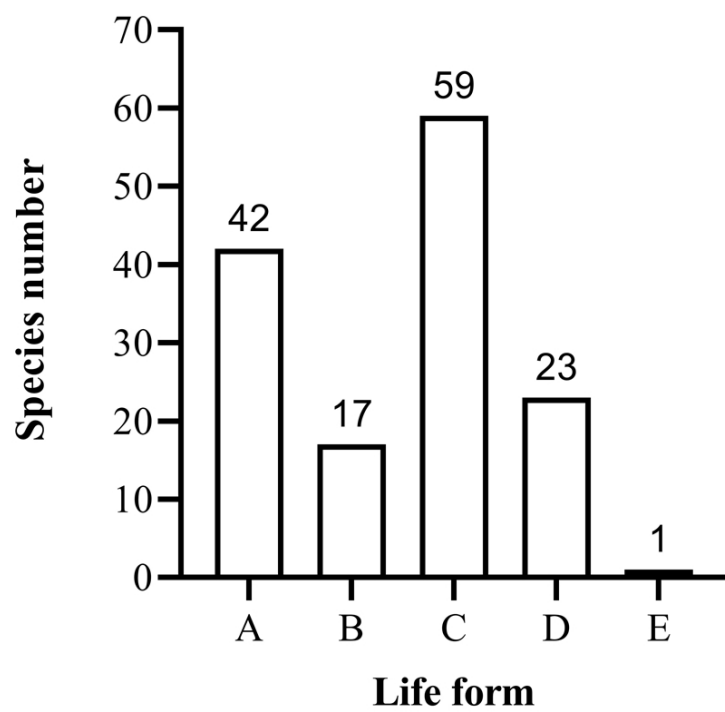
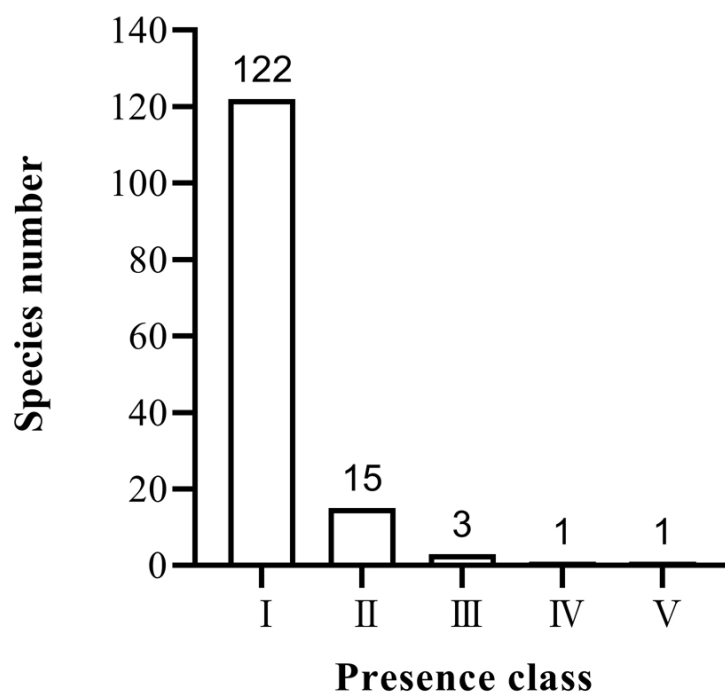
Abstract: *Caryopteris mongholica* is a rare resource plant distributed in typical steppe, desertified steppe and desert areas. Based on field survey data sampled during the growing seasons from 2018 to 2021, combined with relevant previous literature, this study analyzed the distribution and environmental characteristics of *C. mongholica* population, the characteristics, classification and species diversity of *C. mongholica* community, and the influence of environmental factors. The results showed that: (1) The *C. mongholica* population was mainly distributed in the east, middle and west of Inner Mongolia Autonomous Region, the north of Loess Plateau, Hexi corridor, Qilian Mountains and other northwest temperate desert or steppe areas in China. It was the dominant species or companion species in the community. (2) According to the survey of 40 sample plots, a total of 141 species of seed plants were recorded, belonging to 110 genera of 37 families, and families of Compositae, Leguminosae and Gramineae played crucial roles in the species composition. Among them, 42 of these species were shrubs and dwarf/semi-shrubs, 76 were perennial herbs, 23 were annuals and biennials. In the class of species presence, 88.02% were occasional species with frequency distribution smaller than 20%. Typical xerophytes occupied the main advantage (32.39%) in the water ecological types. East Palearctic elements (25.35%) were the major floristic geographic elements. (3) Based on the life form and dominance of species, the *C. mongholica* communities were divided into 6 major association groups, which were further divided into 23 associations. (4) Precipitation, solar radiation and other environmental factors significantly affect the distribution of *C. mongholica* population and the species diversity of the community. Key word: *Caryopteris mongholica*, population distribution, community characteristic, species diversity

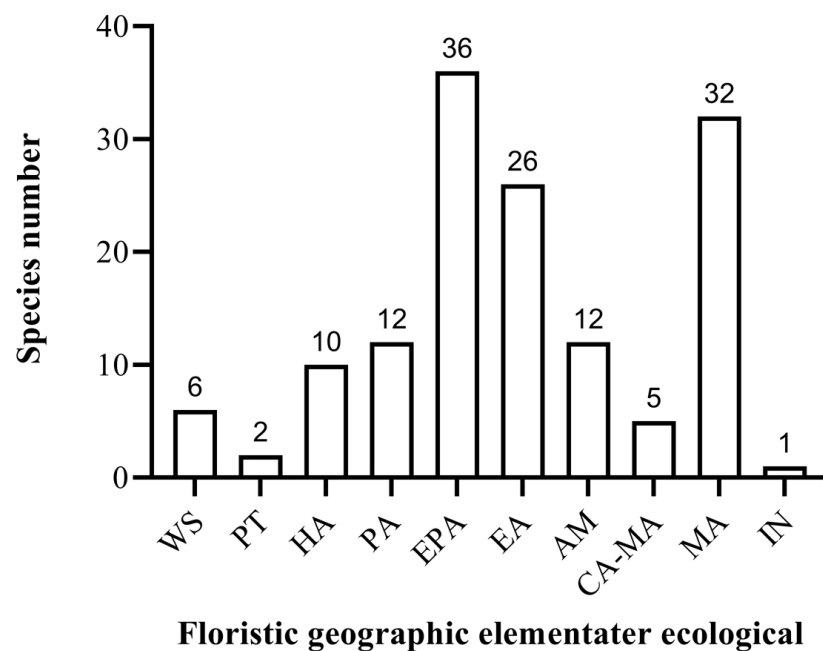
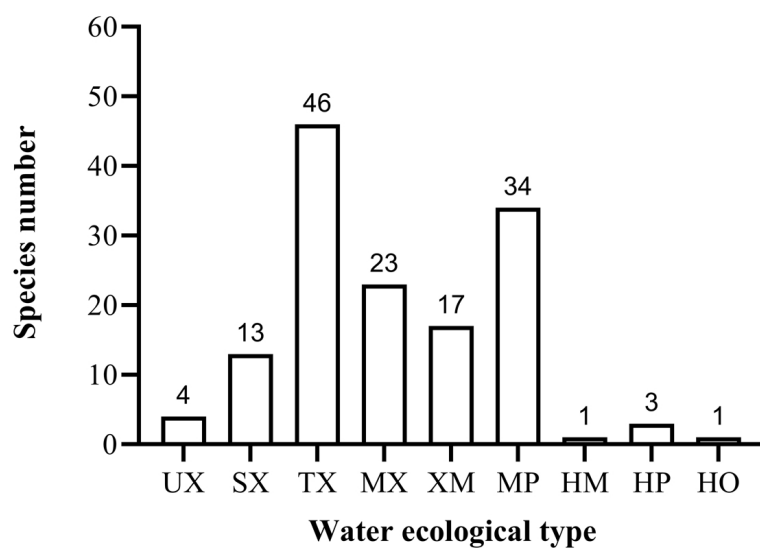
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