

The Vegetation of North-Western Mongolia: Floristic Checklist and Conservation Status of Mongolian Grassland Flora

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Abstract

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Mongolia's grassland (steppe) is reported to be vulnerable to climate change, degradation, and densification. The traditional Mongolian pastoral herding system is currently transforming due to changes in market relations and economic developments, and this transformation has an impact on species composition and biodiversity. For this study, we observed the current situation of the flora in the north-western Mongolian territories to provide data on plant species occurrence in this remote area. A vegetation assessment was conducted for 15 locations in June and July 2016. Indicator plant species were determined to assess the level of grazing and degradation, as well as the respective steppe sub-type. The conservation status of all recorded plant species was assessed in accordance with the IUCN Red List. In total, 106 vascular plant species belonging to 73 genera and 26 families were recorded. Four endemic plant species were observed. All locations were classified into three steppe sub-types: Desert-steppe, dry-steppe and mountain-steppe. A large number of degradation indicator plant species were observed in almost all locations. No endangered species in the Mongolian IUCN Red List were observed. The observation indicates that the vegetation in the north-western area of Mongolia is partly showing tendencies towards overgrazing and degradation. The conservation status of the most recorded species is currently unknown, and more studies on Mongolian vegetation will need to be conducted to assess these species' status. We emphasize the urgent need for further studies on the vegetation and plant species composition, and indicators in north-western Mongolia, especially in context of the ongoing rapid economic, social, and ecological changes in the region.

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Introduction

Eurasian grasslands (steppe) have a high importance for global biodiversity (Hoekstra *et al.*, 2005; Liu *et al.*, 2008; German *et al.*, 2017). These ecosystems are also vulnerable to climate change and changes in grazing management (Christensen *et al.*, 2004). 2.6% of the world's grassland (12% of Eurasian grassland) is to be

found in Mongolia. Almost 66% (1,034,737.38 km²) of the Mongolian territory (1,566,000 km²) is covered in grassland, of which almost 80% are used as pastures for livestock (Tuvshintogtokh, 2014): 225,000 nomadic households keep around 44 million head of livestock (19.6 million goats, 19.3 million sheep, 2.6 million cattle, 2.2 million