

On the Quantitative Aspects of the Flora of Mongolia

Lkhagva Ariuntsetseg and Bazartseren Boldgiv

Department of Ecology, Faculty of Biology, National University of Mongolia, Ulaanbaatar 210646, Mongolia, e-mail: ariuntsetseg@biology.num.edu.mn; boldgiv@biology.num.edu.mn

Introduction

Mongolia is one of the most interesting research areas for botanical systematists and biogeographers because of the country's geographical location in a depth of the Euro-Asian continent that, according to the world phytogeographical classification by Takhtajan (1978), spans over the Altai-Sayan province belonging to Circumboreal region in the north and northwest, the Manchurian province belonging to Eastern Asiatic region in the east of Boreal subkingdom, the Dzungaro-TienShan and Mongolian provinces belonging to Iran-Turanian region in the south-west and south of Tethyan subkingdom of Holarctic kingdom. Although the first attempt to explore the flora of Mongolia is credited to D. G. Messerschmidt, who collected the first herbariums from north-eastern Mongolia (valleys of Ulz and Onon rivers), the first inventory list of vascular plants of Mongolia including 489 species was put together by K. I. Maximovicz in 1859. These researchers were followed by dozens of researchers, mostly from Russia, Poland, Germany and other countries. Meanwhile, the conformity of Mongolian territory with the phytogeographical classification by V. L. Komarov in 1908 and of the world by Takhtajan (1978) were revised and there are several works on this issue (Ulziikhutag, 1989). According to the latest classification by Grubov and Yunatov (1952), Mongolia is divided into sixteen phytogeographical regions based on floral composition, vegetation and geographical characteristics. A detailed historical review of these research efforts could be found in the works by Ulziikhutag (1989), Hilbig (1995) and Gubanov (1996). Moreover, some families and genera of vascular plants, as well as phytogeographical regions are revised by researchers. For example, a monograph of flora and vegetation of East Mongolia was published by Dashnyam (1974) and Dzungarian Gobi and its oasis vegetation was studied by Gal (1975). A list of such studies is enormous and reviewing them will be a challenge. Researches on flora and

vegetation of Mongolia are still ongoing with higher rate than ever before.

Nowadays, there are two publicly accepted major works on the flora and plant geographical regions of Mongolia. *The Conspectus of Vascular Plants of Mongolia* by Gubanov (1996) is the latest that includes all the updates in the flora since 1980s. This work appeared after *The Keys to the Vascular Plants of Mongolia* by Grubov (1982), which is still considered the first major result of studies on flora of the country.

Here we present a comparison of these two comprehensive works. Our purpose was to determine not only how many species were added to the Mongolian flora, but also to differentiate the updated species by taxonomic groups and phytogeographical regions. We believe that such a comparison is important to determine which families and genera or which phytogeographical regions have been most extensively studied between the publication periods of these two major works. We mostly considered the vascular plant diversity of phytogeographical regions in Mongolia in the context of biogeography than separate taxonomic units. The next purpose was to check the similarity between geographical regions by using the latest major work, namely Gubanov (1996), and to estimate an endemism level of each region.

Before carrying out analyses, we developed a database of the flora of Mongolia which allowed us to perform the comparison. So far, the database only includes data from Grubov (1982) and Gubanov (1996), but we plan to extend it with data from other sources.

Results

The flora of Mongolia as described by Grubov (1982) consisted of 2286 species belonging to 601 genera, 86 families, 9 classes of 3 phyla. In the recent conspectus by Gubanov (1996), a total of 740 species belonging to 244 genera, 50 families, 5 classes of 3 phyla were added newly