SUPPLEMENTARY MATERIAL S1

Historical background of Zov Tigra National Park

Diversity-Basel

A Model of Southern Sikhote-Alin Liverwort Flora and a New Approach to Analyze the Altitudinal Distribution Patterns in the Zov Tigra National Park (South of the Russian Far East, Temperate Pacific Asia)

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The nature conservation history of the area, which now belongs to Zov Tigra National Park, began long before the park was established. Since 1936, a large part of the current park territory has been covered by the Sudzukhinsky Branch of the Sikhote-Alin Nature Reserve, which became the independent Sudzukhinsky Nature Reserve in 1940 (Bromlei, 1951) [15]. The latter was reorganized twice with the significant loss of protected area, including once in 1951 (it was also restored for a short period in 1957) and again in 1961, when it once again became a branch of the Sikhote-Alin Nature Reserve. In 1965, the Sudzukhinsky Nature Reserve was reestablished. In 1970, it was renamed L.G. Kaplanov's Lazovsky Nature Reserve. In 1989 and 1999, the protected area of the reserve was somewhat extended, and since then, it has not changed (Azbukina, 1990; Khokhrjakov, 2002) [16,17]. In addition, the northeastern part of the original territory (as of 1951) of the Sudzukhinsky Nature Reserve (most of the modern territory of Zov Tigra National Park), which is larger in size than the modern Lazovsky Nature Reserve, has not been protected for decades since 1961.

In 1988, scientists of the Far Eastern Branch of the Academy of Sciences of the USSR first argued for the creation of a special national park as a protected territory covering modern Zov Tigra National Park. The proposed territory included the heads of the Ussuri and Milogradovka Rivers and the Oblachnaya, Snezhnaya and Sestra Mountains. Despite promising plans, Zov Tigra National Park was only established in 2007 (Bersenev, 2014) [18]. In addition, more than twice as much territory was originally planned to be protected compared with the amount that was ultimately protected. Thus, the northeastern cluster of the territory that was protected as part of the Sudzukhinsky Nature Reserve in 1951 was not fully covered by the park.

The first botanical researches performed in the territory of the park were initiated approximately 90 years ago and primarily concerned the flora of vascular plants and vegetation (Shishkin, 1933, 1935; Ponomarenko, 1960a, 1961, 1964a, etc.: cf. Prokopenko, Kozhevnikov, 2012 [19–23], cited after [24]; Ponomarenko, 1960b, 1964b, 1968; Zhudova, 1967; Vyshin, 1990) [24–28]. It is worth mentioning that plant collections that were made by botanist I.K. Shishkin in 1930 during expeditions in the modern park territory (Snezhnaya, Oblachnaya, Sestra, and Ded Mountains and the upper course of the Ussuri River) could contain liverwort specimens. However, it was impossible for us to confirm this possibility. Moreover, the collected materials were generally not published by Shishkin (except for the abovementioned papers) due to his early death in 1934. Presumably, the geobotanist P.P. Zhudova gathered the first scattered collection of liverworts in the second half of the 1940s in the current park area and nearby areas. Eighteen liverwort taxa were recorded in her work, and all were identified by A.L. Abramova (Zhudova, 1967) [28]. Only one of them, Barbilophozia barbata (*Lophozia barbata* (Schmidel ex Schreb.) Dumort. in (Zhudova, 1967) [28]), can be found in the current park territory with some confidence. It was collected on the slopes in the alpine belt, whereas the author shows the existence of an alpine belt only for the Oblachnaya, Snezhnaya and Sestra Mountains (Zhudova, 1967) [28] (p. 17); all of these areas are within the current park territory. The report of *Bazzania trilobata* from the Snezhnaya Mt. (Zerov, 1966) [30] by Zerov is not located in the park. Zerov identified it from the collection of liverworts made by B.P. Kolesnikov in 1935 during an expedition to the middle part of the Sikhote-Alin Mts. (Man'ko, Pimenova, 2012) [31]. Furthermore, L.V. Bardunov, V.Ya. Cherdantseva, A.G. Minakov, and N.M. Denisov collected bryophytes on Snezhnaya Mt. in 1977. In late July 1980, S.K. Gambaryan collected liverworts from the Milagradovskie Waterfalls, followed by Oblachnaya Mt in September of the same year. The identification results of her own collection from Oblachnaya Mt. and the collection that was made by the abovementioned colleagues in 1977 were published in 1984 (Gambaryan, 1984) [32]. Later, all available information on the liverwort collections from the park territory became a chapter in the monograph on hornworts and liverworts of

southern Primorye (Gambaryan, 1992) [3]. Therefore, before our research, only 49 species of liverworts were recorded in Zov Tigra National Park (Zhudova, 1967; Gambaryan, 1984, 1992) [3,28,32].