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Theme -Theme 2: Observing in Support of Adaptation and Mitigation

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Poster title (brief) Phytocenotic characterization of woody plant communities in Ari-Mas – the northernmost isolated forest island in Central Siberia.

Abstract - text box

Plant communities of the forest-tundra ecotone of Eurasia are the least studied types of ecosystems in Russia. Unresolved even inventory issues, i.e. classification of hypoarctic (north-taiga, forest-tundra and south-tundra) vegetation. A promising modern approach to classification is the Brown-Blanquet (ecological-floristic classification) approach, carried out mainly on the basis of floristic criteria. A comparative analysis of the characteristics of floras phytocenoses allows us to obtain new data and identify the geographical and environmental patterns of the formation and dynamics of the vegetation cover.

Phytocenoses of open larch forests (*Larix gmelinii* (Rupr.) Rupr) in the southeastern part of the Taimyr Peninsula (North Siberian Lowland) were studied. The study site was Ary-Mas (N 72.44 °, E 101.63 °), which is of interest as the northernmost isolated island of woody vegetation in the world. Arrays of larch woodlands are surrounded by shrub, dwarf shrub and cotton grass-moss southern tundras (Walker, 2000). The study site is a cluster of the Taimyr Nature Reserve.

Preliminary studies have shown that the studied sparse larch woodlands can represent two classes of ecological-floristic classification. Rarefied larch forests of the *Vaccinio-Piceetea* Br.-Bl. in Br.-Bl. et al. 1939. are widespread in small areas on well-drained slopes. They have dense undergrowth of *Duschekia fruticosa* (Rupr.) Pouzar, with a predominance of boreal mosses and shrubs *Vaccinium vitis-idaea* L. and *Ledum palustre* L. in the ground cover. Larch open woodlands of the *Loiseleurio-Vaccinieta* Egger ex Schubert 1960 dominate on the flat watersheds. *Betula exilis* Sukaczew, *Cassiope tetragona* (L.) D. Don, *Empetrum nigrum* L., *Ledum decumbens* (Aiton) Lodd ex Steud., *Vaccinium vitis-idaea* var. *minus* Lodd. and arctic species of mosses and lichens dominate in these plant communities.

The results obtained are important for a deeper understanding of the modern aspects of the geography and ecology of ecotone plant communities on a zonal scale and for elucidating the effect of possible climate changes on the long-term dynamics of vegetation boundaries in the Arctic.

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