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COMMUNICATIONS

CHANGES IN ECOLOGICAL AND COENOTIC CHARACTERISTICS OF MEADOW VEGETATION ON THE SLOPE OF A LAKE TERRACE (KARELIAN ISTHMUS)

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Geobotanical studies of the variability of the composition and structure of meadow communities on a gently sloping terrace of Lake Otradnoye, Priozersky district, Leningrad Region, Russia were carried out within the territory of the research station of the BIN RAS "Otradnoye" in 2018–2021. An ecological-coenotic profile of 5 sample plots (100 m^2) was laid along the orographic gradient. Relevés on the sample plots were repeated 5 times.

The studied meadow communities belong to 5 associations naturally replacing each other from the foot to the top of the slope: **Filipenduletum ulmariae alopecurosum**, **Phalaridetum arundinaceae filipendulosum**, **Alopecuretum pratensis anthriscosum**, **Arrhenatheretum elatioris geraniosum**, **Calamagrostietum epigeji.**

In total, 84 higher plant species were identified on the profile in 4 years, herbaceous plants having dominant participation and numbered 68 species. On average, species richness of meadow phytocoenoses was 20 ± 5 species/100 m^2. Relatively high evenness and species richness are formed in the communities of the middle catena. The following patterns were revealed: an increasing role of dominant species in the composition of the phytocoenosis leads to decreasing evenness ($r = -79$); an increase in the total projective coverage leads to a decrease in the species richness of the communities ($r = -0.63$). The studied communities are characterized by high seasonal and multi-annual variability of the total projective cover and height of the herb layer: the coefficient of variability >20%. The number of diagnostic species of associations increases from 3 to 8 from the top of the slope to the foot. The spectrum of ecological and coenotic groups of diagnostic species of meadow catena depends on the position of communities on the slope, and, accordingly, on soil conditions, as well as on the proximity to neighbouring vegetation types (*Alnus incana* or *Pinus sylvestris* forest). In general, 60% of herbaceous plant species in the communities belong to the meadow ecocoenotype.

The gradient on the catena (variability of fertility and soil moisture along the slope) is revealed to be the main factor leading to the differentiation of meadow communities.

Keywords: meadow, catena, meadow communities, **Filipenduletum ulmariae alopecurosum**, **Phalaridetum arundinaceae filipendulosum**, **Alopecuretum pratensis anthriscosum**, **Arrhenatheretum elatioris geraniosum**, **Calamagrostietum epigeji**, Karelian Isthmus, Otradnoye

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