

**DYNAMICS OF DIVERSITY AND PRODUCTIVITY OF PHYTOCOENOSIS OF ALAS STEPPE SLOPES IN  
CENTRAL YAKUTIA**

© *M. C. Nikolaeva*,\* *R. V. Desyatkin*

Institute of Biological Problems Cryolithozone, Yakutsk, Russia

\* E-mail: mayan34@yandex.ru

REFERENCES

1. Lavrenko E. M. 1940. Stepi SSSR [The steppes of the USSR]. In: Rastitelnost SSSR. Moscow; Leningrad. Vol. 2. P. 1–165. (In Russian)
2. Abolin R. I. 1913. In taiga of Lena-Vilyi plain. In: Predvaritelnyy otchet po organizatsii i ispolneniyu rabot po issledovaniyu pochv Aziatskoy Rossii v 1912 g. St. Petersburg. P. 225–267. (In Russian)
3. Abolin R. I. 1929. Geobotanical and soil description of the Lena-Vilui plain. In: Trudy komissii po izucheniyu Yakutskoy ASSR. Leningrad, Vol. 10. 378 p. (In Russian)
4. Dolenko G. I. 1913. Valley of Lena river near Yakutsk. In: Predvaritelnyy otchet po organizatsii i ispolneniyu rabot po issledovaniyu pochv Aziatskoy Rossii v 1912 g. St. Petersburg. P. 221–224. (In Russian)
5. Drobov V. P. 1914. Vegetation of the territory around Yakutsk-Ust-Maya post road of Yakutsk area and district. In: Trudy pochvenno-botanicheskoy ekspeditsii po issledovaniyu kolonizatsionnykh rayonov Aziatskoy Rossii. Ch. 2: Botanicheskie issledovaniya, 1912 g. St. Petersburg, 233 p. (In Russian)
6. Gorodkov B. N. 1938. Stepnye relict v Arktike [Steppe relicts in Arctic regions]. In: Problemy relictov vo flore SSSR. Moscow; Leningrad. 248 p. (In Russian)
7. Rabotnov T. A. 1945. On the steppes of the Central Yakutia. — Priroda. 2: 65–66. (In Russian)
8. Karavaev M. N. 1945. Brief analysis of Central Yakutia steppe flora (provisional report). — Botanicheskiy zhurnal. 3(2): 62–76. (In Russian)
9. Karavaev M. N. 1948. Highlights of vegetation in Central Yakutia from the middle of the Tertiary period. — Doklady nauchnoy sessii Yakutskoy bazy AN SSSR. P. 151–163. (In Russian)
10. Sheludyakova V. A. 1957. Steppe vegetation of Yakutia North of the Arctic Circle. — Trudy instituta biologii. Yakutsk. 3: 68–82. (In Russian)
11. Skryabin S. Z. 1964. Fragments of Koeleria steppe in the middle flow of Indigirka river. — Botanicheskiy zhurnal. 49(7): 989–996. (In Russian)
12. Bukhalo M. A. 1973. Centers of steppe vegetation in the Lena river valley in Central Yakutia. — Ukrainskiy botanicheskiy zhurnal. 30(3): 387–390. (In Russian)
13. Ivanova V. P. 1967. On the steppe vegetation in the middle Lena river valley. — Uchenye zapiski YaGU. 17: 11–19. (In Russian)
14. Burtseva E. I. 1996. Classification and seasonal dynamics of steppe vegetation of the Lena river valley wall. In: Problemy ekologii Yakutii: Biogeograficheskie issledovaniya. Sbornik nauchnykh trudov. Yakutsk. P. 33–43. (In Russian)
15. Ivanova V. P. 1975. Steppes in middle Lena river valley. In: Beregite rastitelnye bogatstva Yakutii. Yakutsk. P. 34–41.
16. Gogoleva P. A. 1999. Steppes of the Central Yakutia. In: Flora i rastitelnost Yakutii: Sbornik nauchnykh statey. Moscow. P. 100–111. (In Russian)
17. Karavayev M. N., Skryabin S. Z. 1971. Rastitelnyy mir Yakutii [Flora of Yakutia]. Yakutsk. 124 p.
18. Karavaev M. N. 1963. Paleogeographical analysis of Asian-American steppe connections. Byulleten MOIP. otd. biol. 68(3): 154. (In Russian)
19. Karavaev M. N. 1968. *Agropyron kavaevii* P. Smirn. as another example of Asian-American steppe connections. — Botanicheskiy zhurnal. 53(10): 1457–1461. (In Russian)
20. Karavaev M. N., Skryabin S. Z. 1973. Fragments of *Stipa*-*Koeleria* steppe with *Stipa disipiens* P. Smirn. in Yakutia. — Botanicheskiy zhurnal. 58(8): 1131–1142. (In Russian)

21. Yurtsev B. A. 1962. On the floristic relationship between the Siberian steppes and the North American prairies. — *Botanicheskiy zhurnal*. 47(3): 317–336. (In Russian)
22. Yurtsev B. A. 1966. American-Asian steppe relations and the question of the ancient continental element in the Arctic and Alpine floras of Northeastern Siberia. In: *Rastitelnost vysokogoriy I voprosy ee khozyaystvennogo ispolzovaniya*. Moscow; Leningrad. P. 60–68. (In Russian)
23. Yurtsev B. A. 1981. Relict steppe vegetation complexes of North-East Asia. *Problemy rekonstruktsii kriokseroticheskikh landshaftov Beringii* [Problems reconstruction of cryoxerotic landscapes of Beringia]. Novosibirsk. 168 p. (In Russian)
24. Gogoleva P. A., Kononov K. E., Mirkin B. M., Mironova S. I. 1987. *Sintaksonomiya i simfitosotsiologiya rastitel'nosti alasov Centralnoy Uakutii* [Syntaxonomy and simfitosociology of alas vegetation in Central Yakutia]. Irkutsk. 176 p. (In Russian)
25. Nikolaeva M. Kh., Desyatkin R. V. 2015. Dynamics of diversity and productivity of alas wet meadows in Central Yakutia. — *Rastitelnye resursy*. 51(1): 70–80. (In Russian)
26. Nikolaeva M. Kh., Desyatkin R. V. 2015. Dynamics of diversity and productivity of alas real meadows in Central Yakutia. — *Rastitelnye resursy*. 51(3): 328–335. (In Russian)
27. Desyatkin R. V. 2008. *Pochvoobrazovanie v termokarstovykh kotlovinakh – alasakh kriolitozony* [Soil formation in thermokarst depressions-alases of cryolithozone]. Novosibirsk. 324 p. (In Russian)
28. *Konspekt flory Yakutii: Sosudistyye rasteniya 2012*. [Conspectus of the flora of Yakutia: Vascular Plants]. Novosibirsk. 272 p. (In Russian)