Rastitelnye Resursy. 51 (4): 473–490, 2015

MORPHOLOGICAL AND RESOURCE CHARACTERISTICS

OF *CALLUNA VULGARIS* (ERICACEAE) IN DISTURBED

PHYTOCOENOSIS IN THE NORTH WEST OF BELARUS

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REFERENCES

1. Bogdanovskaya-Gienef I. D. 1946. Ontheorigin of flora of boreal bogs of Eurasia. Materialy po istorii flory i rastitelnosti SSSR. Vol. II. Moscow; Leningrad. P. 425—468. (In Russian)
2. Gorchakovskiy P. L. 1962. Geography, ecology and history of the formation of *Calluna vulgaris* area. — Botanicheskiy zhurnal. 47 (9): 1244—1257. (In Russian)
3. Opredelitel vysshikh rasteniy Belarusi [Determinant of higher plants in Belarus]. 1999. Ed. by V. I. Parfenov. Minsk. 471 p. (In Russian)
4. Whittaker E., Gimingham C. H. 1962. The effects of fire on the regeneration of *Calluna vulgaris* (L.) Hull from seed. — J. Ecol. 50: 815—822.
5. Sannikova N. S., Mishchikhina Yu. D., Cherepanova O. E. 2014. Features *Calluna vulgaris* seed renewal in the medium taiga pine forest of green moss site type. In: Teoreticheskie i prikladnye aspekty sovremennoy nauki: sbornik nauchnikh trudov po materialam V Mezhdunarodnoy nauchno-prakticheskoy konferentsii 30 noyabrya 2014. Belgorod. Vol. I. P. 143—147. (In Russian)
6. Yakovleva I. M., Sozinov O. V. 2007. Phytochemical characterization of *Calluna vulgaris* (L.) Hull coenopopulations. In: Sovremennye ekologicheskie problemy ustoychivogo razvitiya Polesskogo regiona i sopredelnykh territoriy: nauka, obrazovanie, kultura: Materialy III Mezhdunarodnoy nauchno-prakticheskoy konferentsii. Mozyr. Vol. 2. P. 171. (In Russian)
7. Rastitelnye resursyi Rossii: Dikorastuschie tsvetkovyie rasteniya, ih komponentnyiy sostav i biologicheskaya aktivnost». 2009. T. 2. Semeystva Actinidiaceae–Malvaceae, Euphorbiacea–Haloragaceae [Plant Resources of Russia: Wild flowering plants, their composition and biological activity. Vol. 2. Families Actinidiaceae–Malvaceae, Euphorbiacea–Haloragaceae]. Ed. by A. L. Budantsev. St.-Petersburg; Moscow. 513 p. (In Russian)
8. Rastitelnye resursy SSSR [Plant resources of the USSR]. 1986. Leningrad. Vol. 2. 336 p. (In Russian)
9. Entsiclopedicheskiy slovar lekarstvennykh rasteniy i produktov zhivotnogo proiskhozhdeniya [Encyclopedic Dictionary of medicinal plants and animal products]. 1999. Ed. by G. P. Yakovlev, K. F. Blinova. St Petersburg. 407 p. (In Russian)
10. Vučić D. M., Petković M. R., Rodić-Grabovac B. B., Stefanović O. D., Vasić S. M., Comić L. R. 2014. *In vitro* activity of heather [*Calluna vulgaris* (L.) Hull] extracts on selected urinary tract pathogens. — Bosn. J. Basic. Med. Sci. 14(4): 234—238.
11. García-Risco M. R., Vázquez E., Sheldon J., Steinmann E., Riebesehl N., Fornari T., Reglero G. 2015. Supercritical fluid extraction of heather (*Calluna vulgaris*) and evaluation of anti-hepatitis C virus activity of the extracts. — Virus Res. 198: 9—14.
12. Olteanu D., Baldea I., Clichici S., Bolfa P., Cenariu M., Schrepler-Perde M., Alupei M., Muresan A., Filip A. 2014. *In vitro* studies on the mechanisms involved in chemoprevention using *Calluna*

vulgaris on vascular endothelial cells exposed to UVB. — J. Photochem. Photobiol. B. 136: 54—61.
13. Onegin S. V. 2008. Farmakognosticheskoe izuchenie vereska obyknovennogo (*Calluna vulgaris* (L.) Hull): Avtoref. diss. ... kand. farm. nauk. [Pharmaceutical study of ling (*Calluna vulgaris* (L.) Hull): Author's abstract of PhD Sci. (Pharmacology) Dissertation]. Perm. 25 p. (In Russian)
14. Veremchuk O. A., Moiseev D. V. 2015. Validation of methods of quantitative determination of flavonoids in the shoots of ling. — Vestnik Vitebskogo gosudarstvennogo meditsinskogo universiteta. 14(1): 128—135. (In Russian)
15. Yurkevich I. D., Golod D. S., Aderikho V. S. 1979. Rastitelnost Belorussii, eye kartografirovanie, okhrana i ispolzovanie [Vegetation of Belarus, its mapping, protection and use]. Minsk. 248 p. (In Russian)
16. Metody izucheniya lesnykh soobshchestv [Methods of study of forest communities]. 2002. Ed. by V. T. Yarmishko, I. V. Lyanguzova. St Petersburg. 240 p. (In Russian)
17. Tsyganov D. N. 1983. Fitoindikatsiya ekologicheskikh rezhimov v podzone khvoyno-shirokolistvennykh lesov [Phytoindication environmental regimes in mixed coniferous and deciduous forests]. Moscow. 196 p. (In Russian)
18. Denisova S. I. 1999. Polevaya praktika po ekologii: uchebnoe posobie dlya vuzov. [Field practice in ecology: a textbook for universities]. Minsk. 120 p. (In Russian)
19. Ontogeneticheskiy atlas lekarstvennykh rasteniy [Ontogenetic atlas of medicinal plants]. 2002. Vol. III. Yoshkar-Ola. 280 p. (In Russian)
20. Uranov A. A., Smirnova O. V. 1969. Classification and main features of development of perennial plants populations. — Byulleten Moskovskogo obshchestva ispytateley prirody. Otdel biologicheskiy. 74(1): 119—134. (In Russian)
21. Budantsev A. L., Kharitonova N. P. 1999. Resursovedenie lekarstvennykh rasteniy: Metodicheskoe posobie k proizvodstvennoy praktike dlya studentov farmatsevticheskogo fakulteta. [Economy botany of medicinal plants: a textbook for industrial practice for students of Faculty of Pharmacy]. St Petersburg. 87 p. (In Russian)
22. Gosudarstvennaya farmakopeya Respubliki Belarus. 2009. T. 2: Kontrol kachestva vspomogatelnykh veshchestv i lekarstvennogo rastitelnogo syriya. [State Pharmacy of Republic of Belarus. Vol. 2. Quality control of auxiliary substances and medicinal plants]. Molodechno. 472 p. (In Russian)
23. Biokhimicheskie metody analiza rasteniy [Biochemical methods of plant analysis]. 1960. Ed. by M. N. Zaprometova. Moscow. 592 p. (In Russian)
24. Zaprometov M. I. 1971. Phenolic compounds and methods of their research. Biokhimicheskie metody v fiziologii rasteniy. Moscow. P. 185—208. (In Russian)
25. Porter L. J., Hrstich L. N., Chan B. G. 1986. The conversion of proanthocyanidins and prodelphinidins to cyanidin and delphinidin. — Phytochemistry. 25: 223—230.
26. Metody biokhimicheskogo issledovaniya rasteniy [Methods of Biochemical Plant Research]. 1987. Ed. by A. I. Ermakov. Leningrad. 430 p. (In Russian)
27. Plokhinskiy N. A. 1961. Biometriya [Biometrics]. Novosibirsk. 364 p. (In Russian)
28. Saevich K. F. 1990. Ratsionalnoe ispolzovanie lesnykh resursov [Rational use of forest resources]. Minsk. 232 p. (In Russian)
29. Mishchikhina Yu. D., Petrova I. V., Dyubanova N. V. 2011. Analysis of dependence of *Calluna vulgaris* projective cover and growth on the structure and function of the stand-edificator *Pinus sylvestris* in the Tobol region and in the Russian Plain. In: Otechestvennaya geobotanika: osnovnye vekhi i perspektivy. St Petersburg. P. 156—159. (In Russian)
30. Petrova I. V., Mishchikhina Iu. D., Cherepanova O. E. 2012. Quantitative assessment of competition of Scots pine *Pinus sylvestris* L. stand and its impact on ling (*Calluna vulgaris* (L.) Hull) growth. — Agrarnyi vestnik Urala. 10: 41—43. (In Russian)

31. Petrova I. V., Sannikov S. N., Sannikova N. S., Shavnin S. A., Egorov E.V., Abdullina D. S. 2009. Ecogeographical features of ling coenopopulations on the Russian Plain and in Western Siberia. — Izvestiya Oreburgskogo gosudarstvennogo agrarnogo universiteta. 1(21): 257—261. (In Russian)
32. Chapman H. M., Bannister P. 1994. Vegetative production and eretative production and performance of *Calluna vulgaris* in New Zealand, with particular reference to Torgariro National Park. — New Zealand J. Ecol. 18(2): 109—121.
33. Karabanov I. A. 1981. Flavonoidy v mire rasteniy [Flavonoids in the plant world]. Minsk. 80 p. (In Russian)
34. Blagushka M. M., Sozinov O. V. 2014. Ecological and resource characteristics of *Calluna vulgaris* (L.) Hull coenopopulations. In: Materialy I Mezhdunarodnoy prakticheskoy konferentsii po lekarstvennym rasteniyam. Grodno. P. 167. (In Russian)
35. Geshtovt P. A., Rovkach A. I. 2007. Methods of study of ling (*Calluna vulgaris*) and bilberry (*Vaccinium myrtillus*) fodder stocks in Scots pine plantations. — Trudy Belorusskogo gosudarstvennogo tekhnologicheskogo universiteta. Ser. 1. Lesnoe khozyaystvo. 15: 128—132. (In Russian)
36. Sozinov O. V., Kuzmicheva N. A., Buzuk G. N. 2013. Resource and phytochemical optimum of harvesting of medicinal plants. In: Sovremennaya botanika v Rossii: Trudy XIII Sezda Russkogo botanicheskogo obshchestva i konferentsii «Nauchnye osnovy okhrany i ratsionalnogo ispolzovaniya rastitel'nogo pokrova Volzhskogo basseina» (Tolyatti, 16—22 sentyabrya 2013). Vol. 3: Okhrana rastitelnogo mira. Botanicheskoe resursovedenie. Kulturnye rasteniya. Introduktsiya rasteniy. Ekologicheskaya fiziologiya rasteniy. Botanicheskoe obrazovanie. Tolyatti. P. 89—90. (In Russian)