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SHORT COMMUNICATION

Allium ursinum L. (Amaryllidaceae) – a new species for the flora of National Nature Park "Pyriatynskyi" (Poltava oblast, Ukraine)

Oleksii Kovalenko *, Mariia Kalista

National Museum of Natural History, National Academy of Sciences of Ukraine, Bohdana Khmelnytskoho str. 15, 01601 Kyiv, Ukraine;
* corydalis.kovalenko@gmail.com

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Abstract

In Ukraine, *Allium ursinum* is a rare species of the state level of conservation, isolated locations of which occur very rarely on the territory of the left bank of the river Dnipro. A new location discovered on the territory of National Nature Park "Pyriatynskyi" is isolated and confined to the floodplain gallery forest of the association *Alnion incanae* Pawłowski et al. 1928. On the territory of the Nature Park "Pyriatynskyi", the species is represented by a small, incomplete population with a left-sided spectrum. Considering the chorology of the species in the region and the demographic characteristics of the population, this new locality was most likely formed as a result of the recent accidental introduction of the species from the northern enclaves of the Chernihiv oblast or purposeful planting of plants by the local citizens. Taking into account the proximity of *A. ursinum* growing locality to popular recreation areas, it is necessary to introduce monitoring research of the state and structure of the population and develop special protection measures to conserve this species on the territory of National Nature Park "Pyriatynskyi".

Keywords: *Allium ursinum*, new locality, National Nature Park "Pyriatynskyi"

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In Ukraine, *Allium ursinum* L. is a rare species of the state level of conservation, which occurs sporadically in broad-leaved forests of the Right Bank Forest-Steppe, in the Carpathians and Eastern Carpathian Foothills, occasionally in Polissia and the eastern part of the Forest-Steppe (Andrienko, 2009). The habitats of this species in the Left Bank Polissia and the Forest Steppe have a significant florogenetic and coenogenetic interest. They can be interpreted both as island localities preserved from a single continuous range and as a result of relatively recently occurred migrations (Shevchyk et al., 2017).

On the territory of the Poltava oblast until recently, three isolated localities of A. *ursinum* were known in Rozsoshensky and Opishnyansky forestries (Bayrak & Stetsyuk, 2005; Homlia & Davydov, 2007). During the floristic investigation on the territory of

Figure 1. Community with the participation of *Allium ursinum* in National Nature Park "Pyriatynskyi".

National Nature Park (NNP) "Pyriatynskyi" in 2021, we discovered a new location of A. *ursinum*, which was not previously indicated for the flora of this protected area (Stetsiuk & Loban, 2012; Kovalenko, 2013). Considering the sociological status of this species and its chorological rarity in the region, the study of the ecological and coenotic characteristics of its habitat, demographic and age characteristics of the population were ascertained as current tasks.

The research was conducted on the territory of the NPP "Pyriatynskyi", which is located in the administrative boundaries of the Pyryatynskyi district of the Poltava oblast and occupies an area of 12,028.42 ha. The territory of the NPP "Pyriatynskyi" is a reference area of the vegetation cover of the Yagotyn-Orzhit district of terraced meadow steppes, sedge forests and lowland valley marshes of the Bakhmaty-Kremenchutsky district and Prylutsk-Lohvytskyi okruh of meadow steppes, oak and hornbeam-oak forests, floodplain meadows and lowland marshes of the Romen-Poltava geobotanical okruh of Eastern European province of the European-Siberian forest-steppe zone (Didukh & Shelyag-Sosonko, 2003).

The description of the community with the participation of A. *ursinum* (Fig. 1) was carried out on the accounting plot of 25×25 m. Projective coverage of plants' species was fixed in percentages.

Population studies were carried out according to the generally accepted guidelines (Uranov & Serebryakova, 1976). The age population structure was studied according to Starostenkova (1978) with a general ontogenetic scheme containing four consequent age periods and nine age states: [(se)→(p→ju→im→v)→(g1→g2→g3)→(ss→s)].

A new location of A. *ursinum* (coordinates – 50.235389° N, 32.525822° E) was discovered on the outskirts of Pyryatyn city in the Botanical Natural Monument "Forest Park "Masalskyi Island" within NNP "Pyriatynskyi". Here, the species grows in a floodplain alder-elm-oak forest on the slope of the bank of the river Udai. The slope's inclination is 10°.

The density of the tree stand reaches a value of 0.7. It consists of *Ulmus glabra* Mill. (projective cover 40%), *Acer negundo* L. (15%), *Quercus robur* L. (10%), *Alnus glutinosa* (L.) Gaertn. (5%), and *Tilia cordata* Mill. (5%).

The shrub layer is weakly expressed. It contains *Sambucus nigra* L. (5%), *Swida*

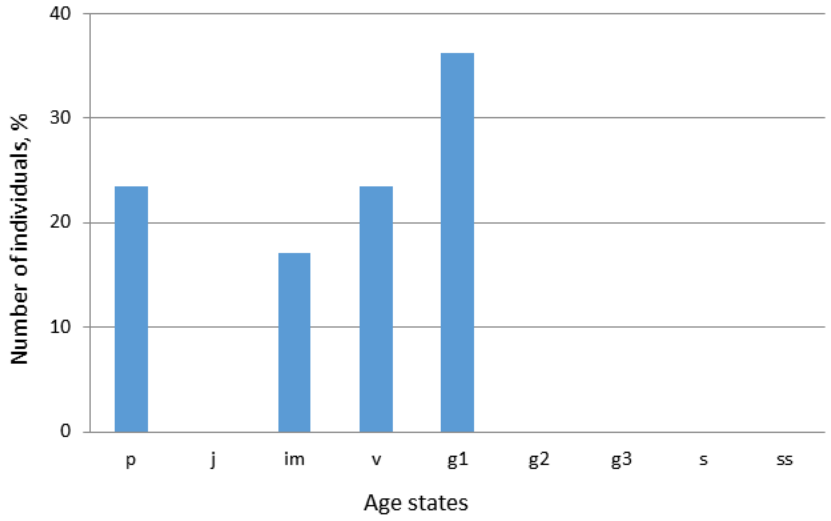

Figure 2. Age spectrum of *Allium ursinum* local population in National Nature Park "Pyriatynskyi".

sanguinea (L.) Opiz (3%), *Ribes nigrum* L. (1%), and *Ribes uva-crispa* L. (1%).

The grass layer has total projective coverage of up to 40%. Its dominant is *Aegopodium podagraria* L. (20%). In this phytocoenosis there were also identified *Scilla bifolia* L. (5%), *Ficaria verna* Huds (10%), *Lamium purpureum* L. (1%), *Gagea lutea* (L.) Ker Gawl. (1%), *G. minima* (L.) Ker Gawl. (2%), *Corydalis solida* (L.) Clairv. (5%), *Galium odoratum* (L.) Scop. (3%), *Urtica dioica* L. (3%), *Allium ursinum* (1%), *Mercurialis perennis* L. (1%), *Dryopteris filix-mas* (L.) Schott (1%), and *Geum urbanum* L. (1%).

Currently completed phytosociological releve from this habitat can be attributed to the association *Alnion incanae* Pawłowski et al. 1928, belonging to the class *Alno glutinosae-Populetea albae* P. Fukarek et Fabijani 1968. This class includes floodplain gallery forests of the Euro-Siberian and Mediterranean regions with often participation of *A. ursinum*. As a part of the community, this species was noted only in the middle part of the slope. Its individuals were not found below the limit of the spring flood and in places of transition of floodplain forest into shrub communities on leveled areas of the terrain.

The investigated population of *A. ursinum* is small (it comprises only 47 individuals of various age states) and incomplete (Fig. 2). There are no mature or old generative aged individuals. Subsenile and senile plants are absent too.

A relatively high number of seedlings and juvenile plants indicates intensive seed regeneration. Moreover, a large number of young vegetative individuals is a reflection of the active processes of vegetative reproduction. It seems that some individuals of this age group have a vegetative origin. Thus, we believe that, under minimal anthropogenic pressure, the number of individuals (clones) in this locality should increase in subsequent years. Also, it can be suggested that this local population is about eight years old because it has a medium absolute age consisting of young generative individuals.

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Allium ursinum L. (Amaryllidaceae) – новий вид для флори НПП "Пирятинський"

Олексій Коваленко *, Марія Каліста

Національний науково-природничий музей НАН України, вул. Богдана Хмельницького, 15, Київ, 01601, Україна; * corydalis.kovalenko@gmail.com

В Україні *Allium ursinum* – рідкісний вид державного рівня охорони, який на території Лівобережного Придніпров'я трапляється дуже рідко у вигляді ізольованих місцезнаходжень. Виявлене на території НПП "Пирятинський" нове місцезнаходження є ізольованим та приуроченим до заплавного галерейного лісу союзу *Alnion incanae* Pawłowski et al. 1928. На території національного парку вид представлений малочисельною неповностановою популяцією з лівостороннім спектром. Зважаючи на хорологію виду в регіоні та демографічні характеристики популяції найімовірніше новий локалітет утворився у результаті нещодавного випадкового занесення з північних анклавів виду у Чернігівській області або ж цілеспрямованого висадження рослин місцевим населенням. Для охорони виду на території НПП "Пирятинський" необхідно запровадити моніторинг за станом та структурою популяції та розпочати розробку спеціальних заходів охорони з огляду на близькість розташування місцезростання до популярних місць рекреації.

Ключові слова: *Allium ursinum*, нове місцезнаходження, НПП "Пирятинський"