

HYACINTHUS ORIENTALIS L. SUBSP. ORIENTALIS (ASPARAGACEAE) A NEW TAXON FOR THE FLORA OF NORTH MACEDONIA

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Abstract

Hyacinthus orientalis L. subsp. *orientalis* (Asparagaceae), also known as wild hyacinth, was found at the foot of the Dry Mountain and represents a new taxon for the flora of North Macedonia. Specimens examined: Dry Mountain, near the mountain road to the village of Kunovo, about 6 km from the town of Gostivar: 576 m, 41° 46' 04.83" N, 20° 55' 52.24"E, April 2026.

Keywords: New taxon, *Hyacinthus orientalis* subsp. *orientalis*, Asparagaceae, Dry Mountain, Republic of North Macedonia.

Introduction

The genus *Hyacinthus* Tourn. Ex L. is comprised of only six species: *Hyacinthus litwinovii* Czerniak, *Hyacinthus transcaspicus* Litv., *Hyacinthus brachypodus* Borbás, *Hyacinthus colchicoides* Delile, *Hyacinthus griseus* Brouss. ex Schult. & Schult. f., and the most famous of them all, *Hyacinthus orientalis* L. These plants were once considered members of the lily family (Liliaceae) but more recent genetic work places them in the asparagus family (Asparagaceae), (Tutin *et al.*, 1980), (Heywood, 1980). The native range of this genus is Southern Turkey to Northern Israel and Southern Turkmenistan. The new taxon for the flora of North Macedonia, presented in this paper, is a subspecies of *Hyacinthus orientalis* L. This species is native to southwest Asia and is cultivated and naturalized in Mediterranean Europe (Hassler, 2022), (Heywood *et al.*, 1980). It is a ornamental geophytes, with the cultivation history over 400 years, numerous cultivars were bred with varying morphologies and performance.



Figure 1. *Hyacinthus orientalis* L. subsp. *orientalis* (photo by Haziri, April 2026)

The new taxon is wild hyacinth, *Hyacinthus orientalis* L. subsp. *orientalis* (Figure 1), also known by the synonyms: *Hyacinthus brumalis* Haw. Ex G. Don, *Hyacinthus albulus* Jord., *Hyacinthus modestus* Jord. & Fourr., *Hyacinthus praecox* Jord., *Hyacinthus provincialis* Jord., *Hyacinthus rigidulus* Jord. & Fourr. (Grundmann *et al.*, 2010), it is a bulbous plant, with a 3–7 cm diameter bulb. The leaves are strap-shaped, 15–35 cm long and 1–3 cm broad, with a soft, succulent texture, and produced in a basal whorl. The flowering stem grows to 25–30 cm (rarely to 35 cm) tall, bearing 1–2 fragrant purple flowers 2–3.5 cm long with a tubular, six-lobed perianth. Perianth segments united about one-half of their length. Fruits more or less

spherical. The native range of this subspecies is Southern Turkey to Northern Israel. It grows primarily in the temperate biome (Stace, 2019), (Dimopoulos, 2013).

Material and Methods

The new data presented in this paper are based on plant material collected during the field research. Floristic researches in this area was carried out during the spring period of 2025-2026. *Hyacinthus orientalis* L. subsp. *orientalis* plants were observed with flowers, and later, with mature fruits. The distribution locality has been determined precisely through the latitude and longitude coordinates on Google Maps. Herbaized specimens of this taxon are preserved in the private herbarium of the authors and in herbarium of the Department of Biology, Faculty of Natural Sciences and Mathematics, University of Tetova. Taxonomic treatment is based on careful observation of morphological characteristics in herbarium specimens and living populations, and on morphometric data. The morphological and systematic description of the subspecies is based on relevant taxonomic literature. Plant nomenclature and taxonomy is consistent with Euro+Med Plant base (Greuter, 2006).

Results and Discussion

The flora of North Macedonia is known for its large number of species, including many endemic and relict species (Micevski, 1978, 1987). As a result of continuous research, many new taxa have been discovered, as well as new distribution localities for many endemic and relict species. (Matevski *et al.*, 2001, 2016, 2022, 2022), (Haziri, 2020, 2022, 2024, 2024).



Figure 2. Locality of *Hyacinthus orientalis* L. subsp. *orientalis*, near the mountain road to the village of Kunovo, at the foot of the Dry Mountain (source: Google Earth)

Hyacinthus orientalis L. subsp. *orientalis* (Asparagaceae, formerly Liliaceae), (Vangjeli *et al.*, 2000), (Haziri, 2019), also known as wild hyacinth, was found at the foot of the Dry Mountain and represents a new taxon for the flora of North Macedonia. It was found for the first time in 2025, while, as a result of continuous research, its presence at the same location was also determined in April 2026. Specimens examined: Dry Mountain, near the mountain road to the village of Kunovo, about 6 km from the town of Gostivar: 576 m, 41° 46' 04.83" N, 20° 55' 52.24"E, April 2026 (Figure 2, 3).



Figure 3. *Hyacinthus orientalis* L. subsp. *orientalis*, in the locality near the mountain road to the village of Kunovo, in Dry Mountain (photo by Haziri, April 2026)

Conclusions

From what was said above we can conclude that *Hyacinthus orientalis* L. subsp. *orientalis* (Asparagaceae, formerly Liliaceae), also known as wild hyacinth, represents a new taxon for the flora of the Republic of North Macedonia. It was found for the first time in 2025, while, as a result of continuous research, its presence at the same location was also determined in April 2026. Specimens examined: Dry Mountain, near the mountain road to the village of Kunovo, about 6 km from the town of Gostivar: 576 m, 41° 46' 04.83" N, 20° 55' 52.24"E, April 2026.

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References

- [1]. Dimopoulos P., Raus T., Bergmeier E., Constantinidis T., Iatrou G., Kokkini S., Strid A., & Tzanoudakis D. 2013. Vascular plants of Greece. An annotated checklist: 1-372. Botanic gardens and botanical museum Berlin-Dahlem, Berlin and Hellenic botanical society, Athens.
- [2]. Euro+Med (2006–): Euro+Med PlantBase - the information resource for Euro-Mediterranean plant diversity. Published on the Internet <http://www2.bgbm.org/EuroPlusMed/> [accessed 28 April 2026].
- [3]. Grundmann M., F.J. Ramsey S.W., Ansell S.J., Russell S.C. Darwin, J.C. Vogel, M. Spencer, J. Squirrel, P.M. Hollingsworth, S. Ortiz, and H. Schneider. 2010. Phylogeny and taxonomy of the blue bell genus *Hyacinthoides*, Asparagaceae [Hyacinthaceae]. *Taxon* 59: 68–82.
- [4]. Hassler M. & Muer T. 2022. *Flora Germanica: alle Farn- und Blütenpflanzen Deutschlands in Text und Bild 1: 1-864*. Verlag Regionalkultur, Oberstadt-Weiher.
- [5]. Haziri A. 2024. Invasive alien plant species (IAPS), identified in the Polog region – Republic of North Macedonia. *Analele Universității din Oradea, Fascicula Biologie*, XXXI (1): 40-43.
- [6]. Haziri A. 2024. New locality of *Cirsium candelabrum* Griseb., (Asteraceae) in Republic of North Macedonia. *Journal of Natural Sciences and Mathematics of UT*. Vol.9 / No. 17-18 / (2024), pp. 39-42. ISSN: 2545-4072. University of Tetova. UDC: 582.998.1-195 (497.7). Original scientific paper.
- [7]. Haziri A. 2022. Flora and vegetation of North Macedonia. [Flora dhe vegjetacioni i Maqedonisë së Veriut]. ArbëriaDesign, Tetovo, pp. 27-32.
- [8]. Haziri A. 2020. New locality of distribution of *Sambucus deborensisi* Košanin, local endemic in the Republic of North Macedonia. *Analele Universității din Oradea, Fascicula Biologie*, XXVII (1): 82-84.
- [9]. Haziri A. 2019. Botany – Plant Systematics. [Botanika – Sistematika e bimëve]. ArbëriaDesign, Tetovo, pp: 272-274.
- [10]. Heywood V.H. 1980. *Hyacinthoides*. P. 43, in T.G. Tutin, V.H. Heywood, N.A. Burges, D.M. Moore, D.H. Valentine, S.M. Walters, and D.A. Webb (eds.). *Flora Europaea*, Vol. 5. Cambridge Univ. Press, Cambridge, UK.

- [11]. Heywood V.H. and Regueiro A. 1980. Hyacinthus. P. 44, in T.G. Tutin, V.H. Heywood, N.A. Burges, D.M. Moore, D.H. Valentine, S.M. Walters, and D.A. Webb (eds.). *Flora Europaea*, Vol. 5. Cambridge Univ. Press, Cambridge, UK.
- [12]. Matevski V., Čusterevska R., Matevska O., Cvetanovska S., Cvetkoska C., Ivanova A. 2022. New data on the distribution of rare plant species in the flora of the Republic of N Macedonia. *Contributions, Section of Natural, Mathematical and Biotechnical Sciences, MASA*, 42-43(1-2): 5-15.
- [13]. Matevski V., Kostadinovski M., Čušterevska R., Cvetkoska C., Cvetanoska S., Ivanova A. 2022. New records of some vascular plants for the flora of North Macedonia. *Flora Mediterranea*, 32: 131-141.
- [14]. Matevski V. 2016. New species for the flora of the Republic of Macedonia. *Contributions, Section of Natural, Mathematical and Biotechnical Sciences, MASA*, 37(2): 79-83.
- [15]. Matevski V., Čarni A., Kostadinovski M. 2001. Contribution to the flora of tramped habitats on the territory of the Republic of Macedonia. 75 years of Macedonian Museum of Natural History. Skopje, pp. 237-244.
- [16]. Micevski K., Matevski V. 1987. Territorial division of endemics in SR Macedonia and the problem of their endangerment. [Teritorijalna podela endema u SR Makedoniji i problem njihove ugroženosti]. Academy of Sciences and Arts of Bosnia and Herzegovina. Special editions. Department of Natural Sciences, Sarajevo, 14: 199-207.
- [17]. Micevski K. 1978. Reliktnost i endemizam vo florata i vegetacijata na Makedonija. Makedonska Akademija na Naukite i Umetnostite, pristapni predavanja, Skopje, pp. 79-93.
- [18]. Stace C. 2019. *New Flora of the British Isles* ed. 4: 1-1266. C & M Floristics.
- [19]. Tutin T.G. & al. (eds.) 1980. *Flora Europaea* 5: 1-452. Cambridge University Press.
- [20]. Vangjeli J., Ruci B., Mullaj A., Paparisto K., Qosja Xh. 2000. *Flore de L'Albanie*. Academie des Sciences de la Republique d'Albanie. L'institute des Recherches Biologique. 4: 232. Tirana.