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Distribution, population size, ecology and variability of autumn flowering snowdrop (*Galanthus reginae-olgae* Orph.) along the northern limit of its Balkan distribution (Croatia, SE Europe)

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Galanthus reginae-olgae Orph. is an autumn- to early winter-flowering snowdrop species, with leaves absent or very short at the onset of flowering, first discovered in the Taigetos Mts. in southern Greece and described as by T. G. Orphanides in 1876. To date, it was found in Greece, Corfu, Ionian Islands, Albania, Montenegro, Bosnia and Herzegovina, Italy, Sicily and in Croatia. The field study in 2023 revealed as many as 35 populations in southern Croatia, some of them counting up to 100,000 specimens. Most of the populations exhibit semi-sciophyte behaviour within transitional habitats (ecotones) from insolated grassland to shaded eu- and sub-Mediterranean thickets and forests, and are found in the elevational range from the sea level to 664 m a.s.l., at the average distance of 5.44 km from the sea. Based on the bioclimatic CHELSA 2.1. model, the studied population prefer Mediterranean conditions with a mean annual air temperature of 14.61 °C and mild winters without frost events. The high average annual precipitation that exceeds 1.600 mm, although limited to the winter period, is beneficial for this invernal geophyte. The analyses of the temporal-thermic data gave us clear insight into environmental circumstances that could serve as triggers for the onset and duration of snowdrop anthesis. Finally, based on observed leaf length and flowering time (from December to February), the investigated population could be designated as *Galanthus reginae-olgae* subsp. *vernalis* Kamari. Considering that the Croatian populations are rare and scattered along the northern border of the species range, future monitoring would give us insight into the adaptability of the species to habitat changes and clarify in what way the species adapts its phenology (emerging, flowering, pollination, and fruiting) to evident climate changes in the Mediterranean region.

Key words: anthesis, bioclimatic model, Croatia, *Galanthus reginae-olgae* subsp. *vernalis*, invernal species, transitional habitats