

Report on the status of the Rhodopean lily (*Lilium rhodopaeum*)
in one unprotected locality in Smolyan district, Rhodope Mountains, Bulgaria, 2025

In 2025, the Rhodope lily site was visited twice (June 29, 2025, and September 6, 2025).

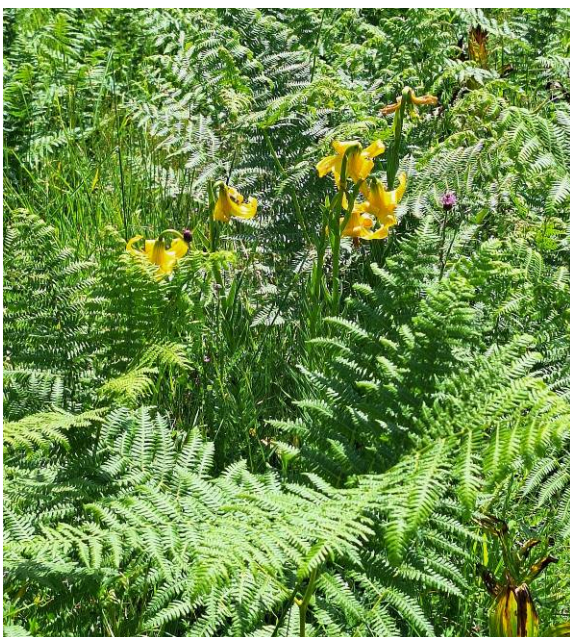
The total number of individuals was 185, of which 160 are flowering and 25 are vegetative (Table 1).

Of the flowering specimens, 105 had one flower, 40 had two flowers, 10 had three flowers, and 5 had four flowers in the inflorescence.



Lilium rhodopaeum flowers; a seedhead.

The ratio between flowering and vegetative specimens is 6.40 (160 flowering/25 vegetative) in favour of flowering individuals.



Competition with bracken.

This year, there has been a significant decrease in the total population numbers, approximately 73% compared to 2024. Competition and overgrowth with bracken, false helleborine and other species, resulting from the lack of grazing and mowing over the last 2-3 years, likely played a significant role in reducing the number of individuals with above-ground organs.

- Insect damage was found on 10 individuals.
- In 2025, grazing had no impact on the Rhodopean lily population.
- Wild boars have dug up the grass cover on 15% of the population's territory.

Overgrowth with bracken (*Pteridium aquilinum*) and false helleborine (*Veratrum album*) continues to increase due to the lack of grazing and mowing this year (2025), covering over 40% of the habitat area.

In September 2025, 10 fruit capsules of Rhodope lilies were counted, 4 of which had successfully formed seeds, observed for the first time at the site (*right*).

Despite the identified threats, the overall condition of the population in the area is very good; however, the trend is deteriorating due to a lack of grazing and mowing.

Measures are planned to mow part of the site before the start of the species' growing season.

Over the past year, investigations and meetings have been held with the private owners of the properties where the site is located. Unfortunately, at this stage, no agreement has been reached on the sale of the properties, mainly due to the large number of heirs and co-owners, as well as the inflated prices caused by the nearby Pamporovo ski resort.

There is a property owned by the municipality nearby, but it is not situated there. There is an option to purchase a property in the area of a neighboring site, where the lily has spread to a private property outside the existing protected area. Efforts to find a solution to the issue will continue.



Table 1. Results of census studies 2008-2025.

Year	Number of flowering individuals	Number of vegetative ind.	Ratio of flowering/vegetative ind.	Number of damaged individuals.	Total number of ind.	Increase/decrease in the total number of individuals. As a percentage of the previous year
2008	122	66	1,85	28	188	-
2010	96	-	-	19	96	-48,94
2011	145	-	-	-	145	51,04
2012	78	52	1,50	-	130	-10,34
2013	17	46	0,37	-	63	-51,54
2014	42	11	3,82	15	53	-15,87
2015	41	4	10,25	14	45	-15,09
2016	56	23	2,43	5	79	75,56
2017	75	34	2,21	34	109	37,97
2018	117	31	3,77	10	148	35,78
2019	123	71	1,73	30	194	31,08
2020	262	107	2,45	36	369	90,21
2021	287	68	4,22	15	355	-3,79
2022	356	257	1,39	5	613	72,68
2023	211	40	5,28	7	251	-59,05
2024	596	105	5,68	30	691	175,30
2025	160	25	6,40	10	185	-73,23