

## REPORT ON THE STATUS OF THE RODOPEAN LILY (*LILIUM RHODOPAEUM*)

NEAR STOYKITE, SMOLYAN MUNICIPALITY, BULGARIA – 2018

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*This is a lightly edited version of the report prepared for Honeyguide by local holidays leader and botanist Vladimir Trifonov.*



The locality of the Rhodopean lily was visited three times this year (02.06., 13.07. and 02.08.2018) with a kind support of Honeyguide.

There were identified total 148 individuals of the species, 117 of them flowering and 31 vegetative. 10 of all these were damaged by insects or cattle.

Between the flowering individuals there are 106 with single bloom, 8 with two blooms, 1 with 3 blooms in inflorescence.

Ratio of the flowering/vegetative individuals is about 3.77 (117F/31V) in favor of flowering ones.

In the last three years, the total number of the population continues to increase for 2018 with 40 individuals, which is about 36% more compared with 2017.

*Lilium rhodopaeum, V Trifonov*

**Table 1. Results of census studies 2008-2018.**

Year	number of flowering individuals	number of vegetative ind.	ratio of flowering/vegetative ind.	number of damaged ind.	total number of ind.	increasing/decreasing of total number of ind. In percentage to 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

2018 was the tenth year of monitoring this locality. We can clearly see the dynamics of the population over a ten-year period. At the beginning of the period, we have a relatively constant high total number of plants in the first four years (2008-2012), and then, in the next 4 years (2013-2016), there is a sharp decline, with the lowest number of plants occurring in 2015 only 45 individuals. Since 2014, there has been a sharp increase in the total number of individuals. I believe that this increase in the number of plants is mainly due to natural periods of rest and activity of the species, as well as to the climatic conditions of every different year.

Of course, we hope that the increase in the number of the individuals is due to our several years of conservation activities such as mow the hay of the entire area of the locality, as well as the annual cleaning of rival species around the groups of the Rhodopean lily. Perhaps, the main reason for this sharp increase is that in the last two years, the pasture where the Rhodope lily grows is used for its intended purpose, i.e. the entire area was grazed, thus eliminating competing species that suppressed the development of the target species.

This year we can see the results of traditional way of pasture management (intensive grazing) where all competing species such as bracken, false hellebore etc. have been removed, and the grass is kept low. It is proved now, that this way of managing will benefit the population in the long turn, but only if it is outside the growing season.



Seed capsules forming, and the protective fence is visible. A row of plants in bud.

The most significant negative factor again is damaging by cattle. This year the percentage of the damaged plants is very low, about 7% of total number of the plants in the population, due to the fact that after a signal was given to the Regional Inspectorate of Environment and Waters in Smolyan, measures were taken to put a fence around the locality and thus the species was protected from trampling and grazing.

Fortunately, Rhodopean lilies successfully formed fruit capsules in 2018.