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In vitro and in vivo germination of *Cyclamen alpinum* seeds

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**Abstract:** *Cyclamen trochopteranthum* O.Schwarz has a confusing history, having been identified in the last part of the 19<sup>th</sup> century and described as *Cyclamen alpinum* Sprenger. It remained known as *C. alpinum* until 1975, when it was described as *C. trochopteranthum* by Otto Schwarz. *Cyclamen trochopteranthum* is a species distributed in the south-western part of Turkey, but the *C. trochopteranthum* described in 1975 is today describe again as *Cyclamen alpinum*. The seeds of this species were collected from red pine forests in the Gökbel-Dalyan area on May 3-7 and stored with and without capsules in incubators at 20 °C. Among the seeds that were sown 5-6 months later (October-November), the germination rate was 35% at 15 °C and 47% at 20 °C in October. Germination increased to 80% at 15 °C and 87% at 20 °C in November. The highest germination rate was observed in December (95%) and these seeds had been stored for 8 months. Seeds that were stored for 8 months (using different storage methods) were subjected to in vitro and in vivo germination tests at 15 °C and 20 °C. Seed storage method (in capsules and out of capsules) did not have a significant effect on in vitro germination in Murashige-Skoog medium, but storing seeds in capsules had a significant effect on germination on filter paper and in vivo (mixtures of peat, perlite, and sand). In darkness at 15 and 20 °C high germination rates were obtained, both in vitro and in vivo (in vitro at 15 and 20 °C, max. 95%; in vivo at 15 °C, max. 73%; at 20 °C, max. 93%); however, at 15 °C germination was faster (after the first 20 days at 15 °C, max. 95%; at 20 °C, 73%). The highest germination rate was obtained after 8-9 months of storage (in vitro average, 94%; in vivo average, 83%). A mixture of peat + perlite + sand in equal parts was a suitable in vivo germination medium (93% germination) for *C. alpinum*.

**Key words:** *Cyclamen alpinum*, *C. trochopteranthum*, seed germination, seed storage

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