POLLINATION STRATEGIES IN THE NARROW ENDEMIC SPECIES *PRIMULA ALLIONII* LOISEL. (PRIMULACEAE)

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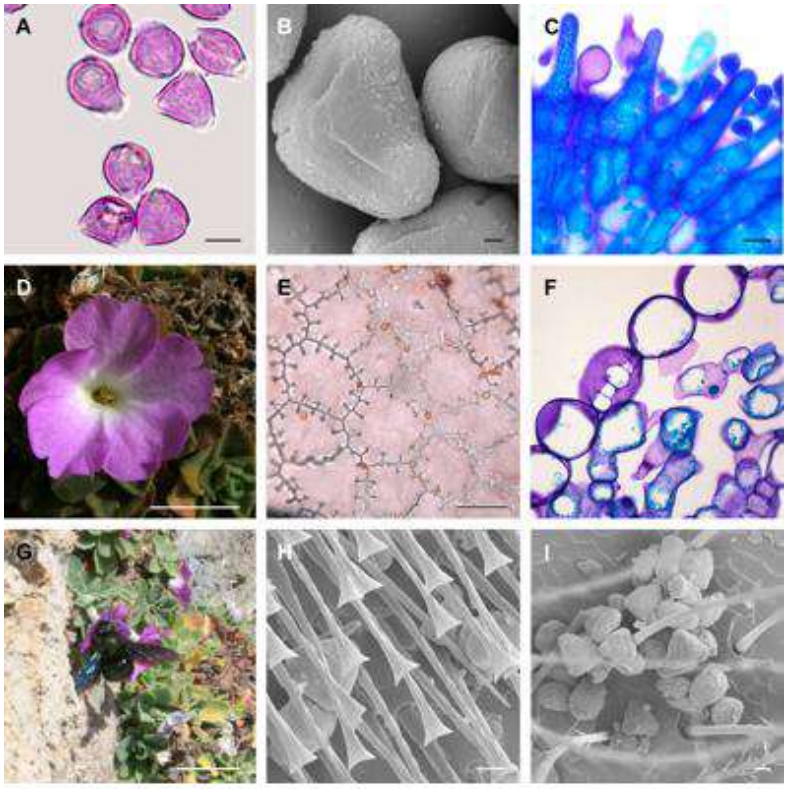
Primula allionii Loisel. is a primrose endemic to Maritime Alps. Flower and pollen features related to pollination mechanism were analyzed, and the seasonal presence of insects visiting the plant was monitored.

The flowering peak occurred between the second half of February and the beginning of March, while fruit growth occurred five months later (August – September). From January to March all flowers showed a long lasting anthesis (up to 4-5 weeks). The mean reproductive success (fruit/flower) was estimated to be 52.16% of fruit completely ripened along the whole study period.

The lower competition with neighbour plants might offset *P. allionii* reproductive success; being the only plant bloomed during the coldest months the species seemed to take advantages on the few insects availability.

In the present study *P. allionii* showed some strategies improving its reproductive success such as the long-lasting anthesis, the "jewel effect" of petals (A), the colour of flowers (D), the anatomy of epidermal cells of petals (E-F), and the reciprocal herkogamy inducing a cross-pollination between P and T morphs (G-H-I).



The ability of *P. allionii* to keep the flowers opened for a long time increases the probability of pollinators visits despite the low number of flying insects. During winter the enthomofauna is mainly constituted by Hymenoptera whose wings' movement increases their temperature. The frequency of visits by bumblebees during the study (1-2 *pro die*) gave support to the long-lasting anthesis and availability of the flowers.

In congruence with the species belonging to the genus the morphology and functionality of flowers are compatible with entomophily, as are pollen viability, which is maintained for a few hours only after anthesis, and the very short stigmatic receptivity. The reproductive fitness of the species is good and the ripening process often take a very long time. The rate between thrum/pin morphs is constantly maintained within the populations.

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