

## The genus *Crocus* L. in the Paklenica National Park

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No records have previously been available for the genus *Crocus* in the Paklenica National Park. In 1997 and 2000 three taxa from this genus were found in the Park area and at its fringes. They are: *Crocus weldenii* Hoppe et Fürnröhr, *C. malyi* Vis., and *C. vernus* (L.) Hill. *C. weldenii* was found in mixed populations of its yellow-flowered and white-flowered plants (f. *lutescens* and f. *weldenii*). Paklenica is the most southern locality of the *C. malyi* so far.

**Key words:** *Crocus weldenii*, *Crocus malyi*, *Crocus vernus*, flora, Paklenica, national park, Croatia

### Introduction

In the floristic data for the Paklenica National Park published so far there has been no record of the genus *Crocus* L. (TRINAJSTIĆ 1979, 1995; ALEGRO 1999). Data concerning the plant are scarce even for the wider area of Mount Velebit, which includes the Paklenica National Park (ROSSI 1930, DEGEN 1936, PULEVIĆ 1977, 1983, FORENBACHER 1990).

The reason for this relative scarcity of data on the genus *Crocus* in the Paklenica National Park probably lies in the fact that the majority of the species of the genus flower very early – in February and March – i.e. at the time when botanists rarely go on the field trips. Therefore we believe that findings of several species of the genus in the Paklenica National Park deserves publication, particularly since some of them also have intrinsic interest.

### Study area

The area of the canyons of the Velika and Mala Paklenica creeks encompassing 36 km<sup>2</sup> was declared the Paklenica National Park on October 19, 1949. In February 1997, the Park was expanded and now covers an area of 102 km<sup>2</sup> (ŠIKIĆ 1999).

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The climate in the National Park is sub-Mediterranean, but inside the canyons there is a great diversity of microclimate due to the various altitudes, inclinations and expositions of slopes and valleys (PENZAR and PENZAR 1995)

The bedrock in Paklenica is dolomites and limestones (BOŽIČEVIĆ 1995)

### The genus *Crocus* L. in the Paklenica National Park

Within the National Park as well as at its fringes three taxa of the genus *Crocus* were discovered at the end of February and at the beginning of March 1997 and 2000. They are: *Crocus weldenii* Hoppe et Fürnrohr, *C. malyi* Vis. and *C. vernus* (L.) Hill.

*Crocus weldenii* was found at several sites in the Paklenica National Park and at its fringes (Fig. 1, MTB 1658.4, 1759.1). At all its localities it was found in mixed populations composed of approximately equal number of plants with white and light yellow perianth segments (Figs. 2, 3). This is the first record of the yellow form of *C. weldenii* in Croatia. In all their other features the plants were totally alike, and all the plants were exclusively single-flowered.

*C. weldenii* is a taxon whose taxonomic status has not been definitely determined, yet in the literature it has been quite neglected (MATHEW 1980; DOMAC 1994), considered synonymous with (HAYEK 1932), a variety of (BAKER 1878, MAW 1886), or a subspecies of *C. biflorus* Mill. (FRITSCH 1902) or even a separate species (DEGEN 1936; PULEVIĆ 1976, 1977; PIGNATTI 1982).

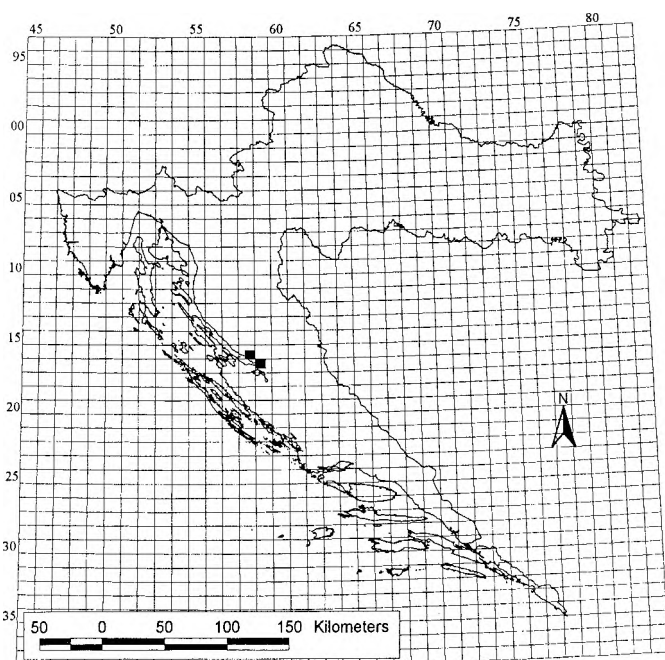


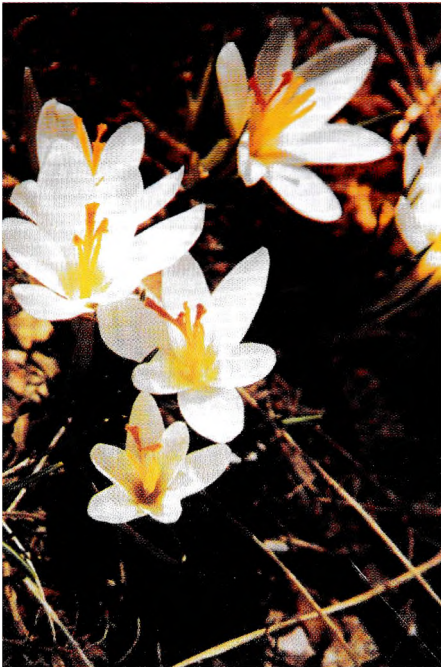
Fig. 1. Map for finding sites of *Crocus* species in the Paklenica National Park area.



**Fig. 2.** *Crocus weldenii* Hoppe et Fürnrohr f. *weldenii* (Photo V. Hršak, Feb 27, 1997)



**Fig. 3.** *Crocus weldenii* Hoppe et Fürnrohr f. *lutescens* Pulevič (Photo V. Hršak, Feb 27, 1997)



**Fig. 4.** *Crocus malyi* Vis.  
(Photo V. Hršak, Feb 27, 1997)

Regardless of the opinions on the taxonomic ranking of *C. weldenii* the fact remains that it is distributed on the coastal side of the Dinara Mountain ridge that extends from Trieste to the Albanian border, and that no other species from the *Crocus biflorus* group is present in the area (HOPPE and FURNROHR 1840; PULEVIĆ 1976, 1977; PAVLETIĆ and TRINAJSTIĆ 1979). There are no published data on the occurrence of *C. weldenii* in the area between Senj and Central Dalmatia (Drniš, Split), so our discovery was the first finding of this species in this part of the Croatian coast.

We consider the finding of the plants with the light yellow perianth segments particularly significant. This form was described by PULEVIĆ (1977) at Velje Brdo near Podgorica in Montenegro and named *C. weldenii* f. *lutescens* Pulević. The published data in that country do not clearly indicate whether all plants in the population were of the same yellow or whether the population was a mixture of white-flowering and yellow-flowering plants like the population in the Paklenica National Park.

The occurrence of the yellow-flowering form of *Crocus weldenii* makes interspecific relations to other yellow-flowering members of the *C. biflorus* group, such as *C. chrysanthus* (Herbert) Herbert, *C. x hybridus* Petrović and *C. pallidus* Kitanov and Drenkov., unclear. This issue could be resolved only by detailed morphological, cytotaxonomic, and genetic analyses.

*Crocus malyi* Vis. (Fig. 4) was found near the village of Tomići (MTB 1759.1) at the Park's fringe. For a long time the distribution area was the object of frequent contradictions, confusions and mistaken quotes. These confusions and mistakes have led to the neglect of an important stenoendemic species even in the most recent Croatian floristic literature (FORENBACHER 1990, DOMAC 1994, ŠUGAR 1994, TRINAJSTIĆ 1995). More details on these issues can be found in PULEVIĆ (1983). The data cited there lead to the conclusion that all records of *C. malyi* in the Boka Kotorska area in Montenegro are erroneous and that this species has been found only on Mount Velebit a number of localities, and should therefore be considered an endemic plant of Velebit. Our finding in the Paklenica National Park is also the southernmost published locality of the discussed species.

*Crocus vernus* (L.) Hill subsp. *vernus* was found on the path to Rimenić at 480 m altitude (MTB 1759.1). This is the first finding of this species for the Paklenica National Park. This species is also widely distributed in Central, Southern and Eastern Europe (MATHEW 1980, GRIESE 1998).

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