

CAMPANULA KAPELAE, THE NEW SPECIES? WITHIN CAMPANULA PYRAMIDALIS AGG.

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On Samarske stijene (Velika Kapela, Gorski kotar, Croatia), within the Nature Reserve, at the altitude of 1200–1300 m a.s., grows a peculiar taxon of *Campanula* in the cliff chasmophyte vegetation of the alliance *Micromerion croaticae* Ht (order *Potentilletalia caulescentis* Br.-Bl.). Although the plant is similar to *Campanula pyramidalis* in terms of habitat, and up to 70 cm tall, morphological and ecological data suggest the possibility of a new taxon within *C. pyramidalis* aggregate. According to the mountain massif of Velika Kapela where it grows, we propose the name of *Campanula kapelae*.

Key words: *Campanula pyramidalis*, *Campanula kapelae*, Croatia

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Na Samarskim stijenama (Velika Kapela, Gorski kotar), u strogom rezervatu prirode, na nadmorskoj visini od 1200–1300 m raste u pukotinama vapnenačkih stijena, u vegetaciji sveže *Micromerion croaticae* Ht (red *Potentilletalia caulescentis* Br.-Bl.), zvončika visine do 70 cm, koja je habitusom slična vrsti *C. pyramidalis* L. Morfološke i ekološke značajke upućuju na zaključak da se radi o zasebnoj svojti u okviru agregata *C. pyramidalis*. Po Velikoj Kapeli, planinskom masivu gdje ta biljka raste, predlažemo naziv *Campanula kapelae*.

Ključne riječi: *Campanula pyramidalis*, *Campanula kapelae*, Hrvatska

During botanical research on the Samarske stijene Reserve Area (Velika Kapela mountain range, Gorski kotar, southwestern Croatia), we found a dozen specimens of *Campanula* with stout stems up to 70 cm, like *Campanula pyramidalis*.

According to GREUTER *et al.* (1984) there are three species in Europe within the *Campanula pyramidalis* agg: *C. pyramidalis* L., *C. secundiflora* Vis & Pančić and *C. versicolor* Andrews. *C. secundiflora* is an endemic species in western Serbia (PANČIĆ,



Fig. 1. Habitat of *Campanula kapelae* (left) and specimen of *C. kapelae* (right).

1874; OBRADOVIĆ, 1974). It grows on calcareous rocks in the subalpine belt. *C. versicolor* is distributed in the Balkan Peninsula and in the most southern part of Italy (FEDOROV, 1976). According to PIGNATTI (1982) it grows in Italy at elevations of up to 400 m a.s.

Since have not yet made detailed comparative morphological investigations of the newly found taxon, we are unable to present here a complete description of the new taxon in agreement with Code International of the Botanical Nomenclature. Accordingly on this occasion we refer only to some of the morphological and ecological differences between the new taxon and the most similar taxon *C. pyramidalis* L. within the *Campanula pyramidalis* agg. For the new taxon we propose the name of *Campanula kapelae*, according to the mountain of Velika kapela, where it was found.

<i>C. pyramidalis</i> L. *	<i>C. kapelae</i>
upper cauline leaves sessile	upper cauline leaves petiolate
stem unbranched	stem branched or unbranched
pedicels short – flowers and fruits nearly sessile	pedicels up to several cm
calyx-teeth short	calyx-teeth long
capsule erect	capsule not erect

* GADELLA (1964), FEDOROV (1976)



Fig. 2. Inflorescence of *C. pyramidalis* (left) and of *C. kapelae* (right).



Fig. 3. Details of *C. pyramidalis* (left) and of *C. kapelae* (right).



Fig. 4. Flower of *C. pyramidalis* (left) and of *C. kapelae* (right).

The photos of the two species (Figs 2, 3, 4) also show some of these differences.

As well as having morphological differences, these two taxa differs very strongly in their ecological status too. *C. pyramidalis* L. is thermophilous plant of the Illyric-Adriatic floral element distributed from North Italy, where it grows up to 600 m a.s. (PIGNATTI, 1982), to Slovenia, Croatia and Albania in the eastern Adriatic. In this area it occurs mainly within the sub-Mediterranean *Ostryo-Carpinion* and proper Mediterranean *Quercion ilicis* zones (mean annual temperatures about 12–16 °C. This plant is a characteristic species of the endemic chasmophyte alliance *Centaureo-Campanulion* H-ić 1934, of the Mediterranean order *Asplenietalia glandulosi* Br.-Bl. et Meier 1934 (HORVATÍĆ, 1934; 1963).

The new taxon *Campanula kapelae* grows at an altitude of about 1200–1300 m a.s., on the border between the montane and subalpine zone (mean annual temperature about 5–6 °C) on limestone cliffs (Fig. 1), within *Picea abies* stands in chasmophyte communities of the alliance *Micromerion croatica* Horv. 1931 (order *Potentilletalia caulescentis* Br.-Bl. 1926). It is accompanied in this habitat by the species *Asplenium fissum*, *Carex brachystachys*, *Micromeria thymifolia*, *Cystopteris alpina*, *Kernera saxatilis*, *Athamantha turbith*, *Achillea clavenae*, *Leontopodium alpinum* and some others.

There are some data about findings of *C. pyramidalis* at higher altitudes (for example DEGEN, 1938), above the sub-Mediterranean zone, but it would seem at habitats that are locally warmer. Nevertheless, it is possible that the name *C. pyrami-*

dalis, at least for some of the noted localities above higher sub-Mediterranean zone, covers the same taxon as found on Mt Kapela (*C. kapelae*), which was perhaps overlooked because of the similarity with *C. pyramidalis*.

Since there is no abundance of herbarium specimens in the ZA Herbarium to confirm this hypothesis, it is necessary to proceed with the investigations, both field research in other and similar habitats of the Dinaric mountains, as well as detailed comparative morphological, cytogenetic, ecological and phytogeographical research, to establish the true taxonomic status of *Campanula kapelae*.

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