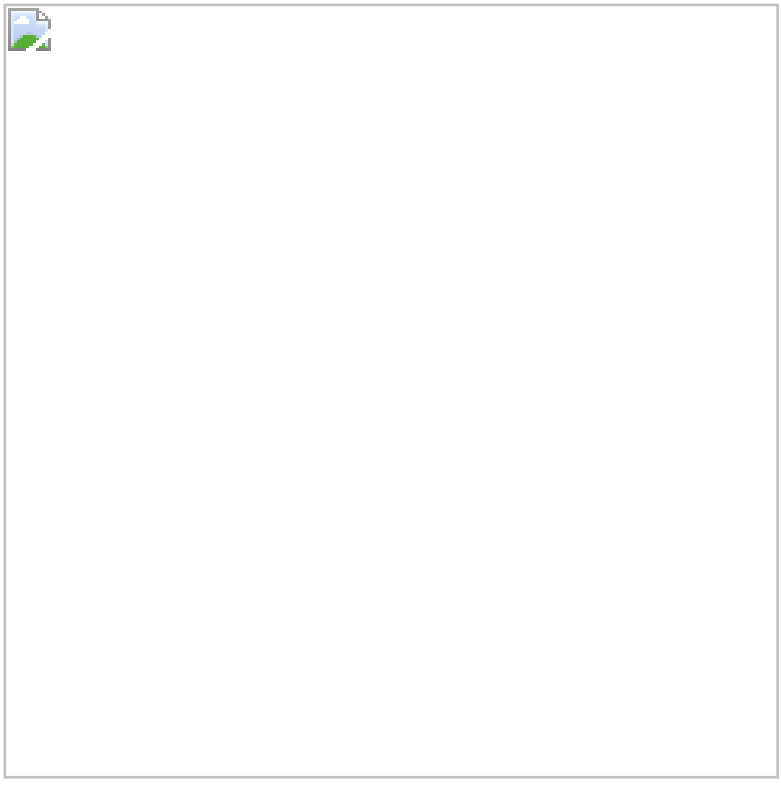

Campanula pangea, a new species of C. sect. Involucratae from Mt Pangeon, NE Greece

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PER HARTVIG

Campanula pangea, a new species of *C.* sect. *Involucratae* from Mt Pangeon, NE Greece

Abstract

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Campanula pangea from the montane *Fagus* zone on Mt Pangeon, NE Greece, is described as a species new to science and illustrated. It is a morphologically well defined species belonging to *C.* sect. *Involucratae*, unique in the combination of a biennial habit with a fusiform root and triangular-ovate, cordate, coarsely crenate-serrate lower leaves.

Campanula pangea Hartvig, **sp. nova** – Fig 1.
Holotypus: Flora Graeca, Nom. Kavalas, Mt Pangeon, E part, by road from Akrovounion to the TV station, 1250 m, *Fagus* forest, limestone, 4.7.1985, *Univ. Copenhagen Excurs. no. 47* (C!).

Campanula trachelio statura satis similis, vita bienni, capsulis sessilibus erectis, bracteis et summis foliis ad basin ab ea diversa.

Herba biennis, hispida, caule erecto simplici ad 100 cm alto. Folia inferiora triangulari-ovata basi cordata, crasse bicrenato-serrata, longe petiolata; superiora lanceolata, sessilia, basi rotundata paulum dilatata. Inflorescentia e 10-20 capitulis constituta per partem superiorem caulis laxe dispositis, quoque e 2-5 floribus sessilibus composito. Bracteae ad basin dilatatae, albidae. Lobi calycis lineares, apice rotundati; appendices nullae. Corolla 18-24 mm longa. Capsula erecta, late ovoidea, angulosa, crasse venosa, pariete praeterea tenui, probabiliter foraminibus basalibus aperta.

Hispid biennial with a fusiform root. Stem single, 60-100 cm tall, simple, erect and straight from a short ascending base, terete to angulate above, striated, 3-5 mm thick and usually with some coarse fibrous leaf remains at base. Basal and lower stem leaves ovate to triangular-ovate, 5-8 × 3-5 cm, cordate at base, coarsely double-crenate-serrate, often slightly lyrate-pinnatifid with 1-2 pairs of tiny lobes widely separated from the lamina; petiole up to 12 cm; middle leaves becoming gradually smaller and narrower with shorter, often ± winged petioles; upper leaves lanceolate and sessile, the uppermost (those subtending terminal and uppermost heads) widened at base. Inflorescence a spike of 10-20 distant heads each with 3-5 sessile flowers;

Fig. 1. *Campanula pangea* – A: habit; B: basal leaves; C: young flower head; D: flower; E: corolla cut up and viewed from inside; F: apex of style with stigmas; G: stamen; H: young lateral fruiting head; J: young caspule. – A-G: after the holotype, H-J: after *Papanicolaou 105*.

terminal head with up to c. 10 flowers. Bracts ovate to ovate-lanceolate, 6-15 mm, with a widened, whitish base tinged with purple. Calyx lobes 3-4 × 1(-1.5) mm, linear, rounded at apex, slightly shorter than the glabrous ovary, furnished with stiff ciliae on the margins and the whitish, prominent, decurrent midvein; appendages absent. Corolla bluish-violet, 18-24 mm, narrowly campanulate, divided to 1/3 into 5 acute lobes, hispid on the veins, with sparse, long, soft, curled hairs inside. Anthers 4-5 mm. Style up to 25 mm, slightly exerted; stigmas 3, 1.5-3 mm. Capsule broadly ovoid, 5-6 mm, strongly veined and angular, thin-walled, probably opening with basal pores, erect. Seeds elliptical-oblong, c. 1 × 0.5 mm. Flowering (June-) July.

Other collections seen

MACEDONIA, NOM. KAVALAS: Mt Pangeon, NW Akrovounion, c. 1025 m, beech forest and openings, 9.7.1970, *A. Strid 658* (C!), *663* (C!); Mt Pangaion (Pangeon), W-NW side, above the village of Proti Seron, along the path from the monastery of Thias Analipseos to Tsekour Madra, 1000-1400 m, beech forest, 28.7.1977, *K. Papanicolaou 105* (C!); Mt Pangaion, E part, along road from the village of Akrovounion to the ERT station, 1400-1600 m, *Fagus* forest and openings, limestone, 19.7.1979, *A. Strid 15722* (ATH, C!).

Distribution and ecology

Campanula pangea is only known from Mt Pangeon in E Macedonia, NE Greece, where it grows in the montane *Fagus* zone between 1000 and 1600 m. It has been collected in two areas of the mountain, one on the SE side of the mountain between the village of Akrovounion and the TV-station near the summit, the other on the NE side, above the village Proti. In both areas the plants were found along the commonly used access routes to the summit area, so there are reasons to believe that the species is widespread in the insufficiently explored *Fagus* belt all around the mountain. It should also be looked for on the neighbouring mountains, since endemics restricted to a single mountain are uncommon in the area.

Taxonomic relationships

The capitate-spicate inflorescence with crowded, sessile flowers, erect capsules opening by three basal pores, basally widened and coloured bracts, and the lack of appendages between the calyx teeth places *Campanula pangea* in *C.* sect. *Ivolucratae* (Fomin) Charadze (≡ *C.* sect. *Medium* subsect. *Involucratae* (Fomin) Fedorov (1957)).

However, no species within this section displays the particular combination of long-petiolate, triangular-ovate, cordate leaves and a biennial habit with a fusiform root as does *C. pangea*. The taxa in the very variable *Campanula glomerata* L. agg. (*C.* subsect. *Involucratae* ser. *Glomeratae* Charadze sensu Fedorov) consists of perennials with slender rhizomes and leaves that are never so deeply and coarsely serrate as in *C. pangea*. The biennials with fusiform roots in the section, viz *C. cervicaria* L. and *C. macrostachya* Waldst. & Kit. (belonging to *C.* ser. *Cervicariae* Fedorov; the latter species, however, treated by Damboldt (1977) in a section of it own, *C.* sect. *Spicatae* (Fomin) Damboldt) resemble *C. pangea* in the stout, stiff stem with numerous axillary flower clusters, but the lower leaves are either sessile or oblong-lanceolate and attenuate into the petiole. Though undoubtedly belonging to *C.* sect. *Involucratae, C. pangea* seems to have no close relatives within the section.

Leaves resembling those of *Campanula pangea* are (among others) found in species of *C.* sect. *Campanula* (*C.* subsect. *Eucodon* (DC.) Fedorov). Particularly *C. trachelium* subsp. *athoa,* which occurs in the same area as *C. pangea,* can be taken for the new species because of the similarity in leaf characters in some stages. The members of *C.* sect. *Campanula* are, however, all perennials with nodding capsules.

Species with "pangea-like" leaves and even a biennial habit occur in *Campanula* sect. *Elatae* (Boiss.) Damboldt (*C.* subsect. *Cordifoliae* (Fomin) Fedorov), where in particular the Irano-Turanian *C. sclerotricha* Boiss. habitually resembles *C. pangea,* but it has nodding capsules and well developed appendages between the calyx lobes.

Acknowledgements

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