

A new species of *Chondrilla* from Mt Pangaion

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Chondrilla lenae Papanicolaou, sp. nov. is described from Mt Pangaion in NE Greece. It grows in subalpine meadows and is related to *C. chondrilloides* (Ard.) Karsten from the Alps. The chromosome number is $2n = 10$.

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Chondrilla lenae Papanicolaou, sp. nov. – Fig. 1

Orig. coll.: NE Greece, Mt Pangaion, NW part of summit area, place called Dena, dry stony elevation within grassland, c. 1600 m. Limestone. 24.7.1977 Papanicolaou 467 (C holotype, Herb. Univ. Thessaloniki isotype).

Herba perennis, 20–35 cm alta, e rhizomate verticali surgens. *Folia basalia* 8–16, 30–70 × 3–18 mm, subglabra, oblanceolata, dentata, petiolis brevibus. *Caulis* 1–3, erectus, striatus, in media planta et supra laxe ramificatus. *Folia caulina* 0–3, linearia, glabra. *Pedunculi* terminales, glabri. *Capitula* terminalia, longe pedunculata et paucula lateralialia subsessilia, circiter 11-flora. *Involucrum* cylindricum. *Involucry phylla* 2-seriata, 7–11 × 1.4–2.2 mm magna, plus minus tomentosa, in summa sexta parte papillas nigras praebens in phyllis interioribus longas, in exterioribus parvas. *Receptaculum* planum, foveolis exannulatis, eciliatis. *Flores* 9–15 mm longi, homogami, lingulati, flavi. *Achenium* glabrum, longitudinaliter pluricostatum-tuberculatum, curvum prope basin, 5-squamosum ad apicem, fuscum, 3.0–3.5 mm longum. *Rostrum* 2.5–3.5 mm longum, deciduum. *Pappus* albus, 3–4 mm longus, biserialis, pili scabrosi.

Perennial herb 20–35 cm tall with a short, stout, not or sparingly branched woody stock. *Basal leaves* 8–16, forming a rosette, ascending to suberect, 30–70 × 3–18 mm, oblanceolate, ± acute, gradually attenuate into a winged petiole c. 1/4 as long as the blade; blade irregularly incise-dentate with characteristic rounded incisions and short, acute to acuminate teeth, sparsely eglandular-puberulent on both sides; margin narrowly hyaline and sometimes brow-

nish-red. *Stems* 1–3 (1 from each leaf rosette), erect, unbranched or more often branched at the middle and above, terete, 1.4–1.8 mm in diameter, solid, striate, glabrous throughout. *Cauline leaves* 0–3, linear, bract-like, entire, 5–15 × 0.8–1.0 mm. *Main branches* 1–4, alternate, forming an angle of c. 40° with the stem. *Flowering heads* usually terminal, solitary, suberect to erect on rather long peduncles, occasionally lateral on short peduncles. *Involucre* cylindrical, 7–11 × 3.5–5.0 mm. *Involucral bracts* in 2 series, white-tomentose especially at the margins in bud stage, almost glabrous in fruiting stage. *Outer involucral bracts* 6–7, 1/5–1/4 as long as the inner ones, ovate-lanceolate, c. 0.7 mm wide at the base, acute, dark green to blackish-green, usually with blackish papillae near the apex. *Inner involucral bracts* 8, lanceolate, 1.4–2.2 mm wide, acuminate, not as dark as the outer ones, with long blackish papillae on the back in the apical 2–3 mm; the 3 outermost of the inner involucral bracts without scarious margins, followed by 2 bracts with the outer margin non-scarious and the inner margin scarious, and finally 3 bracts with both margins scarious (most clearly visible in fruiting stage). *Receptacle* flat, alveolate; the pits without scales and not ciliate. *Florets* 11, all ligulate, 9–15 × 2.5–3.2 mm, hermaphrodite, glabrous, yellow; tube 3.0–3.2 mm long; teeth of the limb c. 0.7 mm long, subacute. *Anther tube* c. 7 × 0.4 mm;

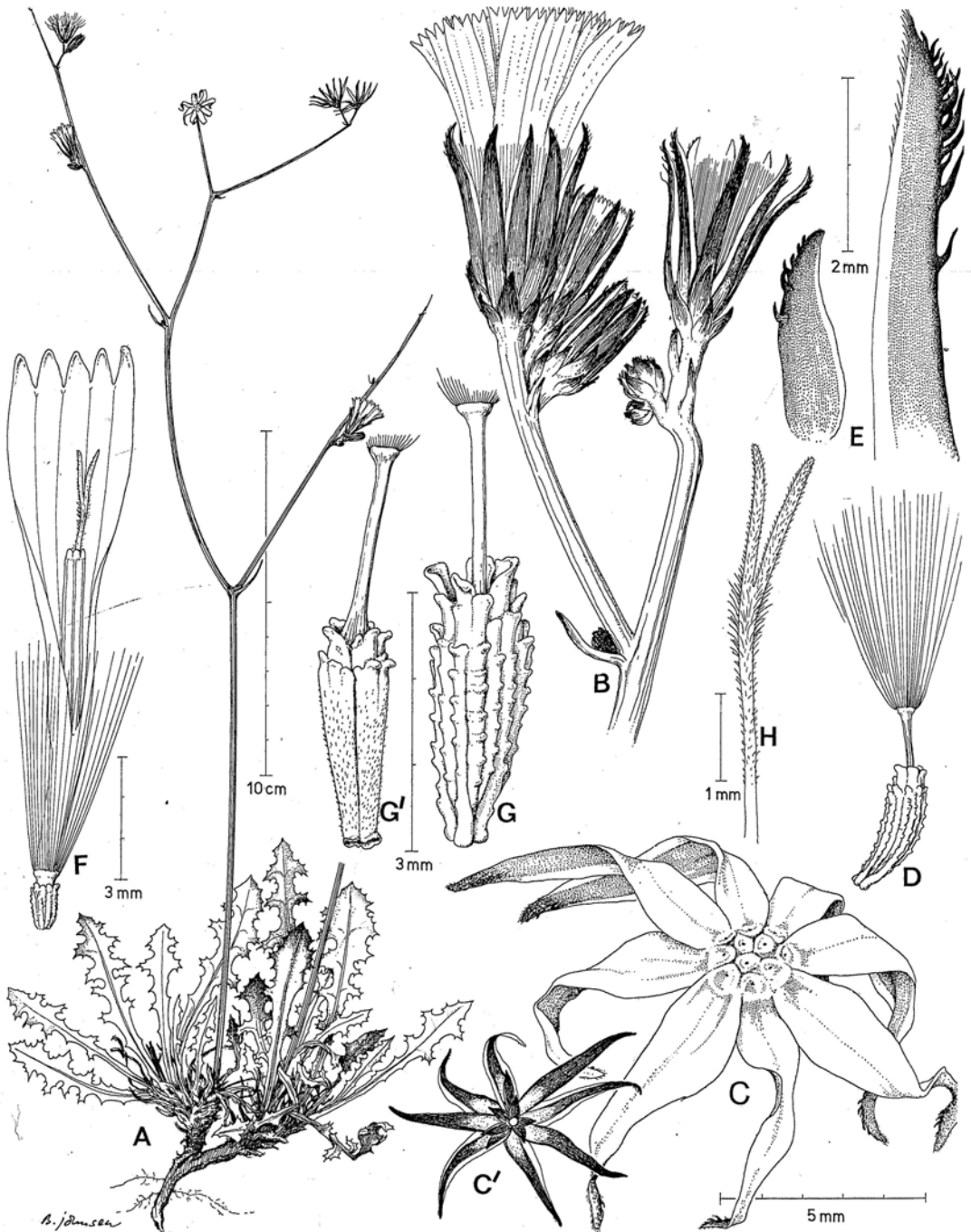


Fig. 1. *Chondrilla lenae*. - A: Habit. - B: A group of lateral capitula. - C: Receptacle of a fruiting head to show alveolate structure. - C': Same fruiting head seen from the back to show short outer involucre bracts and scarios margins of some of the inner involucre bracts. - D: Achene at the same magnification as C. - E: Outer and inner involucre bracts in side view. Note the long, dark papillae towards the apex. - F: Floret. - G: Mature achene. - G': Almost mature achene of *C. chondrilloides* for comparison. - H: Style.

Table 1. Differences between *Chondrilla lenae* and *C. chondrilloides*.

<i>C. lenae</i>	<i>C. chondrilloides</i>
Basal leaves incise-dentate with rounded incisions and shortly acuminate teeth	Basal leaves entire or remotely dentate
Capitula 8–12(–14) per stem	Capitula 15–25 per stem
Capitula terminal and sometimes lateral	Capitula always terminal
Involucral bracts with long blackish papillae near the apex	Involucral bracts without papillae
Achene glabrous, with 14–16 distinctly tuberculate ribs	Achene appressed-pubescent, without ribs, without or sometimes with a few tubercles near the apex

appendages very small, somewhat hyaline, sub-acute. *Style branches* 1.3–1.8 mm long, uniformly thick, subobtuse, with erecto-patent scabridity, dark-brown to blackish-brown. *Achenes* beaked; body of achene 3.0–3.5 × 1.1–1.3 mm, often curved in the lower third, somewhat attenuate towards the base, 14- to 16-ribbed with 6–10 tubercles on each rib and a crown of 5 thick scales c. 0.6 mm long at the apex, dark-brown to blackish-brown when fully mature, light-brown when half mature; beak distinctly set off from the body, 2.5–3.5 mm long. *Pappus* hairs in 2 series, 3–4 mm long, scabrid, white. *Chromosome number* 2n = 10.

Taxonomic relationship. Of the four European species of *Chondrilla*, *C. lenae* is undoubtedly related to *C. chondrilloides* from the Alps, but differs in a number of characters (Table 1).

Cytology. Ten plants were raised from seeds taken from herbarium specimens and kept in cultivation in the experimental field of the Copenhagen University Botanical Garden. Four of them were examined cytologically. The plants were kept overnight at c. 5°C; root tips were

fixed in the Svalöv modification of the Navashin-Karpechenko fixative, sectioned with a microtome and stained with crystal violet. The chromosome number was found to be 2n = 10 which agrees with the number reported for *C. chondrilloides*. The size of the chromosomes varies between c. 5 and 8 μm. All the chromosomes are more or less metacentric; satellites were observed on one pair.

Distribution and habitat. On Mt Pangaion, *C. lenae* was found on a gravelly slope of a small limestone ridge in a non-closed plant community with *Polygala supina* Schreb. subsp. *rhodopaea* (Velen.) McNeill, *Viola delphinantha* Boiss., *Genista carinalis* Griseb. and *Aethionema saxatile* (L.) R. Br.

A second collection was found by A. Strid, Copenhagen, in the personal herbarium of W. Greuter in Berlin. It was gathered by Greuter on Mt Orvilos (Ali Botuš) near the Bulgarian border in 1978.

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