Crepis Magellensis F. Conti & Uzunov (Asteraceae), a New Species from Central Apennine (Abruzzo, Italy)

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Source: Candollea, 66(1) : 81-86

Published By: The Conservatory and Botanical Garden of the City of Geneva (CJBG)

URL: https://doi.org/10.15553/c2011v661a5

Crepis magellensis F. Conti & Uzunov (Asteraceae), a new species from Central Apennine (Abruzzo, Italy)

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Abstract

CONTI, F. & D. UZUNOV (2011). Crepis magellensis F. Conti & Uzunov (Asteraceae), a new species from Central Apennine (Abruzzo, Italy). *Candollea* 66: 81-86. In English, English & French abstracts.

Crepis magellensis F. Conti & Uzunov *(Asteraceae),* a new species from calcareous scree slopes near the summit area of Majella Massif (Abruzzo, Italy), is described and illustrated. Its relationship with *Crepis bithynica* Boiss., a closely related species, is also discussed.

Key-words

ASTERACEAE – *Crepis* – Central Apennine – Taxonomy

Résumé

CONTI, F. & D. UZUNOV (2011). Crepis magellensis F. Conti & Uzunov (Asteraceae), une nouvelle espèce des Apennins du centre (Abruzzes, Italy). *Candollea* 66: 81-86. En anglais, résumés anglais et français.

Crepis magellensis F. Conti & Uzunov *(Asteraceae),* une nouvelle espèce des éboulis de calcaire proche du sommet du Massif de la Majella (Abruzzes, Italie), est décrite et illustrée. Sa relation avec *Crepis bithynica* Boiss., une espèce très proche, est aussi discutée.

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Submitted on June 2, 2009. Accepted on December 16, 2010. Edited by P. Bungener

ISSN: 0373-2967 *Candollea* 66(1): 81-86 (2011)

Crepis bithynica Boiss. is a member of sect. *Macropodes* Babc., a section of 14 species characterized by a strong perennial woody caudex elongated into a taproot (Babcock, 1947). *Crepis bithynica* was described from Turkey, and later recorded in Bosnia-Herzegovina, Greece, Bulgaria (Babcock, 1947), the Majella Massif (Central Apennines) (Ballelli, 1999), and was thus reported by Conti & al. (2005). According to Kamari (1991) the occurrence in Greece is doubtful and was not confirmed in Bosnia-Herzegovina by Bjelčić (1983).

During a joint excursion on Majella we collected several specimens of this unit which had some differences with the Bulgarian population. The area was revisited and more plant material was collected in order to examine in deep the morphological variability. Botanical expeditions to the Turkish Mountain Uludag (habitat of *C. bithynica*), as well as to the Mt. Pirin (Bulgaria) were organized in 2008.

Comparative study of the collected material and specimens from APP, CAME, G, SOM and W revealed significant differences between Majella and Uludag populations and identified the Italian plants as belonging to the new species described here. In this way the known range of *C. bythinica* has to be reduced excluding Italian plants. The Bulgarian populations were the subject of a systematic and nomenclature treatment by Dimitrova & Greilhuber (1999, 2000, 2001) and assigned to two different varieties – *C. bithynica* var. *pirinica* Acht., later considered as a synonym of *C. bithynica* var. *bithynica*, and *C. bithynica* var. *fodorii* (Penzes) Dimitrova. The results of our current morphological study indicate that they are two well defined units quite different from the Turkish population. None of these units was included in the recent ITS phylogeny analysis (Enke & Gemeinholzer, 2008). A taxonomic interpretation of *C. bithynica* s.l. is in progress.

Crepis magellensis F. Conti & Uzunov, **spec. nova** (Fig. 1-3)

Typus: Italy: M. Focalone, presso la vetta sul sentiero per il M. Acquaviva, sfatticcio calcareo, 42°06.352'N 14°07.070'E (WGS84), 2650 m, 20.VIII.2006, *F. Conti & D. Uzunov s.n.* (holo-: APP!; iso-: FI!).

Herba perennis. Caulis plerumque monocephalus, usque ad 8 cm longus, ascendenti-curvatus, simplex vel divaricato-ramosus, rarissimo trifurcatus, fere aphyllus, glanduloso-pilosus. Folia basalia 2-6.5 × 0.4-1 cm magna, spatulata, runcinate lyrato-pinnatifida segmenti acutis, in petiolum gradatim attenuata, sparse glanduloso-pilosa. Involucrum 9-13 mm longus, bracteis lanceolatis acutis, tomentosis, glanduloso-pilosis. Receptaculum sparse ciliatum. Corolla usque ad 13 mm longa. Achenia 4.5-6 mm longa, 12-18 costata. Pappus 4.6-5.8 mm longus, albus.

Description. – *Perennial*, 2.5-8 cm high, with a woody rootstock tapering downward into a oblique taproot bearing fleshy laterals or stolons. *Leaves* in rosettes, basal leaves 2-6.5 × 0.4-1 cm, fleshy, spathulate, runcinate lyrato-pinnatifid, glabrous or with sparsely short white glandular hairs (0.1-0.3 mm) with yellowish gland. *Stems* 1, rarely up to 4 from each rosette, simple or less frequent furcate (very rarely up to 3), flexuous, sparsely white eglandular and glandular hair with yellowish gland, densely shortly white or rarely blackish glandular (yellowish gland) and white eglandular pubescent under the capitula. *Involucre* 9-13 mm high, dark green, tomentose with white eglandular hairs and with white, yellowish and blackish glandular hairs (yellowish gland); outer bracts unequal, lanceolate, acute; inner bracts linear-lanceolate, papillose on inner face, with wide scarious margins. *Receptacle* sparsely ciliate. *Corollas* 12-13 mm, yellow. *Achenes* ribbed 4.5-6 mm long. *Pappus* 4.6-5.8 mm long, white.

Phenology. – Flowering late July-August.

Chromosome number. – $2n = 10$ (Ballelli, 1999).

Etymology. – Dedicated to Majella Mountains (Magella in Middle Age).

Habitat. – Very gentle slopes (from 0° to 7°), where the substrate consist of a continuous layer of calcareous scree of 2-5 cm pebbles, with *Saxifrago-Papaveretum julici* Feoli Chiapella & Feoli 1977 (Ballelli, 1999) and *Ranunculo seguierii-Adonidetum distortae* Di Pietro, Pelino, Stanisci & Blasi 2008 in which *C. bithynica* auct. fl. ital. is considered a characteristic species (Di Pietro & al., 2008). Other endemics occur in the same habitat, such as: *Cerastium thomasii* Ten., *Galium magellense* Ten., *Viola magellensis* Strobl, *Achillea barrelieri* (Ten.) Schultz Bip. subsp. *barrelieri*, *Bunium petraeum* Ten., *Festuca alfrediana* Foggi & Signorini, *Adonis distorta* Ten., *Thlaspi stylosum* (Ten.) Mutel, *Androsace vitaliana* subsp. *praetutiana* (Sünd) Kress, *Pedicularis elegans* Ten., *Avenula praetutiana* (Arcang.) Pignatti and *Leontodon montanus* subsp. *breviscapus* (DC.) Cavara & Grande.

Distribution. – Endemic to Majella from 2550 up to 2730 m (Mt. Amaro, between Mt. Amaro and Mt. Pesco Falcone, Mt. Focalone, Mt. Acquaviva, between Cima Pomilio and Mt. S. Angelo, between Cima Pomilio and Mt. Tre Portoni, Cima Pomilio, Piano Amaro) (Fig. 4).

Specimina visa. – M. Focalone, nella sella al bivio per il M. Acquaviva, pascoli rocciosi, 2630 m, 26.VIII.1996, *S. Ballelli s.n.* (CAME!); tra Cima Pomilio e M.S. Angelo, pascoli rocciosi e rupi, vers. W, 2600 m, 26.VIII.1996, *S. Ballelli s.n.* (CAME!); M. Acquaviva, pascoli della cima, 2700-2737 m, 26.VIII.1996, *S. Ballelli s.n.* (CAME!); tra M. Amaro e Pesco Falcone, sfatticci rupestri pianeggianti, 2600-2650 m, 9.VIII.1997, *S. Ballelli s.n.* (CAME!); Majella, M. Focalone, Caramanico Terme (Pescara), sfatticcio calcareo, 2600 m, 07.VIII. 1999, *F. Conti s.n.* (APP!); Piano Amaro, 2558 m, incl. 2°, esp. N, suolo a strisce con clasti di piccole dimensioni (2-3 cm), 9.VIII.2003, *G. Pelino s.n.* (APP!).

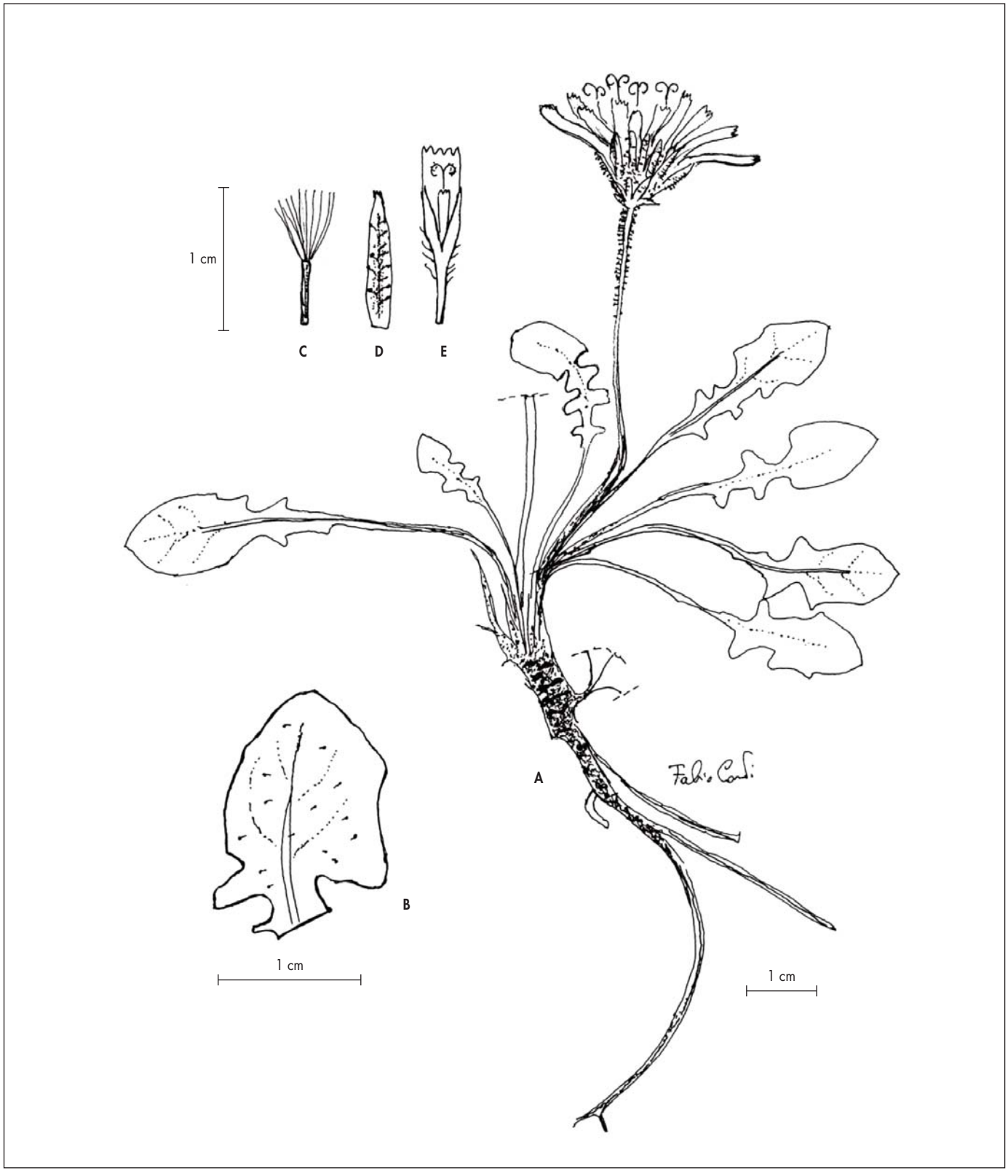

Fig. 1. – *Crepis magellensis* F. Conti & Uzunov. **A.** Plant; **B.** Part of leaf; **C.** Achene with pappus; **D.** Inner involucral bract; **E.** Floret. [*Conti & Uzunov s.n.*, APP] [Drawer: F. Conti]

Fig. 2. – Holotype of *Crepis magellensis* F. Conti & Uzunov. [*Conti & Uzunov s.n.,* APP]

Conservation status. – The species lives only in the alpine belt in the Majella massif in few close localities that can be consider one "location" (IUCN, 2008). The estimated area of occupancy (AOO) is 28 km^2, the extent of occurrence (EOO) is 3.8 km^2 and we suspect a reduction of the habitat surface caused by 'tourism' (threat 6.1 'Recreational Activities') and 'global warming' (threat 11.1 'Habitat Shifting & Alteration') (IUCN-CMP, 2008; Salafsky & al., 2008). Although both the area of occupancy and extent of occurrence are within the thresholds for "Critically Endangered" (CR), it is uncertain if there has been sufficient decline to justify that category. According to the IUCN red list categories (IUCN, 2008) the species should be considered as "Near Threatened" (NT).

Taxonomic relationship. – *Crepis magellensis* differs from *C. bithynica* in the fleshy leaves with different shape (blade length/petiole length ratio lower) and almost glabrous or with few short glandular hairs (the longest measure 0.2-0.4 mm while in *C. bithynica* they are 0.4-1.1 mm long), lower number of lobes (0-4 pairs), glandular hairs evidently shorter, especially on stems (the longest 0.2-0.5 mm long, measured about 2 mm under the capitula, in *C. bithynica* 0.5-0.9 mm) and bracts (0.4-0.8 mm against 0.8-1.6 mm), corolla tube longer (3.6-4.5 mm against 2.7-3.7 mm), rootstock with stolons (Table 1).

Notes. – The unique combination of characteristics makes *C. magellensis* a distinct and easily identifiable species. It is closely related to *C. bithynica* that, in known populations, has morphological differences until now underestimated. From collected data that will be included in a subsequent treatment, it seems that Bulgarian populations can represent two autonomous taxa. The relationships and speciation mechanism in *Crepis*, a classic genus for studying the karyotype evolution and hybridisation, are subject to revision in light of new phylogenetic data from ITS and 'matK' sequences that only partly support Babcock's sectional arrangement (Enke & Gemeinholzer, 2008). For understanding the taxonomic position of *C. magellensis* and its possible relation with other geographically and morphologically close species (*C. hookeriana* Ball., *C. faureliana* Maire, *C. schachtii* Babc., *C. bithynica* s.l., etc.) further investigations into the karyotype morphology and hybridisation are necessary together with more molecular data and related morphological and phylogenetic analysis.

The absence of *C. magellensis* from other Apennines mountains can be explained by the particular characteristics of Mt. Majella. Because of its morphology, it has the largest extension of high altitude terrains, more than Mt. Gran Sasso even if the latter reaches the highest altitude. The summit plateaus of Majella, over 2500 m high, are 11 km^2 large, compared with 2 km^2 of Gran Sasso (Giraudi, 1998), and this causes peculiar edaphic conditions and microclimate as well.

Table 1. – Morphological differences between *Crepis bithynica* Boiss. and *C. magellensis* F. Conti & Uzunov.

	Crepis bithynica	***Crepis magellensis***
Root	Taproot bearing fleshy fibers	Taproot bearing fleshy fibers and stolons
Stem	5-15 cm high, (1-)2(-3) furcate, densely pubescent with 0.5-0.9 mm long hairs under capitula	2.5-8(-10) cm high 1-2(-3) furcate, pubescent with 0.2-0.5 mm long hairs under capitula
Leaves	not fleshy pubescent on both sides with long glandular hairs (0.4-1.1 mm)	somewhat fleshy, almost glabrous or with few short glandular hairs (0.2-0.4 mm)
Bracts width [mm]	0.8-1.6; without or with very narrow scarious margins	0.4-0.8; with large scarious margins
Corolla tube length [mm]	2.7-3.7	3.6-4.5
Achenes size [mm]	0.5 × 5-6; pale greenish-yellow	0.7 × 4.5-6; pale brown-yellow
Pappus length [mm]	4-5.2	4.6-5.8

A

B

Fig. 3. – In habitat. **A.** *Crepis magellensis* F. Conti & Uzunov; **B.** *C. bithynica* Boiss.
[Photos by the authors]

Fig. 4. – Distribution of *Crepis magellensis* F. Conti & Uzunov.

Acknowledgements

We would like to thank S. Ballelli and D. Lucarini (CAME), F. Jacquemoud, L. Gautier (G), E. Vitek (W) and the curators of SOM for their valuable help with the location of material.

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