

ALLIUM PHANERANTHERUM* SUBSP. *INVOLUCRATUM
(AMARYLLIDACEAE), A NEW SUBSPECIES FROM TURKEY

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Allium L. is an extremely polymorphic and taxonomically difficult genus with a natural distribution in the northern Hemisphere. The most recent classifications of *Allium* are based on morphological characters and molecular data, in which c. 850 species in 15 subgenera and 56 sections are recognised (Friesen *et al.*, 2006; Koyuncu and Eker, 2011; Celep *et al.*, 2012; Genç and Özhatay, 2013). In Turkey, *Allium* is represented by 177 species, of which 72 are endemic (Özhatay, 2000; Güner, 2012). In the *Flora of Turkey and The East Aegean Islands* the genus is classified into 14 sections, and section *Allium* is the largest among them (Kollmann, 1984).

During the field work in August 2013, the first and the third authors collected some interesting *Allium* specimens from C6 Hatay: Antakya, above Kisecek, Radar road, trackside. The specimens were critically studied and compared with specimens deposited in AEF, ANK, ISTE, GAZI, E and K. The *Flora of Turkey* and the *Floras* of the neighbouring regions, including Iraq, Iran and Syria, were also consulted (Boissier, 1882; Feinbrun, 1948; Wendelbo, 1971, 1985; Kollmann, *et al.*, 1983; Kollmann, 1984; Mathew, 1996; Özhatay, 2000). Detailed study and observations revealed its distinctness from the known taxa, and is described here as new subspecies *Allium phanerantherum* subsp. *involucratum*.

Allium phanerantherum* subsp. *involucratum Ekşi, Koyuncu & M. Bona, **subsp. nov.** (Fig. 1).

Diagnosis: Spathe 1-valved, caducous; bracteoles present, producing an involucre-like structure at the base of umbel; pedicels scabrid at the apex; bulblets few, attached to the bulb.

Holotype: Turkey. Hatay: Antakya, above Kisecek, trackside, c. 900 m, 22 Aug 2013, G. Ekşi & M. Bona (AEF26318).

Bulb spherical-ovoid, 1–2 cm in diameter; outer tunic membranous, greyish; bulblets few, white, attached to the bulb. Stem 70–100 cm long, sheathing lower half of the stem. Leaves 2–5, shorter than stem, 20–35 cm long, 2–5 mm broad, fistulose, canaliculate, scabrid, shorter than the inflorescence, scabrid on the veins and scabrid-ciliate on the margin; sheaths smooth. Spathe 1-valved, whitish, membranaceous, 1.0–1.5 cm long, short mucronate, caducous. Umbel spherical, 2–5 cm in diameter, dense. Pedicel 1–2 cm long, minutely papillose in upper part; bracteoles present, producing an involucre like structure at base. Perigon tubular, ovoid; purplish red or purple in upper part, darker at the midvein; outer tepals c. 5 × 1.5–2.0 mm, ovate-elliptic, sub-acute at apex, boat-shaped; inner tepals c. 5 × 2 mm, ovate, sub-acute at apex. Stamens longer than perigon; filaments 5.0–5.5 mm, ciliate at base, longer than or equal to perigon; median cusps (1.5–2.5 mm) from equal to about half of lateral cusps (1.5–2.8 mm); basal lamina 2.5–3.5 × 0.75–1.25 mm. Ovary ovate-elliptic, c. 3 mm long, smooth; pistil 5.5–6.5 mm long; style c. 3 mm long, reddish-purplish. Capsule 4.0–4.5 mm, spherical-ovoid, valves emarginate, apex sometimes irregularly lobed. Seeds 3.2–3.5 mm long, black.

Phenology: Flowering from June to August; fruiting from July to September.

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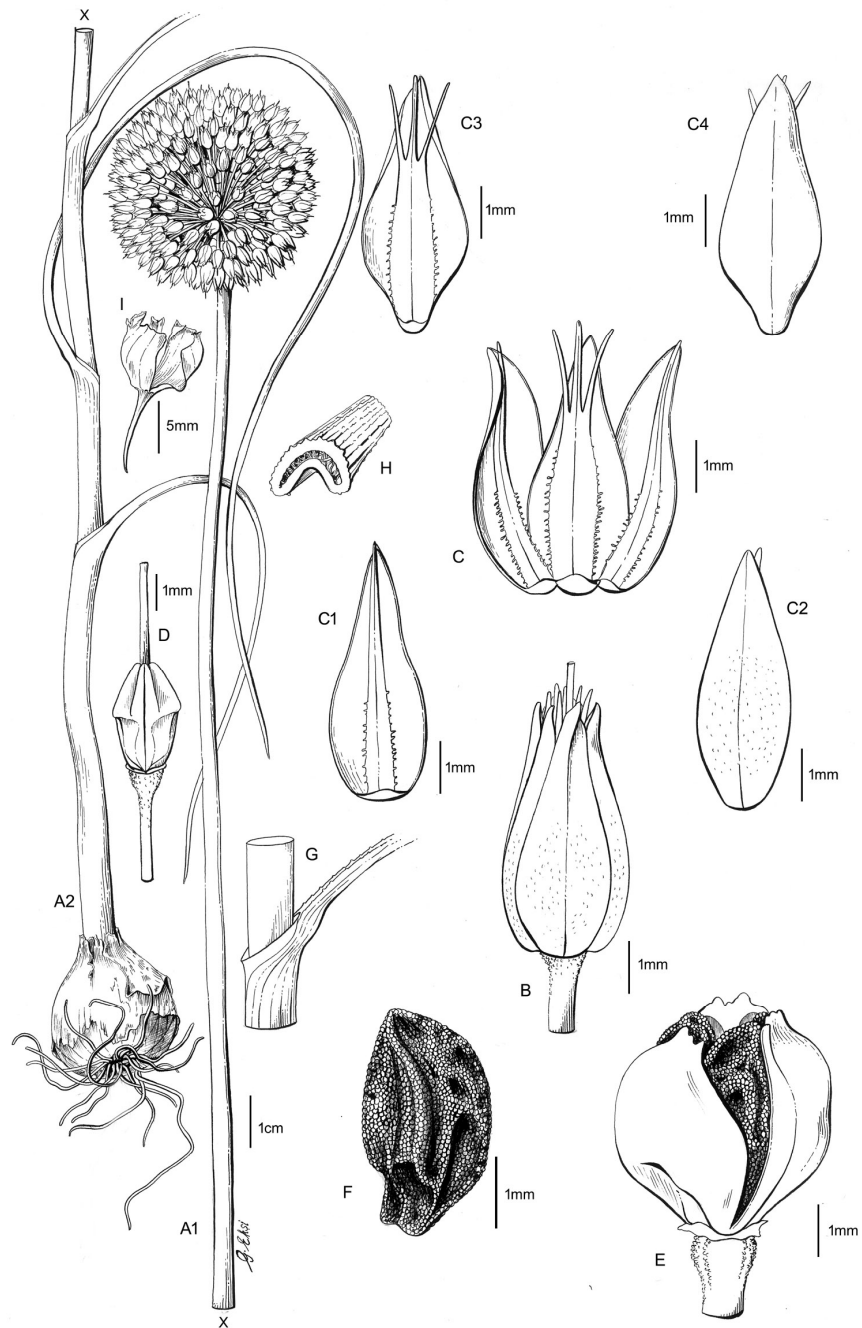


Fig. 1. *Allium phaneranthum* subsp. *involucratum* Ekşi, Koyuncu & M. Bona, **subsp. nov.** A1&2. Habit; B. Flower; C. Flower longitudinal section; C1&2. Outer tepal; C3&4. Inner tepal; D. Pistil; E. Capsule; F. Seed; H. Leaf cross section; G. Top of leaf sheath and base of leaf lamina with ligula; I. Dropped spathe. (Drawn from AEF26318)

Etymology: The name of the new subspecies derived from the involucre-like structure formed by the bracteoles.

Distribution: The new subspecies is distributed in the South Anatolia of Turkey as an Eastern Mediterranean element.

Habitat: This subspecies grows on dry hillsides, on limestone and serpentine, between 800 and 2200 m altitude.

Notes: In *Allium*, spathe and bracteole morphology provide some of the most important diagnostic characters for the differentiation of taxa. The principal drivers of speciation in Turkish *Allium* are geographical isolation, varied topology, microclimates, geology and soils, resulting in a high percentage of endemism (Koyuncu and Eker, 2011). A comparative account of *A. phaneranthrum* subsp. *involucratum* subsp. nov. with its related *A. phaneranthrum* subsp. *phaneranthrum* Boiss. & Hausskn. and *A. phaneranthrum* subsp. *deciduum* Kollman & Koyuncu is given in Table 1.

Table 1. Comparison of *Allium phaneranthrum* subsp. *involucratum* subsp. nov. with related subspecies.

Characteristics	<i>A. phaneranthrum</i> subsp. <i>involucratum</i>	<i>A. phaneranthrum</i> subsp. <i>deciduum</i>	<i>A. phaneranthrum</i> subsp. <i>phaneranthrum</i>
Spathe	Caducous, 1-valved	Persistent, 2–3-valved	Persistent, several-lobed
Bracteoles	Present, united, producing an involucre-like structure at the base of inflorescence	Present, solitary at the base of each pedicel	Absent

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