

***Gamochaeta falcata* (Lam.) Cabrera (Compositae, Gnaphalieae) in Tunisia, a first official record for the African continent**

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Abstract

Gamochaeta falcata (Asteraceae, Gnaphalieae), a species native to southern America, is reported here for the first time to the African Gnaphaliinae from a collection made in northwestern Tunisia. Based on a review of relevant literature, a brief morphological description is provided, along with information on phenology and original photographs of the Tunisian specimen. Moreover, some data on the habitat and current distribution of this neophyte are presented.

Key words: chorology, new records, neophyte, Africa.

Resumen

***Gamochaeta falcata* (Lam.) Cabrera (Compositae, Gnaphalieae) en Túnez, primer registro oficial en el continente africano**

Se cita aquí la especie *Gamochaeta falcata* (Asteraceae, Gnaphalieae), originaria del sur de América, como una Gnaphaliinae nueva para el continente africano, a partir de una recolección efectuada en el noroeste de Túnez. Se ha llevado a cabo un análisis de literatura relevante que ha permitido elaborar una breve descripción de la planta. Se aportan, además, datos fenológicos y fotografías originales del material tunecino y se describe su hábitat, así como la distribución actual de este neófito.

Palabras clave: corología, nuevos registros, neófito, África.

Gamochaeta Weddell (1856) is one of the largest genera of the subtribe Gnaphaliinae (Gnaphalieae, Asteraceae) and is represented by 61 accepted species (WFO Plant List, 2025), characterized by their disciform capitula usually arranged in glomerules borne in spiciform or head-like clusters; papery brownish phyllaries; outer pistillate florets filiform outnumbering the central hermaphroditic purple disk florets; truncate style branches with apical sweeping trichomes; pappus bristles connate at the base into a ring [instead of free as in the related genus *Gnaphalium* L., Cabrera (1961)] that falls as a unit, and achenes

with globose twin trichomes (see e.g., Cabrera, 1961; Anderberg, 1991; Bayer *et al.*, 2007; Ward *et al.*, 2009). Most of species of the genus *Gamochaeta* are distributed in South America (see e.g. Deble & Marchiori, 2007; Freire *et al.*, 2016) with only a few known from Central America or reaching North America. Some of them are becoming adventives in North America (Nesom, 2004, 2006), New Zealand (Drury, 1971), Australia (Walsh 1999), Asia (Ji *et al.*, 2014), Europe (Rocha Afonso 1984; Tison & de Foucault, 2014; Musarella *et al.*, 2019; Verloove *et al.*, 2023) and south Africa (Hilliard, 1986). In North Africa (including the Canary Islands), the genus *Gamochaeta* is represented by five species, *Gamochaeta antillana* (Urb.) Anderb. (sub *Gnaphalium antillanum* Urb.), represented in Morocco and Algeria; *Ga. calviceps* (Fernald) Cabrera (sub *Gn. calviceps* Fernald), *Ga. filaginea* (DC.) Cabrera (sub *Gn. filagineum* DC.), and *Ga. pensylvanica* (Willd.) Cabrera [sub *Gn. pensylvanicum* Willd., *Gn. purpureum* subsp. *pensylvanicum* (Willd.) O. Bolòs & Vigo], all of them present in the Canary Islands; and *Ga. subfalcata* (Cabrera) Cabrera (sub *Gn. subfalcatum* Cabrera) represented only in Morocco (see e.g. Greuter, 2006; Dobignard & Chatelain, 2011; Hamel & Azzouz, 2018; POWO, 2025a). None of these taxa had been reported from Tunisia up to date (Pottier-Alapetite, 1981; Greuter, 2006; Le Floc'h *et al.*, 2010; Dobignard & Chatelain, 2011; APD, 2025; POWO, 2025b).

Botanical surveys were carried out throughout different regions of north-western of Tunisia since more than two decades aiming to update its wild/non-native flora, especially the undocumented ones. This has allowed the discovery of a population of an unfamiliar Gnaphaliinae, seen for the first time. For the identification and the identity of the species, relevant literature (see e.g. Holub 1976; Freire *et al.* 2016, 2024) and the examination of specimens preserved at some accessible herbaria were used: CLF, HEND, MPU, P, acronyms follow Thiers (2025). The specimens collected are deposited at the personal herbarium of the author (Herb. R. El Mokni) housed at the Faculty of Pharmacy of Monastir of Monastir University (not listed in *Index Herbariorum*) and in BR. Nomenclature of reported taxa is according to POWO (2025b).

In this contribution we provide a first report from Tunisia of *Gamochaeta falcata* (Lam.) Cabrera, and we compare this newly recorded weedy species with other taxa from neighboring regions with which it could possibly be confused.

Gamochaeta falcata (Lam.) Cabrera, *Bol. Soc. Argent. Bot.* 9: 370. 1961.

Description. *Gamochaeta falcata* is a multistemmed annual herb, up to 35 cm tall with ascending to erect stems; basal leaves linear-obovate, apex obtuse, caulinar leaves linear to linear-falcate, apex acute, mucronate, usually folded, concolorous, whitish-woolly on both surfaces with a very dense spicate inflorescence with conspicuously purplish-tipped phyllaries in capitula before flowering (Figure 1). A detailed description of macromorphological features is available, e.g. in Freire *et al.* (2016: 312, 2024: 284).

Iconography. See Freire *et al.* (2016, Figure 13: 314).

Examined specimen (new record). **TUNISIA:** Jendouba, Ghar-Dimaou (Aîn Soltane), 760-770 m a.s.l., roadsides in human-made habitats, 10 June 2021, R. El Mokni s.n. (Herb. R. El Mokni at Univ. Monastir).

Phenology. Flowering/Fruiting period in Tunisia from May to June, elsewhere in the word from October to January and February (Freire *et al.*, 2016).

Distribution and habitat. Native to South America, i.e., northeastern and central-western Argentina (Freire & Iharlegui, 2014), southern Brazil (Freire *et al.*, 2011), Chile (Rémy, 1849; Freire *et al.*, 2016), Paraguay (Freire, 1998), Uruguay (Freire & Iharlegui, 2008), and Venezuela (Hokche *et al.*, 2008). Moreover, the plant grows in the Caribbean, Amazonian, and Chacoan dominions (Cabrera & Willink, 1973), where it inhabits dunes and rocky outcrops in grasslands at elevations between 950 and 1940 m a.s.l. It was reported as introduced to Mexico (Villaseñor, 2016). Elsewhere, the plant was reported within Europe, only from France (GBIF, 2025) whereas in Africa, the plant has never been reported before (GBIF, 2025). In Tunisia, *Gamochaeta falcata* was found along roadside cuttings and forest margins, near human-made habitats. At these places, it grows on clay-loam soils.



Figure 1. *Gamochaeta falcata* from Ghar-Dimaou, Jendouba (NW Tunisia). A) Inflorescence in dense spicate with linear-obovate folded cauline leaves, apex acute. B) Capitula after dehiscence with glabrous light brown phyllaries, apex acute. C) Plant habit and habitat. Photos: R. El Mokni.

Figura 1. *Gamochaeta falcata* de Ghar-Dimaou, Jendouba (noroeste de Túnez). A) Inflorescencias en espigas densas con hojas caulinares plegadas, linear-obovadas, ápice agudo. B) Capítulos después de la dehiscencia con filarios (brácteas involucrales delgadas membranáceas y secas) marrón claro glabros, ápice agudo. C) Hábito de las plantas. Fotos: R. El Mokni.

Relationships. Morphologically, *Gamochaeta falcata* is closely related to *G. antillana* (Urb.) Anderb., *G. calviceps* (Fernald) Cabrera, *G. filaginea* (DC.) Cabrera and *G. subfalcata* (Cabrera) Cabrera, in habit, cauline leaves, and inflorescence. However, plants of *G. falcata* show i) caulinar leaves linear to linear-falcate, apex acute (vs. caulinar leaves obovate or linear-obovate, apex obtuse in *G. filaginea* and *G. subfalcata*), ii) capitula with acute or acuminate inner phyllaries (vs. inner phyllaries subobtuse or obtuse to rounded in *G. calviceps* and *G. antillana*). *Gamochaeta falcata* also resembles *G. subfalcata* in its perennial habit, ascending stems and concolorous cauline leaves, whitish-lanuginose on both surfaces. However, *G. falcata* is mainly differentiated by its capitula arranged in paniculate synflorescences (vs. capitula arranged in dense, continuous spikes, interrupted at base in *G. subfalcata*). Compared to *G. filaginea* that shows lanuginose above and woolly below leaves, *G. falcata* is characterized by concolorous leaves, whitish-woolly on both surfaces (see more in Freire & Iharlegui 2014; Freire *et al.*, 2016).

Conflict of interest

The author declare that he has not conflicts of interest relevant to the content of this manuscript.

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