Ageratum salvanaturae (Eupatorieae, Compositae), a new species from the National Park El Imposible, Ahuachapán, El Salvador

Authors: Kilian, Norbert, and Smalla, Boris

Source: Willdenowia, 31(1) : 137-140

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: https://doi.org/10.3372/wi.31.31112

NORBERT KILIAN & BORIS SMALLA

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Abstract

Kilian, N. & Smalla, B.: *Ageratum salvanaturae (Eupatorieae, Compositae),* a new species from the National Park El Imposible, Ahuachapán, El Salvador. – Willdenowia 31: 137-140. 2001. – ISSN 0511-9618.

Ageratum salvanaturae, an eglandular, epappose and epaleate herb with its capitula regularly aggregated in compact, globular synflorescences, is described as a species new to science and illustrated. It is known only from five collections made at medium altitudes in the El Imposible National Park in NW El Salvador near the border with Guatemala. Its relationship is uncertain.

During field work in El Salvador in 1998, which aimed at a taxonomic and ecological inventory of the family *Compositae* in the National Park El Imposible, the authors discovered an *Ageratum* with capitula densely aggregated in conspicuous globular secondary heads. Closer studies, and expert advice by Harold Robinson (Smithsonian Institution, Washington DC), revealed that the plants cannot be matched with any of the described species.

Ageratum salvanaturae B. Smalla & N. Kilian, **sp. nova**
Holotype: El Salvador, Dept. Ahuachapán, National Park El Imposible, Caserio San Francisco Menéndez, 13°49'N, 89°56'W, 460 m, on a volcanic rock in the river bed of Rio Maishtapula, surrounded by secondary gallery forest, 22.11.1998, *B. Smalla 159* (LAGU; isotypes B, MO, US). – Fig. 1.

Ab omnibus *Agerati* speciebus combinatione synflorescentiis regulariter compacte globosis cum foliis eglandulis, receptaculis epaleaceis, achaeniis epapposis, corollis grandibus (3.5-4.5 mm longis) et capitulis circa 20-30-floris differt.

We dedicate this species to the non-governmental organisation “SalvaNatura”, which has been working since 1991 in the National Park El Imposible and has successfully developed and implemented a management plan for the conservation of one of the most important protected natural sites in El Salvador.

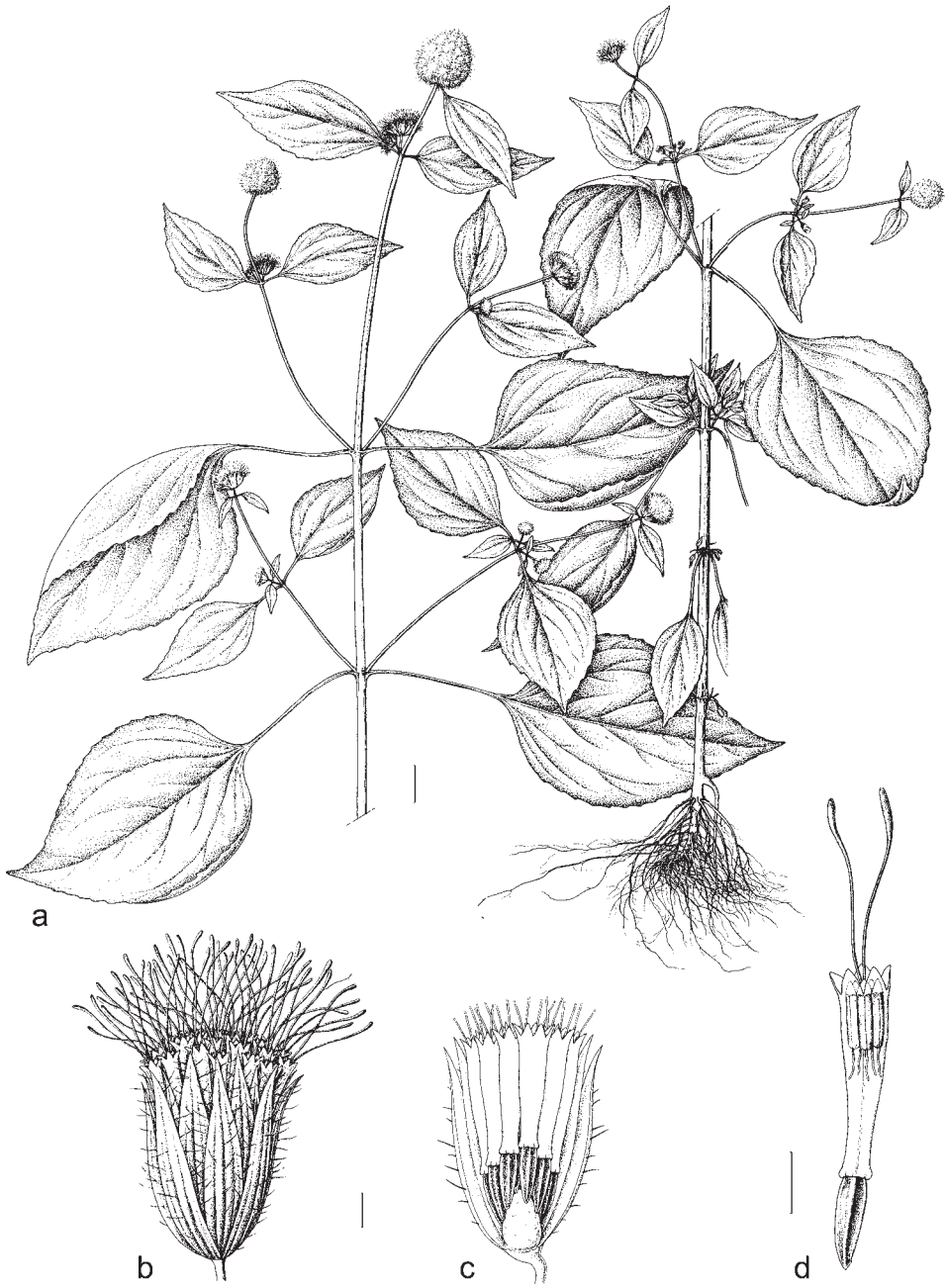

Fig. 1. *Ageratum salvanaturae* – a: habit; b: single capitulum at anthesis; c: capitulum, some involucral bracts and flowers removed to show the strongly conical receptacle; d: flower, corolla made transparent to show the stamina. – Scale bars: a = 2 cm, b-d = 1 mm; drawings from *Smalla & Kilian BS 113* (B) by Ingo Haas.

Annual(?) herb up to 50(-c. 100) cm high, with fibrous roots, sometimes also with adventitious roots at basal stem nodes. *Stems* erect or, sometimes, decumbent, simple to more commonly branched higher up, sparsely pilose to glabrous, pale. *Leaves* opposite, petiolate; *lamina* membranous, trinerved, ovate to broadly ovate, (2-)3-8(-14) × (1-)2-5(-9.5) cm, basally shortly and sometimes asymmetrically attenuate, apically acute, serrate to crenulate-serrate, upper surface fresh green, sparsely strigose with simple multicellular hairs, lower surface pale green, eglandular and glabrous; *petiole* 0.5-7 cm long, narrowly winged, sparsely pilose to glabrous. *Synflorescences* terminal and axillary, each of (10-)20-40 almost sessile capitula (peduncles usually <2 mm) densely aggregated in a conspicuously globular corymbose cyme 10-15(-20) mm in diameter. *Capitula* homogamous, discoid, with c. 20-30 perfect flowers, their corollae extending c. 1-2 mm above the involucre. *Involucre* cylindrical, at anthesis c. 6 × 2.5-3.5 mm; involucral bracts biseriate, subequal, persistent, eglandular, 2-4-costate and 3-nerved; the outer bracts linear-lanceolate, <1 mm wide, acute, herbaceous, long and coarsely ciliate and with a few coarse hairs on the midrib; the inner broadly lanceolate, up to c. 2 mm wide, acute to acuminate, herbaceous with broad membraneous margin, shortly and finely ciliate in the upper half, otherwise glabrous. *Receptacle* epaleaceous, pronouncedly conical, the centre 1-1.5 mm high. *Flowers* purplish lavender-blue; *corolla* 3.5-4.5 mm long, the tube greenish white, c. 2/3 of the corolla length, the throat only slightly broader than the tube, c. 1/3 of the corolla length, white and towards apex lavender, the 5 corolla lobes triangular, acute, c. 0.5 mm long and almost as wide, lavender, sometimes with a few simple, spreading-erect hairs on the outside; *anthers* not exserted, whitish, 1.0-1.1 mm long, apical appendages triangular-ovate, c. 0.15 mm long and almost as wide; *style* basally not enlarged, purplish lavender-blue, branches up to c. 4-5 mm long, much exceeding the corolla. *Achenes* (fully mature not seen) prismatic, 5-ribbed, brownish-blackish, glabrous; carpopodium white, oblique, wider than basal diameter of achene body; *pappus* lacking.

Distribution and ecology

Ageratum salvanaturae is so far exclusively known from the National Park El Imposible, in NW El Salvador, near the border to Guatemala. Altogether five collections were traced, the first from 1992. All collections were made at altitudes between 460 and 960 m, in open places in secondary and primary forest. Flowering plants have been collected from October to December. Considering the close neighbourhood of the National Park El Imposible and Guatemala, the occurrence of *A. salvanaturae* also in Guatemala appears likely.

Further specimens seen

El Salvador: Dept. Ahuachapán, National Park El Imposible: Casco San Benito, 13°49'N, 89°56'W, 700 m, on the side of the path in primary forest down to the Río Ixcanal, 13.11.1998, *B. Smalla & N. Kilian BS 113* (B, LAGU); Caserio San Francisco Menéndez, 13°51'N, 89°59'W, 960 m, Sendero Nixtepe on a rock surrounded by open secondary forest, 21.11.1998, *B. Smalla 155* (B, LAGU); Cerro Campana,13°51'N, 89°50'W, 700 m, steep S exposed slope in open secondary forest, 10.12.1998, *B. Smalla 232* (B, LAGU); Casco San Benito, 13°49'N, 89°56'W, al E del pie del chiquero no.1, 21.10.1992, *E. Sandoval & Chinchilla JBL 01332* (B, LAGU).

Features and relationships

Ageratum salvanaturae lacks the glandular punctation on the lower leaf surface, which is one of the characteristic features of *Ageratum* in its modern circumscription (King & Robinson 1987: 142-145), but shares this with a few other species such as *A. ellipticum* B. L. Rob., *A. peckii* B. L. Rob. and *A. littorale* A. Gray (Robinson 1990), as well as with some cultivars of *A. houstonianum* Mill. (King & Robinson 1987: 142). The epappose achenes of *A. salvanaturae* are no obstacle for its placement in *Ageratum* since King & Robinson's recircumscription of *Alomia* and *Ageratum* (King & Robinson 1972a-b), which takes into account that the placement of epappose but otherwise typical *Ageratum* species into *Alomia* (as maintained by Johnson 1971) is artifical.

Congestion of the paniculate synflorescences occurs in various species of *Ageratum; A. conyzoides,* which provides the type of the generic name, is a prominent example. The state of congestion of the synflorescence in *A. salvanaturae* is, however, rather conspicuous, since all synflorescences are regularly congested, forming almost perfectly globular secondary capitula.

Subdivsion of *Ageratum,* with its about 45 species centred in Central America and extending with few species into South America, is still preliminary (King & Robinson 1987: 144-145). Because of its glabrous achenes and opposite leaves *A. salvanaturae* may be best placed in *A.* sect. *Coelestina* (Cass.) A. Gray, which is the largest section of the genus, containing at least half of all species. Most of the species of *A.* sect. *Coelestina* are shrubs confined to the montane *Quercus-Pinus* forests from Mexico to Panama and several seem to have a very localized distribution (Johnson 1971). None of the species appears to resemble *A. salvanaturae* in a way that would make a closer relationship probable. A relationship of *A. salvanaturae* to *A. littorale* could be considered, because the latter is the only (other) Central American species of *A.* sect. *Coelestina* lacking the glandular punctation (see above), it is a herb, its achenes may or may not have a pappus (Williams 1976), and its leaves and stems also have a sparse eglandular indumentum. The species, however, is not particularly similar otherwise, it is ecologically largely restricted to the immediate sea coast, distributed disjunctly around the Caribbean, and the lack of glandular punctation may have evolved more than once within the section as well as in different sections.

Acknowledgements

The research was conducted in the frame of a cooperation project between the Jardín Botánico La Laguna in San Salvador and the Botanic Garden and Botanical Museum Berlin-Dahlem. Cordial thanks are due to the staff of the Herbarium of the Asociación Jardín Botánico La Laguna (LAGU) and to the non-governmental organization SalvaNatura for kind logistic support and hospitality. Special thanks are due to our guides through the park, in particular to Eliberto Sandoval and his son Mac Sandoval. We gratefully acknowledge the initiation and active support of the project of an inventory of the family *Compositae* in the National Park El Imposible by Walter Berendsohn (B), the funding of the field studies in El Salvador by the "Verein der Freunde des Botanischen Garten und Botanischen Museum Berlin-Dahlem", and the permit to collect plants in the National Park by the Ministerio de Medio Ambiente y Recursos Naturales (MARN). We thank Harold Robinson (US) for his expertise and valuable comments, and Ingo Haas (B) for the drawings.

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Address of the authors:
Norbert Kilian and Boris Smalla, Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie Universität Berlin, Königin-Luise-Str. 6-8, D-14191 Berlin; email: n.kilian@mail.bgbm.fu-berlin.de, smallabo@zedat.fu-berlin.de