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Abstract

Herrera Oliver P. P. & González Gutiérrez P. A.: *Acanthodesmos gibarensis* (Asteraceae, Vernoniae), a new species from Cuba [Novitiae florae cubensis 42]. – Willdenowia 43: 315–318. December 2013. – ISSN 0511-9618; © 2013 BGBM Berlin-Dahlem.

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Acanthodesmos gibarensis (Asteraceae, Vernoniae), a new species, is described from Cuba. The genus *Acanthodesmos* was previously considered monotypic and restricted to Jamaica. A key to the species of *Acanthodesmos* is given.

Additional key words: critically endangered, endemic, taxonomy, *Acanthodesmos distichus*, *Compositae*, Jamaica, West Indies, identification key

Acanthodesmos gibarensis P. Herrera & P. A. González, **sp. nov.** – Fig. 1, 2.

Holotype: Cuba, province of Holguín, municipio Gibara, suburbs of Gibara, between Centro de Higiene and Cuadro de Pelota, in secondary scrub, 30 Nov 2011, small colony of ± 200 specimens, growing on limestone near the sea, P. A. González 1111-13 HFC 87237 (HAC; isotype: HAJB).

Diagnosis — Ab specie jamaicensi (*Acanthodesmo disticho* C. D. Adams & duRoi) caulibus 5-plo minoribus, foliis 2–3-plo minoribus, apice foliorum rotundo cuspidatoque et acheniis 2-plo majoribus bene differt.

Description — *Woody herbs or undershrubs. Stems* arising from a short caudex and a rosette or tuft of basal leaves, trailing, filiform, 12–20 cm long, 1(–3) mm or less in diam., woody, rigid, white tomentose, glabrescent with age. *Basal leaf blade* lanceolate, 3.5–5 × 0.9–1.2 cm, lower surface white tomentose, upper surface glabrous and densely glandular, margin denticulate.

Stem leaves distichous; *petiole* absent or 1–5 mm long, flattened when present; *leaf blade* oblong or oblong-lanceolate, 2–4(–5) × 0.6–1.2(–2) cm, usually somewhat narrower at middle, pinnately veined but ± palmately veined at base, veins 9–12 pairs, whitish or pale green in sharp contrast with dark green upper surface of blade, angle between veins and midrib ± 60°, lower surface of blade white tomentose, with glands not or hardly visible, upper surface glabrous and densely glandular, base rounded or slightly cordate, very inequilateral, margin glandular denticulate, teeth quite stiff but not pungent, blade apex very obtuse or rounded or even truncate and usually shortly cuspidate due to an apical glandular tooth or mucro. *Rudimentary or aborted capitula* present as small groups of spine-tipped bracts adjacent to or rarely opposed to leaves. *Capitula* mostly axillary or subaxillary, rarely leaf-opposed, always solitary, campanulate, campanulate-globose or narrowly campanulate, less than 1 cm long (excluding spines), 1–2 cm in diam.; *bracts* in 3 or 4 series, elliptic or widely elliptic, 10–12 mm long, 2–4 mm wide at base, white woolly but becom-

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Fig. 1. *Acanthodesmos gibarensis* at the type locality – A: flowering shoot, November 2011; B: shoot with with mature capitulum, April 2013. – Photographs by Pedro Alejandro González Gutiérrez.

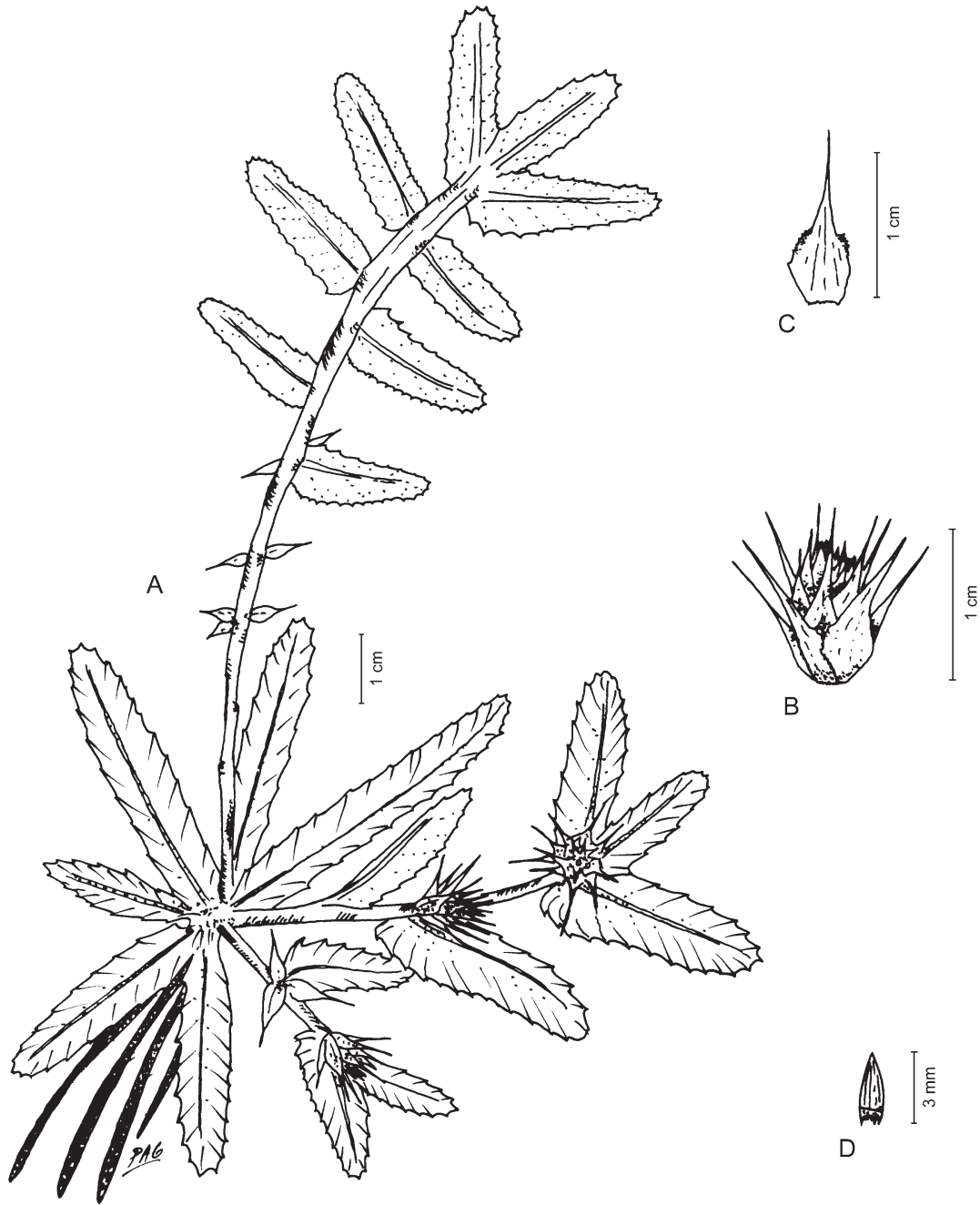


Fig. 2. *Acanthodesmos gibarensis* – A: plant with roots (drawn in solid black), shoots, leaves, capitula and remains of old capitula (on the longest shoot); B: mature capitulum; C: involucre bract; D: achene. – Drawing made from the holotype by Pedro Alejandro González Gutiérrez.

ing glabrescent with age, spine-tipped, spines usually as long as bracts; *paleae* similar to inner bracts but narrower and shorter; *corolla* violet or mauve, 5-merous. *Achenes* 2.8–3.2 × 1–1.5 mm, obovate or obconical, (9 or 10) (or 11)-ribbed; *pappus scales* much shorter than achene, c. as many as ribs, usually 10, unequal.

Phenology — Flowering and fruiting in the dry season (November to May), with a peak in December to February.

Distribution — *Acanthodesmos gibarensis* is rare and local in Gibara, NE Cuba (Fig. 3). (The Jamaican species, *A. distichus*, is also rare and local.)

Ecology — *Acanthodesmos gibarensis* thrives in the suburbs of the city of Gibara, specifically in a place comprising c. 10 000 m² on white, soft limestone (known as cocó in Cuba) with scarcely developed soil and covered by secondary vegetation, near the sea, between the Oficina de Epidemiología and the baseball stadium. Some

other endemic plant species found in this area are *Henleophytum echinatum* (Griseb.) Small (*Malpighiaceae*), *Jacquinia aculeata* (L.) Mez (*Primulaceae*), *Malpighia suberosa* Small (*Malpighiaceae*) and *Mesechites rosea* (A. DC.) Miers (*Apocynaceae*). Unfortunately, there are also exotic and invasive species such as *Jasminum fluminense* Vell. (*Oleaceae*) and *Dichrostachys cinerea* (L.) Wight & Arn. (*Fabaceae*). This last species, from Africa, is the worst Cuban weed.

Conservation status — *Acanthodesmos gibarensis* has not yet been found in any other localities along the N coast of Cuba near to Gibara despite our efforts. Plans for building water tanks in this area have been made. Considering the very small area where *A. gibarensis* grows as well as the proximity to the city of Gibara, the existence of roads and paths, illegal dumps and invasive species, we can state that it is Critically Endangered according to IUCN criteria CR B 1ab(iii)+2ab(iii); D (IUCN 2012).

Etymology — The specific epithet is derived from the town and municipality Gibara, where the species occurs.

Taxonomic remarks — *Acanthodesmos* C. D. Adams & duRoi (Adams 1971) was considered monotypic and restricted to Jamaica (*A. distichus*) until *A. gibarensis* was recently discovered. The genus was placed in subtribe *Vernoniinae* Less. by Bremer (1994: 216), but it has also been left unassigned to any subtribe of the *Vernonieae* Cass. (Robinson 2007). *Acanthodesmos* shares some characters with the genera *Pacourina* Aubl. and *Struchium* P. Browne (sessile capitula, spine-tipped bracts), although those two genera are restricted to wet habitats and are distributed throughout the American tropics, whereas *Acanthodesmos* is restricted to the Greater Antilles and thrives in a dry seashore habitat. In addition, *Pacourina*, a perennial, and *Struchium*, an annual, are erect herbs with large leaves, quite different from *Acanthodesmos*, which is a perennial trailing subshrub with small leaves.

Key to the species of *Acanthodesmos*

- 1. Stems decumbent; basal leaves in a rosette; leaf blade mostly of same width from base to apex, apex rounded or truncate, cuspidate; rudimentary or aborted capitula never composed of a single spine-tipped bract; capitula axillary or subaxillary, rarely leaf-opposed, always solitary ***A. gibarensis***
- Stems erect or ascending; basal leaves similar to stem leaves; leaf blade becoming increasingly narrow from middle to apex, apex long acute; rudimentary or aborted capitula sometimes reduced to a single spine-tipped bract; capitula leaf-opposed, solitary or in reduced shoots or synflorescences ***A. distichus***



Fig. 3. Geographic distribution of *Acanthodesmos gibarensis*.

Table 1. Diagnostic characters for separating *Acanthodesmos gibarensis* from *A. distichus*.

<i>Acanthodesmos gibarensis</i>	<i>Acanthodesmos distichus</i>
Stems decumbent	Stems erect or ascending
Basal leaves in a rosette	Basal leaves similar to stem leaves
Leaf apex rounded or truncate, cuspidate	Leaf apex long acute
Spinose bracts of rudimentary or aborted capitula never solitary	Spinose bracts of rudimentary or aborted capitula sometimes solitary
Capitula mostly axillary or subaxillary, always solitary	Capitula leaf-opposed, sometimes in reduced synflorescences

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References

Adams C. D. 1971: Miscellaneous additions and revisions to the flowering plants of Jamaica III. – *Phytologia* **21**: 405–410.

Bremer K. 1994: *Asteraceae*. Cladistics & classification. – Portland: Timber Press.

IUCN 2012: IUCN Red List categories and criteria: version 3.1, ed. 2. – Gland & Cambridge: IUCN.

Robinson H. 2007: Tribe *Vernonieae* Cass (1819). – Pp. 149–174 in: Kadereit J. W. & Jeffrey C. (ed.), *The families and genera of vascular plants 8. Flowering plants. Eudicots. Asterales*. – Berlin, Heidelberg & New York: Springer.