Research article

Acta Botanica Mexicana

A new species with revolute basal leaf margins of *Allomaieta* (Melastomataceae, Cyphostyleae) from Colombia

Una nueva especie con los márgenes basales de la lámina foliar revolutos de *Allomaieta* (Melastomataceae, Cyphostyleae) de Colombia

Juan Mauricio Posada-Herrera[1,2,3], Jairo Andrés Orozco-A[1,2], Julio Andrés Sierra-Giraldo[1,2]

Abstract

Background and Aims: *Allomaieta* (Melastomataceae, Cyphostyleae) is a genus of small trees and shrubs endemic to Colombia. Field explorations conducted between 2022 and 2025 in the eastern region of the department Caldas revealed specimens with unique basal revolute leaf margins. The aim of this study is to describe and illustrate *Allomaieta basirevoluta* sp. nov. from the Central Cordillera of the Colombian Andes, and discuss its taxonomic affinities, ecology, phenology, and conservation status.

Methods: Field collections were carried out near the Selva de Florencia National Natural Park. Herbarium collections and relevant taxonomic literature were reviewed. Morphological structures were measured from dried and ethanol-preserved specimens. Its conservation status was evaluated following IUCN Red List criteria.

Key results: *Allomaieta basirevoluta* is described as a new species known from the departments Caldas and Antioquia at elevations between 500 and 1000 m. It represents the first species within the tribe Cyphostyleae known to possess margin domatia. It is morphologically similar to *A. javierbarrigae,* from which it differs in its margin domatia and white petals, and to the white-flowered *A. zenufanasana* and *A. ebejicosana*, from which it differs in its sparsely strigose indumentum, simple dichasia with 3-5 flowers, and larger petals. Known from only two localities outside protected areas, the species is provisionally assessed as Endangered (EN) criterion B1ab(ii,iii,v)+2ab(ii,iii,v).

Conclusions: *Allomaieta basirevoluta* expands the known diversity of the genus to 14 species. The discovery of *A. basirevoluta* in unprotected forest remnants near Selva de Florencia National Natural Park highlights the conservation value of the lowland humid forests of the Magdalena valley in Caldas, where expanding livestock farming threatens the endemic flora.

Key words: Central Cordillera, domatia, endemic flora, Neotropics, threatened species.

Resumen

Antecedentes y Objetivos: *Allomaieta* (Melastomataceae, Cyphostyleae) es un género de pequeños árboles y arbustos endémicos de Colombia. Exploraciones de campo realizadas entre 2022 y 2025 en el oriente del departamento Caldas permitieron el hallazgo de especímenes con márgenes foliares basales revolutos únicos. El objetivo de este trabajo es describir e ilustrar a *Allomaieta basirevoluta*, una nueva especie de la Cordillera Central de los Andes colombianos, discutiendo sus afinidades taxonómicas, ecología, fenología y estado de conservación.

Métodos: Se realizaron colectas en cercanías del Parque Nacional Natural Selva de Florencia. Se revisaron colecciones de herbario y literatura taxonómica del género. Las estructuras morfológicas fueron medidas en material seco y preservado en etanol. Su estado de conservación se determinó según los criterios de la Lista Roja de la UICN.

Resultados clave: Se describe *Allomaieta basirevoluta*, especie conocida para los departamentos Caldas y Antioquia entre 500 y 1000 m de elevación. Constituye la primera especie descrita en la tribu Cyphostyleae con domacios marginales. Es morfológicamente similar a *A. javierbarrigae*, de la cual se diferencia por sus domacios marginales y sus pétalos blancos (*vs*. rosados), y a las especies de flores blancas *A. zenufanasana* y *A. ebejicosana*, de las cuales se diferencia por su indumento laxamente estrigoso, sus dicasios simples con 3-5 flores y sus pétalos más grandes. Conocida solo de dos localidades fuera de áreas protegidas, la especie se evalúa provisionalmente como En Peligro (EN) según los criterios B1ab(ii,iii,v)+2ab(ii,iii,v).

Conclusiones: El descubrimiento de *Allomaieta basirevoluta* eleva a 14 el número de especies del género. El hallazgo de *A. basirevoluta* en remanentes de bosque no protegidos cerca del Parque Nacional Natural Selva de Florencia resalta el valor de conservación de los bosques húmedos bajos del valle del Magdalena en Caldas, donde la expansión ganadera amenaza la flora endémica.

Palabras clave: Cordillera Central, domacios, especie amenazada, flora endémica, Neotrópico.

[1]Fundación Conservación de la Selva Colombiana, Carrera 24 #46-72 Apartamento 302, 170004 Manizales, Caldas, Colombia.
[2]Herbario Universidad de Caldas, Calle 65 #26-10, 170004 Manizales, Caldas, Colombia.
[3]Autor para la correspondencia: juan.posada87@gmail.com

Received: August 24, 2026.
Reviewed: September 23, 2026.
Accepted by Marie-Stéphanie Samain: October 26, 2026.
Published Online first: October 29, 2026.
Published: Acta Botanica Mexicana 133(2026).

This is an open access article under the Creative Commons 4.0 Attribution-Non Commercial Licence (CC BY-NC 4.0 Internacional).

To cite as: Posada-Herrera, J. M., J. A. Orozco-A and J. A. Sierra-Giraldo. 2026. A new species with revolute basal leaf margins of *Allomaieta* (Melastomataceae, Cyphostyleae) from Colombia. Acta Botanica Mexicana. Acta Botanica Mexicana 133: e2639. DOI: https://doi.org/10.21829/abm133.2026.2660

e-ISSN: 2448-7589

Introduction

Cyphostyleae is a remarkable tribe of the family Melastomataceae distinguished by the unique combination of haplostemonous flowers and inferior ovaries that develop into capsules (Gleason, 1929; Michelangeli et al., 2011, 2014, 2022; Mendoza-Cifuentes, 2018). This monophyletic tribe comprises approximately 25 species across four genera (Michelangeli et al., 2011; 2022). Among them, *Allomaieta* Gleason is the largest, with 13 species, few known populations, and are poorly represented in herbaria (Lozano and Becerra-de-Lozano, 1999; Michelangeli et al., 2011, 2022; Murillo-Serna and David-Higuita, 2021; Murillo-Serna et al., 2025a, b).

Allomaieta comprises shrubs and small trees endemic to Colombia. In the most recent revision of the genus, Lozano and Becerra-de-Lozano (1999) treated *Cyphostyla* Gleason as a synonym of *Allomaieta*. This genus inhabits tropical humid forests, sub-Andean forests, and Andean forests (Murillo-Serna et al., 2025b), at elevations ranging from 470 to 2650 m (Almeda et al., 2016) and is recognized by its cymose inflorescences, calyptrate, haplostemonous flowers, S-shaped filaments, a style curved at the apex and large petals (8-36 mm long), often exhibiting contrasting color patterns between the base and apex (Lozano and Becerra-de-Lozano, 1999; Michelangeli et al., 2011, 2022; Mendoza-Cifuentes, 2020; Murillo-Serna et al., 2025b).

Within the tribe Cyphostyleae, leaf domatia have so far been reported only in *Allomaieta grandiflora* Gleason, which bears sac-shaped myrmecodomatia at the base of the leaf blade, usually on the larger leaf of each pair (Lozano and Becerra-de-Lozano, 1999). No other species in the tribe is known to bear domatia, and margin domatia have not been recorded in Cyphostyleae. Across Melastomataceae as a whole, however, leaf domatia are widespread: they occur in several tribes, have evolved multiple times, and are commonly occupied by ants and mites (Judd et al., 2022). More recently, other arthropod groups have also been recorded in them, including Thysanoptera (3 species), Collembola (1 species), and Araneae (1 species) (Gutiérrez-Duque and Posada-Herrera, 2025). Based on their morphology, domatia are classified into five categories: (1) tuft domatia, (2) pocket domatia, (3) sac domatia, (4) pit domatia, and (5) margin domatia (Wilkinson, 1979). During fieldwork conducted in 2022, 2024, and 2025 near the Selva de Florencia National Natural Park (Samaná, Caldas), several specimens of the genus *Allomaieta* with revolute basal leaf margins that may function as acarodomatia (margin domatia sensu Wilkinson, 1979) were collected. These specimens do not correspond to any known species, so they are described and illustrated here as a new species. Notes on phenology, distribution, taxonomic affinities, and ecology are also included.

Materials and Methods

During field explorations conducted in the eastern region of the Caldas department, specimens of the new species were collected. Subsequently, to confirm the taxonomic novelty, relevant literature on the genus was reviewed (Gleason, 1929, 1933; Lozano and Becerra-de-Lozano, 1999; Mendoza-Cifuentes, 2018; Murillo-Serna and David-Higuita, 2021; Murillo-Serna et al., 2025a, b), and herbaria collections of FAUC, HUA, and JAUM were consulted, along with virtual images from the herbaria COL, F, NY, and US (acronyms according to Thiers, 2026), covering all type collections within the genus. Images from COL were consulted on its online collections portal (ICN, 2026), and those from F, NY, and US in JSTOR Global Plants (JSTOR, 2026).

For the description of the new taxon, vegetative structures and seeds were measured from dried material, while reproductive structures were measured from ethanol-preserved material using a precision caliper (Uyustool, model CLD006, Hangzhou, China) with 0.1 mm accuracy. Morphological descriptions followed the terminology of Gleason (1929; 1933), Lozano and Becerra-de-Lozano (1999), and Mendoza-Cifuentes (2018). Trichome types were identified based on the Atlas of Hairs for Neotropical Melastomataceae (Wurdack, 1986). Distribution maps were generated using ArcGIS Pro v. 2.5 (ESRI, 2020) and R v. 4.5.1 (R Core Team, 2025). The conservation status of the new species was assessed following the IUCN Red List Categories and Criteria (IUCN, 2012) and the Guidelines

for Using the IUCN Red List Categories and Criteria (IUCN, 2024). The extent of occurrence (EOO), area of occupancy (AOO), and number of locations were estimated with the R package ConR v. 2.1 (Dauby et al., 2017), using a 2 × 2 km grid for the AOO and a 10 × 10 km grid for the number of locations. Because the EOO calculated as the minimum convex polygon was smaller than the AOO, it was set equal to the AOO, as recommended by IUCN (2024). The number of locations obtained was then checked against the threat-based definition of location (IUCN, 2024). Floral visitors were observed and photographed opportunistically during fieldwork; bees were identified from photographs by Jhon Faiber Alarcón (Fundación Milenaria).

Results

Allomaieta basirevoluta Posada-Herrera, Orozco-A & Sierra-Gir., **sp. nov.** Figs. 1, 2.

TYPE: COLOMBIA. Caldas, municipio Samaná, corregimiento Berlín, vereda La Reforma, predio Palacio, sector Alto del Oso, 983 m, 5°34'50.5''N, 74°57'10.8''W, 10.VIII.2024 (fl, fr), *J. A. Sierra-Giraldo and J. A. Orozco-A 2100* (holotype: FAUC!; isotypes: CAS, COL, CUVC, HUA, JAUM, NY).

Allomaieta basirevoluta is characterized by leaves with basal to slightly plinerved venation and basally revolute margins forming margin domatia, simple dichasial inflorescences with 3-5 flowers, and white petals 19.4-25.2 × 18.1-20 mm. It is most similar to *A. javierbarrigae* Humberto Mend. in venation, inflorescence structure, and strigose indumentum, but differs in its basally revolute margins forming domatia (*vs.* flat, without domatia), white petals (*vs.* pink, white toward the base), longer calyptra (10.6-11 mm *vs.* 7-8 mm), and longer hypanthia (3.1-3.6 mm *vs.* 2.5-3.1 mm). It differs from the sympatric *A. melidae* J.S.Murillo, Posada-Herrera, Orozco-A & Sierra-Gir. in its basal (*vs.* 3-suprabasal) venation, simple dichasia with 3-5 flowers (*vs.* dichasial cymes with monochasial paracladia, 7 flowers), longer strigose hairs on branches (0.5-0.8 mm *vs.* <0.1 mm), and white petals (*vs.* light pink with violet stripes), and from the sympatric *A. peltata* J.S.Murillo, Posada-Herrera, Orozco-A & Sierra-Gir. in its basally attached petioles (*vs.* peltate) and larger petals (*vs.* 14-18.4 × 12.4-16.2 mm).

Shrub 1.5-2.5 m tall; stems and petioles with a lax strigose indumentum of conic hairs 0.5-0.8 mm long (type 14 of Wurdack, 1986), glabrescent on older internodes; internodes 5.7-53.3 mm long, 1.1-2.3 mm diameter, terete; leaves opposite, anisophyllous, those of a pair similar in shape but unequal in size; petiole 6.8-21.5 mm long, 0.6-1 mm diameter, terete; leaf blades chartaceous, smaller leaves 3.4-9.6 × 1.6-4.1 cm, larger leaves 8.1-13.1 × 2.5-5.2 cm, elliptic to narrow-elliptic, base acute with revolute margins 1.2-2.1 × 0.3 mm (Figs. 1C, D), apex acuminate, margin entire, adaxial and abaxial surfaces sparsely covered by conic hairs up to 0.1 mm long (type 14), abaxial face with primary and secondary veins and margin sparsely covered principally by elongated hairs up to 1.2 mm long (type 11) (Figs. 1B, 2B, C), venation with 2 pairs of secondary veins (including the marginal pair), the innermost pair basal or plinervate to 0.5-2.6 mm above the base, 18-28 tertiary veins adjacent to the middle vein, 3.1-5 mm apart; primary, secondary and tertiary veins raised on the abaxial surface; inflorescences 21.5-49.4 mm long, terminal, simple dichasial with the same indumentum as the petioles, peduncle 15.4-28.3 mm long, 3-5 flowers per inflorescence (Figs. 1A, 2E); proximal bracts 3.3-4.2 × ca. 1 mm, narrow oblong or linear, covered by conic hairs up to 0.1 mm long (type 14); bracteoles 0.8-1.2 × 0.5-0.7 mm, lanceolate or linear, covered by conic hairs up to 0.1 mm, deciduous during anthesis; flowers 5-merous, haplostemonous, pedicel 1.7-7.9 mm long, sparsely covered by conic hairs 0.2-0.4 mm long; hypanthium 3.1-3.6 mm long up to the torus, 4.1-4.7 mm diameter, obconical, sparsely covered by bulla-based hairs 0.6-0.8 mm long (type 15) (Fig. 1G); calyx calyptrate, calyptra in flower buds 10.6-11 mm long, 4.5-5 mm diameter at base, opening by 2 valves, deciduous in anthesis, internally glabrous, externally with the same indumentum as the hypanthium (Fig. 1E); corolla rotate, petals 19.4-25.2 × 18.1-20 mm, white, with translucent stripes, obovate, apex truncate and slightly cuspidate,

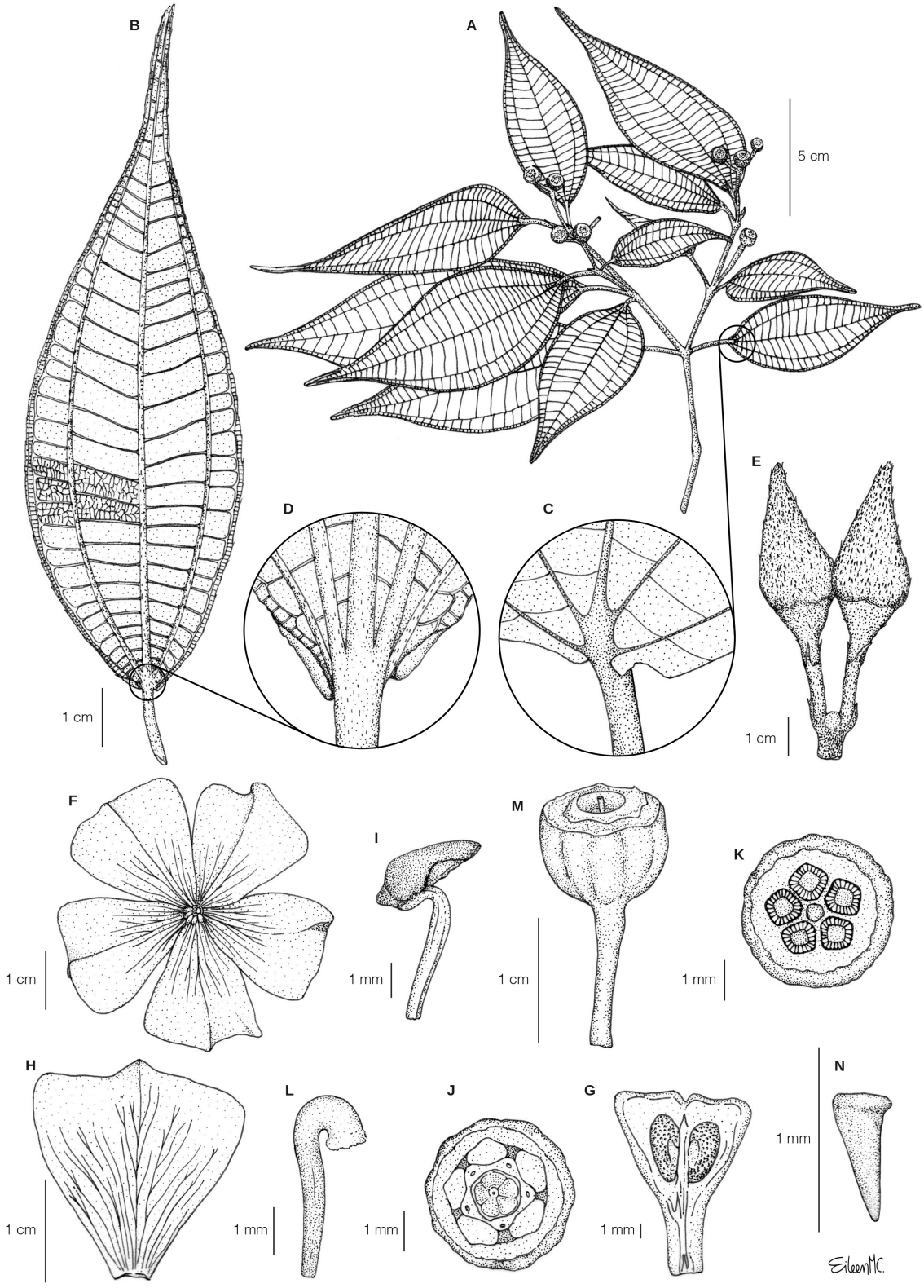


Figure 1: *Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir. A. fertile branch; B. detail of the blade on the abaxial surface; C. detail of the base of the blade on the adaxial surface; D. detail of the basal margin domatia; E. flower buds; F. flower; G. detail of the hypanthium in longitudinal section; H. petal; I. stamen; J. detail of the ovary apex and stamen insertion points; K. ovary in cross-section; L. style; M. fruit; N. seed. Drawn by Eileen Muñoz, based on *J. A. Sierra-Giraldo and J. A. Orozco-A 2100* (FAUC).

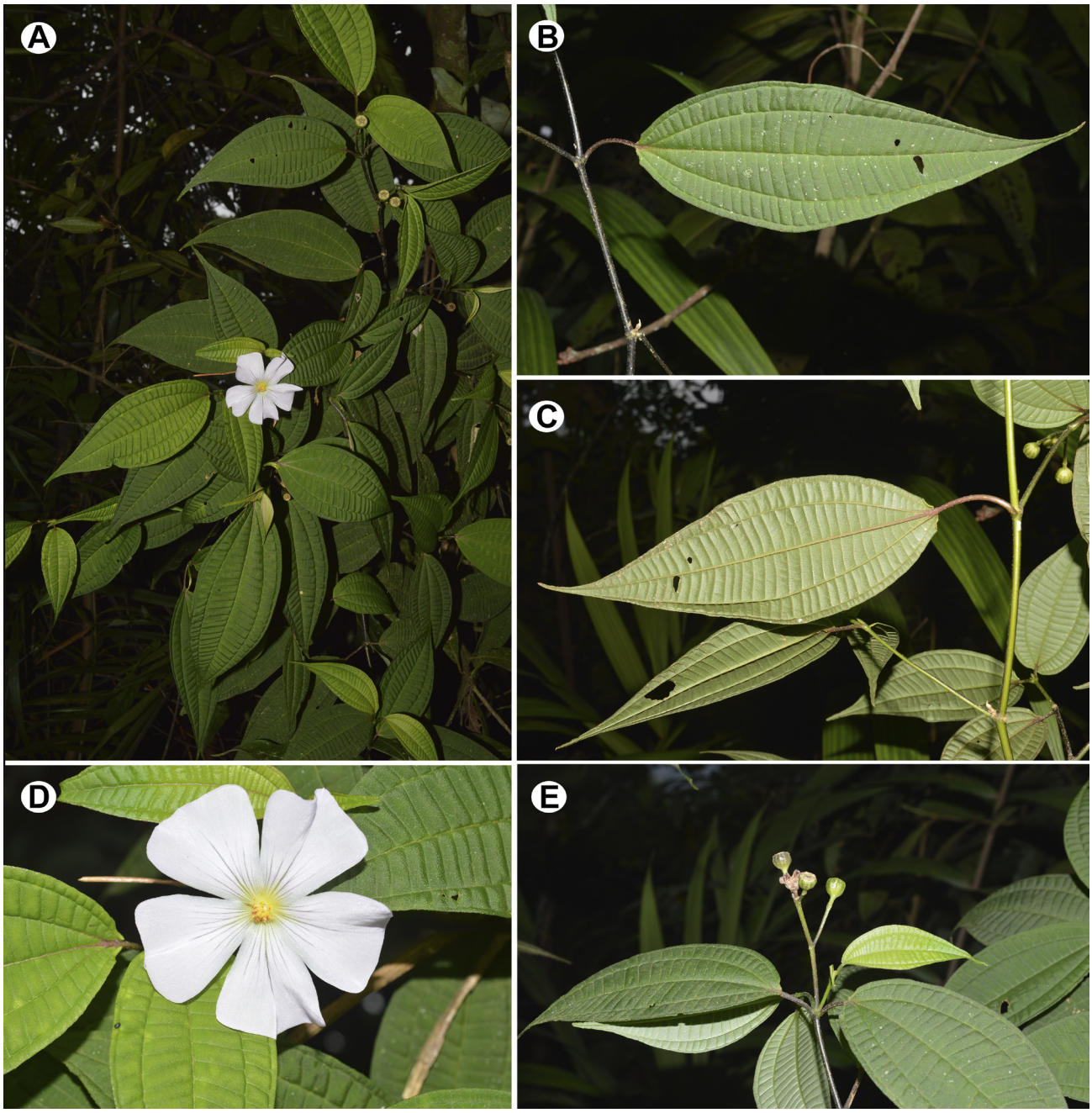


Figure 2: *Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir. A. habit; B. adaxial leaf surface; C. abaxial leaf surface; D. flower at anthesis; E. fruiting branch. Photographs by Julio Andrés Sierra-Giraldo.

margin entire (Figs. 1F, H, 2D); stamens 5, isomorphic, antesepalous, surrounding the style on one flank causing a slight zygomorphy, filaments 3.3-3.9 mm long, 0.47-0.65 mm diameter, flattened, curved in the upper half, yellow; anthers 3.5-3.9 × ca. 1 mm, oblong, apically acute, yellow, pore ca. 0.2 mm wide, located in a ventral canal ca. 0.5 mm from the apex, the connective dorsal base extended 0.2-0.4 mm, pedoconnective absent (Fig. 1I); ovary 5-celled, totally inferior, glabrous in apex, 2-2.3 × 2.1-2.3 mm in longitudinal section (Figs. 1J, K); style 3.7-4.2 mm long, 0.4-0.5 mm diameter in the middle part, apically incurved, glabrous (Fig. 1L); stigma 0.6-0.7 mm diameter, truncated, papillose; capsule 3.8-4.5 × 3.8-4.8 mm, brown at maturity, cupuliform (Fig. 1M); pedicel 4.6-13.4 mm long; seeds 0.5-0.7 × 0.2-0.3 mm, cuneiform, with aristate sides and a shining raphe (Fig. 1N).

Etymology: the specific epithet refers to the revolute leaf bases, a unique feature not documented in other species of the genus *Allomaieta*.

Distribution, ecology, and phenology: *Allomaieta basirevoluta* is known from the eastern slope of the Central Cordillera of the Colombian Andes, at an elevation between 500 and 1000 m, within the departments Antioquia and Caldas (Fig. 3). It occurs in the understory of dense forests. Flowering specimens have been collected in February and August, and fruiting specimens in February, April, and August. Visits by individuals of the

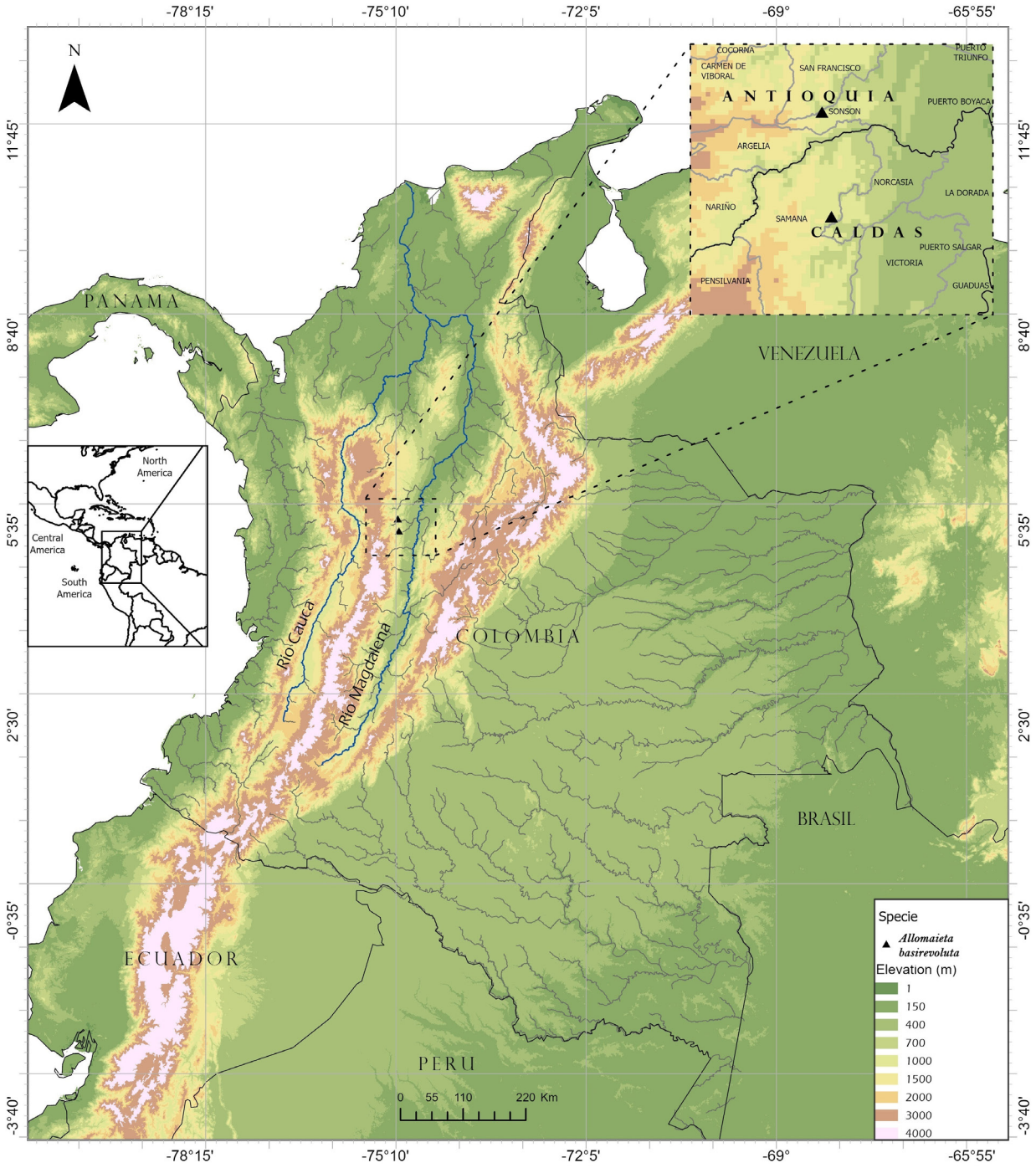


Figure 3: Distribution map of *Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir. in the Andean cordillera of Antioquia and Caldas, Colombia. Map created by Maria Camila Ángel Vallejo.

stingless bee *Trigona fulviventris* Guérin-Méneville, 1844 were observed. The bees were collecting pollen from the anthers and petals without exhibiting buzz pollination behavior (Fig. 4). Additionally, margin domatia were present at the base of all leaf blades in the specimens examined. In these domatia, silk-like tissue structures were occasionally observed, within which invertebrate eggs could be identified (Fig. 5).

Preliminary conservation status: *Allomaieta basirevoluta* is known from two localities, one in Antioquia and one in Caldas, ca. 21 km apart, with an AOO of 8 km^2 (EOO set equal to AOO). Both populations occur outside protected areas, in remnants of ombrophilous forest subject to ongoing deforestation driven by livestock activities. Continuing decline in AOO, habitat quality, and number of mature individuals is inferred from field observations.

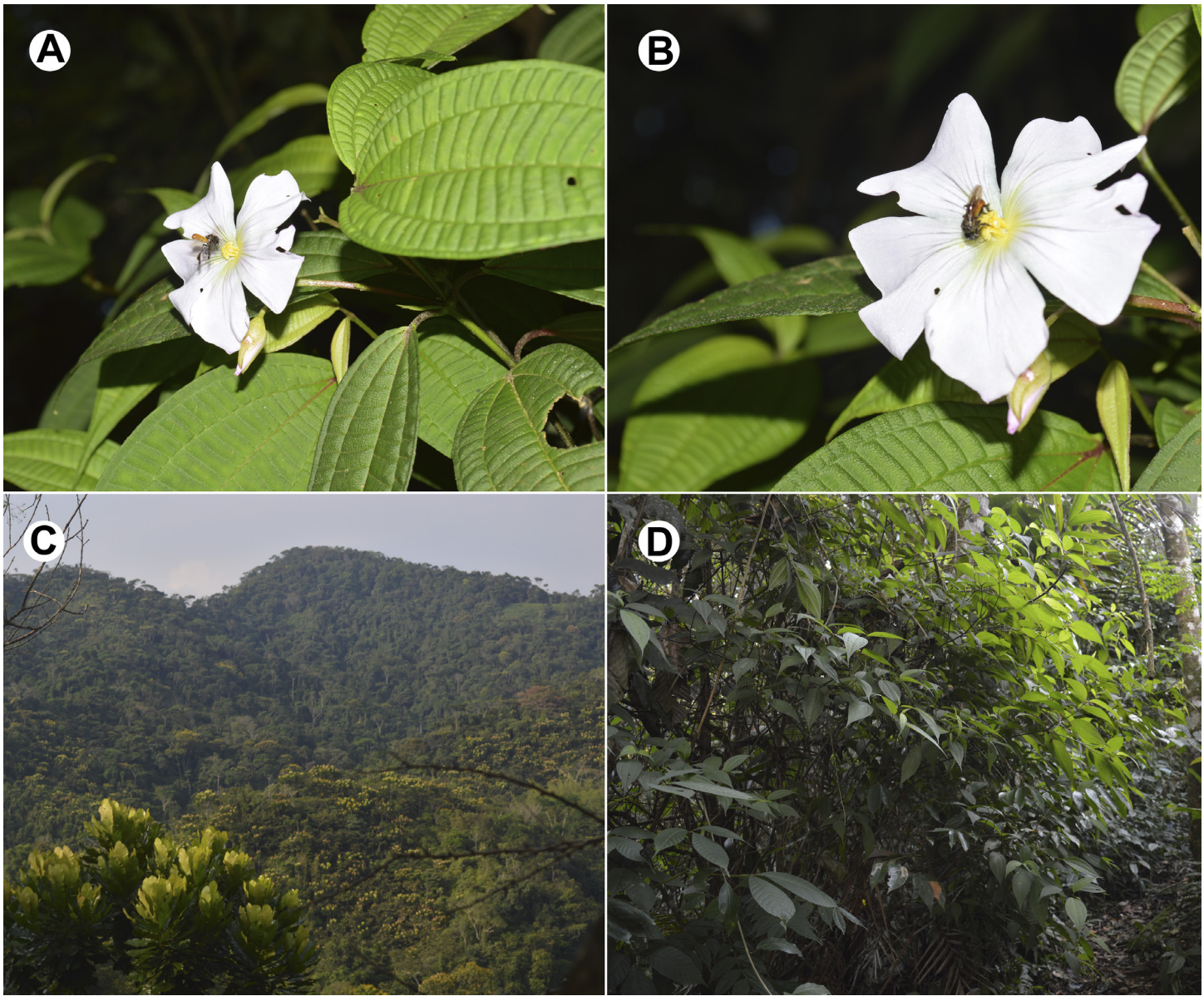


Figure 4: *Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir. A., B. flower visit by an individual of the bee *Trigona fulviventris* Guérin-Méneville, 1844; C. landscape view of the forest habitat in Samaná (Caldas, Colombia); D. individual in its natural habitat inside the forest. Photographs by Julio Andrés Sierra-Giraldo.

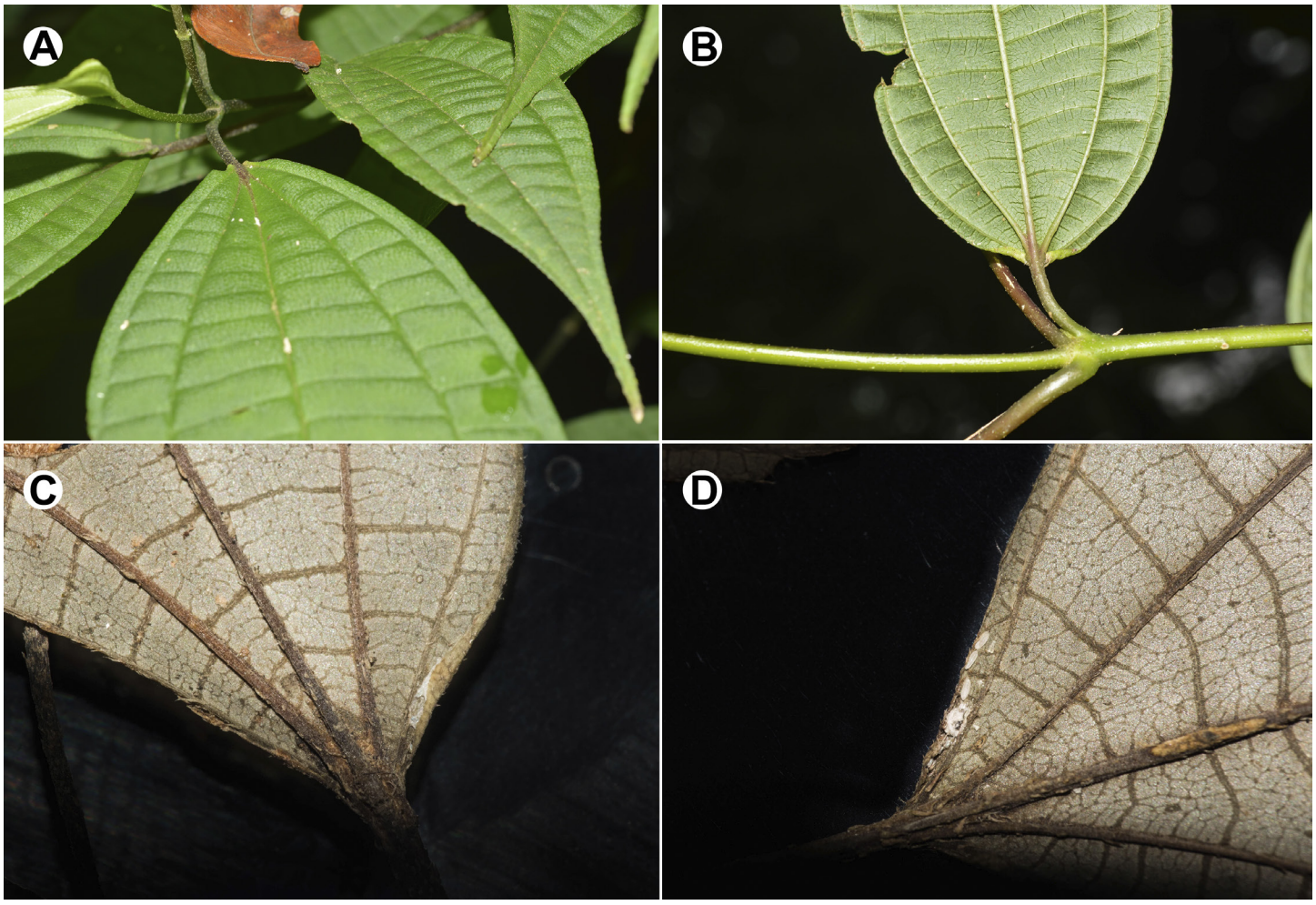


Figure 5: *Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir. A. revolute base of the blade on the adaxial surface; B. basal margin domatia; C, D. basal margin domatia with silky tissue and unidentified eggs. Photographs by Julio Andrés Sierra-Giraldo (A, B) and Juan Mauricio Posada-Herrera (C, D).

Although the EOO and AOO values fall within the thresholds for Critically Endangered, the species is known from only two locations (Samaná and Sonsón), which meets subcriterion a for Endangered but not for Critically Endangered. We therefore propose a provisional status of Endangered (EN) under criteria B1ab(ii,iii,v)+2ab(ii,iii,v) (IUCN, 2012; 2024). Given the proximity of the populations to Selva de Florencia National Natural Park, the species may also occur within the park, in which case its status should be reassessed.

Specimens examined: COLOMBIA. Antioquia, municipio Sonsón, vereda Campo Alegre, cerca de la quebrada San Juan, cabecera del Río Claro, 560 m, 5°46'22.6''N, 74°58'13.6''W, 30.IV.2016 (fr), *A. Atehortúa et al. 286* (JAUM). Caldas, municipio Samaná, corregimiento Berlín, vereda La Reforma, predio Palacio, sector Alto del Oso, 980 m, 5°34'50.9''N, 74°57'11.8''W, 2.II.2022 (fl, fr), *J. A. Orozco-A and J. A. Sierra-Giraldo 1423* (CAS, CAUP, COL, CUVC, FAUC, FMB, HUA, HUQ, JAUM, JBB, MO, NY, UDBC, UIS); loc. cit., 2.II.2022 (fl), *J. A. Orozco-A and J. A. Sierra-Giraldo 1424* (COL, CUVC, FAUC, FMB, HUA, HUQ, JAUM, MEDEL); loc. cit., 25.II.2025 (fr), *J. A. Sierra-Giraldo and J. A. Orozco-A 2113* (FAUC, HUA), *2114* (COL, FAUC, JAUM), *2115* (COL, CUVC, FAUC, JAUM).

Discussion

Allomaieta basirevoluta is the first species of the tribe Cyphostyleae known to have margin domatia. It resembles *A. javierbarrigae* in leaf shape and size, sparsely strigose indumentum, basal to slightly plinerved venation, and simple dichasia with 3-5 flowers, but differs in having margin domatia at the leaf base (*vs.* absent), longer hypanthia (3.1-3.6 mm *vs.* 2.5-3.1 mm), and white petals (*vs.* pink, white toward the base) (Appendix).

The two sympatric species differ more markedly: *A. melidae* has 3-suprabasal venation, dichasial cymes with monochasial paracladia bearing 7 flowers, stems and petioles densely covered with papillae and bulla-based hairs <0.1 mm long, and light pink petals with violet stripes, whereas *A. peltata* has peltate leaves, 5-basal venation, compound cymes with 16-34 flowers, and smaller petals (14-18.4 × 12.4-16.2 mm) (Murillo-Serna et al., 2025b).

Among the remaining white-flowered species, *A. zenufanasana* and *A. ebejicosana* have a hispid indumentum on the branches, inflorescence axes, and hypanthium, plinerved venation, thyrsoid inflorescences with up to 12 and 27 flowers, respectively, and much smaller petals (ca. 11 × 8 mm and 8 × 6 mm, respectively) (Lozano and Becerra-de-Lozano, 1999; Mendoza-Cifuentes, 2018). The Appendix shows further details on diagnostic characters.

Margin domatia are structures typically inhabited by mites (Romero and Benson, 2005). However, the ecological roles of domatia in the Melastomataceae family remain poorly studied (Judd et al., 2022). In *A. basirevoluta*, the silk-like tissue and unidentified eggs observed within the basally revolute leaf margins suggest that these domatia may also be used by other invertebrates, highlighting how little is known about domatia ecology in this family.

Allomaieta basirevoluta is the third species of the genus recorded from the lowland forests of eastern Caldas, together with *A. melidae* and *A. peltata* (Murillo-Serna et al., 2025b). Its restricted range outside protected areas, under ongoing pressure from livestock farming, underscores the need to protect these forests and to include them in regional conservation planning.

Author contributions

Conceptualization: JMPH, JAOA, JASG; Formal analysis: JMPH, JASG; Investigation: JMPH, JASG; Resources: JAOA, JASG; Writing – original draft: JMPH; Writing – review & editing: JMPH, JASG; Visualization: JMPH.

Funding

This study was supported by the Universidad de Caldas and ISAGEN under the project "Implementación y seguimiento del plan de restauración ecológica de ecosistemas terrestres y acuáticos y del plan de conservación para la especie Gustavia romeroi S.A. Mori & García-Barr." Agreement 33/75.

Acknowledgements

We thank the Universidad de Caldas and ISAGEN and their project "Implementación y seguimiento del plan de restauración ecológica de ecosistemas terrestres y acuáticos y del plan de conservación para la especie *Gustavia romeroi* S.A. Mori & García-Barr." Agreement 33/75, for promoting botanical explorations in the Magdalena Caldense, which allowed the discovery and recognition of this new species. To the directors of the herbaria FAUC, HUA, and JAUM, for allowing the consultation of the collections. To Maria Camila Ángel Vallejo for her support in creating the map and Eileen Muñoz for the illustration of the species, and to Jhon Faiber Alarcón (Fundación Milenaria) for identifying the bees.

Declaration of use of Artificial Intelligence

During the revision of the manuscript, we used the AI assistant Claude (Anthropic) to check its internal consistency, to edit the English text, and to suggest wording for some sentences added in response to the editorial comments; all suggestions were reviewed and modified by the authors. AI was not used to generate data, figures, ideas, or conclusions. The authors take full responsibility for the content of the manuscript.

Literature cited

Almeda, F., H. Mendoza-Cifuentes, D. S. Penneys, F. A. Michelangeli and M. Alvear. 2016. Melastomataceae. In: Bernal, R., S. R.

Gradstein and M. Celis (eds.). Catálogo de plantas y líquenes de Colombia, Vol. 2. Instituto de Ciencias Naturales, Universidad Nacional de Colombia. Bogotá, Colombia. Pp. 1588-1654. http://catalogoplantasdecolombia.unal.edu.co (consulted October, 2026).

Dauby, G., T. Stévart, V. Droissart, A. Cosiaux, V. Deblauwe, M. Simo-Droissart, M. S. M. Sosef, P. P. Lowry II, G. E. Schatz, R. E. Gereau and T. L. P. Couvreur. 2017. ConR: An R package to assist large-scale multispecies preliminary conservation assessments using distribution data. Ecology and Evolution 7(24): 11292-11303. DOI: https://doi.org/10.1002/ece3.3704

ESRI. 2020. ArcGIS Pro v. 2.5. Environmental Systems Research Institute. Redlands, USA. https://www.esri.com/en-us/arcgis/products/arcgis-pro/overview (consulted October, 2026).

Gleason, H. A. 1929. Studies on the flora of northern South America-XII. Cyphostyleae: a new tribe of Melastomataceae. Bulletin of the Torrey Botanical Club 56(2): 97-112. DOI: https://doi.org/10.2307/2480434

Gleason, H. A. 1933. Studies on the flora of northern South America-XVIII. Plantae Lawranceanae Colombianae. Phytologia 1(1): 25-38. DOI: https://doi.org/10.5962/bhl.part.18987

Gutiérrez-Duque, D. and J. M. Posada-Herrera. 2025. A new species of *Miconia* (Melastomataceae) with domatia from the Andean Cordilleras of Colombia. Brittonia 77(2): 184-193. DOI: https://doi.org/10.1007/s12228-025-09829-y

ICN. 2026. Colecciones en Línea. Instituto de Ciencias Naturales, Universidad Nacional de Colombia. https://www.biovirtual.unal.edu.co/ (consulted March, 2026).

IUCN. 2012. IUCN Red List Categories and Criteria: Version 3.1. Second edition. IUCN. Gland, Switzerland and Cambridge, UK. 32 pp. https://portals.iucn.org/library/node/10315 (consulted July, 2025).

IUCN. 2024. Guidelines for Using the IUCN Red List Categories and Criteria. Version 16. Prepared by the Standards and Petitions Committee. https://www.iucnredlist.org/documents/RedListGuidelines.pdf (consulted July, 2025).

JSTOR. 2026. Global Plants. https://plants.jstor.org/ (consulted March, 2026).

Judd, W. S., L. C. Majure, F. A. Michelangeli, R. Goldenberg, F. Almeda, D. S. Penneys and R. D. Stone. 2022. Morphological variability within the Melastomataceae (Myrtales), including a discussion of the associated terminology. In: Goldenberg, R., F. A. Michelangeli and F. Almeda (eds.). Systematics, Evolution, and Ecology of Melastomataceae. Springer. Cham, Switzerland. Pp. 46-85. DOI: https://doi.org/10.1007/978-3-030-99742-7_3

Lozano, G. and N. Becerra-de-Lozano. 1999. Los géneros *Allomaieta* y *Cyphostyla* (Melastomataceae). Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales 23(86): 5-18.

Mendoza-Cifuentes, H. 2018. Una nueva especie de *Allomaieta* (Melastomataceae: Cyphostyleae) del piedemonte amazónico de los Andes de Colombia. Biota Colombiana 19(Supl. 1): 10-16. DOI: https://doi.org/10.21068/c2018.v19s1a02

Mendoza-Cifuentes, H. 2020. Revisión taxonómica del género *Wurdastom* (Melastomataceae: Cyphostyleae). Acta Botanica Mexicana 127: e1642. DOI: https://doi.org/10.21829/abm127.2020.1642

Michelangeli, F. A., A. Nicolas, M. E. Morales-P. and H. David. 2011. Phylogenetic relationships of *Allomaieta*, *Alloneuron*, *Cyphostyla*, and *Wurdastom* (Melastomataceae) and the resurrection of the tribe Cyphostyleae. International Journal of Plant Sciences 172(9): 1165-1178. DOI: https://doi.org/10.1086/662032

Michelangeli, F. A., C. Ulloa Ulloa and K. Sosa. 2014. *Quipuanthus*, a new genus of Melastomataceae from the foothills of the Andes in Ecuador and Peru. Systematic Botany 39(2): 533-540. DOI: https://doi.org/10.1600/036364414X680924

Michelangeli, F. A., J. S. Murillo-Serna and H. Mendoza-Cifuentes. 2022. The Cyphostyleae, a small tribe rich in rare characters in the family. In: Goldenberg, R., F. A. Michelangeli and F. Almeda (eds.). Systematics, Evolution, and Ecology of Melastomataceae. Springer. Cham, Switzerland. Pp. 307-319. DOI: https://doi.org/10.1007/978-3-030-99742-7_14

Murillo-Serna, J. S. and H. David-Higuita. 2021. Una nueva especie de *Allomaieta* (Melastomataceae: Cyphostyleae) de Colombia. Brittonia 73(2): 189-194. DOI: https://doi.org/10.1007/s12228-021-09659-8

Murillo-Serna, J. S., E. Trujillo-Trujillo, H. A. David-Higuita, O. Perdomo and H. Mendoza-Cifuentes. 2025a. *Allomaieta*

isauroi (Melastomataceae, Cyphostyleae): a new species from the Andean-Amazonian Foothills of Colombia. Phytotaxa 711(1): 81-88. DOI: https://doi.org/10.11646/phytotaxa.711.1.6

Murillo-Serna, J. S., J. A. Sierra-Giraldo, J. A. Orozco-A and J. M. Posada-Herrera. 2025b. Two new species of the Colombian endemic genus *Allomaieta* (Melastomataceae: Cyphostyleae). Phytotaxa 730(2): 177-188. DOI: https://doi.org/10.11646/phytotaxa.730.2.5

R Core Team. 2025. R: A language and environment for statistical computing. R Foundation for Statistical Computing. Vienna, Austria. http://www.R-project.org/ (consulted July, 2025).

Romero, G. Q. and W. W. Benson. 2005. Biotic interactions of mites, plants and leaf domatia. Current Opinion in Plant Biology 8(4): 436-440. DOI: https://doi.org/10.1016/j.pbi.2005.05.006

Thiers, B. 2026. Index Herbariorum: A global directory of public herbaria and associated staff. New York Botanical Garden's Virtual Herbarium. http://sweetgum.nybg.org/science/ih/ (consulted July, 2026).

Wilkinson, H. P. 1979. The plant surface (mainly the leaf). In: Metcalfe, C. R. and L. Chalk (eds.). Anatomy of the Dicotyledons, Vol. 1., 2nd ed. Clarendon Press. Oxford, UK. Pp. 97-165.

Wurdack, J. J. 1986. Atlas of hairs for neotropical Melastomataceae. Smithsonian Contributions to Botany 63: 1-80. DOI: https://doi.org/10.5479/si.0081024X.63

Appendix: Comparison of morphological characters and distribution of *Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir. and similar species. Data from Lozano and Becerra-de-Lozano (1999), Mendoza-Cifuentes (2018), Murillo-Serna et al. (2025b), and examination of specimens.

Character	*Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir.	*Allomaieta javierbarrigae* Humberto Mend.	*Allomaieta melidae* J.S.Murillo, Posada-Herrera, Orozco-A & Sierra-Gir.	*Allomaieta peltata* J.S.Murillo, Posada-Herrera, Orozco-A & Sierra-Gir.	*Allomaieta zenufanasana* Lozano	*Allomaieta ebejicosana* Lozano
Indumentum of branches	Sparsely strigose	Strigose	Strigose, trichomes bulla-based	Strigose	Hispid	Hispid
Trichome length on branches (mm)	0.5-0.8	0.4-0.8	<0.1	ca. 1	0.4-0.6	0.4-0.7
Petiole insertion	Marginal	Marginal	Marginal	Peltate	Marginal	Marginal
Leaf blade shape	Elliptic to narrowly elliptic	Elliptic to obovate	Elliptic or ovate-elliptic	Elliptic, ovate-elliptic or ovate	Elliptic to lanceolate	Elliptic
Larger leaf dimensions (cm)	8.1-13.1 × 2.5-5.2	11-19 × 3.5-7.1	8.7-17 × 4.1-6.8	5.1-23.8 × 4.2-12.1	6-8.3 × 2.3-3	8.5-10.5 × 2.1-4
Smaller leaf dimensions (cm)	3.4-9.6 × 1.6-4.1	5.5-12.8 × 2.6-3.2	Up to 40% reduced	Up to 60% reduced	4.4-5.7 × 1.9-2.4	1.8-5.4 × 0.7-2.2
Margin domatia at leaf base	Present	Absent	Absent (margin slightly revolute throughout)	Absent (margin slightly revolute throughout)	Absent	Absent
Venation (excluding marginal pair)	3-nerved, basal or plinerved 0.5-2.6 mm above base	3-nerved, basal or plinerved up to 4 mm above base	3-suprabasal, 4.3-11.6 mm above base	5-basal	3-plinerved, 4-6.1 mm above base	3-plinerved, 2.8-4.1 mm above base
Inflorescence type	Simple dichasium	Simple dichasium	Dichasial cyme with monochasial paracladia	Compound cyme with monochasial paracladia	Thyrsoid cyme	Thyrsoid cyme
Inflorescence length (cm)	2.2-4.9	2.5-4.5	3.3-4.3	6-11.1	4.5	Up to 10.5
Flowers per inflorescence	3-5	3-5	7	16-34	Up to 12	Up to 27
Bud indumentum	Sparsely strigose, trichomes bulla-based 0.6-0.8 mm long	Strigose, trichomes 0.25-0.7 mm long	Strigose, trichomes up to 1 mm long	Strigose, trichomes ca. 0.5 mm long	Hispid, dense	Hispid
Calyptra length (mm)	10.6-11	7-8	ca. 12	ca. 10	5-6	ca. 8

Acta Botanica Mexicana 133: e2660 | 2026 | https://doi.org/10.21829/abm133.2026.2660

Appendix: Continuation

Character	*Allomaieta basirevoluta* Posada-Herrera, Orozco-A & Sierra-Gir.	*Allomaieta javierbarrigae* Humberto Mend.	*Allomaieta melidae* J.S.Murillo, Posada-Herrera, Orozco-A & Sierra-Gir.	*Allomaieta peltata* J.S.Murillo, Posada-Herrera, Orozco-A & Sierra-Gir.	*Allomaieta zenufanasana* Lozano	*Allomaieta ebejicosana* Lozano
Hypanthium length (mm)	3.1-3.6	2.5-3.1	2.8-3	ca. 4	3	Unknown
Petal dimensions (mm)	19.4-25.2 × 18.1-20	18-20 × 24-26	22.5-24.5 × 16-19.3	14-18.4 × 12.4-16.2	11 × 8	8 × 6
Petal color	White with translucent stripes	Pink, white basally	Light pink with violet stripes and white margin	White with hyaline stripes (occasionally pale pink)	White with yellowish-green basal lines	White
Filament length (mm)	3.3-3.9	3.7-4	3.6-4.1	3.5-5	4	4
Anther length (mm)	3.5-3.9	3.2-3.4	3.7-4	3.4-4	2	2.7
Style length (mm)	3.7-4.2	4.9-5	ca. 4.5	4.1-5.7	3	4
Distribution	Eastern slope of the Central Cordillera, Magdalena Valley (Antioquia and Caldas)	Andean-Amazonian foothills (Eastern Cordillera)	Eastern slope of the Central Cordillera, Magdalena Valley (Caldas)	Eastern slope of the Central Cordillera, Magdalena Valley (Caldas)	Northern part of the Central and Eastern cordilleras (Antioquia and Santander)	Central and Western cordilleras (Antioquia)