

# BAMBOO SCIENCE & CULTURE

The Journal of the American Bamboo Society



Volume 19

**BAMBOO SCIENCE  
&  
CULTURE**  
**The Journal of the American Bamboo Society**

is published by the  
American Bamboo Society  
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ISSN 0197– 3789

*Bamboo Science and Culture: The Journal of the American Bamboo Society*  
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***Aulonemia dinirensis* (Poaceae: Bambusoideae: Bambuseae)  
a new dwarf Venezuelan species from the  
easternmost Andean páramos**

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The new species *Aulonemia dinirensis* Judz. & Riina is described from the Páramo de Cendé, the easternmost páramo of the Andean Cordillera, in the state of Lara, Venezuela. A dwarf species 0.4-0.8 m tall known only from elevations of 2700 m in subpáramo vegetation on sandstone, its most closely related congener may be *A. trianae*, which is a much more robust plant with smaller spikelets.

Una nueva especie, *Aulonemia dinirensis* Judz. & Riina, es descrita del páramo de Cendé, uno de los páramos más orientales de la Cordillera de los Andes, en el Estado de Lara, Venezuela. Se trata de un bambú enano 0.4-0.8 m alto, solo conocido de elevaciones de 2700 m en vegetación de subpáramo sobre areniscas. La especie[s] está más relacionada con su congénere *A. trianae*, la cual es mucho más robusta con espiguillas más pequeñas.

A floristic inventory of the páramos and subpáramos of the Parque Nacional Dinira (Lara, Trujillo, and Portuguesa states, Venezuela) by the second author resulted in the collection of several botanical novelties, including a new dwarf bamboo species in the genus *Aulonemia* (Poaceae: Bambusoideae: Bambuseae: Arthrostylidinae):

*Aulonemia dinirensis* Judz. & Riina *sp nov.* (Fig. 1). TYPE: VENEZUELA. Lara: Parque Nacional Dinira, vertiente hacia El Tocuyo, sector “La Lajita”, camino hacia “La Lajita”, 9°32'47"N, 70°05'38"W, 2700 m, vegetación herbácea con arbustos dispersos o agrupados en pequeñas islas, bambusillo de 1 m alto, espiguillas verde-grisáceas, frecuente en ladera, 15 Aug 1999, R. Riina, R. Duno, R. Ghinaglia & R. Gonto 713 (HOLOTYPE: VEN; ISOTYPES: ISC!, MO!, SI!).

Culmi 3-4 mm diametro, 0.4-0.8 m alti, cespitosi, erecti. Vagina foliorum glabrescens, striata, nonauriculata; fimbriae nulliae; lamina foliorum 7-10 cm longa, 1-2.3 cm lata, reflexa, puberulenta. Inflorescentia paniculatam 20-25 cm longa. Spiculae 25-35 mm longae, puberulentes, 8-10 flosculos fertiles continentes; glumae 2, acutae; gluma I 2-2.5 mm longa, gluma II 5.5-7 mm longa; lemma 8-10 mm longa, apiculata.

Cespitose woody bamboo. *Culms* glabrous, smooth, non-maculate, hollow (the lumen about one-third the diameter of the culm), 0.4-0.8 m tall and 3-4 mm in diameter; buds or branches one per node; branches several to many, erect. *Culm leaves* not seen, perhaps not differentiated from foliage leaves. *Foliage leaves* 4-5 per complement; sheaths glabrous, striate throughout, stramineous (at least when

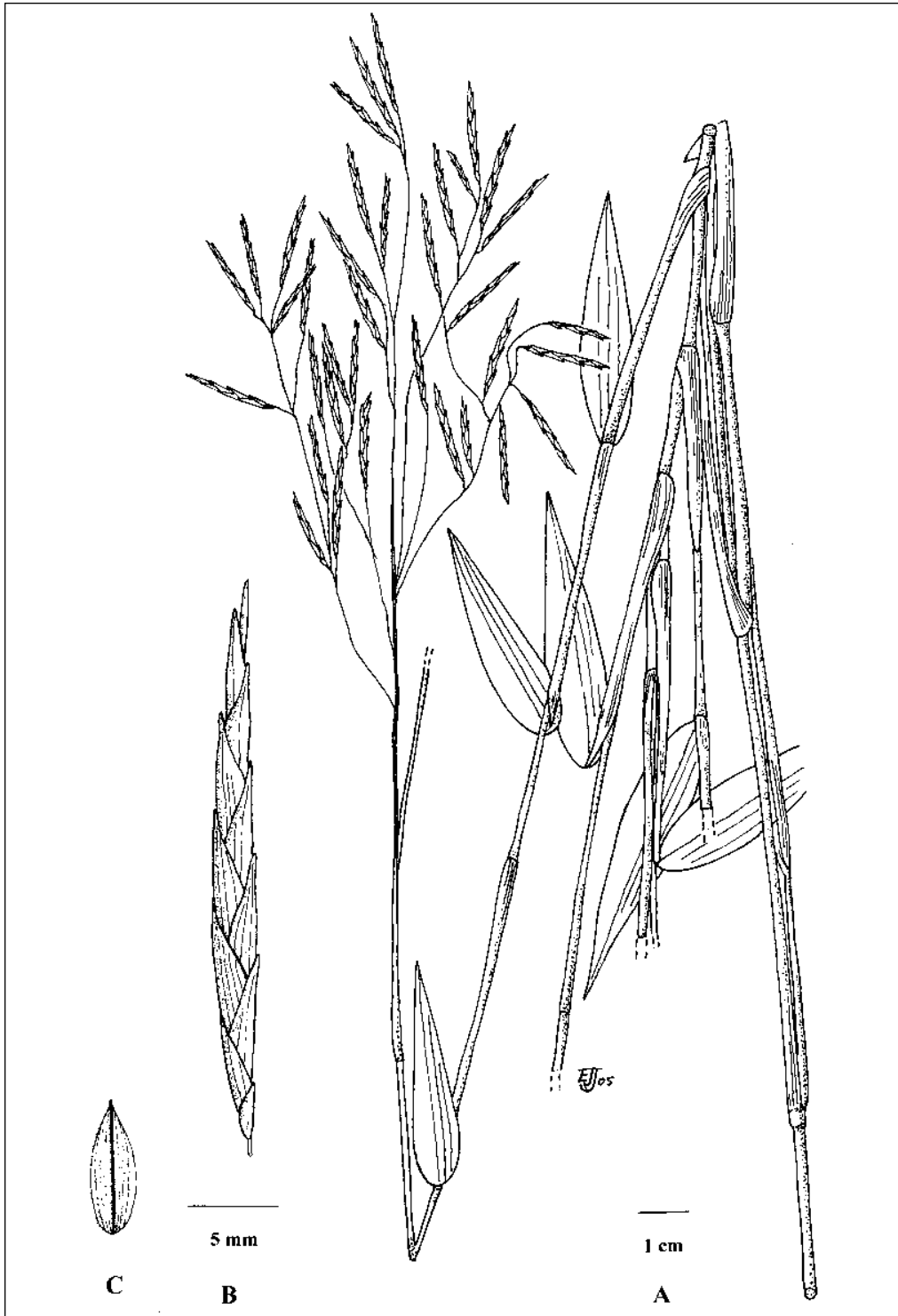


Figure 1. *Aulonemia dinirensis*. A. Habit. B. Spikelet, profile view. C. Lemma, dorsal view. I  
Illustration by E. Judziewicz. (Based on Riina *et al.* 713, MO).

dried), not keeled, non-maculate, lacking auricles; *fimbriae* not evident on sheath margins or summit (but, if present, could have fallen from the available mature collections); *outer ligules* 0.2-0.3 mm long, indurate, rim-like; *inner ligules* 0.4-0.6 mm long, membranous; *pseudopetioles* 1-2 mm long, pale, glabrous; *blades* lanceolate, strongly reflexed, deciduous, 7-10 x 1-2.3 cm, acuminate at the apex, rounded at the base, finely puberulent on both surfaces. *Inflorescences* 20-25 x 8-10 cm, open panicles with loosely erect, glabrous, smooth, capillary branches. *Spikelets* 25-35 mm long, 1.5-2.7 mm wide, linear, grayish-stramineous (at least when dried), finely puberulent throughout, 8-10-flowered; *lower glume* 2-2.5 mm long, ovate-lanceolate, acute, 1-3-nerved; *upper glume* 5.5-7 mm long, lanceolate, acute, 3-5-nerved; *lemmas* 8-10 mm long, lanceolate, apiculate, 7-9-nerved; *paleas* 6.5-7.5 mm long, 2-nerved, obtuse at the apex; *stamens* with anthers ca. 3 mm long; *fruits* not seen.

*Aulonemia dinirensis* grows on sandstone substrates in periodically burnt subpáramos at

elevations of 2700 meters on the northeastern slopes of the Páramo de Cendé, in the Andes of northwestern Venezuela (Fig. 2). This is the easternmost páramo in the Andean cordillera reaching its maximum altitude at the summit of the Páramo de Cendé (ca. 3350 m). The species is not common and is apparently restricted to a small area of the Parque Nacional Dinira in the state of Lara. Associates include the endemic sundew *Drosera cendeensis* Tamayo & Croizat (Droseraceae); the endemic asteraceous species *Ruilopezia emmanuelis* Cuatrec., *Ruilopezia floccosa* (Standl.) Cuatrec., *R. jabonensis* (Cuatrec.) Cuatrec., *R. vergarae* Cuatrec. & López and *Monticalia rigidifolia* (V.M. Badillo) C. Jeffrey; various grasses (*Festuca* sp., *Agrostis humboldtiana* Steud., *Chusquea angustifolia* (Soderstr. & C. Calderón) L.G. Clark, and *Danthonia secundiflora* J. Presl.); the bromeliad *Puya aristeguietae* L.B. Sm.; the fern *Blechnum obtusum* R.C. Moran & A.R. Sm. (Moran & Smith 2005); and *Dendrophthora meridana* Kuijt (Viscaceae).



Figure 2. Subpáramo habitat of *Aulonemia dinirensis*, el. 2700 m, Parque Nacional Dinira, state of Lara, Venezuela, 15 Aug. 1999. Photograph by R. Riina.

The specific epithet refers to the name of the park (Parque Nacional Dinira). The word “dinira”, of arawak-caquetio origin, was used in the description of the city of El Tocuyo (Lara state) in 1578, published by Arellano Moreno (1964). The report (translated) indicates that “El Tocuyo was founded between two mountain ranges, Dintas to the east and Dinira to the west”. The meaning of “dini” is breast and refers to conical shape of some mountains, and “ira” means liquid, so the meaning of “dinira” for the caquetio amerindians was probably “mountain where the river (the Tocuyo river) comes from” (B. Manara, pers. com.).

*Aulonemia* is a genus of 45-50 species of bamboos (Judziewicz et al. 1999, 2000), with many undescribed narrowly endemic species in Andean South America. The new species is clearly referable to *Aulonemia* based on its branching habit (one branch per node), reflexed leaf blades, paniculate inflorescence, and spikelet structure.

*Aulonemia dinirensis* is a dwarf species probably most closely related to *A. trianae* (Munro) McClure (Table 1; Clark & Londoño 1990, Clark et al. 1997), an Andean species found in northern Colombia and the adjacent state of Táchira, Venezuela. Both taxa share efimbriate or sparsely fimbriate leaf sheath summits; an absence of sheath auricles; and spikelets with awnless, apiculate lemmas. However, *A. dinirensis* is a shorter, more slender species than *A. trianae* and differs in its longer, more floriferous spikelets (Table 1).

A collection of an *Aulonemia* species by the second author (Parque Nacional Dinira, ladera del Páramo de Jabón, vertiente hacia El Tocuyo, sector “Los Charquitos”, 9°34'26"N,

70°06'03"W, 2800-2900 m, 15 Aug 1999, R. Riina et al. 680, VEN) made just 3 km by air from the type locality of *A. dinirensis* is tentatively referred to *A. trianae*. It differs from *A. dinirensis* in its more numerous (7 or more), crowded leaf complements; prominent 2 cm long, dark, erect, leaf sheath summit fimbriae; smaller panicles with just a few stout branches; and shorter (ca. 15-20 mm long) spikelets with fewer (5-6) florets.

Two other dwarf (1 m tall or less) species of *Aulonemia* occur in the northern Andes: *A. bogotensis* L.G. Clark, Londoño & M. Kobayashi (Clark et al. 1997) in central Colombia and *A. pumila* L.G. Clark & Londoño (1990) in southwestern Colombia. *Aulonemia dinirensis* differs from *A. bogotensis* in its much larger leaf blades (7-10 x 1-2.3 cm vs. 2-4.2 x 0.3-0.5 cm) and longer (25-35 vs. 9.7-13 mm long) spikelets with more florets (8-10 vs. 3-5). *Aulonemia dinirensis* differs from *A. pumila* in its larger spikelets (25-35 vs. 8.4-12.6 mm long) with awnless, apiculate (not subulate-aristate to aristate) spikelet bracts, and more (8-10 vs. 2-3(-4)) florets per spikelet.

*Aulonemia dinirensis* does not appear to be conspecific with any congeners occurring in the Guayana Highlands (Judziewicz 2004, 2005); in this region, *A. dinirensis* would key most closely to the dwarf species “*Aulonemia* sp. C” from Cerro Marahuaka, Venezuela – but the latter undescribed species differs in its significantly smaller leaf blades (4 x 0.7 cm) and purplish rather than grayish-stramineous spikelets. If the leaf blades of *Aulonemia dinirensis* are truly efimbriate (it is difficult to be certain with the late-fruited-stage collections available; fimbriae are sometimes deciduous in

Table 1. Comparison of *Aulonemia dinirensis* Judz. & Riina with *A. trianae* (Munro) Mc Clure.

Character	<i>A. dinirensis</i>	<i>A. trianae</i>
Distribution	Venezuela (Lara)	Colombia (northern half), Venezuela (Táchira)
Elevation (m)	2700	2500-3150
Plant height (m)	0.4-0.8	1-2.5(-6)
Culm diameter (mm)	3-4	5-10
Leaf blade length (cm)	7-10	6-15
Spikelet length (mm)	25-35	10-18
Florets per spikelet	8-10	5-6(-8)

the genus), then the species might appear to have some affinities with the Bolivian endemic *A. tremula* Renvoize (Renvoize 1998). However, that species has a scandent, pendant habit with culms up to 10 m long and smaller (10-22 mm long), fewer-flowered (4-5) spikelets than *A. dinirensis*.

#### ACKNOWLEDGMENTS

We thank Gerrit Davidse (MO) for the loan of the specimens, Lynn Clark for encouraging us to publish this new species, Bruno Manara for his contribution to the etymology of the species name, Ismael Capote and Carlos Reyes from the Herbario Nacional de Venezuela, and the Fauna & Flora Preservation Society and Fundación Instituto Botánico de Venezuela for helping to fund the second author's fieldwork.

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