
Scleria amazonica, a New Species of *Scleria* Section *Scleria* (Cyperaceae) from Venezuela

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ABSTRACT. *Scleria amazonica* Camelbeke, Strong & Goetghebeur, from Amazonas, Venezuela, is described and illustrated. It differs from other South American species of *Scleria* in the presence of unisexual inflorescences. Among species of *Scleria* from the Venezuelan Guayana region it differs in the following combination of characters: the presence of a conspicuously upward pointing V-shaped ligule of dense hairs and coarsely reticulated achenes.

While preparing the treatment of *Scleria* for the *Flora of the Venezuelan Guayana*, the first author discovered a unique species of *Scleria* sect. *Scleria*. Efforts to identify this plant using published keys for *Scleria* and treatments of Cyperaceae for Venezuela and surrounding regions were unsuccessful (e.g., Adams, 1994; Core, 1936, 1951, 1965; Macbride, 1936; Pfeiffer, 1943; Schnee, 1945). After consulting with other specialists in Cyperaceae we were able to conclude that this was a species new to science.

Scleria amazonica Camelbeke, Strong & Goetghebeur, sp. nov. TYPE: Venezuela. Amazonas: Depto. Atures, ca. 8 km N of Río Orinoco, approximately opposite Caserio Patacame, 67°19'W, 04°03'N, alt. 100 m, 29 June 1979, Otto Huber 3978 (holotype, NY pistillate). Figures 1–3.

A ceteris speciebus austro-americanis differt praesentia inflorescentiarum unisexualium. A ceteris speciebus areae Venezuelae-Guayanae differt praesentia ligulae distincte inverse V-formis hirsutaeque et achenio reticulati.

Perennial, probably dioecious, herb with thick,

moniliform rhizome bearing conspicuously veined scales; roots coarse. Culm erect, trigonous, 30–120 cm long, 1.0–3.7 mm wide below inflorescence, 4.0–7.5 mm wide at widest point. Leaves many; blades green, (2–)13–42 cm long, (3–)5–12 mm wide, glabrous to slightly pubescent especially toward the apex or slightly pubescent along midrib adaxially, margins smooth to scabrous especially toward the apex, midrib smooth to slightly scabrous toward the apex, the apex abruptly narrowed to tip, probably cucullate (splitting in dried herbarium specimens), lowermost blades strongly reduced; sheaths not winged, glabrous to sparsely pubescent, the angles not scabrous; ligule conspicuously V-shaped, pointing upward, whitish to brownish, of mostly dense hairs, 0.7–1.5 mm long; contraligule triangular, unappendaged, 3.5–9.0 mm long, 3.5–7.0 mm wide at base, margin sometimes pubescent. Inflorescence strictly unisexual, paniculate with rather dense partial inflorescences, brownish, 15–46 cm long, 3–5 cm wide; primary bracts foliaceous, 1.4–25 cm long, 2–6 mm wide, glabrous to slightly pubescent on both sides, sometimes pubescent along midrib adaxially, margin and veins smooth to slightly scabrous especially toward the apex. Staminate spikelets 3.5–5.5 mm long; staminate scales with a yellowish brown to light brown midrib and brown to purple to blackish purple sides, glabrous to slightly pubescent, apex and apex margin sometimes prickly. Stamens 3, anthers ca. 1.5 mm long (excl. apical appendage), appendage 0.6–0.7 mm long, reddish to almost black, linear to narrowly triangular. Pistillate spikelets 5.0–7.1 mm long; pistillate scales with a tawny green to brown midrib and brown purplish sides, glabrous



Figure 1. *Scleria amazonica* Camelbeke, Strong & Goetghebeur. —A. Habit. —B. Achene. —C. Detail of pistillate inflorescence branch. Based on O. Huber 3978.

to pubescent especially toward the apex. Style 3-fid, brown, conspicuously papillose, the style base deciduous leaving a small residue. Achene stipitate, 3.1–3.6 mm long (incl. hypogynium), 2.5–

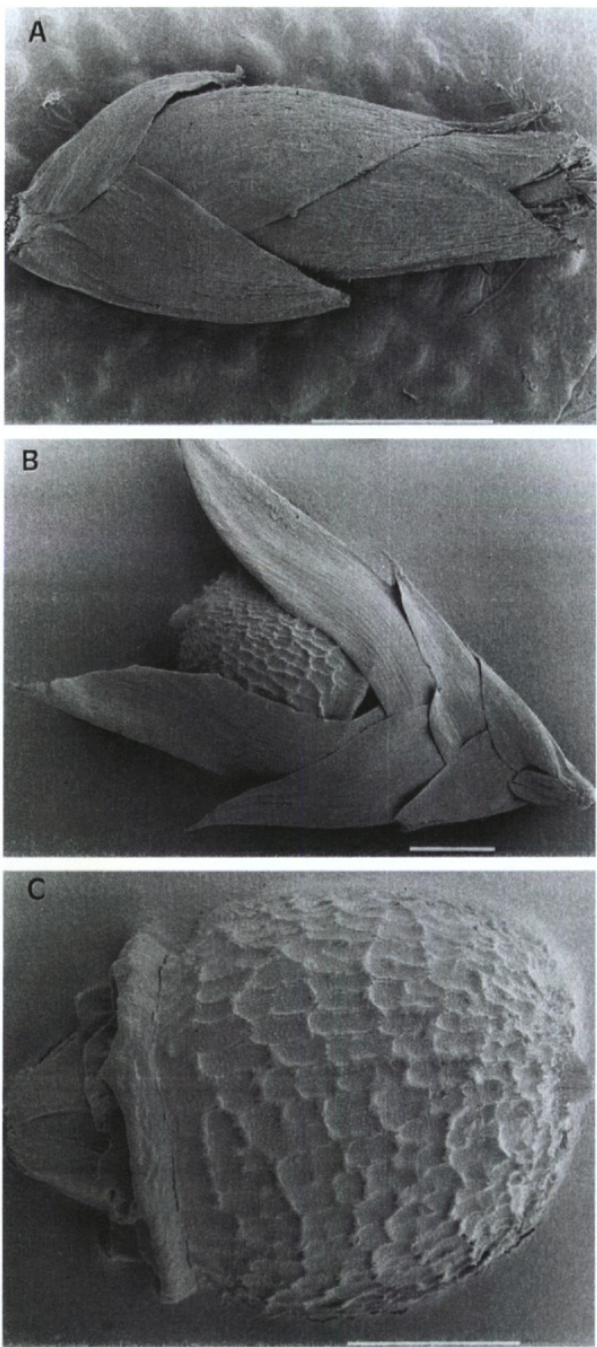


Figure 2. SEM photomicrographs of spikelets and achene of *Scleria amazonica*. —A. Staminate spikelet. —B. Pistillate spikelet. —C. Achene. Based on: A, O. Huber & S. S. Tillett 5419; B and C, O. Huber 3978. Scale bars = 1 mm.

3.3 mm wide, conspicuously coarsely reticulated with prickles on walls of reticulations, white to golden blond to brownish, ovoid to very broadly ovoid to broadly ellipsoid, obtusely trigonous to almost rounded with convex sides. Hypogynium 0.6–1.5 mm long, 2.0–2.3 mm wide, yellowish to chestnut brown, surface smooth, margin glabrous, entire to inconspicuously 3-lobed, reflexed, undulate.

One specimen (Berry P. E. et al. 5153, MO—



Figure 3. Binocular microscope photograph of ligule of *Scleria amazonica*. Based on G. Davidse et al. 16907. Scale bar = 2 mm.

04619062) has three culms, of which one bears a staminate inflorescence and the two others bear pistillate inflorescences. However, the culms are not united on the same rhizome. Duplicates of all other collections were unisexual with the exception of Huber O. 2623, VEN—204313 = staminate, and —204314 = pistillate. Based solely on the herbarium specimens that we studied, we were unable to confirm whether this species is truly dioecious, or whether some individuals might develop unisexual inflorescences over the course of their life cycle. Field studies are necessary to help answer this question. Dioecy in *Scleria*, however, is highly unusual and only one other species in the genus is known to exhibit this characteristic, *Scleria sphaecelata* F. Mueller, from Australia (Bentham, 1878: 432).

Another specimen (Huber O. et al. 3653, NY, VEN), from the same region as the holotype and paratypes (Venezuela, Amazonas: Depto. Atabapo,

Caño Caname, 67°22'W, 03°40'N), differs from typical specimens in having a very lax inflorescence. However, as in typical *Scleria amazonica*, the inflorescence is unisexual, the achene is coarsely reticulated, and the conspicuously upward pointing V-shaped ligule of hairs is present. Because this specimen and typical *Scleria amazonica* share the aforementioned characteristics, we are tentatively recognizing them as conspecific. Discovery of additional material of this element from field studies or collections in other herbaria may prove it to be a distinct or infraspecific taxon.

We are naming this species *Scleria amazonica*, based on its occurrence in Territorio Federal Amazonas, Venezuela. The species could be present also in eastern Colombia, near the Venezuelan border. We have not yet seen any specimens from that region.

Pistillate paratypes. VENEZUELA. **Amazonas:** Depto. Atabapo, Cucurital de Caname, southern bank of the middle part of Caño Caname, 67°22'W 03°40'N, Davidse G. et al. 16907 (MO-2); northern bank of Caño Caname, nearly opposite Cucurital de Caname, 67°22'W, 03°40'N, Davidse G. et al. 17060 (MO); Caño Cotúa, near western base of Cerro Yapacana, 66°50'W, 03°40'N, Huber O. 1705 (NY, VEN); Caño Caname, 67°22'W, 03°40'N, Huber O. et al. 3695 (VEN); 2 km W of San Antonio del Orinoco, 66°47'W, 03°27'N, Huber O. & Tillett S.S. 5438 (VEN); Santa Cruz, bank of Río Atabapo, near mouth of Río Atacaví, Foldats E. 3708 (VEN); Depto. Atures, N of Río Orinoco, opposite Minicio, 67°32'W, 04°03'N, Huber O. 2484 (VEN); border of Río Sipapo, near mouth of Río Guayapo, 67°36'W, 04°32'N, Guanchez F. & Varadarajan G. S. 2563 (MO); ca. 110 km upstream Río Guayapo, 67°28'W, 04°18'N, Foldats E. & Velasco J. 9299 (MO); Depto. Casiquiare, bank of Río Temi, near Yavita, 67°25'W, 03°00'N, Huber O. 2623 (VEN—204314).

Staminate paratypes. VENEZUELA. **Amazonas:** Depto. Atabapo, Caño Cotúa, near western base of Cerro Yapacana, 66°50'W, 03°40'N, Huber O. 1706 (VEN); 2 km W of San Antonio del Orinoco, 66°47'W, 03°27'N, Huber O. & Tillett S. S. 5419 (VEN); mouth of Mesague, 67°06'W, 03°04'N, Velasco J. 958 (MO); Santa Cruz, bank of Río Atabapo, near mouth of Río Atacaví, Foldats E. 3805 (VEN); Depto. Atures, ca. 2 km upstream of San Juan de Ucata, on the Caño Ucata, 67°44'12"W, 04°20'25"N, Berry P. E. et al. 5153 (MO—04619069); ca. 110 km upstream Río Guayapo, 67°28'W, 04°18'N, Foldats E. & Velasco J. 9285 (MO); N of San Juan de Ucata, 67°49'W, 04°20'N, Romero G. A. et al. 2074, 2076 (MO); Depto. Casiquiare, bank of Río Temi, near Yavita, 67°25'W, 03°00'N, Huber O. 2623 (VEN—204313); ca. 5 km W of middle of Río Temi, 67°29'W, 02°57'N, Huber O. 3416 (VEN); near Chapezon, between Boca de Casiquiare and Solano, 67°03'W, 01°58'N, Liesner R. & Carnevali G. 22920 (MO).

Mixed paratype. VENEZUELA. **Amazonas:** Depto. Atures, ca. 2 km upstream of San Juan de Ucata, on the Caño Ucata, 67°44'12"W, 04°20'25"N, Berry P. E. et al. 5153 (MO—04619062).

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Literature Cited

- Adams, C. D. 1994. *Scleria* (Cyperaceae). Pp. 476–484 in: G. Davidse, S. M. Sousa & A. O. Chater (editors), *Flora Mesoamericana*, Vol. 6, Alismataceae a Cyperaceae. Universidad Nacional Autónoma de México, México D.F.; Missouri Botanical Garden, St. Louis; The Natural History Museum, London.
- Bentham, G. 1878. Cyperaceae. In: *Flora Australiensis* 7: 246–449. L. Reeve, London.
- Core, E. L. 1936. The American species of *Scleria*. *Brittonia* 2: 1–105, pl. 1–3.
- . 1951. Botanical exploration in Venezuela I. Cyperaceae tribe Scleriae (sic). *Fieldiana, Bot.* 28: 52.
- . 1965. The botany of the Guayana Highlands VI. Cyperaceae tribe Sclerieae. *Mem. New York Bot. Gard.* 12(3): 54–69.
- Macbride, J. F. 1936. Cyperaceae. In: *Flora of Peru*. *Field Mus. Nat. Hist., Bot. Ser.* 13(1): 261–320.
- Pfeiffer, H. 1943. *Conspectus Cyperacearum in America meridionali nascentium* IX. Übersicht der in Venezuela vorkommenden *Scleria*-Arten. *Feddes Repert. Spec. Nov. Regni Veg. Beih.* 52(2): 161–172.
- Schnee, L. 1945. Cyperaceae. In: H. Pittier et al., *Catálogo de la Flora Venezolana* 1: 119–132. Vargas, Caracas.



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